DRAFT

ENVIRONMENTAL IMPACT REPORT

FOR THE

THE SOUTH LATHROP SPECIFIC PLAN

(SCH: 2013012064)

OCTOBER 2013

Prepared for:

City of Lathrop
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De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

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INTRODUCTION

The City of Lathrop has determined that the South Lathrop Specific Plan (SLSP) 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 NOP were considered in preparing the analysis in this EIR.

PROJECT DESCRIPTION

The project proposes adoption and implementation of the South Lathrop Specific Plan and approval of related entitlements (collectively referred to as the South Lathrop Specific Plan or SLSP). The SLSP is proposed for a 315-acre plan area ("Plan Area") located in the City of Lathrop's Sphere of Influence. Adoption of the proposed SLSP will involve a series of related actions, including a general plan amendment, pre-zoning and zoning code amendment, annexation, subdivision, and a development agreement. In addition, as specific development projects are proposed within the Plan Area, site development reviews and other site specific approvals will be requested.

The Plan Area is located south of State Route 120, north and west of the Union Pacific Railroad, and east of the San Joaquin River. The SLSP includes development of commercial office, limited industrial, park/open space, public facilities, and roads.

South Lathrop Specific Plan: The SLSP has been organized into eight chapters as well as the appendices that contain the following information:

- Chapter 1: *Executive Summary:* A brief description of the specific plan content.
- Chapter 2: *Site Context:* The specific plan context and overall setting.
- Chapter 3: *Land Use:* A detailed description of the Land Use Plan and lists policies and development standards for each proposed land use.
- Chapter 4: *Transportation:* A detailed overview of the existing and proposed transportation system.
- Chapter 5: *Design Guidelines:* Provides the site, landscape and architectural standards for each land use.

- Chapter 6: *Infrastructure:* Summarizes the proposed infrastructure for sewer, water and drainage within and serving the Plan Area.
- Chapter 7: *Financing Plan:* The projects financing plan summarizes the phasing of backbone infrastructure and roadways; the construction costs of major facilities; fee structures and funding programs.
- Chapter 8: *Implementation & Administration:* Provides the procedures and provisions for implementation of the specific plan, including the handling of subsequent entitlements and amendments to the plan as well as financing of required improvements.
- Appendix: Includes several supporting documents including the General Plan Consistency Analysis, South Lathrop Zoning Ordinance and development regulations.

Land Uses: The Commercial Office area has been located close to SR 120 corridor in order to capitalize on the vehicular access and visibility provided by this main thoroughfare. Office and Commercial uses will provide regional as well as local serving business/professional workspace. Specific users for this land use might include a full range of large or small commercial operations, professional and administrative support services, administrative office, financial institutions, recreational facilities, eating establishments, hotels/motels, incubator/research and development space, and the like. The Commercial Office land use encompasses 10 acres of the South Lathrop Specific Plan Area and can accommodate an estimated maximum of 130,680 square feet of gross leasable space.

The majority of the Plan Area is comprised of Limited Industrial uses, which is envisioned as a major employment-generating land use. The Limited Industrial would allow for a broad range of use types including industrial, manufacturing, warehousing/distribution, office, retail sales, retail services, trailer and recreational vehicle sales, research and development, equipment and machinery repair, sales, rental and other such uses and services necessary to support them. For the purposes of truck transport of goods, easy access to the highway from Yosemite Avenue is essential. The SLSP provides a chart with the full range of permitted uses under this land use category. The Limited Industrial use comprises 222 acres and can accommodate up to an estimated maximum of approximately 4,158,238 square feet of gross leasable space.

The open space along the San Joaquin River provides a buffer for the levee and a connection to the City's river park corridor and trail system, established within Mossdale Village and Central Lathrop. This trail system will be continued within the SLSP, with a direct connection occurring underneath I-5 as part of RD-17's maintenance road. The Open Space land use designation also includes the San Joaquin River frontage and area to the centerline of the river.

The Public/Quasi Public Facilities land use designation includes the storm water and recycled water basins required for storage and treatment of the stormwater and recycled water within the Plan Area.

Circulation: The SLSP proposes a street network that provides for the efficient access and circulation for the businesses within the Plan Area as well as visitors. Access to the site is gained

from the SR-120/Yosemite-Guthmiller interchange and via Yosemite Avenue. Madruga Road, a frontage road within the Plan Area will remain, providing access to the existing uses.

A 4 lane arterial will extend from Guthmiller Road and into the Plan Area. The arterial will provide access to both the commercial office uses and the industrial uses. A local industrial street will be provided in the southern portion of the site for additional access to the industrial uses and to the open space and levee. A 20' road for emergency purposes is proposed to be provided between Madruga Road and the local industrial road for emergency vehicle access.

The roads within the Plan Area will provide wide sidewalks to allow for pedestrian and bicycle circulation. Pedestrian access to the San Joaquin River Trail will be provided through the industrial land use along the powerline corridor from the end of the local industrial street.

Public Services & Infrastructure: The provision of public services and the construction of onsite and offsite infrastructure improvements will be required to accommodate development proposed by the SLSP. It is an objective of the SLSP to provide services and infrastructure that meet City standards, integrate with existing and planned facilities and connections, and do not diminish services to existing residents or businesses within the City. The Plan Area was included in the City of Lathrop's Municipal Service Review (updated in 2009) and has been planned to be served by the City of Lathrop. The final design of all onsite and offsite infrastructure improvements is subject to the review and approval of the City of Lathrop. A full description of public service and infrastructure needs is described in Section 2.0.

AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

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

During the NOP process, comments were received from the following: SJCOG, Inc. (January 30, 2013), Federal Emergency Management Agency (January 31, 2013), Alan and Linda Kaplan (February 6, 2013), San Joaquin County Environmental Health Department (February 12, 2013), Central Valley Flood Protection Board (February 15, 2013), Central Valley Regional Water Quality Control Board (February 15, 2013), City of Manteca (February 19, 2013), San Joaquin County Public Works (February 20, 2013), San Joaquin Council of Governments (February 21, 2013), Pacific Gas and Electric (February 24, 2013), Delta Protection Commission (February 25, 2013), San Joaquin Valley Air Pollution Control District (February 26, 2013), and the California Department of Transportation (March 4, 2013). These comments are addressed in the Draft EIR.

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. Four alternatives to the SLSP were developed based on input from City staff, the public during the NOP review period, and the technical analysis performed to identify the environmental effects of the SLSP. The alternatives analyzed in this EIR include the following four alternatives in addition to the SLSP.

- **No Build Alternative**: Under this alternative, development of the Plan Area would not occur, and the Plan Area would remain in its current condition.

- **No Project (General Plan Alternative):** This alternative would be a continuation of the Lathrop General Plan into the future. The Plan Area is listed as within the Sub Plan Area # 1 of the General Plan and has the General Plan land use designation of Limited Industrial.

- **Reduced Project Alternative:** Under this alternative, the Plan Area would be developed with the same components as described in the Project Description, but the area utilized for the industrial and commercial uses would be reduced.

- **Agriculture Protection Alternative:** Under this alternative, the SLSP would be developed in such a way to protect those lands currently identified as prime farmland and farmland of statewide importance.

Alternatives are described in detail in Chapter 5. Table ES-1 provides a comparison of the alternatives using a qualitative matrix that compares each alternative relative to the other SLSP. . As shown in the table, the No Project Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the Reduced Project and Agricultural Alternatives both rank higher than the SLSP. Comparatively, the Agricultural Protection Alternative would result in less impact then the Reduced Project Alternative because it provides the greatest reduction of potential impacts in comparison to the SLSP. It should be noted that the Agricultural Protection Alternative and Reduced Project Alternative do not meet all of the project objectives.

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

ENVIRONMENTAL ISSUE	NO BUILD ALTERNATIVE	NO PROJECT (GENERAL PLAN ALTERNATIVE)	REDUCED PROJECT ALTERNATIVE	AGRICULTURE PROTECTION ALTERNATIVE
Aesthetics and Visual Resources	Less	Equal	Slightly Less	Slightly Less
Agricultural and Forest Resources	Less	Equal	Equal	Less
Air Quality	Less	Greater	Less	Less
Biological Resources	Less	Equal	Less	Less
Cultural Resources	Less	Equal	Less	Less
Geology and Soils	Less	Equal	Less	Less
Greenhouse Gases and Climate	Less	Greater	Less	Less

ENVIRONMENTAL ISSUE	NO BUILD ALTERNATIVE	NO PROJECT (GENERAL PLAN ALTERNATIVE)	REDUCED PROJECT ALTERNATIVE	AGRICULTURE PROTECTION ALTERNATIVE
Change				
Hazards and Hazardous Materials	Less	Greater	Less	Less
Hydrology and Water Quality	Less	Greater	Less	Less
Land Use & Population	Less	Less	Equal	Equal
Mineral Resources	Less	Equal	Slightly Less	Slightly Less
Noise	Less	Greater	Less	Less
Public Services and Recreation	Less	Greater	Less	Less
Transportation and Circulation	Less	Less	Less	Less
Utilities	Less	Greater	Less	Less

GREATER = GREATER IMPACT THAN THAT OF THE SLSP
LESS = LESS IMPACT THAN THAT OF THE SLSP
EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE SLSP

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 SLSP. 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 SLSP, 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			
Impact 3.1-1: Project implementation may have a substantial adverse effect on a scenic vista	LS		--
Impact 3.1-2: Project implementation may substantially damage scenic resources within a State Scenic Highway	LS		--
Impact 3.1-3: Project implementation may substantially degrade the existing visual character or quality of the Plan Area and its surroundings	PS	Implement Mitigation Measure 3.4-5 and 3.4-6	LS
Impact 3.1-4: Project implementation may result in light and glare impacts	LS		--
AGRICULTURAL RESOURCES			
Impact 3.2-1: The proposed project has the potential to result in the conversion of Farmlands, including Prime Farmland, Unique 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 in the Plan Area, the project proponents shall participate in the City of Lathrop agricultural mitigation program and the SJMSCP by paying the established fees on a per-acre basis for the loss of important farmland. Fees paid toward the City of Lathrop's program shall include half of the mitigation ($1,000/acre) to be paid to the Central Valley Farm Trust (CVFT). The CVFT shall use these funds to purchase conservation easements on agricultural lands to fulfill the compensatory mitigation. The other half ($1,000/acre) will be collected by the City of Lathrop and may be passed to the CVFT or other trust, or may be retained by the City of Lathrop to be applied to local easements or other agricultural mitigation. Fees paid toward the SJMSCP shall be in accordance with the fees established at the time they are paid (2013 fees for Agricultural Habitat is*	SU

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

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		$12,711/acres). The SJCOG shall use these funds to purchase conservation easements on agricultural habitat lands to fulfill the compensatory mitigation. Written proof of payment to SJCOG and CVFT shall be provided to the City. ***Mitigation Measure 3.2-2:*** *Prior to the close of real property transactions within the SLSP, the project proponent shall provide Right-to-Farm disclosures to the purchaser. This provision is required for all properties within the Plan Area which may be impacted or affected by on-going farming operations.*	
Impact 3.2-2: The proposed project has the potential to conflict with existing zoning or Williamson Act Contracts	LS		--
Impact 3.2-3: The proposed project has the potential to result in conflicts with adjacent agricultural lands or indirectly cause conversion of agricultural lands	LS		--
Impact 3.2-4: The proposed project has the potential to result in the conversion of Prime Farmland, as defined under California Government Code Section 560643 for purposes of LAFCo's decision for the proposed annexation	LS		--
AIR QUALITY			
Impact 3.3-1: Project operation has the potential to cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation	PS	***Mitigation Measure 3.3-1****: Prior to the issuance of a building permit, the project proponent shall obtain a permit under APCD Rule 9510, Indirect Source Rule (ISR). The project proponent shall incorporate mitigation measures into the SLSP and/or pay the required ISR fees to the APCD as required to comply with Rule 9510 emission reduction requirements for NOx and PM emissions associated with project operations.*	SU

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		***Mitigation Measure 3.3-2**: Prior to the approval of improvement plans, the project proponent shall incorporate the following features into project plans and specifications, consistent with adopted City of Lathrop Design and Construction Standards (2007):* • *Bus turnouts and transit improvements where requested by the San Joaquin RTD.* • *Continuous public sidewalks adjacent to all proposed public streets.* • *Pavement and striping for bike lanes/paths.* • *Street lighting.* • *Pedestrian signalization, signage and safety designs at signalized intersections.* • *Shade trees to shade sidewalks in street-side landscaping areas.* • *Require low-VOC cleaning supplies to be used by businesses and cleaning services within the Plan Area.* ***Mitigation Measure 3.3-3**: Prior to the approval of improvement plans, the project proponent shall prepare and implement a transportation demand management (TDM) plan that includes, but is not limited to, the following measures subject to the review and approval of the City of Lathrop:* • *Provide secure bicycle parking in conjunction with commercial and office development.* • *Provide designated vanpool parking spaces close to the employment center entry locations.* • *Provide preferential carpool parking spaces close to the employment center entry locations.* • *Provide on-site amenities that encourage alternative transportation modes such as locker, shower, and secure bike storage facilities.* • *Provide on-site services such as personal mail boxes and day care that reduce mid-day trip generation.* • *Provide information to business owners regarding the benefits of telecommuting options.* • *Provide transit vouchers.*	

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		• *Provide information to employees regarding carpooling, ride sharing and other available programs.*	
Impact 3.3-2: Project construction has the potential to cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation	LS	***Mitigation Measure 3.3-4:*** *Prior to the commencement of construction activities, 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 (San Joaquin Valley APCD, 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*	--

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		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 15 mph; and 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:*** *Architectural coatings applied to all structures in the Plan Area shall meet or exceed volatile organic compound (VOC) standards set in APCD Rule 4601. The ODS shall submit to the APCD a list of architectural coatings to be used and shall indicate how the coatings meet or exceed VOC standards. If the APCD determines that any architectural coatings do not meet VOC standards, the ODS shall replace the identified coatings with those that meet standards.* ***Mitigation Measure 3.3-8:*** *Prior to the issuance of the first building permit, the project proponent shall submit an application to the APCD for a permit under APCD Rule 9510, Indirect Source Rule (ISR). The project proponent shall incorporate mitigation measures into project construction and/or pay ISR fees as required to comply with Rule 9510 emission reduction requirements for construction NOx and PM emissions.* ***Mitigation Measure 3.3-9:*** *To reduce impacts from construction related exhaust emissions, the project proponent shall utilize off-road construction fleets that can achieve fleet average emissions equal to or cleaner than the Tier II emission standards, as set forth in §2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 Code of Federal Regulations. This can be achieved through any combination of*	

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		uncontrolled engines and engines complying with Tier II and above engine standards. ***Mitigation Measure 3.3-10:*** *Asphalt paving shall be applied in accordance with APCD Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.*	
Impact 3.3-3: The proposed project has the potential to have carbon monoxide hotspot impacts	LS		--
Impact 3.3-4: The proposed project has the potential for public exposure to toxic air contaminants	LS	***Mitigation Measure 3.3-12:*** *Prior to the construction and/or operation of any industrial or commercial building that would emit toxic air contaminants, the project proponent shall, at a minimum, perform prioritization screening in accordance with the Air Toxics "Hot Spots" Program, Facility Prioritization Guidelines (July 1990) and the Air Toxics "Hot Spots" Information and Assessment Act. The prioritization screening shall be performed in coordination with the San Joaquin Valley Air Pollution Control District, whom will be responsible for determining which facilities based on their prioritization screening score, must perform a health risk assessment. In determining the need to prepare a health risk assessment, the San Joaquin Valley Air Pollution Control District should consider the potency, toxicity, quantity, and volume of hazardous materials released from the facility, the proximity of the facility to potential receptors, and any other factors specific to the facility that indicate that it may pose a significant health risk.* *If a health risk assessment is warranted for a facility based on its prioritization score, the project applicant shall assess the facilities for the potential to expose the public to toxic air contaminants in excess of the following thresholds:* • *Probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds 10 in one million.* • *Ground-level concentrations of non-carcinogenic toxic air contaminants would result in a Hazard Index greater than 1 for the MEI.*	--

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		Facilities that exceed the above thresholds have the potential to expose the public to toxic air contaminants levels that would be considered significant. Mitigation is required for such facilities to ensure that the toxic air contaminants are reduced to levels below the threshold.	
Impact 3.3-5: The proposed project has the potential for exposure to odors	LS		--
BIOLOGICAL RESOURCES			
Impact 3.4-1: The proposed project has the potential to have a direct or indirect effect on special-status invertebrate species	LS	***Mitigation Measure 3.4-1**: Prior to commencement of any grading activities, the project proponent shall seek coverage under the SJMSCP to mitigate for habitat impacts to covered special status species. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of open space 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. There are a wide variety of incidental take avoidance and minimization measures contained in the SJMSCP that were developed in consultation with the USFWS, CDFW, and local agencies. The applicability of incidental takes avoidance and minimization measures are determined by SJCOG on a project basis. The process of obtaining coverage for a project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a) and California Fish and Game Code Section 2081. The Section 10(a) permit also serves as a special-purpose permit for the incidental take of those species that are also protected under the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species. The SJMSCP includes the implementation of an ongoing Monitoring Plan to ensure success in mitigating the habitat impacts that are covered. The SJMSCP Monitoring Plan includes an Annual Report process, Biological Monitoring Plan, SJMSCP Compliance Monitoring Program, and the SJMSCP Adaptive Management Plan SJCOG.*	--

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Impact 3.4-2: The proposed project has the potential to have direct or indirect effects on special-status reptile and amphibian species	LS	*Implement* ***Mitigation Measure 3.4-1.***	--
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.*** ***Mitigation Measure 3.4-2:*** *If construction activities occur during the avian breeding season (March 1 – August 31) then the project proponent shall conduct pre-construction surveys to prevent impacts to nesting birds. No more than 15 days prior to the start of construction a bird survey shall be conducted by a qualified biologist to identify any active nests within the Plan Area or Offsite Infrastructure Corridor. If construction stops for a period of 15 days or more during the avian breeding season than an additional bird survey shall be conducted. The biologist will conduct a survey in the Plan Area or Offsite Infrastructure Corridor, including the San Joaquin River, for all special-status birds protected by the federal and state ESA, MBTA and CFGC, including but not limited to those that are documented within a ten-mile radius of the Plan Area and are known to nest in the region. The biologist shall map all nests that are within, and visible from, the Plan Area or Offsite Infrastructure Corridor. If nests are identified, the biologist shall develop buffer zones around active nests as deemed appropriate in coordination with the CDFW. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails. Nests shall be monitored at least twice per week and a report submitted to the City and CDFW monthly.*	LS
Impact 3.4-4: The proposed project has the potential to result in direct or indirect effects on special-status mammal species	LS	*Implement* ***Mitigation Measure 3.4-1.***	--
Impact 3.4-5: The proposed project has the potential for direct or indirect effects on candidate, sensitive, or special-status plant species	LS	*Implement* ***Mitigation Measure 3.4-1.***	--

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Impact 3.4-6: Effects on Protected Wetlands and Jurisdictional Waters	PS	***Mitigation Measure 3.4-3****: Prior to any construction activities that would disturb protected wetlands in the Plan Area and/or jurisdictional areas of the San Joaquin River associated with the storm drainage outfall, the appropriate state and federal authorizations (Streambed Alteration Agreement, Section 404 permit, Section 401 water quality certification) shall be obtained. All requirements of these authorizations shall be adhered to throughout the construction phase.* ***Mitigation Measure 3.4-4****: The project applicant shall compensate for any authorized disturbance to protected wetlands and/or jurisdictional areas to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state, federal, and local agencies as part of the permitting process for the project. Unless determined otherwise by the regulatory/permitting agency, the compensation shall be at a minimum ratio of 1 acre restored, created, and/or preserved for every 1 acre of wetland disturbed. It is anticipated that the total compensation will be 0.306 acres mitigated. Compensation may comprise onsite restoration/creation, off-site restoration, preservation, or mitigation credits (or a combination of these elements).*	LS
Impact 3.4-7: Adverse Effects on Riparian Habitat or Sensitive Natural Community	PS	***Mitigation Measure 3.4-5****: The storm drainage outfall shall be designed and located such that it avoids and minimizes impacts to riparian vegetation to the extent feasible (i.e. identify areas where vegetation density is lower and trees are sparse).* ***Mitigation Measure 3.4-6****: Prior to installation of the storm drainage outfall, compensate/replace for any disturbance to riparian habitat along the San Joaquin River in association with the storm drainage outfall. Compensation/replacement ratios shall be at a minimum ratio of 1 acre restored, created, and/or preserved for every 1 acre of riparian disturbed. The acreage impacted shall be calculated based on the final design of the storm drainage outfall. Compensation may comprise onsite restoration/creation, off-site restoration, preservation, or mitigation credits (or a combination of these elements).*	LS
Impact 3.4-8: Interference with the Movement of Native Fish or Wildlife Species or with	PS	***Mitigation Measure 3.4-7****: The project applicant shall implement the following*	LS

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Established Wildlife Corridors, or Impede the Use of Native Wildlife Nursery Sites		*nonstructural BMPs that focus on preventing pollutants from entering stormwater:*
		• *Pollution Prevention/Good Housekeeping*
		  ○ *A spill response and prevention plan shall be developed as a component of (1) SWPPPs prepared for construction activities, (2) SWPPPs for facilities subject to the NPDES general Industrial Stormwater Permit, and (3) spill prevention control and countermeasure plans for qualifying facilities.*
		  ○ *Streets and parking lots shall be swept at least once every two weeks.*
		• *Operation and Maintenance (O&M) of Treatment Controls*
		  ○ *An Operation and Maintenance (O&M) Plan shall be developed for the storm drainage facilities to ensure long-term performance. The O&M plan shall incorporate the manufacturers' recommended maintenance procedures and include (1) provisions for debris removal, (2) guidance for addressing public health or safety issues, and (3) methods and criteria for assessing the efficacy of the storm drainage system. An annual report shall be submitted to the City certifying that maintenance of the facilities was conducted according to the O&M plan.*
		
		***Mitigation Measure 3.4-8**: The project applicant shall implement the following structural BMPs that focus on preventing pollutants from entering stormwater, or alternative BMPs approved by the City of Lathrop:*
		• *Extended Detention Facilities: Extended detention refers to the facilities proposed for the Plan Area that would detain and temporarily store stormwater runoff to reduce the peak rates of discharge to the San Joaquin River. Detention of stormwater allows particles and other pollutants to settle and thereby potentially reduce concentrations and mass loading of contaminants in the discharge.*
		• *Grassed Swales: A swale is a vegetated, open channel management practice designed to treat and attenuate stormwater runoff for a specified water*	

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		quality volume. Stormwater runoff flowing through these channels is treated by being filtered through vegetation in the channel, through a subsoil matrix, and/or through infiltration into the underlying soils. Swales can be used throughout the SLSP area where feasible in the landscape design to treat parking lot runoff. • *Proprietary Devices: There are a variety of commercially available stormwater treatment devices designed to remove contaminants from drainage once flows enter the conveyance systems. StormFilter™ units, or equivalent filtration-type systems, are recommended within the commercial and industrial areas as the main structural BMP for these areas. Bioswales are also recommended for streets and parking areas. Drop inlet filters should also be used to control drainage runoff water quality.*	
Impact 3.4-9: Conflict with an Adopted Habitat Conservation Plan	LS	*Implement* ***Mitigation Measure 3.4-1.***	--
Impact 3.4-10: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	LS	*Implement* ***Mitigation Measure 3.4-1.***	--
CULTURAL RESOURCES			
Impact 3.5-1: Project implementation has the potential to cause a substantial adverse change to a significant historical resource, as Defined in CEQA Guidelines §15064.5	PS	***Mitigation Measure 3.5-1****: If any cultural resources, including prehistoric or historic artifact, or other indications of archaeological resources are found during grading and construction activities, all work shall be halted immediately within a 200-foot radius of the discovery until the 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 cannot 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*	LS

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		cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR. *If a potentially-eligible resource is encountered, then the archaeologist, lead agency, and project proponent shall arrange for either 1) total avoidance of the resource, if possible; or 2) test excavations to evaluate eligibility and, if eligible, total data recovery as mitigation. The determination shall be formally documented in writing and submitted to the lead agency as verification that the provisions in CEQA for managing unanticipated discoveries have been met.* *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 Applicant's expense.*	
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	PS	*Implement* ***Mitigation Measure 3.5-1***	LS
Impact 3.5-3: Project implementation has the potential to directly or indirectly destroy a unique paleontological resource	PS	***Mitigation Measure 3.5-2:*** *If paleontological resources are discovered during the course of construction, work shall be halted immediately within 50 meters (165 feet) of the discovery, the City of Lathrop shall be notified, and a qualified paleontologist shall be retained to determine the significance of the discovery. If the paleontological resource is considered significant, it should be excavated by a qualified paleontologist and given to a local agency, State University, or other applicable institution, where they could be curated and displayed for public education purposes.*	LS
Impact 3.5-4: Project implementation has the potential to disturb human remains, including those interred outside of formal cemeteries	PS	***Mitigation Measure 3.5-3:*** *If human remains are discovered during the course of construction, work shall be halted at the site and any nearby area reasonably suspected to overlie adjacent human remains until he San Joaquin County Coroner has been informed and has determined that no investigation of the cause of death is required. If*	LS

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		the remains are of Native American origin, either of the following steps will be taken: • *The coroner will contact the Native American Heritage Commission in order to ascertain the proper descendants from the deceased individual. The coroner will make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.* • *The landowner shall retain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance when any of the following conditions occurs:* o *The Native American Heritage Commission is unable to identify a descendent.* o *The descendant identified fails to make a recommendation.* o *The City of Lathrop or its authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.*	
GEOLOGY AND SOILS			
Impact 3.6-1: The proposed project may expose people or structures to potential substantial adverse effects involving strong seismic ground shaking or seismic related ground failure	LS		--
Impact 3.6-2: Implementation and construction of the proposed project may	LS	***Mitigation Measure 3.6-1:*** *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation, the Project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB to obtain*	--

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result in substantial soil erosion or the loss of topsoil		*coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). The SWPPP shall be designed with Best Management Practices (BMPs) that the RWQCB has deemed as effective at reducing erosion, controlling sediment, and managing runoff. These include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Sediment control BMPs, installing silt fences or placing straw wattles below slopes, installing berms and other temporary run-on and runoff diversions. These BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Final selection of BMPs will be subject to approval by City of Lathrop and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*	
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	LS		--
Impact 3.6-4: Potential for expansive soils to create substantial risks to life or property	PS	***Mitigation Measure 3.6-3**: Prior to earthmoving activities, a certified geotechnical engineer, or equivalent, shall be retained to perform a final geotechnical evaluation of the soils at a design-level as required by the recommendations contained in the Preliminary Geotechnical Report (Engeo 2004) and the requirements of the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils and other soil conditions. The evaluation shall be prepared in accordance with the standards and requirements outlined in 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 shall 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*	--

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		well as the storm drainage outfall and building plans shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.	
GREENHOUSE GASES AND CLIMATE CHANGE			
Impact 3-1: Potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	PS	***Mitigation Measure 3.5-1**: To reduce Greenhouse Gas Emissions and Energy Consumption, the project applicant shall institute measures to reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, and maintenance/landscaping. As the individual projects are designed and undergo Design Review by the City of Lathrop, there should be an explanation as to why certain measures were incorporated in the individual projects and why other measures were dismissed.* • *Increase transit accessibility in the Plan Area by ensuring a minimum distance of 0.2 miles to transit stops* • *Ensure that the pedestrian network within the Plan Area connects to offsite pedestrian networks* • *Provide traffic calming measures on all street segments and intersections* • *Implement a voluntary trip reduction program for all employees* • *Encourage telecommuting and alternative work schedules. Ensure that 10% of employees have a 9/80, 4/40, or telecommute 1.5 days/wk.* • *Provide a Ride Sharing Program for all employees* • *Exceed Title 24 by 15%* • *Install high efficiency lighting and appliance within all buildings* • *Apply a water conservation strategy to achieve a 15% reduction in indoor and outdoor water usage* • *Utilize the City's reclaimed water system to irrigate outdoor landscaping, including medians once available (i.e. installation recycled water infrastructure to the Plan Area)* • *Install low faucets, toilets, and showers as applicable* • *Use water-efficient irrigation systems throughout the Plan Area* • *Institute Recycling and Composting Services to achieve a 50% reduction in*	LS

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		waste disposal • *Plant 100 hardwood tree species within the overall landscaping for the Plan Area*	
HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.8-1: 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	PS	***Mitigation Measure 3.8-1****: A Soils Management Plan (SMP) shall be submitted and approved by the San Joaquin County Department of Environmental Health prior to the issuance of a grading permit. The SMP shall establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. If surface staining is found to extend to a depth of more than six inches in soil, a hazardous waste specialist (Phase 2) shall be engaged to further assess the stained area. 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 the removal of or issuance of demolition permits for buildings built prior to 1980, the applicant shall hire a qualified consultant to perform a Phase 2 ESA to: 1) sample the soils for residual agrichemicals, 3) sample any areas that appear stained, and32) investigate whether any of the buildings or facilities contain asbestos-containing materials and lead that could become friable or mobile during demolition activities. If toxic levels of residual agrichemicals are found, the contaminated soil shall be excavated from the site and disposed of at an off-site disposal facility designed to accept such waste. If any stained soils are found, the contaminated soil shall be excavated from the site and disposed of at an off-site disposal facility designed to accept such waste. If asbestos-containing materials and/or lead are found in the buildings, a Cal-OSHA certified ACBM and lead based paint contractor shall be retained to remove the asbestos-containing materials and lead in accordance with EPA and California Occupational Safety and Health Administration (Cal/OSHA) standards. In addition, all activities (construction or demolition) in the vicinity of these materials shall comply with Cal/OSHA asbestos and lead worker construction standards. The ACBM and lead shall be disposed of properly at an appropriate offsite disposal facility.*	LS

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		***Mitigation Measure 3.8-3**: Prior to the issuance of grading permits or demolition permits, the project proponent shall perform a Phase 2 assessment in accordance with the recommendations provided in the Phase 1 ESAs. San Joaquin County Department of Environmental Health shall be notified by the project applicant if evidence of previously undiscovered soil or groundwater contamination (e.g., stained soil, odorous groundwater) is encountered during the Phase 2 assessment. Any contaminated areas shall be remediated by the project applicant in accordance with recommendations made by San Joaquin County Department of Environmental Health, Regional Water Quality Control Board, Department of Toxic Substances Control, or other appropriate federal, state, or local regulatory agencies.* ***Mitigation Measure 3.8-4**: Prior to the issuance of grading permits the septic tank and domestic water supply wells shall be upgraded or destructed under permit from the San Joaquin County Department of Environmental Health. Any destruction of these facilities shall be in accordance with the San Joaquin County Well Standards (San Joaquin County Ordinance Code Section 9-1115.6). The project applicant shall provide the City of Lathrop with a copy of the permit and a report or other information documenting the appropriate destruction of these facilities.* ***Mitigation Measure 3.8-5**: Prior to the commencement of a business operation that involves the transport, storage, use, or disposal of a significant quantity hazardous material within the Plan Area, the business owner shall submit a Hazardous Materials Business Plan (HMBP) for review and approval by the San Joaquin County Department of Environmental Health. The HMBP shall establish management practices for handling, storing, and disposal of hazardous materials, including fuels, paints, cleaners, solvents, pesticides, fertilizers, etc., during operations to reduce the potential for spills and to direct the safe handling of these materials if encountered. The HMBP shall also identify the appropriate area for mixing/loading pesticides and fertilizers and for fuel dispensing, which shall be separated to ensure safety. The areas shall be designed with spillage catchments such that any accidental spillage is prevented from entering waterways. The business owner shall also consult with the San Joaquin County Department of Environmental Health to ensure that the particular business operations*	

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		are compliant with all local, state, and federal regulations relative to their operations (i.e. proper permits for the installation and use of an underground storage of hazardous substances (USTs)). The approved HMBP and any other permit deemed to be required in order to commence the specific business operations shall be maintained onsite and all personnel shall acknowledge that they have reviewed and understand the HMBP and any other permit requirements.	
Impact 3.8-2: 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		--
Impact 3.8-3: Potential to result in impacts from being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5	LS		--
Impact 3.8-4: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	LS		--
HYDROLOGY AND WATER QUALITY			
Impact 3.9-1: The proposed project has the potential to violate water quality standards or waste discharge requirements during construction	LS	*Implement* ***Mitigation Measure 3.6-1***.	--
Impact 3.9-2: The proposed project has the potential to violate water quality standards or waste discharge requirements during	LS	*Implement* ***Mitigation Measure 3.4-7 and 3.4-8***	--

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operation			
Impact 3.9.3: The proposed project has the potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge	LS		--
Impact 3.9-4: The proposed project has the potential to alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, or polluted runoff	LS		--
Impact 3.9.5 The proposed project has the potential to otherwise substantially degrade water quality	LS	*Implement* ***Mitigation Measure 3.6-1, Mitigation Measure 3.4-7 and 3.4-8***	--
Impact 3.9.6 Place housing or structures that would impede/redirect flows within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map	LS		--
Impact 3.9.7 The proposed project has the potential to expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, seiche, tsunami, or mudflow	LS		--
LAND USE AND PLANNING			
Impact 3.10-1: The proposed project has the potential to physically divide an established	LS		--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
community			
Impact 3.10-2: The proposed project has the potential to 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		--
Impact 3.10-3: The proposed project has the potential to conflict with an applicable habitat conservation plan or natural community conservation plan	LS		--
Impact 3.10-4: The proposed project has the potential to induce substantial population growth in an area	LS		--
Impact 3.10-5: The proposed project has the potential to displace substantial numbers of people or existing housing	LS		--
MINERAL RESOURCES			
Impact 3.11-1: The project would result in the loss of a known mineral resource that would be of value to the region	PS		SU
Impact 3.11-2: The project would result in the loss of a locally important mineral resource recovery site delineated on a local general plan	PS		SU

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NOISE			
Impact 3.12-1: The proposed project has the potential to increase traffic noise levels at existing receptors	LS		--
Impact 3.12-2: The proposed project has the potential to increase noise levels associated with construction activities	LS		--
Impact 3.12-3: The proposed project has the potential to increase noise vibration association with construction activities	LS		--
Impact 3.12-4: The proposed project has the potential to increase railroad noise at sensitive receptors	LS		--
Impact 3.12-5: The proposed project has the potential to increase stationary noise at sensitive receptors	PS	***Mitigation Measure 3.12-1:*** *Proposed industrial uses which include extensive noise generating uses such as heavy trucking, outdoor manufacturing, or large ventilation systems (exhaust, dust collection, etc. other than HVAC systems) shall be reviewed by the City of Lathrop to ensure that exterior noise levels would not exceed the applicable San Joaquin County and City of Lathrop noise standards. The City shall prohibit the approval of a use that would cause an exceedance of the noise standards at a sensitive receptor. The specific development proposals within the Plan Area shall be reviewed by the City of Lathrop when the detailed information is available for the individual development/construction approvals, which may occur during Architectural Design Review and/or Building Permit.*	LS
PUBLIC SERVICES AND RECREATION			
Impact 3.13-1: The proposed project has the	LS		--

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potential to require the construction of fire department facilities which may cause substantial adverse physical environmental impacts			
Impact 3.13-2: The proposed project has the potential to require the construction of police department facilities which may cause substantial adverse physical environmental impacts	LS		--
Impact 3.13-3: The proposed project has the potential to require the construction of school facilities which may cause substantial adverse physical environmental impacts	LS		--
Impact 3.13-4: The proposed project has the potential to have effects on other public facilities	LS		--
Impact 3.13-5: The proposed project has the potential to require the construction of park and recreational facilities which may cause substantial adverse physical environmental impacts	LS		--
Impact 3.13-6: Would increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated	LS		--
TRANSPORTATION AND CIRCULATION			

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Impact 3.14-1: Under Existing Plus Project Conditions, project implementation would result in a significant impact at the SR 120/Yosemite Avenue unsignalized ramp-terminal intersections (#1 & 2)	PS	***Mitigation Measure 3.14-1:*** *At the SR 120 / Yosemite Avenue interchange, the City of Lathrop in coordination with Caltrans will prepare a Project Study Report – Project Development Support (PSR-PDS) document. Implementation of the following mitigation measures would improve operations at the SR 120/Yosemite Avenue Interchange ramp-terminal intersections to an acceptable level of service.* *Improvements needed to accommodate 50% Build-out of South Lathrop Specific Plan* 1. *Install traffic signal control at both ramp-terminal intersections and provide coordinated signal operation. An evaluation of all applicable signal warrants should be conducted and additional factors (e.g., congestion, approach conditions, driver confusion) should be considered before the decision to install a signal is made.* 2. *Widen the eastbound and westbound off-ramps to accommodate one shared through/left-turn lane and a separate right-turn lane.* 3. *Widen Guthmiller Road (south of SR 120) to four lanes to provide one through and one right turn lane on the northbound approach.* *Improvements needed to accommodate 100% Build-out of South Lathrop Specific Plan are presented on Figure 3.14, and include the following* 1. *Widen the SR 120 undercrossing to four lanes with two through lanes and one left-turn lane on the northbound approach to the westbound ramp-terminal intersection and on the southbound approach to the eastbound ramp-terminal intersection. Tieback walls will be necessary to accommodate widening under SR 120 and will be identified as part of a PSR/PDS.* 2. *Install traffic signal control at both ramp-terminal intersections and*	SU

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		provide coordinated signal operation. An evaluation of all applicable signal warrants should be conducted and additional factors (e.g., congestion, approach conditions, driver confusion) should be considered before the decision to install a signal is made. *3. Widen the eastbound and westbound off-ramps to accommodate one shared through/left-turn lane and a separate right-turn lane.* *In addition to the improvements identified above, the PSR/PDS will also include Intelligent Transportation System (ITS) alternatives that will provide emergency vehicle access in the event of an emergency or natural disaster. Alternatives may include either infra-red / GPS enabled traffic signal pre-emption and/or emergency vehicle access via locked gates.* *These two study intersections are under Caltrans jurisdiction. The City of Lathrop would be responsible for the intersection improvement, acquisition of right-of-way, and construction. However, Caltrans would serve as the approval agency for the design and construction of proposed interchange / intersection improvements.*	
Impact 3.14-2: Under Existing Plus Project Conditions, project implementation would add traffic to the Yosemite Avenue/Airport Way intersection and result in unacceptable levels of service in the PM peak hour	PS	***Mitigation Measure 3.14-2:*** *The following mitigation measure would be required with completion and occupancy of 25% (1,072,000 square feet) of the proposed project's total development to improve operations at the Yosemite Avenue/Airport Way intersection to an acceptable level of service:* • *Add an eastbound right turn lane with a storage pocket of 200 feet.* *This study intersection is in the City of Manteca. The City of Lathrop would be responsible for the intersection improvement, acquisition of right-of-way, and the construction of proposed intersection improvements.*	SU
Impact 3.14-3: Under Existing Plus Project	LS		--

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Conditions, project implementation would add traffic to the Louise Avenue/McKinley Avenue intersection which currently operates at unacceptable levels of service			
Impact 3.14-4: Under Existing Plus Project Conditions, project implementation would result in a significant impact to freeway facilities	PS	***Mitigation Measure 3.14-4:*** *The following mitigation measures would potentially improve SR 120 operations to an acceptable level of service:* • *The project applicant shall pay the appropriate San Joaquin Regional Traffic Impact Fee (RTIF), which is collecting fees from new developments to help fund widening of SR 120 to six lanes.*	SU
Impact 3.14-5: The proposed project provides pedestrian and bicycle facilities	LS		--
Impact 3.14-6: The proposed project does not identify specific transit facilities (such as sheltered transit stops or pullouts)	PS	***Mitigation Measure 3.14-5:*** *The project applicant shall incorporate bus turnouts and shelters into the preparation of the South Lathrop Specific Plan as required by the City's General Plan.*	LS
Impact 3.14-7: The proposed project could add STAA truck traffic to the SR 120/Yosemite Avenue Interchange, which is not STAA approved. This is considered a potentially significant impact.	PS	***Implement Mitigation Measure 3.14-1.***	SU
Impact 3.14-8: The proposed project could cause potentially significant impacts to at-grade rail crossings	LS		--
Impact 3.14-9: The proposed project could result in inadequate emergency vehicle access	PS	***Mitigation Measure 3.14-6:*** The project applicant has evaluated the ability to provide a secondary access point and has determined that the feasibility and cost are prohibitive. As part of Mitigation Measure 3.14-1, the PSR/PDS will *also include Intelligent Transportation System (ITS) alternatives that will provide emergency vehicle*	SU

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		access in the event of an emergency or natural disaster. Alternatives may include either infra-red / GPS enabled traffic signal pre-emption and/or emergency vehicle access via locked gates.	
Impact 3.14-10: Under cumulative conditions, project implementation would exacerbate levels of service at the SR 120/Yosemite Avenue ramp-terminal intersections (Intersections 1&2)	PS	***Mitigation Measure 3.14-7:*** *At the SR 120 / Yosemite Avenue interchange, the City of Lathrop in coordination with Caltrans will prepare a Project Study Report – Project Development Support (PSR-PDS) document. The project* applicant *shall pay its fair share toward improvements to the SR 120/Yosemite Avenue Interchange to the City of Lathrop, who will be the lead agency for the interchange improvement project. The project's fair share traffic contribution to these improvements is estimated to be 28 percent[1]. The following mitigation measures as shown in Figure 3.14-13 would be necessary to provide acceptable operations under cumulative conditions:* 1. *Install traffic signal control at both ramp-terminal intersections and provide coordinated signal operation. An evaluation of all applicable signal warrants should be conducted and additional factors (e.g., congestion, approach conditions, driver confusion) should be considered before the decision to install a signal is made.* 2. *Widen the eastbound and westbound off-ramps to accommodate one left-turn lane, one shared through/left-turn lane and a separate right-turn lane.* 3. *Widen the eastbound and westbound on-ramps to provide two receiving lane that transition to one entrance lane at SR 120.* 4. *Widen Yosemite Avenue (south of SR 120) to four lanes to provide two through and one right turn lane on the northbound approach.* 5. *Widen the SR 120 undercrossing to accommodate six lanes including two through lanes in each direction, two left-turn lanes on the northbound approach to the*	SU

[1] Fair share calculation is based on the project's cumulative traffic contribution (total AM and PM peak hour volumes on the four freeway on- and off-ramps using the following formula:
Fair Share Percentage = [Project Only Total Volume / (Cumulative Plus Project Total Volume – Existing County Volume)]
Fair Share Percentage = [1,923 / (8,490 – 1,672)] = 28 %

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*
		westbound ramp-terminal intersection and on the southbound approach to the eastbound ramp-terminal intersection. Tieback walls will be necessary to accommodate widening under SR 120. *Relocate the westbound ramp-terminal intersection approximately 550 feet north of its current location to create an L-7 interchange configuration with a northbound Yosemite Avenue to westbound SR 120 loop on-ramp. The loop on-ramp would replace the slip on-ramp and would increase the westbound SR 120 weave distance between the Yosemite Avenue and the I-5 northbound and southbound ramps.* *The study intersections are under Caltrans jurisdiction. The City of Lathrop would be responsible for the intersection improvement, acquisition of right-of-way, and the construction. However, Caltrans would need to approve the design and construction of the proposed improvements.*	
Impact 3.14-11: Under cumulative conditions, project implementation would exacerbate cumulatively unacceptable levels of service at the Lathrop Road/McKinley Avenue intersection	PS	***Mitigation Measure 3.14-8:*** *The project applicant shall pay its fair share toward improvements to the City of Lathrop for the Lathrop Road/McKinley Avenue intersection. The project's fair share traffic contribution to these improvements is estimated to be 0.8%[2]. The following mitigation measure as shown in Figure 3.14-13 would be necessary to provide acceptable operations under cumulative conditions:* • *Install traffic signal control and provide for protected eastbound to southbound left-turn signal phasing. An evaluation of all applicable signal warrants should be conducted and additional factors (e.g., congestion, approach conditions, driver confusion) should be considered before the decision to install a signal is made.*	SU

[2] Fair share calculation is based on the project's cumulative traffic contribution (total AM and PM peak hour volumes on the four freeway on- and off-ramps using the following formula:
Fair Share Percentage = [Project Only Total Volume / (Cumulative Plus Project Total Volume – Existing Count Volume)]
Fair Share Percentage = [22 / (5,250 – 2,401)] = 0.8 %

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*
Impact 3.14-12: Under cumulative conditions, project implementation would exacerbate cumulatively unacceptable levels of service at the Louise Avenue/McKinley Avenue intersection	PS	***Mitigation Measure 3.14-9:*** *The project applicant shall pay its fair share toward improvements to the Louise Avenue/McKinley Avenue intersection. The project's fair share traffic contribution to this intersection is estimated to be 2.1 %[3]. The following mitigation measures as shown in Figure 3.14-13 would be necessary to provide acceptable operations under cumulative conditions:* • *Widen the eastbound approach to add one EB left-turn lane and one EB right-turn lane. Restripe the shared left/through lane and shared through/right lane to two eastbound through lanes.* • *Widen the westbound approach to add one WB left-turn lane and one WB right-turn lane. Restripe the shared left/through lane and shared through/right lane to two westbound through lanes.* • *Widen the northbound approach to add an additional NB left-turn lane.* • *Optimize signals with protected left-turns signal phasing.*	SU
Impact 3.14-13: Under cumulative conditions, project implementation would exacerbate cumulatively unacceptable levels of service at the SR 120/Airport Way ramp-terminals intersections and the Airport Way/Daniels Street intersection	PS	***Mitigation Measure 3.14-10:*** *The project applicant shall pay its fair share toward improvements to the SR 120/Airport Way interchange and Airport Way/Daniels Street intersection. The project's fair share traffic contribution to these intersections is estimated to be 1.6 % and 1.1 %[4], respectively. The following mitigation measures as shown in Figure 3.14-13 would be necessary to provide acceptable operations under cumulative conditions:* <u>*SR 120/Airport Way Interchange*</u> • *Relocate the westbound ramp-terminal intersection approximately 180 feet south of its current location to create*	SU

[3] Fair share calculation is based on the project's cumulative traffic contribution (total AM and PM peak hour volumes on the four freeway on- and off-ramps using the following formula:
Fair Share Percentage = [Project Only Total Volume / (Cumulative Plus Project Total Volume – Existing Count Volume)]
Fair Share Percentage = [66 / (6,020 – 2,803)] = 2.1 %

[4] Fair share calculation is based on the project's cumulative traffic contribution (total AM and PM peak hour volumes on the four freeway on- and off-ramps using the following formula:
Fair Share Percentage = [Project Only Total Volume / (Cumulative Plus Project Total Volume – Existing Count Volume)]
Fair Share Percentage = [134 / (14,770 – 6,452)] = 1.6 %, Fair Share Percentage = [44 / (7,980 – 4,022)] = 1.1 %

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*
		a tight interchange configuration, which will increase the spacing to the Airport Way/Daniels Street intersection. • *Construct loop on-ramps.* • *Widen overcrossing to include two northbound and three southbound lanes.* • *Widen SR 120 eastbound and westbound off-ramps to include two left-turn lanes and two right-turn lanes.* *Airport Way/Daniels Street* • *Restripe the southbound approach to add a third through lane and restripe the northbound approach to add an exclusive right-turn lane.* • *Restripe the eastbound Daniels Street approach to include one left-turn, one shared left/through lane, and two right-turn lanes with right-turn overlap phasing.* *The SR 120/Airport Way ramp-terminal intersections are under Caltrans jurisdiction and the Airport Way/Daniels Street intersection is under City of Manteca jurisdiction.*	
Impact 3.14-14: Under cumulative conditions, project implementation would exacerbate cumulatively unacceptable levels of service on SR 120 and I-5	PS	***Mitigation Measure 3.14-11:*** *The project applicant shall pay appropriate San Joaquin County Regional Traffic Impact Fee (RTIF), which is collecting fees from new development to help fund improvements to SR 120.* *The cumulative conditions analysis assumed the programmed widening of SR 120 from four to six lanes. These improvements are partially paid for with the RTIF, which the development will be subject to. Without these assumed improvements, freeway operations would be worse than described. In addition, the commercial components of the project will generate additional revenues through the Measure K sales, which helps fund SR 120 improvements.* *Additional improvements, beyond widening the SR 120 mainline to six lanes, are not currently planned or fully funded. However, implementation of planned parallel arterial*	SU

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

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		roadway improvements and system-wide operational improvements such as ramp metering and auxiliary lane improvements, will benefit SR 120 mainline operation during peak travel periods. Operational improvements will be developed through coordination with Caltrans during the Encroachment Permit process associated with implementation of Mitigation Measure like 3.14-1. However, the impact is considered ***significant and unavoidable*** *because the improvements on SR 120 are within the jurisdiction of Caltrans and because implementation of operational improvements, while beneficial, would not reduce the impact to a less than significant level.*	
UTILITIES			
Impact 3.15-1: The proposed project has the potential to exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.	LS		--
Impact 3.15-2: The proposed project has the potential to 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.	PS	***Mitigation Measure 3.15-1:*** *Prior to occupancy of the any building that would require wastewater treatment services, the project proponent shall secure adequate wastewater treatment capacity. The wastewater treatment capacity may come from a variety of existing facilities including the WRP-1, Crossroads POTW, and/or Lathrop-Manteca WQCF. These existing plants are permitted facilities that have undergone the appropriate environmental review. Alternatively, the wastewater treatment capacity may come from a variety of future facilities or expansions to existing facilities including a newly constructed WRP-2, or a capacity expansion at WRP-1, Crossroads POTW, and or Lathrop-Manteca WQCF. The WRP-2 has undergone environmental review and is permitted under the City's waste discharge permit. The expansion of an existing facility would require the appropriate environmental review and waste discharge permits (Note: the expansion of WRP-1 to 1.56 mgd is permitted by the State under the existing waste discharge permit). Additionally, the project proponent would be required to install/connect the necessary collection/transmission infrastructure to ensure the appropriate treatment of all wastewater.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.15-3: The proposed project has the potential to 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	PS	*Implement* ***Mitigation Measure 3.2-1, 3.4-1, 3.4-2, 3.6-1, 3.6-3***	SU
Impact 3.15-4: The proposed project has the potential to require construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	LS		--
Impact 3.15-5: The proposed project has the potential to have insufficient water supplies available to serve the project from existing entitlements and resources	LS		--
Impact 3.15-6: The proposed project has the potential to 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	LS	*Implement* ***Mitigation Measure 3.2-1, 3.4-1, 3.4-2, 3.4-3, 3.4-5, 3.4-6, 3.6-1, 3.6-3***	--
Impact 3.15-7: The proposed project has the potential to 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		--
CUMULATIVE IMPACTS			

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 4.1: project implementation may substantially damage scenic resources within a State Scenic Highway	LS and LCC		--
Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region	PS		CC and SU
Impact 4.3: project implementation may result in light and glare impacts	LS and LCC		--
Impact 4.4: Cumulative Impact on Agricultural and Forest Resources	PS		CC and SU
Impact 4.5: Cumulative Impact on the Region's Air Quality	PS		CC and SU
Impact 4.6: Cumulative Loss of Biological Resources Including Habitats and Special Status Species	LS and LCC		--
Impact 4.7: Cumulative Impacts on Known and Undiscovered Cultural Resources	LS and LCC		--
Impact 4.8: Cumulative Impact on Geologic and Soils Resources	LS and LCC		--
Impact 4.9: Cumulative Impact on Climate Change from Increased project-Related Greenhouse Gas Emissions (Less than Cumulatively Considerable)	LS and LCC		--
Impact 4.10: Cumulative Impact Related to	LS and LCC		--

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*
Hazards and Hazardous Materials			
Impact 4.11: Cumulative Increases in Peak Stormwater Runoff from the Plan Area	LS and LCC		--
Impact 4.12: Cumulative Impacts Related to Degradation of Water Quality	LS and LCC		--
Impact 4.13: Cumulative Impacts Related to Degradation of Groundwater Supply or Recharge	PS		CC and SU
Impact 4.14: Cumulative Impacts Related to Flooding	LS and LCC		--
Impact 4.15: Cumulative Impact on Communities and Local Land Uses	LS and LCC		--
Impact 4.16: Cumulative Impacts on Population and Housing	LS and LCC		--
Impact 4.17: Cumulative Impacts Resulting in the Loss of a Known Mineral Resource.	PS		CC and SU
Impact 4.18: Cumulative Exposure of Existing and Future Noise- Sensitive Land Uses to Increased Noise Resulting from Cumulative Development	LS and LCC		--
Impact 4.19: Cumulative Impact on Fire Services	LS and LCC		--

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*
Impact 4.20: Cumulative Impact on Other Public Services	LS and LCC		--
Impact 4.21: Under cumulative conditions, project implementation would exacerbate levels of service at various traffic facilities within the study area	PS		CC and SU
Impact 4.22: Cumulative Impact on Wastewater Utilities	PS		CC and SU
Impact 4.23: Cumulative Impact on Water Utilities	PS		CC and SU
Impact 4.24: Cumulative Impact on Stormwater Facilities	PS		CC and SU
Impact 4.25: Cumulative Impact on Solid Waste Facilities	LS and LCC		--

CC – cumulatively considerable

LCC – less than cumulatively considerable

LS – less than significant

PS – potentially significant

B – beneficial impact

SU – significant and unavoidable

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1.1 PURPOSE AND INTENDED USES OF THE EIR

The City of Lathrop, as lead agency, determined that the proposed South Lathrop Specific Plan (SLSP) 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 Lathrop, 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 SLSP. The environmental review process enables interested parties to evaluate the proposed project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the SLSP. This EIR will be used by the City of Lathrop to determine whether to approve, modify, or deny the SLSP 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 SLSP. All of the actions and components of the SLSP 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 Program EIR pursuant to CEQA Guidelines Section 15168. The program-level analysis considers the broad environmental effects of the SLSP. CEQA Guidelines Section 15168 states that a program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

1) Geographically,
2) As logical parts in the chain of contemplated actions,
3) In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program, or
4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

The program-level analysis considers the broad environmental effects of the proposed SLSP. The EIR examines all phases of the project including planning, construction and operation. The program-level approach is appropriate for the SLSP because it allows comprehensive consideration of the reasonably anticipated scope of development plan; however, not all aspects of the future development are known at this stage in the planning process. Development projects in the Plan Area that require further discretionary approvals will be examined in light of this EIR to determine whether additional environmental documentation must be prepared.

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 SLSP or an aspect of the SLSP (CEQA Guidelines Section 15381). The following agencies are considered Responsible Agencies for the SLSP:

- California Department of Transportation (Caltrans): Encroachment permits
- Lathrop-Manteca Fire Protection District: Provision of Fire Protection Services
- Reclamation District 17: Levee permits
- San Joaquin Local Agency Formation Commission (LAFCo): Annexation
- San Joaquin Valley Unified Air Pollution Control District (SJVAPCD): Indirect Source Rule Permit, Authority to Construct, Permit to Operate for stationary sources of air pollution (auxiliary power, storm drainage pump station)

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 Trustee Agencies for the SLSP, and may be required to issue permits or approve certain aspects of the SLSP:

- California Department of Fish and Game - Streambed Alteration Agreement pursuant to Section 1602 of the California Fish and Game Code;
- Central Valley Regional Water Quality Control Board (CVRWQCB) - Storm Water Pollution Prevention Plan (SWPPP) approval prior to construction activities pursuant to the Clean Water Act,
- Central Valley Regional Water Quality Control Board (CVRWQCB) – Water quality certification pursuant to Section 401 of the Clean Water Act.
- Central Valley Regional Water Quality Control Board (CVRWQCB) – Permitting of State jurisdictional areas, including isolated wetlands pursuant to the Porter-Cologne Water Quality Act;
- United States Army Corps Of Engineers – Permitting of federal jurisdictional areas pursuant to Section 404 of the Clean Water Act;
- San Joaquin Council of Governments (SJCOG): Coverage/Incidental Take Authorization under the San Joaquin County Multi Species Habitat Conservation and Open Space Plan

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 Lathrop circulated a Notice of Preparation (NOP) of an EIR for the SLSP on January 25, 2013 to responsible agencies, trustee agencies, the State Clearinghouse, the Native American Heritage Commission, and the public. A public scoping meeting was held on February 6, 2013 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. 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 SLSP, 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 Lathrop 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 Lathrop 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 Lathrop 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: Glenn Gebhardt, Community Development Director
City of Lathrop
390 Towne Centre Dr.
Lathrop, CA 95330

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, 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 Lathrop will review and consider the Final EIR. If the City of Lathrop finds that the Final EIR is "adequate and complete", the City of Lathrop 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 Lathrop may take action to approve, modify, or reject the SLSP. A Mitigation Monitoring Program, 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 SLSP 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 SLSP, environmental and planning documentation prepared for recent projects located within the City of Lathrop, 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, and provides a concise summary matrix of the SLSP's environmental impacts and possible mitigation measures. This chapter identifies alternatives that reduce or avoid at least one significant environmental effect of the SLSP.

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 SLSP, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA, related infrastructure 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 SLSP.

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 Resources
- Geology and Soils
- Greenhouse Gases and Climate Change
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Population
- Mineral Resources
- Noise
- Public Services and Recreation
- Transportation and Circulation
- Utilities and Service Systems

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 SLSP, which could feasibly attain the basic objectives of the SLSP and avoid and/or lessen any significant environmental effects of the SLSP. Chapter 5.0 provides a comparative analysis between the environmental impacts of the SLSP 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 Lathrop received 13 written comment letters on the NOP for the SLSP. A copy of each letter is provided in Appendix A of this Draft EIR. A list of each commenting agency/citizen is provided below. The City also held a public scoping meeting on February 6, 2013.

- SJCOG, Inc. (January 30, 2013)
- Federal Emergency Management Agency (January 31, 2013)
- Alan and Linda Kaplan (February 6, 2013)
- San Joaquin County Environmental Health Department (February 12, 2013)
- Central Valley Flood Protection Board (February 15, 2013)
- Central Valley Regional Water Quality Control Board (February 15, 2013)
- City of Manteca (February 19, 2013)
- San Joaquin County Public Works (February 20, 2013)
- San Joaquin Council of Governments (February 21, 2013)
- Pacific Gas and Electric (February 24, 2013)
- Delta Protection Commission (February 25, 2013)
- San Joaquin Valley Air Pollution Control District (February 26, 2013)
- California Department of Transportation (March 4, 2013)

2.1 PROJECT LOCATION

The South Lathrop Specific Plan area ("SLSP area", "Plan Area" or "project site") is located in unincorporated San Joaquin County, south of State Route (SR) 120, north and west of the Union Pacific Railroad (UPRR) and east of the San Joaquin River (Figure 2-1 and 2-2). The Plan Area, located to the southeast of the City of Lathrop, is within the City's Sphere of Influence and General Plan area, and is identified as the southern portion of the City's Sub-Plan Area 1. The land use is currently designated as Limited Industrial within the City of Lathrop's General Plan and has been identified by the City of Lathrop to receive services from the City in the 2009 Municipal Services Review.

2.2 PROJECT SETTING

The current uses in the SLSP area and adjacent lands are a mix of agricultural and industrial uses. Crop types include alfalfa and winter wheat. No lands are under Williamson Act contracts. The existing access to the plan area is from SR 120 and Yosemite Avenue/Guthmiller Road. An existing non-public vehicular access road is located along the top of the San Joaquin River levee. The dirt road along the levee connects the SLSP Plan Area to the Mossdale Plan Area to the north and to land within unincorporated San Joaquin County to the south. The levee road runs under northbound I-5, southbound I-5, westbound SR 120 ramp to southbound I-5, and Manthey Road (the portion under SR 120 and Manthey Road is within a 10' wide by 10' high tunnel). Limited existing public internal circulation is provided by Madruga Road (a frontage road along SR 120). Several existing private dirt roads provide additional circulation throughout the Plan Area.

The Plan Area is one of the last pockets of unincorporated San Joaquin County within the vicinity, as the Plan Area is generally surrounded by built or approved projects that are within the cities of Lathrop or Manteca. The San Joaquin County General Plan designations within the Plan Area are Resource Conservation (OS/RC) and Limited Industrial (I/L). The San Joaquin County Zoning designations within the Plan Area are AG-40 ((General Agriculture minimum parcel size 40 acres) and I-W Zone (Warehouse Industrial). The General Plans in the vicinity call for extensive urban development along I-5 and SR 120. Lands to the south and east of the property are either planned for development or under construction, transitioning from agricultural uses to residential, industrial and commercial uses.

The City of Lathrop General Plan illustrates a conceptual vehicular access and circulation system within the Plan Area. The General Plan Map anticipates an internal loop road with access points at the SR 120/Yosemite Avenue interchange and across the elevated railroad tracks to the south. The potential vehicular access across the elevated railroad tracks to the south was included in the General Plan to provide connectivity to future development to the south in unincorporated San Joaquin County. The feasibility of this conceptual vehicular access was evaluated for the proposed project in light of the fact that a residential neighborhood (Oakwood Shores Subdivision) was approved by San Joaquin County and has been developed without a connection to the Plan Area as shown in the Lathrop General Plan.

The Plan Area has relatively flat terrain that varies between elevation 10 and 13 feet above sea level (NGVD29) (Figure 2-3). The UPRR rail lines are elevated along the south and eastern boundaries between elevation 24 and 31 feet. SR 120 is elevated along the northern boundary between elevation 20 and 50 feet. A levee is elevated along the western boundary at approximately 31 feet. High voltage power lines (115 and 60 Kilovolts), within Pacific Gas & Electric (PG&E) power line easements, traverse portions of the Plan Area running east/west and north/south. Figure 2-4 presents an aerial photo of the project site and the immediate surroundings.

The Plan Area is surrounded by a variety of existing land uses. To the northeast, is the Lathrop Gateway Business Park currently with industrial, agricultural, rural residential and service land uses. Under the Lathrop Gateway Business Park Specific Plan the area is designated and/or zoned to have Limited Industrial, Commercial Office, Service Commercial and Open Space. South of the Plan Area, in unincorporated San Joaquin County, is the Oakwood Shores Subdivision. To the east, in Manteca, are developing lands including residential, commercial, business and public uses (including the regional Manteca Wastewater Quality Control Facility). The area to the west of the Plan Area is sand and gravel borrow area within unincorporated San Joaquin County. Slightly further to the west is the proposed River Islands development within the City of Lathrop.

2.3 PROJECT GOALS AND OBJECTIVES

The principal objective of the proposed project is the approval and subsequent implementation of the South Lathrop Specific Plan (SLSP). Implementation would involve the development of potential uses under the land use designations of commercial office, limited industrial and open space.

The quantifiable objectives of the proposed project include the development of up to 222 acres of limited industrial, 10 acres of commercial office, 31.5 acres of open space, 36 acres of related public facilities and 15.5 acres of right-of-way at ultimate build out, with a projected potential of approximately 4,288,918 square feet of employment-generating development.

The South Lathrop Specific Plan has developed the following objectives for the proposed project:

- Commercial Office: Establish a core of regional and local serving business and commercial uses that capitalize upon the visibility and access provided by SR 120, and augment City sales tax revenue.
- Employment Opportunities: Provide for local and regional employment opportunities that take advantage of the Plan Area's high level of accessibility, allow for the expansion of the City's economic base, help create a jobs/housing balance, and reduce the commute for regional residents.
- Provide access to the San Joaquin River Trail, connecting to the City of Lathrop.
- Transportation: Provide an efficient circulation system that includes not only automobile transportation but also pedestrian, bicycle and public transit.

- Public Facilities and Services: Provide infrastructure and services that meet City standards, integrate with existing and planned facilities and connections and do not diminish services to existing residents of the City.
- Phasing: Establish a logical phasing plan designed to ensure that each phase of development would include necessary public improvements required to meet City standards.
- Environmental Mitigation: Create a "self-mitigating" plan that, to the extent practical incorporates environmental mitigation measures into project design.
- Economic Contribution: Strengthen the City's economic base through South Lathrop Specific Plan's job creation; development related investment; disposable income from future employees; and increased property, sales, and transient occupancy taxes.
- Quantified Development. Development of land use densities and intensities at quantities that maximize the use of the land to meet the demands of the market while considering zoning and land uses restrictions. The quantifiable objectives include the development of approximately to 220 acres of limited industrial, 10 acres of commercial office, 31 acres of open space, 36 acres of related public facilities and 15 acres of right-of-way at ultimate build out, with a projected potential of approximately 4,288,918 square feet of employment-generating development.

2.4 PROJECT DESCRIPTION

REQUESTED LAND USE APPROVALS

South Lathrop Specific Plan

The primary element of the proposed project is to request City approval of the South Lathrop Specific Plan (SLSP). Adoption of the proposed SLSP will involve a series of related actions, potentially including, but not limited to, a general plan amendment, pre-zoning and zoning code amendment, annexation, subdivision, a development agreement and a CEQA analysis. In addition, as development projects are proposed within the Plan Area, site development reviews and other site specific approvals will be requested. The proposed SLSP and General Plan Amendment are required to maintain consistency between the planned development and the City of Lathrop's land use planning documents and implementing ordinances as well as with applicable state ordinances.

The SLSP would provide a planning framework and regulatory tool for the future urban development of the Plan Area. Authority for the preparation of specific plans is found in California Government Code Sections 65450-65457; the SLSP has been drafted to conform to these requirements.

The SLSP has been organized into eight chapters as well as the appendices that contain the following information:

- Chapter 1: *Executive Summary:* A brief description of the specific plan content.
- Chapter 2: *Site Context:* The specific plan context and overall setting.

- Chapter 3: *Land Use:* A detailed description of the Land Use Plan and lists policies and development standards for each proposed land use.
- Chapter 4: *Transportation:* A detailed overview of the existing and proposed transportation system.
- Chapter 5: *Design Guidelines:* Provides the site, landscape and architectural standards for each land use.
- Chapter 6: *Infrastructure:* Summarizes the proposed infrastructure for sewer, water and drainage within and serving the Plan Area.
- Chapter 7: *Financing Plan:* The projects financing plan summarizes the phasing of backbone infrastructure and roadways; the construction costs of major facilities; fee structures and funding programs.
- Chapter 8: *Implementation & Administration:* Provides the procedures and provisions for implementation of the specific plan, including the handling of subsequent entitlements and amendments to the plan as well as financing of required improvements.
- Appendix: Includes several supporting documents including the General Plan Consistency Analysis, South Lathrop Zoning Ordinance and development regulations.

The various land use designations, improvement plans, guidelines and standards as well as other provisions of the plan will provide the primary basis for the City's evaluation of future development projects within the Plan Area. This includes the review and approval of land subdivisions, site plans, and building designs for the potential commercial office and limited industrial uses. It is anticipated that the specific plan will be adopted by City ordinance.

The SLSP will be reviewed under the California Environmental Quality Act (CEQA) in the Environmental Impact Report (EIR) and is considered a "program" for CEQA purposes (Section 15168 of the State CEQA Guidelines). Development projects in the Plan Area that require further discretionary approvals will be examined in light of this EIR to determine whether additional environmental documentation must be prepared. This possible need for additional environmental documentation will be based on City review of individual site plan applications for their consistency with the specific plan at the time of the submittal.

Annexation

The proposed project would result in the annexation of a total of approximately 315 acres into the City of Lathrop. The parcels to be annexed are illustrated in Figure 2-5. The proposed annexation area is contiguous with the existing City boundary along most of the northern boundary of the Plan Area. The Plan Area consists of approximately 273.6 acres of lands controlled by the applicant that are properties participating in the Specific Plan. Approximately 25.9 acres, located in the northeast area of the Plan Area are not controlled by the applicant and are properties that are non-participating in the Specific Plan, but would be annexed to the City of Lathrop. These properties are anticipated to remain under their existing conditions considering that they are currently operating industrial businesses; however, the General Plan Land Uses allow for a more intense development of these properties. Annexation of the Plan Area lands would be City-initiated. In addition, land within the Lathrop Gateway Business Park, located to the north of the Plan Area,

would also be annexed along with the Plan Area. The purpose for annexing this property would be to ensure that an island of unincorporated land is not created. The Lathrop Gateway Business Park (LGBP) is a previously adopted Specific Plan for which an EIR has been certified, and the development of this land to be annexed was addressed within the LGBP EIR. The approval of the LGPB, however, did not include annexation of the land into the City limits. To remain consistent with the recent annexations to the City of Lathrop, the Plan Area boundary is shown to the center of the San Joaquin River. These 10.5 acres are currently owned by the State of California. The existing right-of-way of Madruga Road, which is included within the Plan Area, is currently owned by the County of San Joaquin. This 5 acre parcel will be annexed into the City of Lathrop with the annexation of the South Lathrop Specific Plan Area. The City of Lathrop will pursue ownership of the 5-acre parcel and will take over maintenance responsibilities associated with the roadway. The annexation approval would come from the San Joaquin LAFCo, whom is a responsible agency for this EIR. Ultimately, LAFCo will consider the adequacy of this EIR for their use in consideration of the annexation application. LAFCo's policies and procedures are discussed in Section 3.10 Land Use and Population.

General Plan Amendment

Adoption of the SLSP would involve amendments to the land use designations of the Lathrop General Plan Map. The City's general plan designates the entire Plan area as Limited Industrial. This would be amended to include the commercial office designation within the Plan Area. The adoption of the SLSP would also include amendments to the circulation diagram shown on the Lathrop General Plan Map to eliminate the conceptual railroad crossing from the Plan Area to the south into unincorporated San Joaquin County (where Oakwood Shores Subdivision is currently developed).

Prezoning and Zoning Text Amendment

The Plan Area is currently in the planning jurisdiction, and zoned for industrial and agricultural uses by the County of San Joaquin. The San Joaquin County Local Agency Formation Commission (LAFCO) will require the Plan Area be pre-zoned by the City in conjunction with the proposed annexation. The City's pre-zoning will follow the zoning and land use designations laid out in the SLSP. The pre-zoning would go into effect upon annexation into the City of Lathrop. The proposed project may include zoning text amendments that enable flexibility in the design and construction of uses proposed under the SLSP.

Subdivision

The proposed project may include the subdivision of land into two or more parcels to enable the sale, lease, and/or financing of individual components of the SLSP. Any subdivision of land would be subject to the Subdivision Map Act and the City of Lathrop Subdivision Ordinance.

Development Agreement

The proposed project may include a request for approval of one or more Development Agreement (DA) governing the relationship between the City and the SLSP applicants. A primary purpose of the DA may be to regulate development density and intensity; however, the DA would not change

density or development intensity The DA may also be used to establish other City/applicant agreements related to the project. Such agreements may include commitments to project entitlements and development standards as well as any other administrative and/or financial relationships that may be defined during the review of the specific plan. These relationships have not been defined at present and would be developed during the review of the SLSP and incorporated into the DA prior to project approval.

DEVELOPMENT DETAILS

The Land Plan

Table 2.4-1 provides a summary of the proposed land uses. The numbers of acres and therefore square footage of developable area may vary slightly depending on more accurate survey information and the final alignment of roadways; however, the total acreages and building square footage projects establish an approximate carrying capacity for the Plan Area.

The Plan Area has three distinct land use designations, Office Commercial, Limited Industrial and Open Space. The Land Use Plan proposes approximately 222 acres of limited industrial, 10 acres of commercial office, approximately 31.5 acres of open space and 36 acres of related public facilities. The Land Use Summary (Table 2.4-1) shows the land uses with proposed acreages, Floor Area Ratio (FAR) and the Maximum Square Footage allowed for each land use.

TABLE 2-4-1 LAND USE SUMMARY

Land Use	Acreage (Net) [1]	Total Sq. Ft. Per Land Use	FAR Range	FAR Target	Max. Sq. Ft.
Commercial Office (CO)	10	435,600	.20 to .60	.30	130,680
Limited Industrial (LI)	222	9,670,320	.15 to .65	.43	4,158,238
Open Space (OS)					
River/Levee Park	21				
River	10.5				
Public/Quasi Public Facilities (Recycled/Storm Water Basin)	36				
Subtotal	299.5				
Existing Roads[2]	5				
Major Roads[2]	10.5				
TOTAL	**315**				**4,288,918**

[1] NET ACREAGE DOES NOT INCLUDE EXISTING/MAJOR ROADWAYS

[2] *Major and existing roads include pedestrian and bicycle multi-use paths within the right-of-way*

COMMERCIAL OFFICE

The Commercial Office area has been located close to SR 120 corridor in order to capitalize on the vehicular access and visibility provided by this main thoroughfare. Office and Commercial uses will provide regional as well as local serving business/professional workspace. Specific users for this land use might include a full range of large or small commercial operations, professional and

administrative support services, administrative office, financial institutions, recreational facilities, eating establishments, hotels/motels, incubator/research and development space, and the like. The Commercial Office land use encompasses 10 acres of the South Lathrop Specific Plan Area and can accommodate an estimated maximum of 130,680 square feet of gross leasable space.

LIMITED INDUSTRIAL

The majority of the Plan Area is comprised of Limited Industrial uses. The Limited Industrial land use is envisioned as a major employment-generating land use, the Limited Industrial would allow for a broad range of use types including industrial, manufacturing, warehousing/distribution, office, retail sales, retail services, trailer and recreational vehicle sales, research and development, equipment and machinery repair, sales, rental and other such uses and services necessary to support them. For the purposes of truck transport of goods, easy access to the highway from Yosemite Avenue is essential. The SLSP provides a chart with the full range of permitted uses under this land use category. The Limited Industrial use comprises 222 acres and can accommodate up to an estimated maximum of approximately 4,158,238 square feet of gross leasable space.

OPEN SPACE

The open space along the San Joaquin River provides a buffer for the levee and a connection to the City's river park corridor and trail system, established within Mossdale Village and Central Lathrop. This trail system will be continued within the SLSP, with a direct connection occurring underneath I-5 as part of RD-17's maintenance road. The Open Space land use designation also includes the San Joaquin River frontage and area to the centerline of the river.

PUBLIC/QUASI PUBLIC FACILITIES

The Public/Quasi Public Facilities land use designation includes the storm water and recycled water basins required for storage and treatment of the stormwater and recycled water within the Plan Area.

Circulation Plan and Transit Services

The SLSP proposes a street network that provides for the efficient access and circulation for the businesses within the Plan Area as well as visitors. Public access to the Plan Area will continue to be provided by Guthmiller Road. The improved entry road into the Plan Area will be designed as a four to six lane divided arterial with a raised sixteen foot wide median. Nonpublic access will continue to be provided along the levee road. Direct access will be provided at two points from the development to the levee road. An internal loop road will allow for emergency circulation. The north-south road from the Madruga Road cul-de-sac to the east-west industrial collector will be designed as an emergency vehicle access road that will also allow for public use under an emergency condition. This road is intended to have bollards that are removable by emergency personnel in the event of an emergency.

The entry road arterial design in combination with the loop road would be intended to meet the City of Lathrop GP Goal #8/Policy #3: The City will maintain a street system which is capable of

providing access to any fires that may develop within the urban area, and which is capable of providing for the adequate evacuation of residents in the event of an emergency condition of magnitude.

The roads within the Plan Area will provide wide sidewalks to allow for pedestrian and bicycle circulation. Pedestrian access to the San Joaquin River Trail will be provided through the industrial land use along the powerline corridor from the end of the local industrial street.

FEASIBILITY OF SECONDARY ACCESS

The City of Lathrop General Plan illustrates a secondary access across the elevated railroad tracks to the south. The potential vehicular access is evaluated below.

Consideration of San Joaquin County Approvals (existing development)

The potential vehicular access across the elevated railroad tracks to the south was included in the General Plan to provide connectivity to future development to the south of Lathrop in unincorporated San Joaquin County. However, a residential neighborhood (Oakwood Shores Subdivision) was approved by San Joaquin County and has been developed without a connection to the Plan Area as shown in the Lathrop General Plan. The current roadway layout in the Oakwood Shores subdivision includes developed houses fronting on Chiavari Way, which fronts the railroad tracks. This approvals for this existing development occurred without acknowledgement or consistency with the City of Lathrop's General Plan.

Consideration of Physical Constraints

Construction of the conceptual vehicular access as shown on the Lathrop General Plan Map is not ideal from a land use planning perspective now that Oakwood Shores is developed because it would require industrial traffic to travel through a residential neighborhood. Engineering of a ramped secondary access is not feasible because there is a significant elevation difference between the tracks and the adjacent ground with a short distance between the tracks and the lake within the Oakwood Shores Subdivision. Engineering an undercrossing is also not feasible because of the high groundwater.

Consideration of Permit/Approval Requirements

A railroad crossing would require approvals/permits from Union Pacific Rail Road and the Public Utilities Commission, as well as an agreement with Oakwood Shores (a private gated residential community) given that San Joaquin County approved the Oakwood Shores development without the connection.

Consideration of Population Density

The majority of the industrial land use within the Plan Area is anticipated to consist of large logistical warehouses. This land use will not generate population center where people reside. While the industrial development will create employment opportunities it is not anticipated to require the number of employees or create the amount of vehicle trips that retail, office or other types of non-residential uses might. Because the population density for the proposed uses is substantially lower compared to other urban uses within the City of Lathrop, the need for a

secondary access is considered a lower priority to ensure the health and safety of people in the event of an emergency.

Consideration of Non-roadway Public Safety Measures

The proposed project includes a looped water system to provide fire flow rates and pressure to meet city and fire district requirements. Additionally, the City of Lathrop and the Lathrop-Manteca Fire Protection District (LMFPD) is committed to maintaining and updating emergency service plans, including plans for managing emergency operations, the handling of hazardous materials and the rapid cleanup of hazardous materials spills. The City continues to cooperate with the LMFPD, the County of San Joaquin, and other agencies in predisaster planning activities such as evacuation required in the event of a serious fire, hazardous spill, or breach of an upstream dam capable of flooding the community.

Consideration of Other Alternative Secondary Access

The preparation of the SLSP included consideration of an alternative secondary access across the San Joaquin River via a bridge; however, a new bridge across the San Joaquin River was determined to be cost prohibitive rendering the industrial development economically infeasible. Additionally, because the City has not planned for growth in this area to the south of the Plan Area a bridge in this location could induce unplanned growth. This alternative secondary access is considered infeasible.

The preparation of the SLSP also included consideration of an alternative secondary access onto I5 or SR 120; however, due to the distance between interchanges on these freeway segments relative to the location of the Plan Area it is not a feasible option.

Justification for SLSP Circulation Plan without Secondary Access

1. Entry Road Design: The entry road will be designed as a divided arterial with a raised median. The design will allow for continued circulation if one side becomes blocked during an emergency condition.

2. Access to Levee Road: Two points of connection will be provided from the development to the existing levee road allowing for non-public secondary access.

3. Internal Loop Road: Internal circulation will be designed with an emergency vehicle access road that will create a loop. The emergency road will also allow for public use under an emergency condition.

4. Land Use & Site Plan: The industrial land use is anticipated to consist primarily of large logistical warehouses, which will not create a population (residents,employees, or visitors) or vehicle trips that residential, retail, office or other non-residential uses would.

5. Eliminate GP Conceptual Crossing at UPRR: The UPRR crossing is proposed to be eliminated for the following reasons:

    - The Oakwood Shore Subdivision was approved by the County without the connection. It is presumed that San Joaquin County did not desire the connection to the Plan Area

by this approval and it is unlikely that existing residents would agree to the access from an industrial project.

- The proposed SLSP uses (mostly industrial) would generate truck traffic that would not be compatible with the travel characteristics of the existing Oakwood Shores Subdivision (private gated residential community).
- The physical constraints, including ground elevation difference, short distance between the tracks and the lake and high groundwater, make the engineering and constructability of the secondary access infeasible.
- A railroad crossing would require approvals/permits/agreements, which may not be possible.

6. Other Non-Roadway Public Safety Measures: The project will construct a looped water system and the developer will work with the City to prepare an emergency service and evacuation plan.

Public Services & Infrastructure

The provision of public services and the construction of onsite and offsite infrastructure improvements will be required to accommodate development proposed by the SLSP. It is an objective of the SLSP to provide services and infrastructure that meet City standards, integrate with existing and planned facilities and connections, and do not diminish services to existing residents or businesses within the City. The South Lathrop Specific Plan Area was included in the City of Lathrop's Municipal Service Review (updated in 2009) and has been planned to be served by the City of Lathrop. The final design of all onsite and offsite infrastructure improvements is subject to the review and approval of the City of Lathrop.

Open Space: The City of Lathrop does not have adopted park/open space dedication or fee requirements for nonresidential development. Although open space and recreation facilities are not required or mandated, the SLSP proposes to construct outdoor amenities.

Police Protection: Police protection services are proposed to be provided by the City of Lathrop Police Department, which contracts with the San Joaquin County Sheriff's Department for police protection services. The Lathrop Police Department acts as a division of the Sheriff's Department, with those deputies assigned to the City only working in the City limits and receiving specialized training reflective of the needs of an incorporated city.

Animal Services: Animal services are proposed to be provided by the City of Lathrop. Animal Services Officers protect the health and safety of humans and animals, and are responsible for enforcing local and state laws regarding animals and their humane treatment.

Fire Protection: Fire protection services are proposed to be provided by the Lathrop-Manteca Fire Protection District (LMFPD). The SLSP is within the service area of the LMFPD. The District has four fire stations, two of which are located within the City of Lathrop.

Potable Water Supply: Potable water is proposed to be supplied to the SLSP by the City of Lathrop with funding to be provided by the developers. The proposal anticipates the provision of potable groundwater from an expansion of the City's well field and potable surface water from Phase 1 and/or the Phase 2 expansion of the South County Surface Water Supply Program (SCSWSP) by the South San Joaquin Irrigation District (SSJID). The provision of potable water is subject to the approval of the City, as the water purveyor.

Potable Water Storage and Distribution: Potable water storage and distribution is proposed to be provided to the SLSP by extending the City's existing pipe network into the Plan Area generally consistent with the City Master Utility Plan. The proposal is to construct and/or contribute fees toward the SLSP's proportional share of water storage as specified in the City Master Utility Plan. The final design of all onsite and offsite infrastructure potable water storage and distribution improvements is subject to the review and approval of the City of Lathrop.

Wastewater Treatment: Wastewater generated by the SLSP is proposed to be treated by future expansions of the City of Lathrop's treatment plant, Water Recycling Plant #1 (WRP-1). Alternatively, the wastewater could be treated at the Regional Water Quality Control Facility treatment plant located in the City of Manteca. On an interim basis wastewater may be treated at the City of Lathrop's Crossroads Treatment Plant. The provision of wastewater treatment is subject to the review and approval by the City of Lathrop and/or wastewater treatment plant owner/operator.

Wastewater Disposal: The City of Lathrop does not possess a river discharge permit for WRP-1 or the Crossroads Treatment Plant. Although the City is pursuing such a permit for WRP-1, until one is approved all treated wastewater disposal from WRP-1 would occur by irrigating landscaped areas and/or "spray fields" (aka "disposal fields). Section 3.15 Utilities provides information relative to the recycled water infrastructure and disposal. Disposal of any wastewater treated at the Regional Manteca Wastewater Quality Control Facility would not require disposal land.

Recycled water not utilized for on-site irrigation would be piped off-site to be held in storage basins and/or used for land application disposal. Storage basins are required to provide both daily and seasonal storage of the recycled water. The use of "Recycled Water" for irrigation is an option that may be pursued by the applicant, subject to approval by the Central Valley Regional Water Quality Control Board (RWQCB). It is estimated that approximately 15.7 acres of land may be irrigated with recycled water within the developed portion of the Plan Area, if approved by the RWQCB. The estimated minimum overall off-site basin area needed to serve full build-out of the SLSP is approximately 14.0 acres with 61.0 acres of off-site irrigated disposal fields. There are four sites that are under consideration to be used for basins and/or disposal fields including: 191-28-09 Rio Blanco Ranch 49.5 acres; 191-28-10 Rio Blanco Ranch 101.2 acres; 191-27-24 Roseville Investments 58.6 acres; and 191-27-31 Roseville Investments 85.0 acres. Each site is located in North Lathrop. Basins and disposal fields located in the North Lathrop area were approved with previous CEQA documents, the City's "5-year plan for wastewater capacity" and ultimately by the RWQCB in the City's Report of Waste Discharge (RWD) and Waste Discharge Requirements (WDR's). Use of these basins/disposal fields would require an annual water balance analysis to be prepared to determine the actual recycled water storage volume and irrigation area required. The

water balance will be prepared with future planning efforts (i.e. tentative map processing). The use of recycled water for irrigation is discussed below under heading titled "Recycled Water."

Wastewater Collection and Conveyance: The collection and conveyance system will consist of gravity pipes, a pump station and a forcemain. The pump station will be sized for the build-out condition of the SLSP and will be located within the Plan Area. The forcemain will connect the pump station to one of the selected treatment plants options. The final design of all onsite and offsite wastewater collection and conveyance infrastructure improvements is subject to the review and approval of the City of Lathrop.

Recycled Water: The SLSP would maximize reuse opportunities for recycled water. The term "recycled water" refers to wastewater that has been treated and disinfected to tertiary levels. Water treated to this level has been determined by governmental regulations to be acceptable for human contact without cause for concern and is commonly used for irrigation. The use of recycled water is regulated by the RWQCB and the Department of Health Services, which apply stringent water quality, treatment and disinfection standards.

The use of recycled water for irrigation serves to conserve potable water for other uses. In addition, in the event the potable water supply is limited at any time, such as a "dry year" situation, the use of recycled water ensures a supply for landscaped areas and reduces the likelihood that potable water would be needed for this purpose.

The SLSP proposes to make recycled water an option for public irrigation uses, subject to approval by the RWQCB. This includes irrigation of landscaped areas within street rights-of-way and open space. In addition, there may be potential for the use of recycled water for private irrigation uses as well, such as common open space areas and landscaping around buildings.

As wastewater is treated off-site, it must be returned to the Plan Area or sent to the off-site disposal areas. Wastewater generated in the Plan Area would be conveyed to City of Lathrop's WRP #1 and/or #2 for treatment. Alternatively, if available, all or a portion of the Project's wastewater could be routed to the City of Manteca Wastewater Treatment Plant pursuant to an agreement between the two cities.

If WRP #1 and/or #2 is used for wastewater treatment, a portion of the recycled water generated by the future uses within the Plan Area could be land applied onsite for irrigation of public (e.g., landscape within roadway rights-of-way) and private landscaping if this option is pursued by the applicant and approved by the RWQCB. The remainder would be disposed of offsite through irrigation of dedicated agricultural spray fields.

Recycled water leaving WRPs #1 and #2 would be disinfected and would undergo tertiary treatment to Title 22 standards for unrestricted use. Tertiary treatment includes the removal of nutrients such as phosphorous and nitrogen, and practically all suspended and organic matter from wastewater. Therefore, the recycled water would contain minimal to no water quality constituents that could be directly (via runoff of recycled water) or indirectly (via deposition in the recycled water disposal areas then subsequent mobilization through stormwater runoff)

transported to the San Joaquin River, or reach groundwater aquifers via percolation through the soil.

Recycled water distribution pipes are proposed to be extended from the City of Lathrop into the Plan Area. An existing recycled water pipeline located in Yosemite Avenue was constructed with the Mossdale Landing project. A new pipeline will be constructed in Yosemite / Guthmiller Avenue, which will connect the Plan Area to the existing pipe. Public landscaping within the street right-of-way may utilize the recycled water for irrigation to the extent allowed by the City of Lathrop's Waste Discharge Permit issued by the RWQCB. If allowed under the City's Permit, recycled water pipes would enable public landscaping to be irrigated with recycled water. The internal roadways within the Plan Area would not contain public landscaping and therefore recycled water pipes are not required in these streets. The recycled water pipes are proposed to connect to the planned Recycled Water Storage Basin within the Plan Area. The final design of all onsite and offsite recycled water infrastructure improvements is subject to the review and approval of the City of Lathrop. Section 3.15 Utilities provides information relative to the recycled water infrastructure.

Storm Drain: The drainage collection system within the Plan Area is proposed to consist of gravity pipes, storage basins, a pump station, forcemains and a new outfall to the San Joaquin River. The outfall will be sized consistent with the City's Master Storm Drain Plan for the southeast area of the City of Lathrop (the outfall will accommodate future development within the Gateway Business Park and along the McKinley corridor). The collection system will be designed to contain the 10-year storm event within the pipe system and basins while maintaining one foot of freeboard. The streets will be designed in combination with the pipe system to convey the 100-year storm event to the basins and pump station in accordance with City standards. To accommodate a potential emergency condition of the river being at flood stage for an extended period of time the overall site grading will be designed to contain the rainfall from a 100-year event onsite, below finish building floor elevations, without any pumping to the river (this provision assumes that pumping to the river may be severely restricted under emergency flood conditions). Early phases of development are proposed to rely on temporary percolation basins in order to delay the construction of the outfall. As development progresses, the new outfall would be constructed along with the proposed pump station and forcemain. An interim condition of pumping from the Plan Area into the existing Crossroads Business Park drainage system may be utilized to further delay the construction of the new outfall, subject to City approval. The final design of all onsite and offsite storm drain infrastructure improvements is subject to the review and approval of the City of Lathrop.

Stormwater Quality: Stormwater quality Best Management Practices (BMPs) for the Plan Area will be designed in accordance with the City of Lathrop's Phase II National Pollutant Discharge Elimination System Permit (NPDES) issued by the RWQCB.

Electric, gas, cable television and phone: Dry utility services are proposed to be extended to the Plan Area from existing systems within the City of Lathrop. The existing high voltage powerlines within the Plan Area are proposed to remain in-place within easements granted to PG&E. Parking and/or storm drain storage may occur within the easements subject to PG&E approval.

Phasing: Development of the project along with the infrastructure is proposed to be phased. Phasing is likely to occur based on market conditions, potential offsite traffic mitigation improvements and/or storm drain basin and outfall requirements. However, phasing will be designed to provide adequate improvements to mitigate all impacts of each phase.

2.5 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. The City of Lathrop will be the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of the California Environmental Quality Act (CEQA), Section 15050. Actions that would be required from the City include, but are not limited to the following:

- Adoption of the South Lathrop Specific Plan
- Annexation Approval
- General Plan Amendment
- Prezoning and Zoning Text Amendment
- Subdivision Approval
- Development Agreement

Other governmental agencies that may be required to issue permits or approve certain aspects of the SLSP include, but are not limited to, the following:

- California Department of Fish and Wildlife (CDFW): Stream alteration agreements
- California Department of Transportation (Caltrans): Encroachment permits
- Central Valley Regional Water Quality Control Board (RWQCB): Section 401 water quality certification in association with Section 404 permits, and General Construction Permit
- San Joaquin Local Agency Formation Commission (LAFCo): Annexation
- San Joaquin Council of Governments (SJCOG): Coverage/Incidental Take Authorization under the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
- San Joaquin Valley Unified Air Pollution Control District (SJVAPCD): Indirect Source Rule Permit, Authority to Construct, Permit to Operate for stationary sources of air pollution (auxiliary power, storm drainage pump station)
- U.S. Army Corps of Engineers (USACE): Section 404 permits

SOUTH LATHROP SPECIFIC PLAN

Figure 2-1. Regional Map

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Miles

1:1,250,000

Data source: California Spatial Information Library
Map date: January 9, 2013

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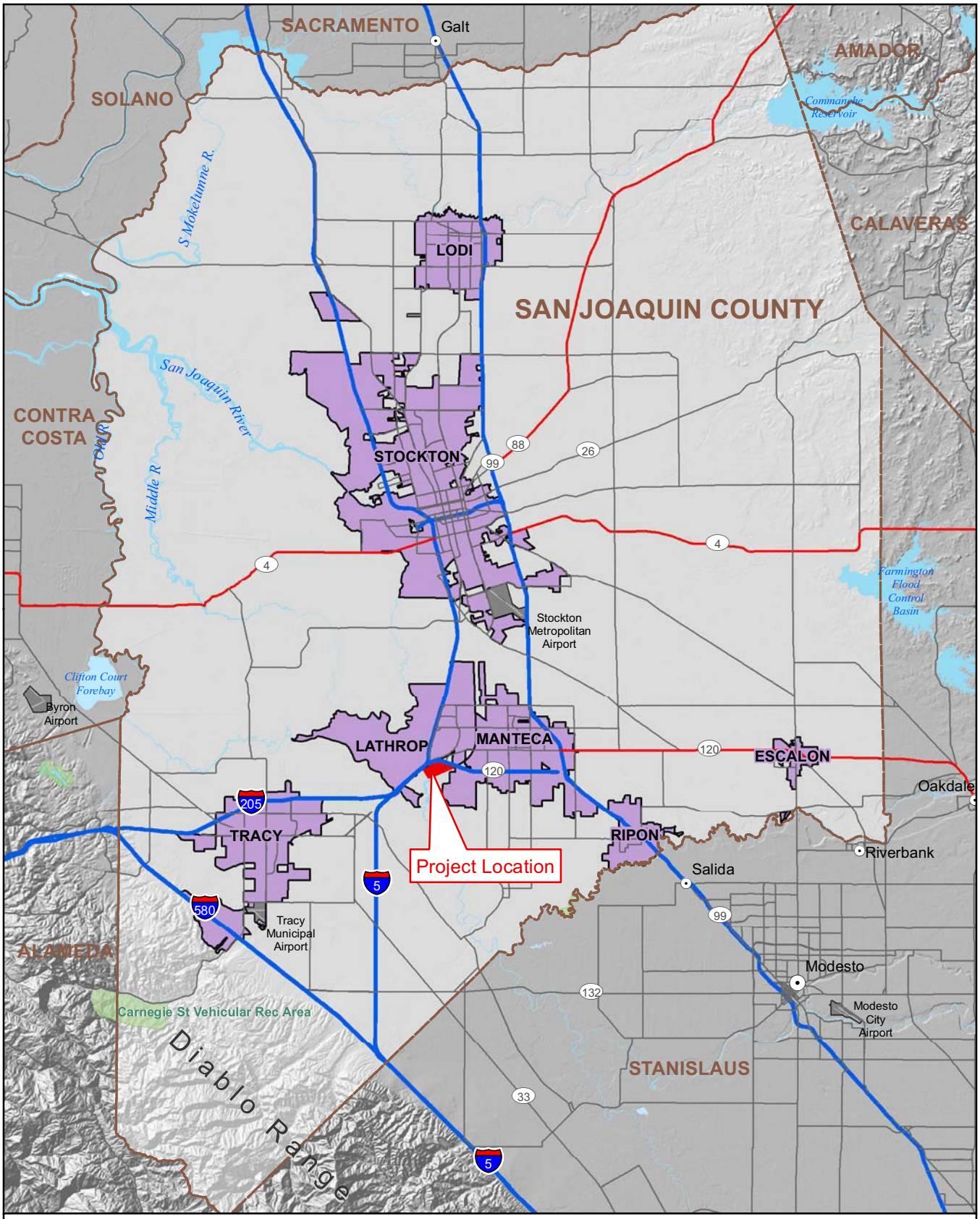

SOUTH LATHROP SPECIFIC PLAN

Figure 2-2. Vicinity Map

Data sources: California Spatial Information Library, ESRI StreetMap North America, San Joaquin County GIS. Map date: January 9, 2013.

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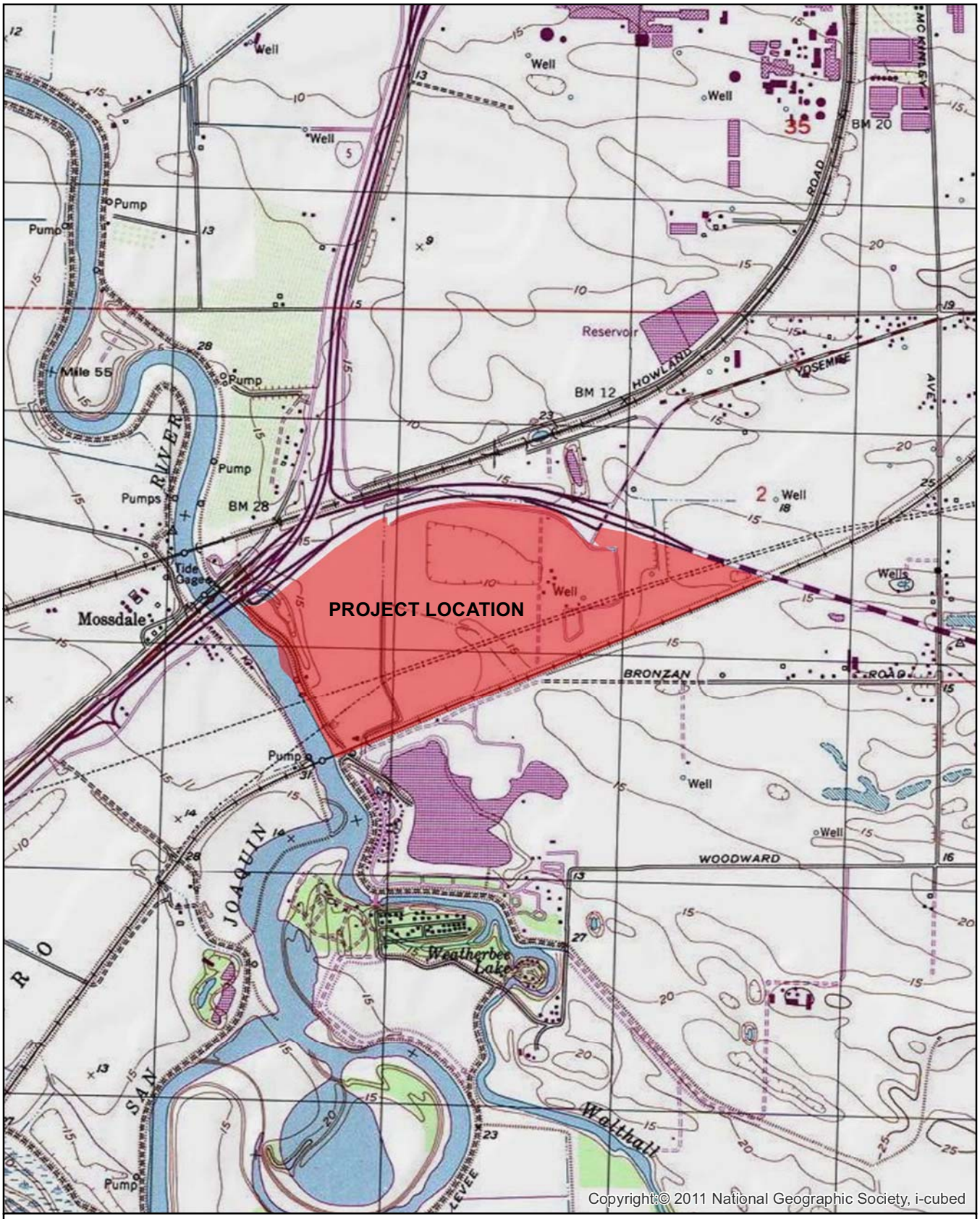

0 600 1,200
Feet

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Data sources: ArcGIS Online USA Topo Maps.
Map date: January 9, 2013.

SOUTH LATHROP SPECIFIC PLAN

Figure 2-3. USGS Topographic Map

Lathrop Quadrangle

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Data sources: ArcGIS Online BING aerial images with labels web mapping service. Map date: January 9, 2013.

SOUTH LATHROP SPECIFIC PLAN

Figure 2-4. Aerial Photo

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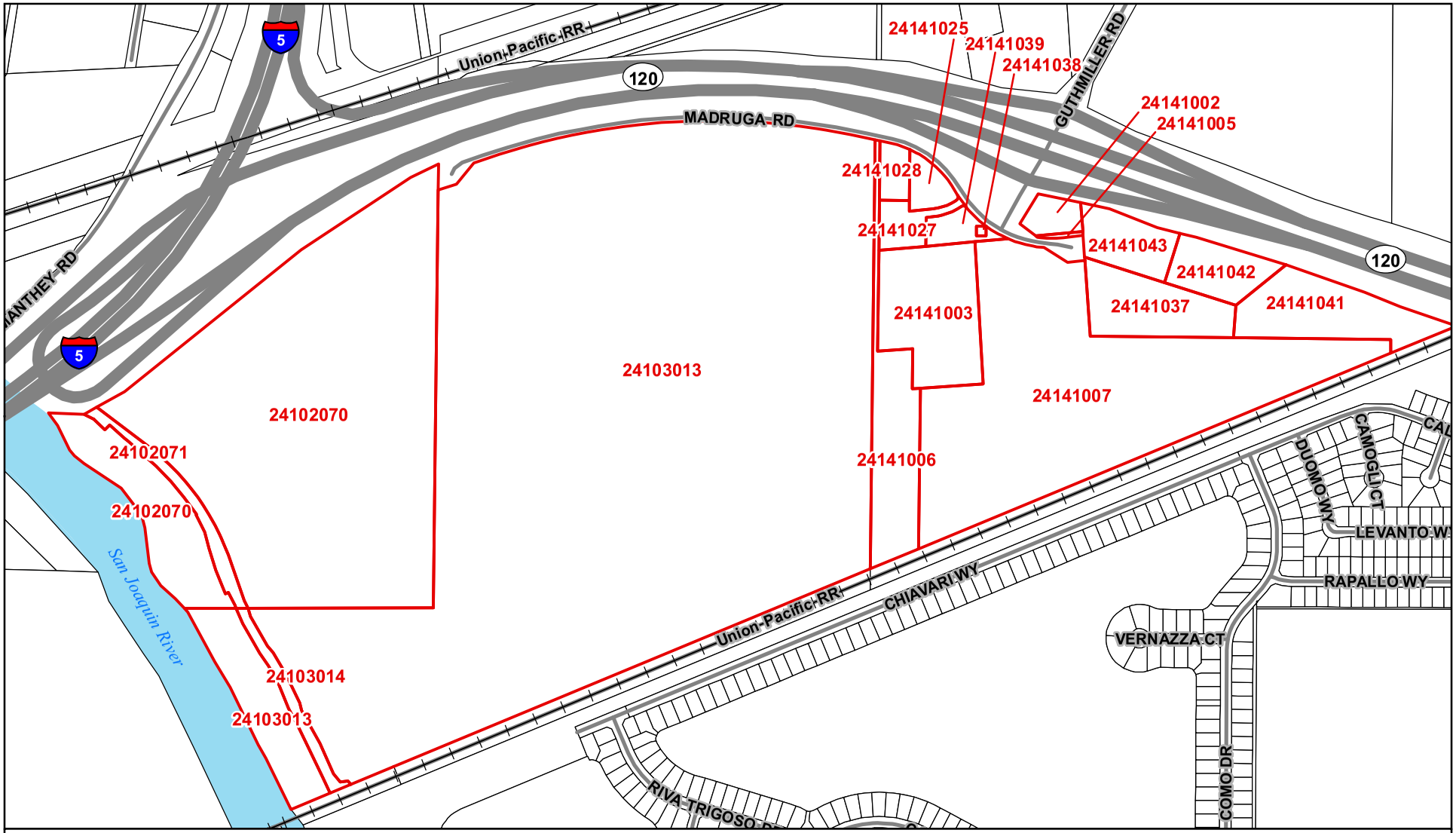

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SOUTH LATHROP SPECIFIC PLAN

Figure 2-5. Assessor's Parcel Map

Data sources: San Joaquin County GIS. Map date: January 10, 2013.

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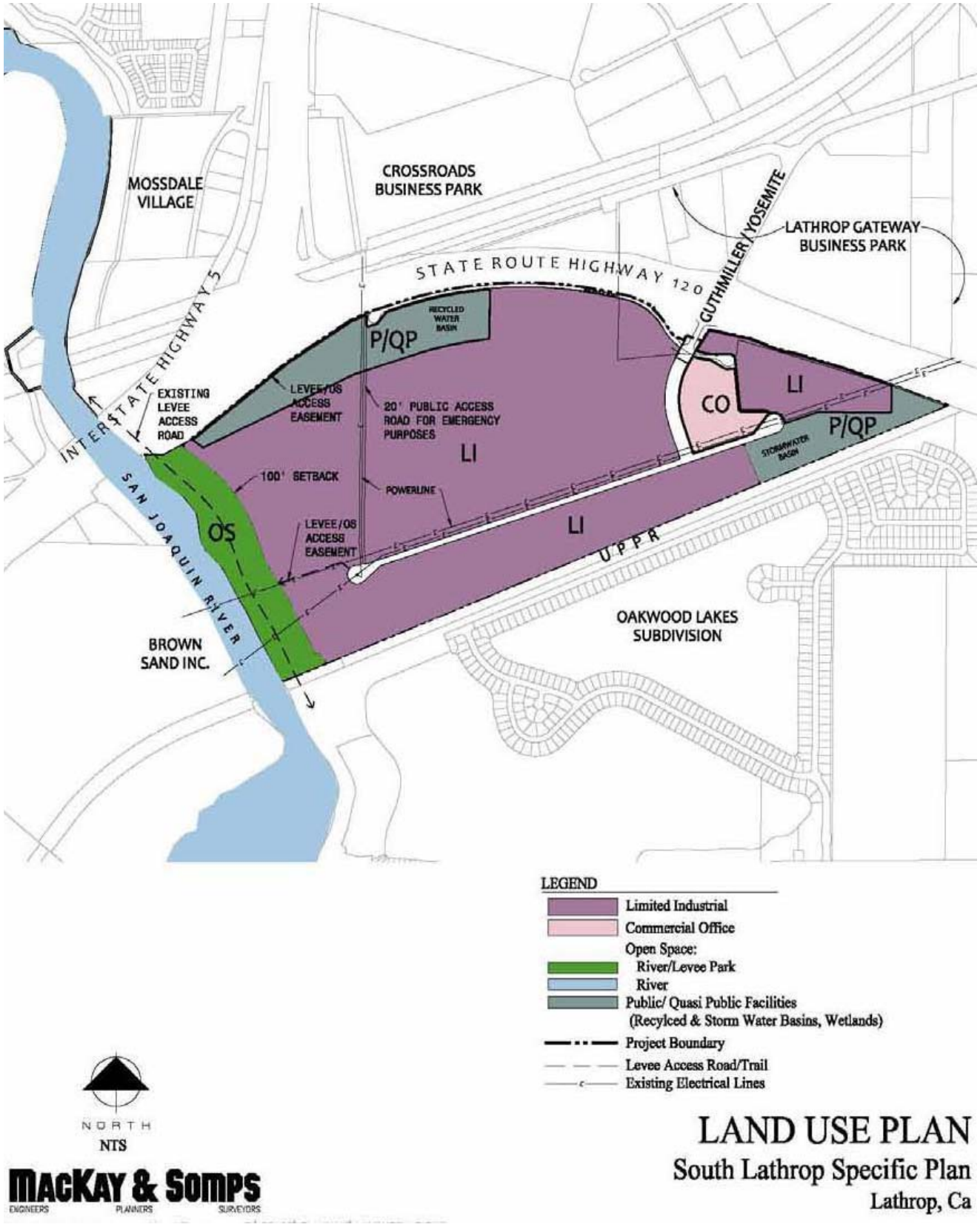

Figure 2-6. Land Use Plan

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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 in the Plan Area and the vicinity. This section concludes with an evaluation of the impacts and recommendations for mitigating impacts. There were no comments received during the NOP scoping process related to this environmental topic.

3.1.1 ENVIRONMENTAL SETTING

REGIONAL SCENIC RESOURCES

Visual resources are generally classified into two 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.

Scenic Corridors

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.

San Joaquin County Scenic Highways/Corridors

Only one highway section in San Joaquin County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of State Route 580 from Interstate 5 to State Route 205. This route traverses the edge of the Coast Range to the west and Central Valley to the east. The City of Lathrop and the Plan Area are not visible from this roadway segment.

As identified in the Open Space Element of the San Joaquin County General Plan, designated scenic routes in the county include Interstate 5 from the Sacramento County line south to Stockton. The City of Lathrop is located south of Stockton, and neither the City nor the Plan Area are visible from this segment of Interstate 5.

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.

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 Wild and Scenic River under the Federal Wild and Scenic Rivers Act.

PLAN AREA

The Plan Area is located in San Joaquin County, south of State Route (SR) 120, north and west of the Union Pacific Railroad (UPRR) and east of the San Joaquin River. The Plan Area, located to the southeast of the City of Lathrop, is within the City's Sphere of Influence and General Plan area, and is identified as the southern portion of the City's Sub-Plan Area 1.

The current uses in the SLSP area and adjacent lands are a mix of agricultural and industrial uses. Crop types include alfalfa and winter wheat. The existing access to the Plan Area is from SR 120 and Yosemite Ave./Guthmiller Road. A frontage road (Madruga Road) currently provides access to both the agriculture and industrial sites.

The Plan Area is one of the last pockets of undeveloped unincorporated San Joaquin County within the vicinity, as the vicinity generally includes built or approved projects that are within the cities of Lathrop or Manteca. The land along I-5 and SR 120 are generally planned for future development. Lands to the south and east of the Plan Area are either planned for development or under construction, transitioning from agricultural uses to residential, industrial and commercial uses.

The Plan Area has relatively flat terrain that varies between elevation 10 and 13 feet above sea level (NGVD29). The UPRR rail lines are elevated along the south and eastern boundaries between elevation 24 and 31 feet. SR 120 is elevated along the northern boundary between elevation 20 and 50 feet. A levee is elevated along the western boundary at approximately 31 feet.

High voltage power lines (115 and 60 Kilovolts), within Pacific Gas & Electric (PG&E) power line easements, traverse portions of the Plan Area running east/west and north/south.

As a result of site disturbance associated with urban development, agricultural operations/farming, and other activities, limited natural scenic areas can be found within the Plan Area. The scenic resources that do exist are typically scattered and of nominal quality. The key exception is the San Joaquin River and its associated environs, which is on the western edge of the Plan Area and is considered the most significant visual resource in the vicinity.

Along the San Joaquin River, a relatively small amount of native vegetation occurs on the river side of the levee, limited to narrow patches of riparian habitats. These habitats include valley oaks, Fremont cottonwoods, and willows. Riparian vegetation and oak trees may support nesting habitat for bird species such as black phoebe, western kingbird, western scrub-jay, oak titmouse, and house wren. In addition, they also can provide nest sites for raptors that include Swainson's hawk, red-tailed hawk, white-tailed kite, and red-shouldered hawk. Ruderal habitat also exists along the San Joaquin River consisting of non-native grasses and forbs. Beyond habitat value, the river provides a visual and recreational amenity for the City.

Much of the Plan Area is active agricultural land. While this land is disturbed from its natural condition, developed agricultural land can provide visual relief to a passerby/viewer from common manmade structures and visual obstructions found in an urban environment. Agricultural lands provide a sense of openness that is common in natural environments. Throughout the year agricultural operations would result in the land evolving from an environment that appears lush

with vegetation (green crops) to an environment that appears bare and infertile (recently tilled). Agricultural land in California's Great Central Valley is generally accepted as an important visual resource.

The Plan Area is surrounded by a variety of existing land uses. To the northeast, is the Lathrop Gateway Business Park currently with industrial, agricultural, rural residential and service uses. Under the Lathrop Gateway Business Park Specific Plan the area is designated and/or zoned to have Limited Industrial, Commercial Office, Service Commercial and Open Space. Within the City of Lathrop to the north, are industrial uses, the City's Wastewater Treatment Plant, a PG&E electrical substation, agricultural and vacant land, and the existing Lathrop-Manteca Altamont Commuter Express (ACE) Train station. South of the Plan Area, in unincorporated San Joaquin County, is the Oakwood Lakes Subdivision which is a residential neighborhood. To the east, in Manteca, are developing lands including residential, commercial, business and public uses (including the regional Manteca Wastewater Quality Control Facility). The area to the west of the Plan Area is a sand and gravel borrow area within unincorporated San Joaquin County. Slightly further to the west is the proposed River Islands development within the City of Lathrop. There are no public gathering places in the vicinity of the Plan Area.

There are no Officially Designated Scenic Highways located through or adjacent to the Plan Area. The only Officially Designated Scenic Highway in San Joaquin County is I-580 from I-5 to SR 205 located approximately 11 miles southwest of the Plan Area. This scenic highway is not visible from the Plan Area.

There are minimal existing light sources in the Plan Area. The existing lighting is associated with the existing industrial uses in the northeastern portion of the Plan Area. Existing lighting in the vicinity of the Plan Area includes roadway lighting on I-5 and SR 120, Industrial lighting on lands to the north, residential lighting on lands to the east and southeast, and miscellaneous lighting associated with various streets and farm buildings. With the exception of lighting on SR 120 and I-5, the Plan Area is largely sheltered from lighting outside the Plan Area due to the elevated SR 120, I-5, and earthen berm/levee that surround the Plan Area.

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.

LOCAL

The City of Lathrop General Plan identifies visual and scenic resources within the city and recommends measures to protect these resources. If approved, the Plan Area will be annexed into the City of Lathrop; as a result only the City of Lathrop General Plan would regulate the Plan Area.

City of Lathrop General Plan

The City of Lathrop General Plan identifies the following scenic resources in the Lathrop area; a) views of agricultural lands to the west and south; and b) views of the Coast Ranges to the west. The City of Lathrop General Plan recognizes that views of the San Joaquin River also could be considered a scenic resource. However, views of the river are obscured by the surrounding levee system. Thus, the San Joaquin River can be viewed only from the tops of levees, inside the levees at water level and bridge crossings. In addition to these scenic resources, the City of Lathrop General Plan suggests that the current "degree of darkness" in the City, especially in residential neighborhoods, is an important visual resource. The current degree of darkness allows clear views of the nighttime sky (stars, constellations) as weather permits.

Goal 4: Quality in the Form, Design, and Functions of the Urban Area

The following City of Lathrop General Plan policies, which are intended to achieve visual and scenic quality in new developments, apply to the proposed project:

- An architectural design review shall be required of all planned developments and of all multifamily, office, commercial, institutional, and industrial uses.
- All outdoor storage areas shall be visually screened with ornamental fencing or walls and with landscaping.
- All gas, electrical, telephone, and cable distribution lines should be placed underground; if overhead transmission line rights-of-way are required, they should be incorporated into open space corridors so as to minimize their visual impacts on the urban environment.
- The visual interface between commercial/industrial areas and residential areas shall be designed and developed so as to avoid obtrusive visual impacts of commercial or industrial activities on nearby residential areas.
- Street trees and frontage landscaping, with automatic irrigation, shall be provided for all commercial sites outside of the CBD. Shade trees shall be provided within off-street parking areas as determined under site plan review.

City of Lathrop Zoning Ordinance

Chapter 17.92, Landscaping and Screening Standards, of the City Zoning Ordinance contains several sections that regulate aesthetic or visual standards for development in the City. These include standards for landscaping of commercial and industrial developments; requirements for the contents of landscape plans; street, road, and parkway landscaping standards; requirements for a tree and shrub schedule; and planting and maintenance standards. Some of these standards would be applicable to the proposed project, including the following:

- A landscape plan is required for all new residential, commercial, and industrial developments. These plans would include landscape materials, trees, shrubs, groundcover, turf, etc.
- Parking lots located on the proposed project site shall include a landscape strip buffer installed continuously along the property line.
- All outside storage areas shall be screened so as not to be visible from adjacent properties and public rights-of-way. Screening shall be a minimum of six feet in height, and consist of a solid material. Outside storage is not permitted in front or street side yards, or in front of structures.
- Roof mounted mechanical equipment, tanks, ventilating fans and similar equipment shall be screened from the view of adjacent properties and public rights-of-way at grade. The required screens shall be architecturally compatible with the building or structure on which they are used.

All streets, roads, and parkways within the City shall meet the following standards:

- In residential, commercial and industrial zones, trees shall be planted in accordance with the landscape and screening standards. In addition, the following requirements shall apply:
    - Trees shall be planted between four feet and ten feet from a public right-of-way. Trees should also be a minimum of ten feet from any driveway.
    - Trees planted on street frontages where noise attenuation is required shall be planted in a minimum five-foot landscape strip or in tree wells. Each tree shall be spaced no farther than 20 feet apart.

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;
- Substantially degrade the existing visual character or quality of the site and its surroundings;
- 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 have a substantial adverse effect on a scenic vista (Less than Significant)

A scenic vista is generally considered a view of an area that has remarkable scenery or a resource that is indigenous to the area. Scenic vistas that have been identified in the General Plan that could potentially be impacted by proposed development within the Plan Area include views of agricultural lands, views of the Coast Ranges to the west, and views of the San Joaquin River to the south.

The Plan Area is located south of the City of Lathrop adjacent to I-5, SR 120, and the San Joaquin River. I-5 and SR 120 are both elevated and each blocks views between the site and the land to the west and north of I-5 and SR 120. Views to and from the San Joaquin River and regional agricultural lands to the south are obstructed by the earthen berm/levee located to the south and east of the Plan Area. Distant views of the Coast Ranges are visible from the eastern half of the Plan Area. Construction of industrial buildings would limit views of the Coast Ranges from within this portion of the Plan Area; however, industrial buildings would not be anticipated to obstruct views of the Coast Ranges from adjacent properties that are not already obstructed from I-5, SR 120, and the earthen berm/levee.

Much of the Plan Area is active agricultural land which provides visual relief to a passerby/viewer along I-5 and SR 120. The agricultural land in the Plan Area provides a sense of openness that is not found in urban environments. The visual benefit to a passerby will vary through the year. As a crop matures the agricultural land will appear lush with vegetation (green crops). After the harvest the soil will be tilled presenting a bare and infertile visual quality that is much different than seen with the mature crop. Implementation of the proposed project would permanently change the agricultural visual quality for a passerby/viewer; however, the change is not a substantial adverse effect because the Plan Area is in an area that is largely surrounded by urban development and is generally at the entrance to two highly urbanized incorporated communities (i.e. Lathrop and Manteca). Based its location, these agricultural lands do not provide scenery of remarkable character and agricultural views of the Plan Area are not unique in the region. The conversion of the agricultural land within the Plan Area to developed industrial and commercial uses would not constitute the loss of a scenic vista.

Implementation of the proposed project would have a **less than significant** impact on a scenic vista, and no mitigation is required.

Impact 3.1-2: Project implementation may substantially damage scenic resources within a State Scenic Highway (Less than Significant)

There are no designated State Scenic Highways in the vicinity of the Plan Area. Only one 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 from Interstate 5 to State Route 205. This Designated Scenic Highway is located approximately 11 miles southwest of the Plan Area and is not visible from the Plan Area. This route traverses the edge of the Coast Range to the west and Central Valley to the east. The City of Lathrop and the Plan Area are not visible from this roadway segment. As identified in the Open Space Element of the San Joaquin County General Plan, designated scenic routes in the county include Interstate 5 from the Sacramento County line south to Stockton. The City of Lathrop is located south of Stockton, and neither the City nor the Plan Area are visible from this segment of Interstate 5. Additionally, there are no "eligible" highway segments in the project vicinity that may be included in the State Scenic Highway system. As such, this is a **less than significant** impact, and no mitigation is required.

Impact 3.1-3: Project implementation may substantially degrade the existing visual character or quality of the Plan Area and its surroundings (Less than Significant with Mitigation)

Implementation of the proposed project would change the existing visual character of the Plan Area. Impacts related to a change in visual character are largely subjective and very 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.

The Plan Area includes a variety of agricultural lands interspersed with industrial uses. Agricultural uses are located in the southern and western portions of the Plan Area. Existing industrial uses are located along the existing frontage road, Madruga Road with access from Yosemite Ave.

The land uses surrounding the Plan Area consist of both urbanized development and agricultural uses:

- North – Directly to the north lies the Lathrop Gateway Business Park with lands zoned for commercial office, service commercial, limited industrial and open space uses. Within the City of Lathrop, are industrial uses, the City's Wastewater Treatment Plant, a PG&E electrical substation, agricultural and vacant land, and the existing Lathrop-Manteca Altamont Commuter Express (ACE) Train station.

- South – Directly south of the Plan Area within San Joaquin County is the Oakwood Lakes Subdivision and within the City of Manteca, are developing lands: residential, commercial, business, and public uses.

- East – To the east, in Manteca, are developing lands including residential, commercial, business and public uses (including the regional Manteca Wastewater Quality Control Facility)

- West – The area to the west of the Plan Area is a sand and gravel borrow area within unincorporated San Joaquin County. Slightly further to the west is the proposed River Islands development within the City of Lathrop.

The majority of the Plan Area has been intensively disturbed through urban development, agricultural operations, and other activities. As a result, limited natural scenic areas can be found within the Plan Area. The natural scenic resources that do exist are typically scattered and of nominal quality. The key exception is the San Joaquin River and its associated environs, which is adjacent to the western edge of the Plan Area and is considered the most significant visual resource in the vicinity.

Along the San Joaquin River, a relatively small amount of native vegetation occurs on the river side of the levee, limited to narrow patches of riparian habitats. These habitats include valley oaks, Fremont cottonwoods, and willows. Riparian vegetation and oak trees may support nesting habitat for bird species such as black phoebe, western kingbird, western scrub-jay, oak titmouse, and house wren. In addition, they also can provide nest sites for raptors that include Swainson's hawk, red-tailed hawk, white-tailed kite, and red-shouldered hawk. Ruderal habitat also exists along the San Joaquin River consisting of non-native grasses and forbs.

Beyond habitat value, the river provides a visual and recreational amenity for the City. The San Joaquin River corridor and associated levee are designated as open space. This linear open space will preserve and protect sensitive vegetation and habitat, except as determined by the Reclamation District (RD-17) for levee safety or maintenance reasons. Public access to and along the top of the levee may be provided if approved by the City and RD-17, affording the community views of the river and its environs, as well as greater views of the surrounding area.

Much of the Plan Area is active agricultural land. While this land is disturbed from its natural scenic condition, developed agricultural land can provide visual relief to a passerby/viewer from common manmade structures and visual obstructions found in an urban environment. Agricultural lands provide a sense of openness that is common in natural environments. Throughout the year agricultural operations would result in the land evolving from an environment that appears lush with vegetation (green crops) to an environment that appears bare and infertile (recently tilled). Agricultural land in California's Great Central Valley is generally accepted as an important visual resource, but the significance of the visual resource varies greatly based on the surrounding environment.

Project implementation would convert most of the Plan Area from agricultural uses to industrial and commercial uses. The existing agricultural lands in the Plan Area do not provide scenery of remarkable agricultural character, and views of the Plan Area are not unique in the region. The Plan Area is largely surrounded by non-agricultural uses so there is no agricultural consistency in the vicinity. The conversion of the agricultural land within the Plan Area to developed industrial and commercial uses would not substantially degrade the existing agricultural visual quality of the vicinity.

Ground-level views of the Plan Area from the west and the south are largely obstructed by the existing levees that provide flood control to the Plan Area. The Plan Area has relatively flat terrain that varies between elevation 10 and 13 feet above sea level (NGVD29). The UPRR rail lines are elevated along the south and eastern boundaries between elevation 24 and 31 feet, which limits views of the Plan Area from the south and southeast, including the existing residential areas within the Oakwood Lakes subdivision. A levee is elevated along the western boundary at approximately 31 feet, which separates the Plan Area from the San Joaquin River. The majority of the Plan Area is not visible from users on the river, due to the height of the levee. Additionally, approximately 31.5 acres of open space lands are proposed along the entire western boundary of the Plan Area, which would further separate the planned industrial and commercial uses from the river, and reduce visual impacts to boaters and other recreational users on the San Joaquin River.

SR 120 is elevated along the northern boundary between elevation 20 and 50 feet. The elevation of the roadway makes the Plan Area highly visible for vehicles travelling along this stretch of SR 120, adjacent to the Plan Area.

Lands to the north, east, and west of the Plan Area are currently used for primarily commercial and industrial uses. Development of the proposed project would place similar land uses in the Plan Area, and the planned uses would be visually compatible and consistent with the surround uses.

The Design Guidelines chapter in the SLSP establishes the vision for the commercial, office, and industrial architecture and landscape standards within the Plan Area. The purpose of the Guidelines is to ensure consistency of design and across a wide range of uses within the Plan Area. These Guidelines provide standards for the development of a well-designed project: compatibility with adjacent land uses, land design that allows for high visibility and accessibility and provides the ability for alternative modes of transportation to, from and within the site. The SLSP encourages projects within it to be designed in relation to the context of the surrounding community and not as a secluded development.

The SLSP is intended to provide for a realistic and attractive development. The SLSP, within the existing and surrounding landscape, is intended to continue to advance the economic vitality and job growth in Lathrop by creating a development of quality site design and architecture. To achieve these goals, the following planning and design principles have been developed within the SLSP to assist designers and developers in meeting the City's preference. All commercial and industrial projects within the Plan Area should be designed to meet, or exceed the following planning and design principles:

1. Create quality site design.

    - Design pedestrian accessible buildings.
    - Design building heights and street widths at an appropriate scale; minimize parking between buildings and the street.
    - Encourage design elements that consider environmental conditions, like sun, shade, wind, etc., to improve the pedestrian experience and provide natural environmental control.

- Encourage high-quality streetscape with landscape expressions.
- Provide outdoor lighting for safety and security; minimize outdoor lighting from spilling over to adjacent properties.

2. Encourage distinctive architecture.

   - Encourage interesting building elevations through design styles, ancillary elements, and materials that are consistent with other exemplary developments in and around the region.
   - Use design styles, elements, and materials that compliment—or do not visually compete with—surrounding context and scale of neighboring land uses.
   - Integrate a hierarchy of streets and project entries through the use of entry gateways and landscaping to attract visitors and appeal to employees.
   - Encourage interesting design elements into buildings, including colors and building relief, taking care that overall quality design standards are met.

Circulation: The objective of the SLSP circulation design is to promote efficient and safe movement of goods and people throughout the Plan Area. The circulation design is intended to take into account all types of users: vehicle, pedestrian and bicycle. The following circulation design guidelines apply to all development areas of the South Lathrop Specific Plan:

1. Land uses that are automobile dependent should be designed to minimize the conflict between pedestrians, bicycles, and automobiles, by the following means:

   - Place buildings at the setback from public rights-of-way and use the public sidewalk to create pedestrian entries;
   - Create pedestrian-only connections between public sidewalk and buildings, avoiding crossing drive-thru lanes wherever possible; or
   - Place vehicle entrances and drive-thru areas away from main pedestrian entries.

2. Each district should provide pedestrian and bicycle connection to adjacent uses within the South Lathrop Specific Plan. This would include public sidewalk connections to internal project circulation for pedestrians and public right-of-way bicycle paths to internal on and off-street routes for bicycles. These connections should be well lit and marked for the safety of its users.

Building Placement: Building placement and orientation is important in creating a safe and efficient site design. The Guidelines indicate that buildings with uses that rely on visibility should be placed close to adjacent streets and specifically on high-volume corners. Those buildings along street frontages should have interesting elevations to anchor highly visible sites and create an identity for each land use area. Optimal building placement on the site can create opportunities for public or employee spaces, encourage pedestrian connections, establish an interesting streetscape, and provide drive-by advertising for the companies. Building placement and parking

orientation considerations can greatly increase the efficiency of a building. The following building placement and parking design guidelines apply to the all development areas of the SLSP:

1. Where feasible and desirable, buildings should maintain close proximity to streets;

2. Buildings should be sited to attract users:

   - Entrances should be designed to accommodate safe pedestrian travel;
   - Parking should have close proximity to buildings;
   - Create spaces with gathering areas, plantings, bicycle parking, or other amenities between or adjacent to buildings;
   - Minimize excessive setbacks that detract from the streetscape, or else optimize excessive setback areas in distinctive landscaping; and
   - Building elevations should consider the human-scale design elements on ground floor facades and specifically at building entrances.

3. Parking areas should be designed for circulation efficiency and safety of all users:

   - Large areas of parking should be screened from view as much as possible and placed away from major rights-of-way, behind buildings, or obscured with landscape treatments, such as berms, tall shrubs, and trees;
   - Shared parking between projects and uses is encouraged;
   - Landscaping should be provided in parking areas as specified by the landscaping section in this chapter;
   - Pedestrian pathways and walkways, clearly marked with enhanced paving material, should be provided through parking areas as direct routes to building entries.

4. Loading and delivery areas should be located appropriately to minimize their visibility, potential circulation, noise, and light conflicts. Screening these areas with landscaping, buildings, fences or walls is encouraged.

5. Corner and mid-block buildings should be oriented towards the public right-of-way and should be designed to achieve the following:

   - Where feasible and desirable, driveway entrances and stacking lanes should be separated from public pedestrian spaces and crossings.

Refuse, Storage, and Equipment Areas: The design and placement of refuse containers, service areas, loading docks, and similar facilities are considered as part of the overall site design of a project. These uses should not interfere or detract from circulation, parking, and adjacent uses, and in most cases should be out of view. The following design guidelines apply to all development areas of the SLSP as it relates to refuse, storage and equipment areas:

1. Trash/recycling enclosures and service and loading docks areas should be big enough to accommodate the site's needs, but located in areas as to not interfere with on-site circulation and parking;

2. Trash and outdoor storage facilities should be placed away from public streets and/or screened from view with materials consistent to adjacent building exteriors or other mature plantings; and

3. Trash and outdoor storage that is visible from upper stories should be screened with trellis or other horizontal cover and should be consistent with the architectural style of adjacent buildings. Furthermore, trash enclosures should be designed—through colors, materials, details, and/or forms, that serve to compliment associated building design for the particular building complex it serves.

4. Trash and outdoor storage facilities are encouraged to include a covered roof and sewer drain as described in the Public Works Stormwater Standards.

Landscaping: The intent of the landscape design within each district is to provide continuity throughout the Plan Area. Landscaping guidelines specify standards for streetscape, public space, and parking lot design within the development area. The following design guidelines apply to all development areas of the SLSP as it relates to landscaping:

1. Landscaping should be used to define outdoor spaces, softening and complementing structures, and should also be used for utilitarian qualities:

   - Become a backdrop to pedestrian outdoor gathering places;
   - Screening parking, loading, storage, and equipment areas;
   - Provide shade and enhancement to the streetscape, parking lots, and pedestrian outdoor gathering places; and
   - Directional, defining entries and pedestrian ways.

2. Landscaping and trees should be employed in parking areas to break up expanses of hardscape and to minimize heat island effect;

3. Where feasible and desirable, mature trees and plantings should be maintained and incorporated into the landscape design;

4. Natural and existing vegetation should be preserved where possible and incorporated into the new landscaping. Retention and detention areas should be planted to create the appearance of natural vegetation. Careful selection of plant types is necessary to ensure survival and be compatible with the proper functioning of the drainage system;

5. Conservation and efficient use of water is at the forefront of the South Lathrop Specific Plan landscaping objective:

   - Plants should be selected and grouped according to their maintenance and water use profile. In all cases, low-maintenance and drought tolerant plantings are highly encouraged;

- Planting of turf areas should be kept at a minimum. A maximum of 10% of the total landscaped site area may be irrigated turf. Drought-tolerant ground covers and shrubs are lower maintenance and seen as more desirable;
- All landscaped areas should be designated for maximum water efficiency and irrigated through automatic irrigation system controlled by a timer. Non-potable or recycled water should be used to the extent feasible;
- Use alternative and porous paving options for pedestrian pathways and non-vehicular and bicycle circulation to maximize infiltration of water runoff;
- Curb, header boards, pavers, and other materials should be used to minimize water run-off and define landscaped areas; and
- Water features should be designed for maximum maintenance and water efficiency.

6. Where feasible and desirable, landscape strips and medians should be programmed for the treatment and conveyance of water run-off. Landscaping used for percolation, drainage swales, and rain gardens are highly encouraged.

Walls and Fences: Walls and fences in the Plan Area are intended to provide screening between projects and adjacent uses where necessary, helping to define edges of arterial and collector streetscapes and providing security to property. It is anticipated that there will be limited use of walls, except where needed for sound attenuation or where desired for entry features or for screening unsightly elements, such as trash areas. The material and design for the walls and fencing may vary throughout the development area, depending on location and specific needs. Both masonry and wood fences are permitted in the Plan Area. The following design guidelines apply to all districts of the SLSP as it relates to walls and fences:

1. Walls and fences will not be permitted if they aren't necessary for specific screening, gateway, aesthetic, or security purposes;

2. Tall walls and fences are discouraged along arterial and collector roadways, as they diminish the street scene. Fences and walls should not exceed a maximum height of six feet, unless special screening and/or security issues are demonstrated and require a building permit and design review. Low decorative or auto-screening walls, 2 to 4-feet in height, may serve to enhance a building area or streetscape, if tastefully designed;

3. Walls and fences, used at property frontages or for screening, should be designed as an extension of a building's architecture; top caps on masonry walls and wood fences are encouraged. Self clinging or supported vines shall be planted at regular intervals along walls to ensure coverage within 5 years in order to discourage graffiti and soften the overall appearance of the wall;

4. Where long expanses of wall or fence are unavoidable, articulation in the form of wall offsets or landscaping should be implemented; and

5. Where security fencing is required, a combination of solid and open grill work is encouraged. Barbed or razor wire fences are prohibited (unless otherwise allowed by the city.)

Public Spaces and Pedestrian Amenities: It is the intent of the public spaces and pedestrian amenities section of the Guidelines to promote usable public gathering spaces oriented toward pedestrian users that function as an amenity to the development. The Guidelines indicate that these outdoor spaces should be visually pleasing, appropriately scaled, and should encourage greater activity within each development area. As well as providing pedestrian-oriented features and amenities, these spaces should connect pedestrians with the site and surrounding uses. The following design guidelines apply to all development areas of the SLSP as it relates to public spaces and pedestrian amenities:

1. An employee or public gathering place should be encouraged in appropriate projects within each development area. These amenities can include, but are not limited to, small recreation areas or other open space facilities. These areas will count toward the landscape requirement designated for each land use district.

2. Employee or public gathering space placement should be appropriate to each district:

   - Within the Commercial Office Designation, gathering areas should be placed as much toward the center of clustered buildings as feasible to create a sense of place and a convenient destination for users;
   - Within the Limited Industrial Designation, gathering places should be placed between or adjacent to buildings to encourage employee health and well-being.

3. Pedestrian connections should be established within projects and development areas, where logical and practical. Areas for respite for users should be encouraged.

Lighting and Furniture: Lighting is an important element in the landscape and should be used to contribute to a safe and attractive environment. Natural areas will need little light while street intersections will require illumination levels safe for pedestrian crossings. Lighting is also used to reinforce the development's overall design theme and create a consistent sense of place by adding a common, thematic element that is repeated along all major roadways.

Site furniture is encouraged in outdoor areas and public spaces. The driving goal for the use of landscape elements is to create enjoyable outdoor spaces and furnish comfortable amenities for relaxation and leisure. Site furniture visible from public streets, plazas, and pedestrian linkages should be of a compatible style and design..

The following design guidelines apply to all development areas of the SLSP as it relates to lighting and furniture:

1. Outdoor lighting should be specified and designed consistent with the zoning code for this Plan Area;

2. Exterior lighting, including parking areas, should be architecturally integrated with the style of the building and colors and materials used;

3. Parking lighting should be arranged to provide uniform illumination throughout parking areas and should achieve a minimum average of one foot-candle and a maximum of three;

4. Architectural lighting may be used to highlight special features on or around the building, or to illuminate key entrances or other areas of access;

5. All lighting should utilize cut-off type fixture to minimize visibility from adjacent areas and should be the appropriate size and height given the activities for which they are designed. Lighting used for pedestrian connectors and gathering spaces should be lower, bollard-type or footlight fixtures and should not exceed 3-4 feet in height;

6. Where feasible and desirable, the use of pedestrian amenities, such as benches, drinking fountains, lighting, and trash receptacles, is encouraged. These elements may be sited in public gathering places and as respite along pedestrian connectors; and

7. The design of lighting and furniture for the Plan Area should be compatible throughout the development.

The Guidelines presented above provide direction for the developers, builders, and designers who will ultimately create the built environment of the Plan Area. The Guidelines address site design and architecture, including circulation, building placement and orientation, refuse, storage, and equipment areas, walls and fences, landscaping, public spaces and pedestrian amenities, lighting, and furniture, storm drainage outfall, and style and design details. The Guidelines are intended to be flexible enough to allow for creativity while also assuring a quality community. All commercial, office, and industrial projects within the Plan Area will be subject to Site Plan and Architectural Design Review by the City. Design review would be implemented before issuance of building permits. Also, all public improvements (such as storm drainage outfall, landscape plantings, street and entry signs, lighting, or special paving) are subject to Site Plan and Architectural Design Review. All Design Review procedures would be conducted in compliance with 17.100 and 17.104 of the Lathrop Municipal Code.

Although the visual character of the Plan Area would be significantly altered as a result of project implementation, the Design Guidelines and Standards within the SLSP would ensure consistent development that is in line with the City's vision for the community's identity. Implementation of the Design Guidelines and standards in the SLSP would ensure that impacts to visual resources would be **less than significant**. No mitigation is required.

A portion of the Plan Area includes the San Joaquin River, riparian habitat, and a levee. The SLSP includes provisions to leave this portion of the Plan Area in tact as Open Space with the exception of a storm drainage outfall and trail system. The storm drainage outfall located near the southwest corner of the Plan Area is located within riparian habitat. The storm drainage outfall is regional facility that is consistent with the City's Master Drainage Plan. This facility serves an area beyond the Plan Area, including the Lathrop Gateway Business Park Specific Plan (LGBPSP) and development along the McKinley Corridor. The storm drainage outfall was identified in the LGBP Specific Plan and was addressed in the EIR for that project.

The storm drain outfall would be constructed along the east bank of the San Joaquin River. The section of the San Joaquin River at the outfall is bounded by levees on both sides, providing a clear separation between the riparian area and adjacent farmlands. The water side of the levees is vegetated with a discontinuous band of riparian trees and shrubs. The exact design and placement of the storm drain outfall has not been identified in the SLSP; therefore the impact acreage cannot be precisely quantified. There are areas were the outfall could be placed that would minimize the impact on the visual character of the San Joaquin River frontage. The storm drainage outfall should be located in an area with low vegetation density and sparse tree coverage to minimize impacts on vegetation, which would minimize the impact on the visual character and quality of the area. The impact relative to reducing the impact on vegetation/habitat is discussed in more depth in Section 3.4 Biological Resources. A mitigation measure (Mitigation Measure 3.4-5) is provided that requires the storm drainage outfall to be designed and located such that it avoids and minimizes impacts to riparian vegetation to the extent feasible (i.e. identify areas where vegetation density is lower and trees are sparse). There is also a mitigation measure (Mitigation Measure 3.4-6) that requires compensation/replacement for any disturbance to riparian habitat along the San Joaquin River in association with the storm drainage outfall. The compensation/replacement ratios are established at a minimum ratio of 1 acre restored, created, and/or preserved for every 1 acre of riparian disturbed. These two mitigation measures, while specifically aimed at reducing impacts to biological resources, collectively serve as mitigation for impacts to the visual character and quality of this area because the biological resources that are affected function as the most notable and important visual quality of the area.

Although the visual character of the San Joaquin River and its associated riparian habitat would be slightly altered as a result of the storm drainage outfall, Mitigation Measure 3.4-5 and 3.4-6 would reduce the impact by requiring the storm drainage outfall to be designed and located such that it avoids and minimizes impacts to riparian vegetation to the extent feasible (i.e. identify areas where vegetation density is lower and trees are sparse), and compensate/replace riparian vegetation at a one to one ratio for impacts to this important visual resource. Implementation of the mitigation measures would ensure that impacts to visual resources would be **less than significant**.

Impact 3.1-4: Project implementation may result in light and glare impacts (Less than Significant)

Implementation of the proposed project could introduce new sources of light and glare into the Plan Area. Under current conditions the Plan Area has minimal amounts of nighttime lighting

associated with the existing industrial uses in the northeastern portion of the Plan Area. Existing lighting in the vicinity of the Plan Area includes roadway lighting on I-5 and SR 120, Industrial lighting on lands to the north, residential lighting on lands to the east and southeast, and miscellaneous lighting associated with various streets and farm buildings. With the exception of lighting on SR 120 and I-5, the Plan Area is largely sheltered from lighting outside the Plan Area due to the elevated SR 120, I-5, and earthen berm/levee that surround the Plan Area.

Development of the SLSP would require lighting of roadways, parking areas, building exteriors, sidewalks, and security lighting. A substantial increase in the amount of nighttime lighting and glare may result from the development of the SLSP project, potentially obscuring views of stars and other features of the night sky. In addition, exterior lighting and the presence of reflective surfaces on buildings in the Plan Area, and vehicle windshields in the Plan Area, may result in light and glare shining onto motorists on Interstate 5 and State Route 120.

The SLSP includes lighting and design guidelines that would reduce potential adverse impacts associated with light and glare. The lighting guidelines require the use of cut-off type fixtures to minimize visibility from adjacent areas and specific that light fixtures will be the appropriate size and height given the activities for which they are designed. Lighting used for pedestrian connectors and gathering spaces will be lower, bollard-type or footlight fixtures and will not exceed 3-4 feet in height.

Future development within the Plan Area is also subject to design review and approval. In accordance with SLSP Section 8.1.1 all commercial, office, and industrial projects within the Plan Area will be subject to Site Plan and Architectural Design Review by the City; design review will be implemented before issuance of building permits. Also, all public improvements (such as landscape plantings, street and entry signs, lighting, or special paving) are subject to Site Plan and Architectural Design Review. All Design Review procedures will be conducted in compliance with 17.100 and 17.104 of the Lathrop Municipal Code.

Implementation of the lighting and design standards in the SLSP would ensure that project lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the design requirements in the SLSP and the subsequent design review of future projects within the Plan Area 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. As such, impacts related to nighttime lighting and daytime glare would be **less than significant**, and no mitigation is required.

This section provides an overview of the agricultural values in San Joaquin County, agricultural capability of the soils, and existing site conditions. This section concludes with an evaluation of the impacts and recommendations for mitigating impacts as needed. Information in this section is derived primarily from the *California Important Farmlands Map* (California Department of Conservation 2012), *California Land Conservation (Williamson) Act Status Report* (California Department of Conservation 2010)*, the San Joaquin County Agriculture (Crop) Report* (San Joaquin County Agricultural Commission 2011), *Preliminary Geotechnical Report* (Engeo 2004), *Custom Soils Report for San Joaquin County, California* (NRCS 2013a), and NRCS Web Soil Survey (NRCS 2013b).

The Initial Study prepared for the Project concluded that there are no forest resources located in the Plan Area, or within the City of Lathrop, thus 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

The San Joaquin Valley has rich alluvial soils and is the location of most of the intensive agriculture. The County's Agricultural Commissioner's most recent published Agricultural Report, 2011 (Crop Report) contains the following information about agriculture in the County.

Agricultural Value

San Joaquin County has a total land area of 1,400 square miles of which 737,503 acres are in 3,624 farms. Total Cropland in 2007 was 492,032 acres of which 453,980 acres were irrigated. This farmland consists of 367,419 acres of field crops, 97,709 acres of fruit and nut crops, 5,785 acres of seed crops, and 755 acres of vegetable crops.

The estimated gross value of agricultural production in San Joaquin County for 2011 is estimated at $2,238,688,000. Table 3.2-1 lists the top eight commodities in San Joaquin County in 2011.

TABLE 3.2-1: SUMMARY COMPARISON OF CROP VALUES

PRODUCT	*2011*
Field Crops	$307,236,000
Vegetable Crops	$295,438,000
Fruit and Nut Crops	$956,402,000
Nursery Products	$77,370,000
Livestock and Poultry	$112,133,000
Livestock and Poultry Products	$471,239,000
Seed Crops	$5,069,000
Fruit Nut Misc.	$10,494,000
Apiary Products	$13,801.000

SOURCE: 2011 SAN JOAQUIN COUNTY AGRICULTURAL REPORT

AGRICULTURAL CAPABILITY

The California Department of Conservation Farmland Mapping and Monitoring Program 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 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 Natural Resources Conservation Service (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 limit 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 YOLO COUNTY, CALIFORNIA, 1972.

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 Department of Conservation for 2010 indicates that within the county, approximately 11,647 acres of Prime Farmland has been developed for other uses between 2008 and 2010 resulting in an existing total of 385,337 acres of Prime Farmland in the county. The remaining agricultural land comprises Farmland of Statewide Importance (9%), Unique Farmland (8%), Farmland of Local Importance (8%), and Grazing Land (15%). The types and acreages of farmland totals for 2008 and 2010 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	2008-10 ACREAGE CHANGES							
	TOTAL ACREAGE INVENTORIED				ACRES LOST	ACRES GAINED	TOTAL ACREAGE CHANGED	NET ACREAGE CHANGED
	2008		2010		(-)	(+)		
	Acres	Percent	Acres	percent				
Prime Farmland	396,984	44%	385,337	42%	12,570	923	13,493	-11,647
Farmland of Statewide Importance	86,297	9%	83,307	9%	3,202	212	3,414	-2,990
Unique Farmland	66,621	7%	69,481	8%	1,590	4,450	6,040	2,860
Farmland of Local Importance	65,788	7%	76,869	8%	3,644	14,725	18,369	11,081
IMPORTANT FARMLAND SUBTOTAL	615,690	67%	614,994	67%	21,006	20,310	41,316	-696
Grazing Land	142,460	16%	139,235	15%	3,341	116	3,457	-3,225
AGRICULTURAL LAND SUBTOTAL	758,150	83%	754,229	83%	24,347	20,426	44,773	-3,921
Urban and Built-up Land	90,529	10%	91,929	10%	127	1,527	1,654	1,400
Other Land	52,141	6%	54,662	6%	838	3,359	4,197	2,521
Water Area	11,773	1%	11,773	1%	0	0	0	0
TOTAL AREA INVENTORIED	912,593	100%	912,593	100%	25,312	25,312	50,624	0

SOURCE: CA DEPARTMENT OF CONSERVATION, DIVISION OF LAND RESOURCE PROTECTION TABLE A-30 2012

EXISTING SITE CONDITIONS

The current uses in the Plan Area are a mix of agricultural and industrial uses. Portions of the Plan Area are presently, and have historically, been used for intensive agricultural purposes such as farming but are not under a Williamson Act contract or conservation easement. Currently, crop types include alfalfa and winter wheat. No lands are under Williamson Act contracts. The Plan Area is one of the last pockets of unincorporated San Joaquin County within the vicinity, as the Plan Area is generally surrounded by built or approved developments that are within the cities of Lathrop or Manteca. The Lathrop and Manteca General Plans call for extensive urban development along I-5 and SR 120. Lands to the south and east of the Plan Area are either planned for development or under construction, transitioning from agricultural uses to residential, industrial and commercial uses.

The Plan Area has relatively flat terrain that varies between elevation 10 and 13 feet above sea level (NGVD29). The UPRR rail lines are elevated along the south and eastern boundaries between elevation 24 and 31 feet. SR 120 is elevated along the northern boundary between elevation 20 and 50 feet. The San Joaquin River levee is elevated along the western boundary at approximately 31 feet. High voltage power lines (115 and 60 Kilovolts), within Pacific Gas & Electric (PG&E) power line easements, traverse portions of the Plan Area running east/west and north/south.

The Plan Area is located within the boundaries of 18 assessor's parcel numbers (APNs); the majority of the property owners, who own 273.6 acres (87%) within the Plan Area, are

participating in the preparation of the Specific Plan. Property owners from approximately 25.9 acres of the Plan Area will not actively participate, but the land will be designated and pre-zoned in the City of Lathrop to Limited Industrial, consistent with their current use. Approximately 15.5 acres (5%) of the Plan Area are owned by the State of California Reclamation District 17 and the County of San Joaquin. These parcels include the existing Madruga Road right of way, owned by the County of San Joaquin, the portion of the San Joaquin River levee owned by RD-17, and the portion of the San Joaquin River owned by the State of California (SLSP, 2012).

Surrounding Land Uses

The Plan Area is surrounded by a variety of existing land uses within several land use jurisdictions. To the north of SR-120 and west of I-5 in the City of Lathrop is Mossdale Village with residential and service commercial land use, east of I-5 is Crossroads Commerce Center with office uses, northeast is the Lathrop Gateway Business Park currently developed with industrial, rural residential and service land uses, with some remaining agricultural lands that are not yet developed. The Lathrop Gateway Business Park Specific Plan designates and/or zones this area for Limited Industrial, Commercial Office, Service Commercial and Open Space. South of the Plan Area, in unincorporated San Joaquin County, is the Oakwood Lakes Subdivision, which is included in the Sphere of Influence for the City of Manteca (San Joaquin LAFCo, 10/08). To the east, in the City of Manteca, are developing lands including residential, commercial, business and public uses (including the regional Manteca Wastewater Quality Control Facility). The area to the west of the Plan Area is sand and gravel borrow area within unincorporated San Joaquin County. Slightly further to the west is the proposed River Islands residential development within the City of Lathrop.

SLSP Project Farmland Characteristics

The State of California Department of Conservation Farmland Mapping and Monitoring Program and San Joaquin County GIS identifies the farmland characteristics for the Plan Area provided in Figure 3.2-1. The farmland classifications for the site and surrounding area are described below.

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. 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 on much of the central and southwestern portions of the Plan Area. Prime Farmland is also located north of the Plan Area and I-5 at the terminus of Queirolo Road. Southwest of the Plan Area across the San Joaquin River is an area of Prime Farmland and southeast of Domo Road is another area of Prime Farmland. East of Guthmiller Road are additional areas of Prime Farmland.

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. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Statewide Importance is located on the north-central portion of the Plan Area. Southwest of the Plan Area across the San Joaquin River is an area of Farmland of Statewide Importance and southeast of Domo Road is another area of Farmland of Statewide Importance. East of Guthmiller Road are additional areas of Farmland of Statewide Importance.

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. Land must have been cropped at some time during the four years prior to the mapping date.

There is no land within the Plan Area, or in the immediately vicinity, that is designated Unique Farmland.

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 at the western and eastern corners of the Plan Area. Farmland of Local Importance is located north of the Plan Area and the Union Pacific railroad tracks on both sides of the San Joaquin River and I-5.

URBAN AND BUILT-UP LAND

Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is 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.

The existing industrial sites in the Plan Area served by Madruga Road are shown as Urban Land. Urban Land is located on almost the entire northern boundary adjacent to the Plan Area. Urban land is also located south of the Plan Area along the San Joaquin River.

OTHER LAND

Land not included in any other mapping category. Common examples include low density rural developments; 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 nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land. The Rural Land categories include:

- Rural Residential Land
- Semi-Agricultural and Rural Commercial Land
- Vacant or Disturbed Land
- Confined Animal Agriculture
- Nonagricultural or Natural Vegetation

The Plan Area contains Vacant and Disturbed land near the intersection of Yosemite and Madruga roads. In the surrounding area vacant lands are indicated east of Guthmiller Road, north of SR-120 and east of the San Joaquin River. Rural Residential Land is located south of the Union Pacific Railroad tracks. Semi-Agricultural and Rural Commercial Land is located west of the Plan Area.

WATER

Water is considered perennial water bodies with an extent of at least 40 acres.

There is no land within the Plan Area that is designated Water. The Water designation is found south of the Plan Area at the Oakwood Lakes Subdivision.

Soils and Farmland Characteristics

A Custom Soil Survey was completed for the Plan Area using the NRCS Web Soil Survey program. Table 3.2-5 identifies the soils found in the Plan Area. The NRCS Soils Map is provided in Figure 3.2-2.

TABLE 3.2-5: PROJECT SOILS

MAP UNIT SYMBOL MAP	*NAME*	*PERCENT OF AOI*	*STORIE INDEX (GRADE)*	*SOIL CAPABILITY CLASSIFICATION*
109	Bisgani loamy coarse sand, partially drained, 0 to 2 percent slopes	7.0%	30(4)	3
142	Delhi loamy sand, 0 to 2 percent slopes	2.5%	65 (2)	3
148	Dello clay loam, drained, 0 to 2 percent slopes, overwashed	6.9%	55 (3)	3
153	Egbert silty clay loam, partially drained, 0 to 2 percent slopes	17.3%	58 (3)	2
166	Grangeville fine sandy loam, partially drained, 0 to 2 percent slopes	28.0%	76 (2)	2
169	Guard clay loam, drained, 0 to 2 percent slopes	7.3%	45 (3)	2
196	Manteca fine sandy loam, 0 to 2 percent slopes	31.0%	30 (4)	3

SOURCE: NRCS CUSTOM SOIL SURVEY

Bisgani loamy coarse sand, partially drained. This very deep, poorly drained, nearly level soil formed in alluvium. Permeability is rapid in this soil. Runoff is very slow, and the hazard of water

erosion is slight. The shrink-swell potential of this soil is low. The risk of corrosion is high for uncoated steel, and low for concrete. Soil limitations on building site development are considered moderate to severe, due to flooding potential.

Delhi loamy sand. This very deep, somewhat excessively drained, nearly level soil was formed in wind-modified alluvium. Permeability is rapid in this soil. Runoff is slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is low. The risk of corrosion is moderate for uncoated steel, and low for concrete. Soil limitations on building site development are slight, except that shallow excavations are subject to caving.

Dello clay loam, drained. The Dello series consist of very deep, very poorly drained soils that formed in alluvium from granitic rock sources. Dello soils are in small depressions and have slopes of 0 to 2 percent. The frequency of flooding is rare or occasional.

Egbert silty clay loam, partially drained. This very deep, poorly drained, nearly level soil formed in alluvium. Permeability is slow in this soil. Runoff is slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is moderate to high. The risk of corrosion is high for uncoated steel, and moderate for concrete. Soil limitations on building site development are considered moderate to severe, due to shrink-swell and flooding potential.

Grangeville fine sandy loam. This very deep, somewhat poorly drained, nearly level soil formed in alluvium. Permeability is moderately rapid in this soil. Runoff is slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is low. The risk of corrosion is high for uncoated steel, and low for concrete. Soil limitations on building site development are considered moderate to severe, due to flooding potential.

Guard clay loam. This very deep, poorly drained, nearly level soil formed in alluvium. Permeability is slow in this soil. Runoff is slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is moderate. The risk of corrosion is high for uncoated steel, and low for concrete. Soil limitations on building site development are considered moderate to severe, due to flooding and shrink-swell potential.

Manteca fine sandy loam. This moderately well drained, nearly level soil formed in alluvium. Permeability is moderate in this soil. Runoff is slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is low. The risk of corrosion is high for uncoated steel, and low for concrete. Soil limitations on building site development are considered moderate to severe, due to flooding potential and the existence of cemented pan.

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 nonagricultural

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 nonagricultural 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 Natural Resource Conservation Service (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.

STATE

Williamson Act

The California Land Conservation Act of 1965, commonly known as the Williamson Act, was established based on numerous State legislative findings regarding the importance of agricultural lands in an urbanizing society. Policies emanating from those findings include those that discourage premature and unnecessary conversion of agricultural land to urban uses and discourage discontinuous urban development patterns, which unnecessarily increase the costs of community services to community residents.

The Williamson Act authorizes each County to establish an agricultural preserve. Land that is within the agricultural preserve is eligible to be placed under a contract between the property owner and County that would restrict the use of the land to agriculture in exchange for a tax assessment that is based on the yearly production yield. The contracts have a 10-year term that is automatically renewed each year, unless the property owner requests a non-renewal or the contract is cancelled. If the contract is cancelled the property owner is assessed a fee of up to 12.5 percent of the property value.

The Plan Area is not under a Williamson Act contract, nor are any of the parcels that are located immediately adjacent to the Plan Area.

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 Plan Area and the immediately adjacent parcels are not within the FSZ program.

Delta Reform Act

The California Legislature passed the Johnston-Baker-Andal-Boatwright Delta Protection Act of 1992 (Delta Protection Act) on September 23, 1992 and it was updated in 2009 and renamed the Delta Reform Act. The Act provided the means to prepare the Land Use and Resource Management Plan (2010) for the Primary Zone of the Delta. The Management Plan includes policies and recommendations with the overall goal to "protect, maintain, and where possible, enhance and restore the overall quality of the Delta environment, including but not limited to agriculture, wildlife habitat, and recreational activities." The following are the applicable policies with relation to agriculture:

Policy P-3. New non-agriculturally oriented residential, recreational, commercial, habitat, restoration or industrial development shall ensure that appropriate buffer areas are provided by those proposing new development to prevent conflicts between any proposed use and existing adjacent agricultural parcels. Buffers shall adequately protect the integrity of land for existing and future agricultural uses and shall not include uses that conflict with agricultural operations on adjacent agricultural lands. Appropriate buffer setbacks shall be determined in consultation with local Agricultural Commissioners, and shall be based on applicable general plan policies and criteria included in Right-to-Farm Ordinances adopted by local jurisdictions.

California Government Code Section 560643

This section of the Government Codes defines "Prime agricultural land" as follows:

- Prime agricultural land means an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications:
    - Land that qualifies, if irrigated, for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.
    - Land that qualifies for rating 80 through 100 Storie Index Rating.
    - Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as

defined by the United States Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003.

- Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will re-turn during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars ($400) per acre.

- Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars ($400) per acre for three of the previous five calendar years.

LOCAL

City of Lathrop General Plan

The Plan Area is located to the southeast of the City of Lathrop and is identified as the southern portion of the City's Sub-Plan Area 1. The land use is currently designated as Limited Industrial within the City of Lathrop's General Plan. Goals and policies applicable to agriculture are included below:

Goal No. 5 – Enhancing the Quality of Life, Agricultural Land

Policy 1 notes that the extent of urbanization called for in the General Plan is based on the need to accommodate population and economic growth. Further urbanization outside of the General Plan planning area is discouraged to allow for preservation of agriculture outside of the three sub-plan areas of the City of Lathrop.

Policy 2 encourages exclusive agricultural zoning be continued on lands outside of the three sub-plan areas.

Policy 3 encourages a comprehensive approach to cancellation of Williamson Act contracts.

Policy 4 discourages extension of sewer and water service to lands outside of the three sub-plan areas (Lathrop General Plan, p.1-11).

City of Lathrop Municipal Code-Agricultural Land Preservation (Title 15.48.040)

The City of Lathrop Right-to-Farm Ordinance (15.48.030) of the City's Agricultural Land Preservation Ordinance (15.48.040), was adopted in 1991 to conserve and protect agricultural land in the City and protect agricultural landowners from nuisance complaints related to cultivation, irrigation, spraying, fertilizing, and other activities related to normal agricultural operations. A disclosure statement is required whenever adjacent property is sold or building permit application is submitted, notifying the prospective buyer/applicant of adjacent agricultural land and possible discomforts and nuisance factors related to agricultural operations. The focus of the ordinance is

to reduce the loss of agricultural resources in the City by clarifying the circumstances under which agricultural operations may be considered a nuisance.

The SLSP will apply the notification procedures identified in the Ordinance 15.48.060. Interim Agricultural uses are subject to Agricultural Development Standards and Use Regulations located in the City's Zoning Ordinance. Right-to-Farm provisions t are discussed in Section 2.6.5.1 of the SLSP.

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

San Joaquin County Right-to-Farm Ordinance

In 2004, the Right-to-Farm Ordinance (Ord. No. Section 6-9004(c) was adopted in San Joaquin County. The County recognizes and supports the right to farm agricultural lands. Residents near agricultural lands are noticed that they may be subjected to inconvenience or discomfort associated with agricultural operations. The Right-to-Farm Ordinance declares that properly conducted agricultural operations on agricultural land are not subject to nuisance claims, assuming the operation was not already on record as a nuisance when the operation began. Information about the Right-to-Farm Ordinance is provided by the County when an application is submitted for development on or adjacent to agricultural land.

Central Valley Farmland Trust

The Central Valley Farmland Trust is a private, non-profit, regional land trust working in Sacramento, San Joaquin, Stanislaus and Merced Counties of California. The organization works to preserve farmland through the purchase of agricultural conservation easements from willing landowners. The *Annual Report 2011-2012* (CVFT 2012) indicates that 12,766 acres of farmland have been preserved through the CVFT efforts. The City of Lathrop engages CVFT as a trustee to assist with their agricultural mitigation requirements.

City of Lathrop Agricultural Mitigation

The City of Lathrop adopted an agricultural mitigation program in 2005, as a result of the settlement of a water transfer lawsuit against the cities of Lathrop, Manteca, and Tracy by the Sierra Club. The mitigation program adopted by the City of Lathrop requires that future development will pay $2,000/acre for agricultural mitigation. Half of the mitigation ($1,000/acre)

will be paid to the CVFT. The other $1,000/acre will be collected by the City of Lathrop and may be passed to the CVFT or other trust, or may be retained by the City of Lathrop to be applied to local easements or other agricultural mitigation.

Local Agency Formation Commission Boundary Controls

The San Joaquin Local Agency Formation Commission (LAFCO) is responsible for coordinating orderly amendments to local jurisdictional boundaries, including annexations. Annexation of the Plan Area to the City of Lathrop would be subject to LAFCO approval, and LAFCO's decision is governed by state law (Gov't Code § 56001 et seq.) and the local LAFCO Policies and Procedures. State law requires LAFCOs to consider agricultural land and open space preservation in all decisions related to expansion of urban development. LAFCO's definition of Prime agricultural land refers to California Government Code Section 56064.3, which is described above under the State Regulatory Setting.

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 (Important Farmlands), 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;
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: The proposed project has the potential to result in the conversion of Farmlands, including Prime Farmland, Unique 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 SLSP would result in a conversion of Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance, as shown on the map prepared under the Farmland Mapping and Monitoring Program (FMMP) of the CDC, to nonagricultural industrial and commercial use. Development of the SLSP would result in the permanent conversion of roughly 161 acres of Prime Farmland/Farmland of Statewide Importance on the Southchase LTD property

(APN 241-030-013)[1], and 63 acres of Farmland of Local Importance on the HCW Lathrop Investors LLC property (APN 241-020-070), 37 acres on the Warm Springs Investments LP property (APN 241-410-007), one acre on the Keeney property (APN 241-410-039), and nine acres on the Bottini properties (APNs 241-410-041 and 042). The remaining acreage in the Plan Area is classified as Urban/Built-up and Other. The loss of Important Farmland as classified under the FMMP is considered a potentially significant environmental impact.

The City of Lathrop's agricultural mitigation program requires that future development to pay $2,000/acre for agricultural mitigation. Half of the mitigation ($1,000/acre) will be paid to the Central Valley Farm Trust (CVFT). The other $1,000/acre will be collected by the City of Lathrop and may be passed to the CVFT or other trust, or may be retained by the City of Lathrop to be applied to local easements or other agricultural mitigation.

In addition to the City of Lathrop's agricultural mitigation program, the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) require development to compensate for impacts to agricultural lands that function as habitat for biological resources. The compensation results in the purchase of conservation easements that are placed over agricultural land, such as alfalfa and row crops. As such, the SLSP fees paid to SJCOG as administrator of the SJMSCP will result in the preservation of agricultural lands is perpetuity.

As the Plan Area is developed that the project applicant will pay fees to SJCOG (the SJMSCP administrator) on a per-acre basis for designated agricultural lands that are converted to urban use. SJCOG will then use these funds to purchase the conservation easements on agricultural and habitat lands in the project vicinity. The purchase of conservation easements allow the landowners to retain ownership of the land and continue agricultural operations, essentially preserving such lands in perpetuity (SLSP, 2012).

The San Joaquin County Right to Farm Ordinance primarily uses disclosure in an effort to prevent future nuisance complaints and potentially the subsequent loss of farmland. While the Plan Area would be annexed into the Lathrop city limits it would remain adjacent to land in the unincorporated County. The City of Lathrop Right-to-Farm Ordinance serves the same general purpose as the County Ordinance. Any project within the Plan Area would be required to comply with these Ordinances. Under the City's Right-to-Farm Ordinance a disclosure statement is required whenever adjacent property is sold or a building permit application is submitted, notifying the prospective buyer/applicant of the adjacent agricultural land and of the possible discomforts and nuisance factors related to those operations. The SLSP (Section 8.3 Right-to-Farm Provisions) recognizes that the Plan Area has on-site and off-site existing agricultural uses and acknowledges that as the Plan Area builds out, existing parcels on-site could continue to be farmed. In order to ensure the viability of the on-going agricultural uses, and in compliance with the adopted ordinances, the SLSP requires that a "right-to-farm" provision be included. Right-to-farm disclosures are to be provided at point-of-sale of lots within the SLSP. This provision is required for all properties in the Plan Area which may be impacted or affected by on-going

[1] The property has areas of both Prime Farmland and Farmland of Statewide Importance.

farming operations. These measures are to be included in the Development Agreement with the City of Lathrop if such an agreement is adopted.

Extension of urban services to the Plan Area and associated off-site improvements, such as the sewer and storm drain pipelines will not result in the conversion of agricultural land. Installation of the urban infrastructure improvements is phased concurrent with the portion of the Plan Area being developed at the time and for the most part, the infrastructure is located in existing street right-of-way. Off-site extensions are similarly located in street right-of-way or on industrial lands.

The Lathrop General Plan EIR evaluated the Plan Area as part of the overall evaluation of the build out of the City of Lathrop. The General Plan EIR addressed the conversion and loss of agricultural land that would be result from the build out of the General Plan (Lathrop EIR, p. 8-A/C-3) and found that the impact would be significant and unavoidable. The eventual conversion of 7,170 acres of productive agricultural land to urban use will be irreversible as it is not reasonable to assume that re-conversion or replacement of this acreage to agricultural use will ever be economically feasible (Lathrop EIR, p. 8-D-3).

Approximately 272 acres of the Plan Area is designated as Prime Farmland, Farmland of Statewide Importance, or Farmland of Local Importance. Given that the Plan Area is irrigated, has been historically used for agricultural purposes, and is designated as Important Farmlands, the proposed project would result in the conversion of Important Farmlands to non-agricultural uses. The proposed project will contribute fees toward the purchase of conservation easements on agricultural lands through the City of Lathrop's agricultural mitigation program and the SJCOG's SJMSCP; however, those fees and conservation easements would not result in the creation of new farmland to offset the loss. As such, the loss of Important Farmland would be a **significant and unavoidable** impact.

MITIGATION MEASURES

Mitigation Measure 3.2-1: *Prior to the conversion of important farmland in the Plan Area, the project proponents shall participate in the City of Lathrop agricultural mitigation program and the SJMSCP by paying the established fees on a per-acre basis for the loss of important farmland. Fees paid toward the City of Lathrop's program shall include half of the mitigation ($1,000/acre) to be paid to the Central Valley Farm Trust (CVFT). The CVFT shall use these funds to purchase conservation easements on agricultural lands to fulfill the compensatory mitigation. The other half ($1,000/acre) will be collected by the City of Lathrop and may be passed to the CVFT or other trust, or may be retained by the City of Lathrop to be applied to local easements or other agricultural mitigation. Fees paid toward the SJMSCP shall be in accordance with the fees established at the time they are paid (2013 fees for Agricultural Habitat is $12,711/acres). The SJCOG shall use these funds to purchase conservation easements on agricultural habitat lands to fulfill the compensatory mitigation. Written proof of payment to SJCOG and CVFT shall be provided to the City.*

Mitigation Measure 3.2-2: *Prior to the close of real property transactions within the SLSP, the project proponent shall provide Right-to-Farm disclosures to the purchaser. This provision is*

required for all properties within the Plan Area which may be impacted or affected by on-going farming operations.

Impact 3.2-2: The proposed project has the potential to conflict with existing zoning or Williamson Act Contracts (less than significant)

The Plan Area is not under a Williamson Act Contract. There are no parcels in the immediate vicinity of the Plan Area that are under a Williamson Act Contract.

The County GP Land Use Map Plan designates the portion of the Plan Area west of the emergency access road as Open Space/Resource Conservation (OS/RC) and the zoning as Agriculture 40-acre min. (AG-40). The remainder of the Plan Area is designated in the General Plan as Limited Industrial (LI). The project applicant is requesting that the Plan Area be annexed to the City of Lathrop to eliminate the conflict with the County's OS/RC General Plan designation and AG-40 zoning to permit the Plan Area to be developed into a commercial and industrial use. The City of Lathrop General Plan and pre-zone for the Plan Area is industrial. The intent of the City of Lathrop General Plan is to urbanize all lands included within the city. As such, the city does not include a land use designation or zoning for agriculture. Annexation of the Plan Area into the City of Lathrop will eliminate conflict with the county's agriculture zone.

The proposed project would not conflict with a Williamson Act Contract or agricultural zoning. Implementation of the proposed project would have a **less than significant** impact relative to this topic, and no mitigation is required.

Impact 3.2-3: The proposed project has the potential to result in conflicts with adjacent agricultural lands or indirectly cause conversion of agricultural lands (less than significant)

Prime Farmland is located north of the Plan Area and I-5 at the terminus of Queirolo Road, southwest of the Plan Area across the San Joaquin River, southeast of Domo Road, and east of Guthmiller Road. Farmland of Statewide Importance is located southwest of the Plan Area across the San Joaquin River, southeast of Domo Road, and east of Guthmiller Road. Farmland of Local Importance is located north of the Plan Area and the Union Pacific railroad tracks on both sides of the San Joaquin River and I-5. Historically, this area has been used for farming.

A variety of industrial and commercial uses would be developed as a result of the SLSP. Surrounding agricultural activity on immediately adjacent properties is limited, and with implementation of the Lathrop General Plan, adjacent properties in the Lathrop Sphere of Influence are anticipated to transition entirely to urban uses. The Plan Area is bordered entirely by elevated levees along the San Joaquin River, I-5 and SR 120, and the elevated Union Pacific Railroad tracks. These features provide a significant buffer between the Plan Area and any agricultural uses in the vicinity. With the Lathrop and County Right-to-Farm Ordinances (included in the SLSP), and the presence of both natural and manmade buffers, the potential for conflict between existing agricultural lands and adjacent uses is reduced. The notification procedures in the Ordinances and SLSP serves to inform landowners and developers of non-agricultural uses of what the expectations are in the area with regard to agricultural activities and reduce complaints.

The Lathrop General Plan EIR found that the conversion of agricultural lands to urban use had the potential to significantly place at risk other agricultural land in the vicinity but noted this was primarily an issue in SPA #2, not the Plan Area which is located in SPA #1 (Lathrop EIR, p. 8-D-3). The Right to Farm ordinance was adopted to mitigate this impact to the extent possible.

The combination of buffers, Ordinances and incorporation of measures in the Specific Plan provide that conflicts with adjacent agricultural operations that potentially cause conversion of these lands to other uses will not occur. The proposed project would not result in the direct or indirect conversion of agricultural lands on adjacent properties, nor would it adversely impact any existing agricultural operations. Implementation of the proposed project would have a **less than significant** impact, and no mitigation is required.

Impact 3.2-4: The proposed project has the potential to result in the conversion of Prime Farmland, as defined under California Government Code Section 560643 for purposes of LAFCo's decision for the proposed annexation (no impact)

The San Joaquin Local Agency Formation Commission (LAFCO) is responsible for coordinating orderly amendments to local jurisdictional boundaries, including annexations. Annexation of the Plan Area to the City of Lathrop would be subject to LAFCO approval, and LAFCO's decision is governed by state law (Gov't Code § 56001 et seq.) and the local LAFCO Policies and Procedures. State law requires LAFCOs to consider agricultural land and open space preservation in all decisions related to expansion of urban development. LAFCO's definition of Prime agricultural land is defined in California Government Code Section 56064.3, which is described below.

- Prime agricultural land means an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications:
    - Land that qualifies, if irrigated, for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.
    - Land that qualifies for rating 80 through 100 Storie Index Rating.
    - Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003.
    - Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will re-turn during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars ($400) per acre.

- Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars ($400) per acre for three of the previous five calendar years.

Table 3.2-6 provides an assessment of the Plan Area relative to the Prime agricultural land defined under California Government Code Section 56064.3.

TABLE 3.2-6: EVALUATION OF PROJECT SOILS

MAP UNIT	*NAME*	*PERCENT OF AOI*	*STORIE INDEX (GRADE)*	*CAPABILITY CLASSIFICATION*	*SUPPORTS LIVESTOCK*	*PLANTED WITH QUALIFYING CROP*	*RETURNED FROM PRODUCTION WITH AN ANNUAL VALUE OF >$400/ACRE*
109	Bisgani loamy coarse sand, partially drained, 0 to 2 percent slopes	7.0%	30(4)	3	No	No	No
142	Delhi loamy sand, 0 to 2 percent slopes	2.5%	65 (2)	3	No	No	No
148	Dello clay loam, drained, 0 to 2 percent slopes, overwashed	6.9%	55 (3)	3	No	No	No
153	Egbert silty clay loam, partially drained, 0 to 2 percent slopes	17.3%	58 (3)	2	No	No	No
166	Grangeville fine sandy loam, partially drained, 0 to 2 percent slopes	28.0%	76 (2)	2	No	No	No
169	Guard clay loam, drained, 0 to 2 percent slopes	7.3%	45 (3)	2	No	No	No
196	Manteca fine sandy loam, 0 to 2 percent slopes	31.0%	30 (4)	3	No	No	No

SOURCE: NRCS CUSTOM SOIL SURVEY

The Plan Area contains soils with a Capability Classificatino between 2 and 3. No soils within the Plan Area qualifiy for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated.

The Plan Area contains soils with a Storie Index between 30 and 65. No soils within the Plan Area qualify for a rating of 80 through 100.

The Plan Area does not supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003.

The Plan Area is not planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will re-turn during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars ($400) per acre.

The Plan Area has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars ($400) per acre for three of the previous five calendar years.

As shown above, the proposed project does not meet the criteria for prime agricultural soils as defined by California Government Code Section 56064.3. Implementation of the proposed project would have **no impact** relative to this topic.

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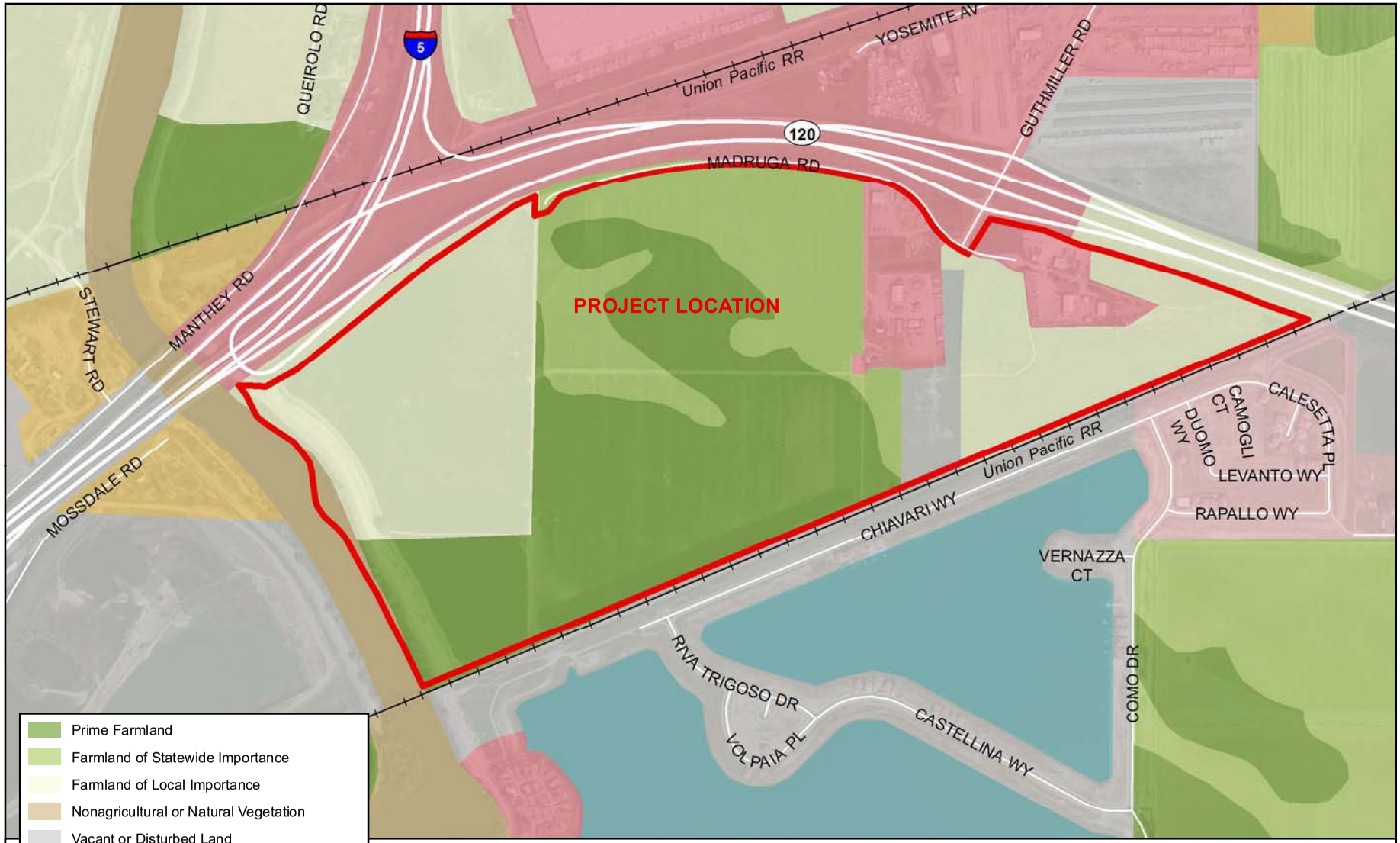

Data sources: State of California Department of Conservation Farmland Mapping and Monitoring Program, San Joaquin County, 2010; San Joaquin County GIS; ArcGIS Online BING aerial image map service. Map date: March 6, 2013.

SOUTH LATHROP SPECIFIC PLAN

Figure 3.2-1 Important Farmlands

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Data sources: USDA NRCS Soil Data Mart, San Joaquin County GIS; San Joaquin County GIS; ArcGIS Online BING aerial image map service. Map date: March 14, 2013.

SOUTH LATHROP SPECIFIC PLAN

Figure 3.2-2: Soils Map

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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 SLSP implementation. Following this discussion is an assessment of consistency of the SLSP with applicable policies and local plans. The Greenhouse Gases and Climate Change analysis is located in Section 3.7. 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 2007), Guide for Assessing and Mitigation Air Quality Impacts* (SJAVPCD 2002), *DRAFT -Guidance for Assessing and Mitigating Air Quality Impacts - 2012* (SJAVPCD 2012), CalEEMod *(v.2011.1.1)* (California Air Resources Board 2007). An NOP comment was provided by the San Joaquin Valley Air Pollution Control District.

3.3.3 EXISTING SETTING

SAN JOAQUIN VALLEY AIR BASIN

The San Joaquin Valley Air Basin (SJVAB) consists of eight 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. Figure 3.3-1 illustrates the location of the County within the SJVAB.

The surrounding topographic features restrict air movement through and out of the basin and, as a result, impede the dispersion of pollutants from the basin. Inversion layers are formed in the SJVAB throughout the year. (An inversion layer is created when a mass of warm dry air sits over cooler air near the ground, preventing vertical dispersion of pollutants from the air mass below). During the summer, the San Joaquin Valley experiences daytime temperature inversions at elevations from 2,000 to 2,500 feet above the valley floor. During the winter months, inversions occur from 500 to 1,000 feet above the valley floor (SJVAPCD 1998).

The pollution potential of the San Joaquin Valley is very high. Surrounding elevated terrain in conjunction with temperature inversions frequently restrict lateral and vertical dilution of pollutants. Abundant sunshine and warm temperatures in summer are ideal conditions for the formation of photochemical oxidant, and the Valley is a frequent scene of photochemical pollution.

Climate

The SJVAB has an inland Mediterranean climate with warm, dry summers and cooler winters. The average daily maximum temperature in the Basin is 65° F, with temperature highs of 95° F in July. Average daily minimum temperature is 48° F, with temperature lows of 45° F in January. Normal rainfall level is approximately nine inches per year, and occurs mainly in the winter months from November to April. Thunderstorms occur on approximately 3 to 4 days in the spring, on average.

The Stockton area has warm, dry days and relatively cool nights, with clear skies and limited rainfall. Winters are mild with light rains and frequent heavy fog from December to January. The average daily temperature in Stockton is 74° F. Annual rainfall is 13 inches in Stockton, 8 inches in Tracy and 16 inches in Lodi.

Air Movement

Marine air comes into the basin from the Sacramento River–San Joaquin River Delta, although most air movement is restricted by the surrounding mountains. Winds from the Bay Area flow northeasterly into the Sacramento Valley and southward into San Joaquin County. This results in weak winds from the north and northeast, with an average speed of seven miles per hour.

Wind speed and direction determine the dispersion of air pollutants. During the summer, wind from the north flows south and southeasterly through the Valley, through the Tehachapi Pass and into the Southeast Desert Air Basin. Thus, emissions from the San Francisco Bay Area and the Broader Sacramento air basins are transported into San Joaquin County and the Valley. Emissions in the San Joaquin Valley are then transported to the Southeast Desert and Great Basin Valley Air Basins. In late fall and winter, cold air from the mountains flows into the Valley. This results in winds from the south that flow north and northwesterly. Some emissions from San Joaquin County are transported to the Broader Sacramento air basin during these times. But the winds are relatively light, limiting the dispersion of CO and other pollutants. Thus, high concentrations of CO remain in the Valley.

Seasonal Pollution Variations

Carbon monoxide, oxides of nitrogen, particulate matter, and lead particulate concentrations in the late fall and winter are highest when there is little interchange of air between the valley and the coast and when humidity is high following winter rains. This type of weather is associated with radiation fog, known as tule fog, when temperature inversions at ground level persist over the entire valley for several weeks and air movement is virtually absent.

Pollution potential in the San Joaquin County area is relatively high due to the combination of air pollutant emissions sources, transport of pollutants into the area and meteorological conditions that are conducive to high levels of air pollution. Elevated levels of particulate matter (primarily very small particulates or PM_{10}) and ground-level ozone are of most concern to regional air quality officials.

Local carbon monoxide “hot spots” are important to a lesser extent. Ground-level ozone, the principal component of smog, is not directly emitted into the atmosphere but is formed by the reaction of reactive organic gases (ROG) and nitrogen oxides (NOx) (known as ozone precursor pollutants) in the presence of strong sunlight. Ozone levels are highest in San Joaquin County during late spring through early fall, when weather conditions are conducive and emissions of the precursor pollutants are highest.

Surface-based inversions that form during late fall and winter nights cause localized air pollution problems (PM_{10} and carbon monoxide) near the emission sources because of poor dispersion conditions. Emission sources are primarily from automobiles. Conditions are exacerbated during drought-year winters.

Sunlight

The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain original or "primary" pollutants (mainly reactive hydrocarbons and oxides of nitrogen) react to form "secondary" pollutants (primarily oxidants). Since this process is time dependent, secondary pollutants can be formed many miles downwind from the emission sources. Because of the prevailing daytime winds and time delayed nature of photochemical smog, oxidant concentrations are highest in the inland areas of the San Joaquin Valley.

Temperature Inversions

A temperature inversion is a reversal in the normal decrease of temperature as altitude increases. In most parts of the country, air near ground level is warmer than the air above it. Semi-permanent systems of high barometric pressure fronts establish themselves over the basin, deflecting low-pressure systems that might otherwise bring cleansing rain and winds. The height of the base of the inversion is known as the "mixing height" and controls the volume of air available for the mixing and dispersion of air pollutants.

The interrelationship of air pollutants and climatic factors are most critical on days of greatly reduced atmospheric ventilation. On days such as these, air pollutants accumulate because of the simultaneous occurrence of three favorable factors: low inversions, low maximum mixing heights and low wind speeds. Although these conditions may occur throughout the year, the months of July, August and September generally account for more than 40 percent of these occurrences.

The potential for high contaminant levels varies seasonally for many contaminants. During late spring, summer and early fall, light winds, low mixing heights and sunshine combine to produce conditions favorable for the maximum production of oxidants, mainly ozone. When strong surface inversions are formed on winter nights, especially during the hours before sunrise, coupled with near-calm winds, carbon monoxide from automobile exhausts becomes highly concentrated. The highest yearly concentrations of carbon monoxide and oxides of nitrogen and measured during November, December and January.

CRITERIA POLLUTANTS

The United States Environmental Protection Agency (EPA) uses six "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). Each criteria pollutant is described below.

Ozone (O3) is a photochemical oxidant and the major component of smog. While O3 in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O3 at ground level are a major health and environmental concern. O3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) and oxides of nitrogen (NOx) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak O3

levels occur typically during the warmer times of the year. Both VOCs and NOx 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 O3 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 O3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O3 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.

Carbon monoxide (CO) is a colorless, odorless and poisonous gas produced by incomplete burning of carbon in fuels. When CO enters the bloodstream, it reduces the delivery of oxygen to the body's organs and tissues. Health threats are most serious for those who suffer from cardiovascular disease, particularly those with angina or peripheral vascular disease. Exposure to elevated CO levels can cause impairment of visual perception, manual dexterity, learning ability and performance of complex tasks.

Nitrogen dioxide (NO2) is a brownish, highly reactive gas that is present in all urban atmospheres. NO2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O3) and acid rain, and may affect both terrestrial and aquatic ecosystems. The major mechanism for the formation of NO2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NOx). NOx plays a major role, together with VOCs, in the atmospheric reactions that produce O3. NOx forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

Sulfur dioxide (SO2) 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. SO2 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 SO2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills and from nonferrous smelters.

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 SO2 and VOCs are also considered particulate matter.

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO2) 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.

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. Particulate matter is caused primarily by dust from grading and excavation activities, from agricultural uses (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.

Fine particulate matter ($PM_{2.5}$) consists of small particles, which are less than 2.5 microns in size. Similar to PM10, 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 EPA created new Federal air quality standards for $PM_{2.5}$.

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. Particulate matter also soils and damages materials, and is a major cause of visibility impairment.

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil or dust. Excessive Pb exposure can cause seizures, mental retardation and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Recent studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease.

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 have the ability to 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 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.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

SENSITIVE RECEPTORS

A sensitive receptor is a location where human populations, especially children, seniors, and sick persons, are present and where there is a reasonable expectation of continuous human exposure to pollutants. Examples of sensitive receptors include residences, hospitals and schools.

AMBIENT AIR QUALITY

Both the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (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 California 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 attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone and particulate matter between 2.5 and 10 microns in diameter (PM_{10}).

The U.S. Environmental Protection Agency established new national air quality standards for ground-level ozone and for fine particulate matter in 1997. The 1-hour ozone standard was phased out and replaced by an 8-hour standard of 0.075 PPM. Implementation of the 8-hour standard was delayed by litigation, but was determined to be valid and enforceable by the U.S. Supreme Court in a decision issued in February of 2001.

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

POLLUTANT	*AVERAGING TIME*	*FEDERAL PRIMARY STANDARD*	*STATE STANDARD*
Ozone	1-Hour 8-Hour	-- 0.075 ppm	0.09 ppm 0.070 ppm
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm 35.0 ppm	9.0 ppm 20.0 ppm
Nitrogen Dioxide	Annual 1-Hour	-- 0.53 ppm	0.03 ppm 0.18 ppm
Sulfur Dioxide	Annual 24-Hour 1-Hour	0.03 ppm 0.14 ppm --	-- 0.04 ppm 0.25 ppm
PM10	Annual 24-Hour	-- 150 ug/m3	20 ug/m3 50 ug/m3
PM2.5	Annual 24-Hour	35 ug/m3 15 ug/m3	12 ug/m3 --
Lead	30-Day Avg. 3-Month Avg.	-- 1.5 ug/m3	1.5 ug/m3 --

Notes: ppm = parts per million, ug/m3 = Micrograms per Cubic Meter

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2013

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 current PM_{10} standards were to be retained, but the method and form for determining compliance with the standards were revised.

The State of California regularly reviews scientific literature regarding the health effects and exposure to PM and other pollutants. On May 3, 2002, CARB staff recommended lowering the level of the annual standard for PM_{10} and establishing a new annual standard for $PM_{2.5}$. The new standards became effective on July 5, 2003, with another revision on November 29, 2005.

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 despite the absence of criteria documents. The identification, regulation and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated on the basis of risk rather than specification of safe levels of contamination.

Existing air quality concerns within San Joaquin County and the entire SJVAB 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 which is 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 (O3), carbon monoxide (CO), and nitrogen dioxide (NO2) as "does not meet the primary standards," "cannot be classified," or "better than national standards." For sulfur dioxide (SO2), 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 of Nonattainment for Ozone, PM_{10}, and $PM_{2.5}$ and is either Unclassified or Attainment for all other criteria pollutants. The County has a national designation of Nonattainment for ozone and $PM_{2.5}$. The County is designated either attainment or unclassified for the remaining national standards. Table 3.3-2 presents the state and nation attainment status for San Joaquin County.

TABLE 3.3-2: STATE AND NATIONAL ATTAINMENT STATUS

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

SOURCES: CALIFORNIA AIR RESOURCES BOARD (2013).

San Joaquin Valley Air Basin Monitoring

The SJVAB consists of eight counties, from San Joaquin County in the north to Kern County in the south. SJVAPCD and CARB maintain numerous air quality monitoring sites throughout each County in the Air Basin to measure ozone, PM2.5, and PM10. It is important to note that the federal ozone 1-hour standard was revoked by the EPA and is no longer applicable for federal standards. Data obtained from the monitoring sites throughout the SJVAB between 2010 and 2012 is summarized in **Tables 3.3-3** through **3.3-5**.

TABLE 3.3-3 SJVAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - 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	'08 8-Hr	Max.	D.V.[1]	D.V.[2]	Max.	D.V.[1]	Max.	'08 D.V.[2]	Min	Max
2012	72	134	3	105	0.135	0.14	0.130	0.116	0.116	0.116	0.098	0	100
2011	71	131	3	109	0.134	0.13	0.130	0.105	0.114	0.105	0.099	78	100
2010	59	115	7	93	0.140	0.14	0.140	0.115	0.122	0.114	0.104	70	100

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.

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

TABLE 3.3-4 SJVAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - 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.
2012	29.4	16.0	17.9	16.0	18	93.4	71	93.4	93.4	29	100
2011	39.3	20.4	18.1	18.2	21	69.5	62	80.3	82.8	34	100
2010	28.7	17.9	17.2	21.2	21	56.2	65	107.8	112.0	10	100

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. D.V. [1] = STATE DESIGNATION VALUE. D.V. [2]= NATIONAL DESIGN VALUE

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

TABLE 3.3-5: SJVAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - PM 10

Year	Est. Days > Std.		Annual Average		3-Year Average		High 24-Hr Average		Year Coverage
	Nat'l	State	Nat'l	State	Nat'l	State	Nat'l	State	
2012	0.0	89.4	45.1	41.4	38	44	138.6	125.8	100
2011	0.0	116.4	44.8	44.2	41	47	151.8	154.0	100
2010	1.0	67.4	43.5	35.0	46	56	235.6	238.0	100

NOTES: THE NATIONAL ANNUAL AVERAGE PM10 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.

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

San Joaquin County Air Quality Monitoring

SJVAPCD and CARB maintain two air quality monitoring sites in San Joaquin County that collect data for ozone, PM10, and PM2.5. These include the Stockton - Hazelton Street and Tracy – Airport monitoring sites. It is important to note that the federal ozone 1-hour standard was revoked by the EPA and is no longer applicable for federal standards. Data obtained from the monitoring sites between 2010 and 2012 is shown in **Tables 3.3-6** and **3.3-7**.

TABLE 3.3-6: AMBIENT AIR QUALITY MONITORING DATA (STOCKTON – HAZELTON STREET)

POLLUTANT	CAL. PRIMARY STANDARD	FED. PRIMARY STANDARD	YEAR	MAX CONCENTRATION	DAYS EXCEEDED STATE/FED STANDARD
Ozone (O3) (1-hour)	0.09 ppm for 1 hour	NA	2012 2011 2010	0.097 0.089 0.120	1 / (N/A) 0 / (N/A) 2 / (N/A)
Ozone (O3) (8-hour)	0.07 ppm for 8 hour	0.075 ppm for 8 hour	2012 2011 2010	0.083 0.068 0.095	8 / 2 0 / 0 3 / 2
Particulate Matter (PM10)	50 ug/m3 for 24 hours	150 ug/m3 for 24 hours	2012 2011 2010	70.0 70.1 55.4	17.9 / 0 24.4 / 0 6.1 / 0
Fine Particulate Matter (PM2.5)	No 24 hour State Standard	35 ug/m3 for 24 hours	2012 2011 2010	60.4 60.0 41.0	(N/A) / 6.0 (N/A) / 11.0 (N/A) / 5.3

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

TABLE 3.3-7: AMBIENT AIR QUALITY MONITORING DATA (TRACY – AIRPORT)

POLLUTANT	CAL. PRIMARY STANDARD	FED. PRIMARY STANDARD	YEAR	MAX CONCENTRATION	DAYS EXCEEDED STATE/FED STANDARD
Ozone (O3) (1-hour)	0.09 ppm for 1 hour	NA	2012 2011 2010	0.109 0.107 0.113	8 / (N/A) 3 / (N/A) 1 / (N/A)
Ozone (O3) (8-hour)	0.07 ppm for 8 hour	0.075 ppm for 8 hour	2012 2011 2010	0.098 0.088 0.092	36 / 16 21 / 8 8 / 3
Particulate Matter (PM10)	50 ug/m3 for 24 hours	150 ug/m3 for 24 hours	2012 2011 2010	73.4 110.8 28.5	* / * * / * * / *
Fine Particulate Matter (PM2.5)	No 24 hour State Standard	35 ug/m3 for 24 hours	2012 2011 2010	26.8 35.1 42.3	* / * * / * * / *

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

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 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.

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 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. CARB is the state agency that is responsible for preparing the California SIP.

Transportation Control Measures

One particular 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's 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 manner in which they are achieved. Towards this end, the CARB has adopted regulations which required 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. CARB is the agency

responsible for administering the CCAA. CARB established ambient air quality standards pursuant to the California Health and Safety Code (CH&SC) [§39606(b)], which are similar to the federal standards. The San Joaquin Valley Air Pollution Control District is one of 35 air quality management districts that have prepared air quality management plans to accomplish a five percent annual reduction in emissions documenting progress toward the state ambient air quality standards.

Air Quality Standards

NAAQS are determined by the EPA. The standards include both primary and secondary ambient air quality standards. Primary standards are established with a safety margin. Secondary standards are more stringent than primary standards and are intended to protect public health and welfare. States have the ability to 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 (PM_{10}) and lead. In addition, California has created standards for pollutants that are not covered by federal standards. The state and federal primary standards for major pollutants are shown in Table 3.3-1.

Tanner Air Toxics Act

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 ARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB can designate a substance as a TAC. To date, ARB has identified more than 21 TACs and has adopted EPA's list of HAPs as TACs. Most recently, diesel PM was added to the ARB list of TACs. Once a TAC is identified, ARB 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 BACT to minimize emissions.

The 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. ARB 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, ARB 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. Upcoming milestones include the low-sulfur diesel-fuel requirement, and tighter emission standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide.

LOCAL

San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District (SJVAPCD) is the local agency with primary responsibility for compliance with both the federal and state standards and for ensuring that air quality conditions are maintained. They do this through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The eight counties that comprise the SJVAPCD are divided into three regions. These include:

- Northern Region: Merced, San Joaquin, and Stanislaus Counties
- Central Region: Madera, Fresno, and Kings Counties
- Southern Region: Tulare and Valley portion of Kern Counties

Activities of the SJVAPCD include the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, issuance of permits for stationary sources of air pollution, inspection of stationary sources of air pollution and response to citizen complaints, monitoring of ambient air quality and meteorological conditions, and implementation of programs and regulations required by the FCAA and CCAA.

The SJVAPCD has prepared the *2007 Ozone Plan* to achieve Federal and State standards for improved air quality in the SJVAB regarding ozone. The *2007 Ozone Plan* provides a comprehensive list of regulatory and incentive-based measures to reduce emissions of ozone and particulate matter precursors throughout the SJVAB. The 2007 Ozone Plan calls for major advancements in pollution control technologies for mobile and stationary sources of air pollution. The *2007 Ozone Plan* calls for a 75-percent reduction in ozone-forming oxides of nitrogen emissions.

The SJVAPCD has also prepared the *2007 PM10 Maintenance Plan and Request for Redesignation* (2007 PM10 Plan). On April 24, 2006, the SJVAPCD submitted a Request for Determination of PM10 Attainment for the Basin to CARB. CARB concurred with the request and submitted the request to the EPA on May 8, 2006. On October 30, 2006, the EPA issued a Final Rule determining that the Basin had attained the NAAQS for PM10. However, the EPA noted that the Final Rule did not constitute a redesignation to attainment until all of the FCAA requirements under Section 107(d)(3) were met.

The SJVAPCD has prepared the *2008 PM.2.5 Plan* to achieve Federal and State standards for improved air quality in the San Joaquin Valley Air Basin. The *2008 PM.2.5 Plan* provides a comprehensive list of regulatory and incentive based measures to reduce PM2.5.

In addition to the *2007 Ozone Plan, the 2008 PM2.5 Plan,* and the *2007 PM10 Plan*, the SJVAPCD prepared the *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI). The GAMAQI is an advisory document that provides Lead Agencies, consultants, and project applicants with analysis guidance and uniform procedures for addressing air quality impacts in environmental documents. Local jurisdictions are not required to utilize the methodology outlined therein. This document describes the criteria that SJVAPCD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for determining whether or not projects

would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. An update of the GAMAQI was approved on January 10, 2002, and is used as a guidance document for this analysis. The SJVAPCD is currently in the process of updating the GAMAQI and has a 2012 Draft version available.

SJVAPCD RULES AND REGULATIONS

The SJVAPCD has adopted numerous rules and regulations to implement its air quality plans. Following, are significant rules that will apply to the SLSP.

Regulation VIII – Fugitive PM10 Prohibitions

Regulation VIII is comprised of District Rules 8011 through 8081 which are designed to reduce PM10 emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and track out, landfill operations, etc.

Rule 4002

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.

Rule 4102 (Nuisance)

Rule 4102 dictates that if a source operation emits or may emit air contaminants or other materials such that the emissions create a public nuisance, the owner/operator may be subject to APCD enforcement action.

Rule 4103 (Open Burning)

Rule 4103 prohibits the burning of agricultural material when the land is converting from agriculture to non-agricultural (i.e. urban) purposes.

Rule 4601 (Architectural Coatings)

Rule 4601 limits emissions of volatile organic compounds from architectural coatings by specifying storage, cleanup and labeling requirements.

Rule 4641 – Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations

If asphalt paving will be used, then paving operations of the SLSP 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.

Rule 8021 – Construction, Demolition, Excavation, and Other Earthmoving Activities

District Rule 8021 requires owners or operators of construction projects to submit a Dust Control Plan to the District if at any time the project involves non-residential developments of five or more acres of disturbed surface area or moving, depositing, or relocating of more than 2,500 cubic yards per day of bulk materials on at least three days of the project. The SLSP will meet these criteria and will be required to submit a Dust Control Plan to the District in order to comply with this rule.

Rule 9510 (Indirect Source Review)

Rule 9510 indirectly limits the vehicular emissions contribution of new development to regional air pollution. Through an application and review process, the developer may incorporate emission-reduction features in the project or may pay the fee prescribed in the rule. Fees collected by the APCD are indexed to the cost of providing offsetting mitigation and are used for that purpose. The provisions of the rule are described in more detail in the analysis of environmental impacts and mitigation measures.

City of Lathrop General Plan

The Lathrop General Plan establishes the following goals and policies relative to greenhouse gas emissions in the General Plan:

RESOURCES MANAGEMENT ELEMENT

Air Quality Policies:

Policy 1. Mitigation of air quality impacts is to be achieved in part through the design and construction of an efficient system of arterial and collector streets and interchange and freeway improvements that will assure high levels of traffic service and the avoidance of unmanageable levels of traffic congestion.

Policy 2. Mitigation of air quality impacts is to be achieved in part through the development of a regional rail transit service to be incorporated into early stages of development.

Policy 3. The City shall adopt standards, which require industrial process analysis before the fact of site and building permit approval to assure compliance with State air quality and water quality standards.

Standards shall provide for periodic monitoring of industrial processes, which could have an adverse impact on water or air quality. Industrial process review that may be required should be conducted as part of environmental assessment by an engineer licensed in California having demonstrated experience in the industrial processes involved.

Policy 4. The City shall require positive control of dust particles during project construction activities, including watering or use of emulsions, parking of heavy equipment on paved surfaces, prohibition of land grading operations during days of high wind (beginning at 10 mph, with gusts exceeding 20 mph), and prohibition of burning on vacant parcels. The City should seek the cooperation of agricultural operators to refrain from the plowing of fields

on windy days, and to keep loose soils under control to the extent reasonable to avoid heavy wind erosion of soils.

Policy 5. The beneficial effects of open space and vegetation on the air resource are to be reflected in the arrangement of land uses depicted on the General Plan. Heavy plantings of trees are encouraged to assist in maintaining oxygen levels.

Policy 6. The need to protect and preserve the air resource within the planning area and to reduce levels of vehicle emissions of air pollutants imposes practical limitations on the extent to which the City can depend on the automobile as the principal source of transportation into the next Century.

3.3.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the SLSP 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;
- Cause a violation of any air quality standard or contribute substantially to an existing or projected air quality violation;
- 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people.

IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: Project operation has the potential to cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation (significant and unavoidable)

The SLSP would be a direct and indirect source of air pollution, in that it would generate and attract vehicle trips in the region (mobile source emissions) and it would increase area source emissions and energy consumption. The mobile source emissions would be entirely from vehicles, while the area source emissions would be primarily from the use of natural gas fuel combustion, landscape fuel combustion, consumer products, and architectural coatings.

California Emission Estimator Model (CalEEMod)^{TM} (v.2011.1.14) was used to estimate emissions for the SLSP. The land use assumptions for the modeling includes: Commercial/Office Park – 130,680 sf – 10 acres; and Industrial/General Light Industry – 4,158,000 sf – 222 acres. These land use assumptions are a maximum buildout scenario for the Plan Area, which is a more conservative approach when compared to the method used in the traffic analysis. This conservative approach is likely an overestimate of emissions, but is intended to be a worst-case scenario.

The vehicle trip assumptions for the modeling includes the use of the default CalEEMod datagrid for operational vehicle trips. The datagrid uses the defined Land Uses, ITE's average trip rates for each land use defined in the model. The datagrid lists the trip rate, trip lengths, trip purpose, and trip type percentages for each land use subtype in the project. A detailed description of the operational vehicle trips datagrid is provided in the *California Emissions Estimator Model User's Guide Version 2013.2* (July 2013), including its appendices. See Appendix A of the User's Guide for the equations and methodology used to calculate motor vehicle trips from the operation of a project.

Table 3.3-8 shows the emissions, which include mobile, area source, and energy emissions of criteria pollutants that would result from operations of the SLSP under the above assumptions.

TABLE 3.3-8: OPERATIONAL PROJECT GENERATED EMISSIONS

	ROG		***NOx***		***PM_{10}***		***$PM_{2.5}$***	
Threshold	**≤ 10 tons/year**		**≤ 10 tons/year**		**≤ 15 tons/year**		**N/A**	
Category	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Area	19.73	18.48	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.45	0.40	4.07	3.66	0.31	0.28	0.31	0.28
Mobile	23.47	23.47	87.50	87.50	36.82	36.82	4.53	4.53
Total	43.65	42.35	91.57	91.16	37.13	37.10	4.84	4.81
Threshold Exceeded?	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A

SOURCES: CALEEMOD (V.2011.1.1)

The SJVAPCD has established operations related emissions thresholds of significance as follows: 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), and 15 tons per year particulate matter of 10 microns or less in size (PM_{10}). There is no established threshold for $PM_{2.5}$ other then the PM_{10} threshold. If the SLSP's emissions will exceed the SJVAPCD's threshold of significance for operational-generated emissions, the SLSP 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 3.3-8 above, annual emissions of ROG, NOx, and PM_{10} exceed the SJVAPCD thresholds of significance.

The main source of pollution can be attributed to mobile source emissions for ROG and NOx. Area source emissions or ROG are also a major source of pollution causing the exceedance. Fugitive dust is the primary cause of the PM_{10} exceedance.

The California Emission Estimator Model (CalEEMod)^{TM} (v.2011.1.14) mitigation assumptions described above were incorporated into the model; however, the SLSP would exceed the SJVAPCD thresholds of significance for operations even with these measures. The SLSP is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NOx and PM emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through project mitigation commitments. The current fees are $9,350 per ton of NOx and $9,011 per ton per of PM. The actual calculations will be accomplished by the SJVAPCD and project applicants as individual projects (i.e. portions of the Specific Plan) are

brought forward for approval under Rule 9510. However, even with the application of the ISR and the mitigation measures described above, emissions levels would remain above the defined thresholds of significance. As such, operation of the SLSP would have a **significant and unavoidable** impact relative to operational air emissions.

MITIGATION MEASURES

Mitigation Measure 3.3-1*: Prior to the issuance of a building permit, the project proponent shall obtain a permit under APCD Rule 9510, Indirect Source Rule (ISR). The project proponent shall incorporate mitigation measures into the SLSP and/or pay the required ISR fees to the APCD as required to comply with Rule 9510 emission reduction requirements for NOx and PM emissions associated with project operations.*

Mitigation Measure 3.3-2*: Prior to the approval of improvement plans, the project proponent shall incorporate the following features into project plans and specifications, consistent with adopted City of Lathrop Design and Construction Standards (2007):*

- *Bus turnouts and transit improvements where requested by the San Joaquin RTD.*
- *Continuous public sidewalks adjacent to all proposed public streets.*
- *Pavement and striping for bike lanes/paths.*
- *Street lighting.*
- *Pedestrian signalization, signage and safety designs at signalized intersections.*
- *Shade trees to shade sidewalks in street-side landscaping areas.*
- *Require low-VOC cleaning supplies to be used by businesses and cleaning services within the Plan Area.*

Mitigation Measure 3.3-3*: Prior to the approval of improvement plans, the project proponent shall prepare and implement a transportation demand management (TDM) plan that includes, but is not limited to, the following measures subject to the review and approval of the City of Lathrop:*

- *Provide secure bicycle parking in conjunction with commercial and office development.*
- *Provide designated vanpool parking spaces close to the employment center entry locations.*
- *Provide preferential carpool parking spaces close to the employment center entry locations.*
- *Provide on-site amenities that encourage alternative transportation modes such as locker, shower, and secure bike storage facilities.*
- *Provide on-site services such as personal mail boxes and day care that reduce mid-day trip generation.*
- *Provide information to business owners regarding the benefits of telecommuting options.*
- *Provide transit vouchers.*
- *Provide information to employees regarding carpooling, ride sharing and other available programs.*

Impact 3.3-2: Project construction has the potential to cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation (less than significant)

Construction Activities/Schedule: Construction activities will consist of multiple phases over several years. These construction activities can be described as site improvements (grading, underground infrastructure, and topside improvements) and vertical construction (building construction and architectural coatings).

Site Improvements: The construction of site improvements may be performed as one task, but may be broken into two or more separate phases. The exact construction schedule is largely dependent on the economic conditions of the region and the ability for the market to absorb the proposed commercial and industrial buildings. For purposes of this analysis it is assumed that site improvements are installed in one phase. This approach will present a more conservative and worst-case scenario.

The site improvement phase of construction will begin with site preparation. This step will include the use of dozers, backhoes, and loaders to strip (clear and grub) all organic materials and the upper half-inch to inch of soil from the Plan Area. This task will generally take a month or less to complete and will include vehicle trips from construction workers. Given that the Plan Area lacks significant vegetation, this step will likely be less than the assumed month.

After the site is striped of organic materials grading will begin. This activity will involve the use of excavators, graders, dozers, scrappers, loaders, and backhoes to move soil around the Plan Area to create specific engineered grade elevations and soil compaction levels. Grading the Plan Area would take approximately four months and will include vehicle trips from construction workers. *(Note: It would be possible to grade the site under a more compacted schedule with extra equipment operating or under a longer timeframe with less equipment.).*

The next step involves the installation of underground infrastructure. This step will involve the use of excavators to dig trenches, place pipe and conduit, bury pipe and conduit, and compact trench soil. Underground infrastructure installation would take approximately three months and will include vehicle trips from construction workers. *(Note: It would be possible to install the underground infrastructure under a more compacted schedule with extra equipment operating or under a longer timeframe with less equipment.).*

The last task is to install the topside improvements, which includes pouring concrete curbs, gutters, sidewalks, and access aprons and then paving of all streets and parking lots. This task will involve the use of pavers, paving equipment, and rollers and will take approximately three months and will include vehicle trips from construction workers. *(Note: It would be possible to install the topside improvements under a more compacted schedule with extra equipment operating or under a longer timeframe with less equipment.).*

Building Construction/Architectural Coatings: Building construction involves the vertical construction of structures and landscaping around the structures. This task will involve the use of forklifts, generator sets, welders and small tractors/loaders/backhoes. The exact construction

schedule is largely dependent on the economic conditions of the region and the ability of the market to absorb commercial and industrial buildings. For purposes of this analysis it is assumed that the buildings will be absorbed in approximately eight years. The actual absorption may be much shorter or much longer. Architectural coatings involve the interior and exterior painting associated with the structures. This task will generally begin four or five months after construction begins on the structure and will generally be completed with the completion of the building.

Construction Emissions: The SLSP is larger in scope and size then the SJVAPCD's Small Project Analysis Level (SPAL), therefore, a quantification of the emissions of ROG, NOX, PM_{10}, and $PM_{2.5}$ that will be emitted by project construction has been performed. The California Emission Estimator Model (CalEEMod)^{TM} (v.2011.1.14) was used to estimate construction emissions for the SLSP. In addition to the operational model assumptions presented under Impact 3.3-1 above, below is a list of model assumptions used in the construction screens of CalEEMod. Table 3.3-9 presents the construction phase schedule, which shows the duration of each construction phase. Table 3.3-10 shows the off-road construction equipment used during construction for each phase. Following these tables are a list of default factors that were used in the model.

MODEL ASSUMPTIONS (CONSTRUCTION)

TABLE 3.3-9: CONSTRUCTION PHASE

Phase Name	Phase Type	Start	End	Days/Week	Total Days	Phase Description
Site Preparation	Site Preparation	2014/04/16	2014/05/13	5	20	Clear/Grub
Grading	Grading	2014/05/14	2014/09/15	5	89	Rough/fine grading
Underground Utilities	Trenching	2014/09/16	2014/12/15	5	65	Wet/dry underground utilities
Paving	Paving	2014/12/16	2015/03/16	5	65	Concrete/pave
Building Construction	Building Construction	2015/03/17	2023/03/17	5	2089	Building construction
Architectural Coating	Architectural Coating	2015/08/18	2023/03/15	5	1977	Architectural Coatings

SOURCES: CALEEMOD (V.2011.1.1)

TABLE 3.3-10: OFF-ROAD EQUIPMENT

Equipment Type	Unit Amount	Hours/Day	Horsepower	Load Factor
Site Preparation				
Rubber Tired Dozers	3	8	358	0.59
Tractors/Loaders/Backhoes	4	8	75	0.55
Grading				
Excavators	2	8	157	0.57
Graders	1	8	162	0.61
Rubber Tired Dozers	1	8	358	0.59
Scrapers	2	8	356	0.72
Tractors/Loaders/Backhoes	2	8	75	0.55
Building Construction				
Cranes	1	7	208	0.43
Forklifts	3	8	149	0.3
Generator Sets	1	8	84	0.74
Tractors/Loaders/Backhoes	3	7	75	0.55
Welders	1	8	46	0.45
Paving				
Pavers	2	8	89	0.62
Paving Equipment	2	8	82	0.53
Rollers	2	8	84	0.56
Architectural Coatings				
Air Compressors	1	6	78	0.48

SOURCES: CALEEMOD (V.2011.1.1)

Table 3.3-11 shows the construction emissions for the construction years 2014 through 2023.

TABLE 3.3-11: CONSTRUCTION EMISSIONS (UNMITIGATED)

	ROG	NOx	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Threshold	**≤ 10 tons/year**	**≤ 10 tons/year**	**--**	**--**	**≤ 15 tons/year**	**--**	**--**	**N/A**
Annual (tons/year)								
2014	0.70	5.47	0.76	0.27	1.03	0.28	0.27	0.55
2015	3.07	4.40	0.10	0.29	0.39	0.01	0.29	0.29
2016	4.45	4.18	0.13	0.25	0.38	0.01	0.25	0.26
2017	4.38	3.79	0.13	0.22	0.35	0.01	0.22	0.22
2018	4.34	3.44	0.13	0.19	0.32	0.00	0.19	0.19
2019	4.30	3.13	0.13	0.16	0.30	0.00	0.16	0.16
2020	4.27	2.85	0.14	0.14	0.28	0.00	0.14	0.14
2021	4.22	2.57	0.13	0.12	0.25	0.00	0.12	0.12
2022	4.18	2.33	0.13	0.10	0.24	0.00	0.10	0.10
2023	0.88	0.45	0.03	0.02	0.05	0.00	0.02	0.02
Total	**34.79**	**32.61**	**1.81**	**1.76**	**3.59**	**0.31**	**1.76**	**2.05**

SOURCES: CALEEMOD (V.2011.1.1)

The SJVAPCD has established construction related emissions thresholds of significance as follows: 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), or 15 tons per year particulate matter of 10 microns or less in size (PM_{10}). If the SLSP's emissions will exceed the SJVAPCD's threshold of significance for construction-generated emissions, the SLSP will have a significant impact on air quality and all feasible mitigation are required to be implemented to reduce emissions. As shown in Table 3.3-11 above, annual emissions do not exceed the SJVAPCD thresholds of significance. Therefore, construction-related emissions will result in a ***less than significant*** impact on air quality. However, regardless of emission quantities, the SJVAPCD requires construction related mitigation in accordance with their rules and regulations. Implementation of the following mitigation measures will further ensure that the SLSP would have a ***less than significant*** impact related to construction emissions.

MITIGATION MEASURES

Mitigation Measure 3.3-4: *Prior to the commencement of construction activities, 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 (San Joaquin Valley APCD, 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 15 mph; and 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: *Architectural coatings applied to all structures in the Plan Area shall meet or exceed volatile organic compound (VOC) standards set in APCD Rule 4601. The ODS shall submit to the APCD a list of architectural coatings to be used and shall indicate how the coatings meet or exceed VOC standards. If the APCD determines that any architectural coatings do not meet VOC standards, the ODS shall replace the identified coatings with those that meet standards.*

Mitigation Measure 3.3-8: *Prior to the issuance of the first building permit, the project proponent shall submit an application to the APCD for a permit under APCD Rule 9510, Indirect Source Rule (ISR). The project proponent shall incorporate mitigation measures into project construction and/or pay ISR fees as required to comply with Rule 9510 emission reduction requirements for construction NOx and PM emissions.*

Mitigation Measure 3.3-9: *To reduce impacts from construction related exhaust emissions, the project proponent shall utilize off-road construction fleets that can achieve fleet average emissions equal to or cleaner than the Tier II emission standards, as set forth in §2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 Code of Federal Regulations. This can be*

achieved through any combination of uncontrolled engines and engines complying with Tier II and above engine standards.

Mitigation Measure 3.3-10: *Asphalt paving shall be applied in accordance with APCD Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.*

Impact 3.3-3: The proposed project has the potential to have carbon monoxide hotspot impacts (less than significant)

The Plan Area is located in an attainment area for CO. Project traffic would increase concentrations of carbon monoxide along streets providing access to the Plan Area. Carbon monoxide is a local pollutant (i.e., high concentrations are normally only found very near sources). 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 high traffic volume and congestion.

The California Project-Level Carbon Monoxide Protocol (CO Protocol) was used to analyze CO impacts for the SLSP. The CO Protocol requires an examination of the Level of Service (LOS) for both road segments and intersections affected by the SLSP to determine if existing or future street segments or intersections are forecast to operate at an unacceptable LOS E or worse with the recommended mitigation.

According to the traffic impact study that was prepared for the SLSP, the following intersections will operate at an unacceptable LOS E or F under existing plus project conditions:

- SR 120 EB Ramps / Guthmiller Road side-street movement would operate at LOS E in the AM peak hour and LOS F in the PM peak hour
- SR 120 WB Ramps / Guthmiller Road side-street movement would operate at LOS F in the AM and PM peak hours
- Yosemite Avenue / Airport Way would operate at LOS E in the PM peak hour
- Lathrop Road/McKinley Avenue side-street movement would operate at LOS D in the PM peak hour
- Louise Avenue / McKinley Avenue operates at LOS F in the PM peak hour

The above intersections would operate at an acceptable LOS with appropriate mitigation; however, the traffic facility is either owned by another jurisdiction (i.e. Manteca or Caltrans), or it is a regional facility and is not yet programed for improvements. As such, it is anticipated that the appropriate mitigation will not be installed and conditions at these facilities, at least in the interim, will operate at LOS E or F.

The SJVAPCD guidance states that if a traffic study indicates that a traffic facility operates at an LOS E or F then quantification of the CO concentration is necessary. The increased delay at the above referenced intersections under the existing plus project conditions would warrant a “hot spot” CO analysis utilizing the CALINE4 model. Table 3.3-12 presents the modeling results for the following intersections.

TABLE 3.3-12: CO HOT SPOT ANALYSIS

Intersection	Peak Hour	CO Concentration (ppm)		Significant Impact?***
		1 Hour*	8 Hour**	
SR 120 (ramps) / Guthmiller Road	AM	3.34	2.34	No
SR 120 (ramps) / Guthmiller Road	PM	3.34	2.34	No
Yosemite Avenue / Airport Way	PM	3.34	2.34	No
Lathrop Road/McKinley Avenue	PM	3.34	2.34	No
Louise Avenue /McKinley Avenue	PM	3.54	2.43	No

NOTES: MODEL RESULTS ARE IN THE APPENDIX.

* *CALINE4 HIGHEST CONCENTRATION AT A RECEPTOR POINT PLUS THE 1 HOUR BACKGROUND CONCENTRATION OF 3.04 PPM (BACKGROUND 1-HOUR CO LEVEL IS CALCULATED BY DIVIDING THE BACKGROUND 8-HOUR CO LEVEL AS RECORDED AT THE HAZELTON – STOCKTON MONITORING STATION BY A PERSISTENCE FACTOR OF 0.7).*

** *8-HOUR CONCENTRATION WAS CALCULATED BY MULTIPLYING THE 1-HOUR CONCENTRATION BY A 0.7 PERSISTENCE FACTOR, THEN ADDING THE 8 HOUR BACKGROUND CONCENTRATION OF 2.13 PPM (BACKGROUND 8-HOUR CO LEVEL AS RECORDED AT THE HAZELTON – STOCKTON MONITORING STATION).*

*** *COMPARISON OF THE 1-HOUR CONCENTRATION TO THE STATE STANDARD OF 20 PPM AND THE 8-HOUR CONCENTRATION TO THE STATE /NATIONAL STANDARD OF 9 PPM.*

SOURCE: DE NOVO PLANNING GROUP, 2013.

The SLSP is within an attainment area for carbon monoxide (ambient air quality standards are currently attained) and there are low background CO concentrations as monitored in the region. The intersections that operate at an unacceptable LOS have a relatively low traffic volume on each travel link (i.e. less than 1,000 peak hour) and, as a result, the modeled CO concentrations combined with background levels are below the federal and state 1 hour and 8-hour standards for CO. As such, the SLSP would not result in violations of the ambient air quality standards for CO, and would represent a **less than significant** impact.

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. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The 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, 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 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* (2007) 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.[1]
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	• Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a

Facilities	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)

The Plan Area is not located adjacent to a rail yard, port, refinery, chrome plater, dry cleaner, or gasoline dispensing facility.

The Plan Area is located adjacent to State Route 120 and I-5. Air toxics are considered a concern along these highways because they are major transportation corridors for large diesel trucks that are known to emit diesel particulates. There are no sensitive land uses proposed within the Plan Area that would be affected by these highways.

The Plan Area is located adjacent to distribution center located on the north side of State Route 120. There are no sensitive land uses proposed within the Plan Area that would be affected by these distribution centers.

There are sensitive residential land uses located to the south and west of the Plan Area. These sensitive residential land uses could potentially be affected by the commercial and industrial uses within the Plan Area. The commercial area is envisioned to include administrative, educational, bio-tech, medical, R&D and other professional and commercial office, with retail commercial and highway-oriented uses near and along the SR 120 Corridor. Supporting lodging and eating services are also envisioned within this commercial area. The industrial area is envisioned to include manufacturing, assembling, construction, maintenance, administrative office, research and development, bio-tech, warehousing, distribution, and service commercial uses. There is a detailed list of permitted uses and uses permitted with an administrative approval for the commercial and industrial uses in the South Lathrop Specific Plan Zoning Ordinance. While there are no businesses proposed at this time, it is possible that the commercial and industrial areas could include stationary sources of toxic air emissions. Additionally, the commercial and industrial area could result in increased diesel truck traffic within the Plan Area as a result of manufacturing, assembling, construction, maintenance, warehousing, and distribution, among other businesses. There are no specific businesses proposed at this time so it is unknown whether these potential toxic air emitters would be developed within the Plan Area.

The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly) requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels. The Air Toxics "Hot Spots" Act requires Air Districts to prioritize facilities to determine which facilities must perform a health risk assessment. These facilities, for purposes of risk assessment, are ranked into high, intermediate, and low priority categories. Each Air District is responsible for establishing the prioritization score threshold at which facilities are required to prepare a health risk assessment. In establishing priorities, the Air Districts are to consider the potency, toxicity, quantity, and volume of hazardous materials released from the facility, the proximity of the facility to potential receptors, and any other factors that the Air District determines may indicate that the facility may pose a significant risk.

In order to assist the Air Districts with this prioritization requirement, the California Air Pollution Control Officers Association (CAPCOA) Toxics Committee, in cooperation with the Office of Environmental Health Hazard Assessment and the California Air Resources Board, developed the Air Toxics "Hot Spots" Program, Facility Prioritization Guidelines (July 1990). The purpose of the guideline is to provide Air Districts with suggested procedures for prioritizing facilities. However, districts may develop and use prioritization methods which differ from the CAPCOA guidelines.

The SJVAPCD prioritizes facilities based on the quantity and toxicity of the emissions, and their proximity to areas where the public may be exposed. Facilities put in the significant risk category are required by the SJAPCD to prepare a comprehensive, facility-wide health risk assessment. For facilities for which risk assessments have not been conducted, the SJVAPCD's Permit Services Section should be consulted to determine whether location of nearby sensitive receptors would alter the status of the facility with respect to AB 2588 (that is, cause the facility to become "high priority" and therefore trigger a risk assessment requirement). The proposed project is a Plan-level document and does not include facility-specific detail that would enable the analysis of the quantity and toxicity of emissions, if any. It is noted, however, that the closest sensitive receptors are located to the south of the Plan Area in the Oakwood Lakes Subdivision. Until an actual user/business/facility is proposed within the Plan Area, quantity and toxicity of emissions cannot be assessed with any level of certainty.

The SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) (2002) includes procedures for evaluating hazardous air pollutants. The GAMAQI states that Lead Agencies should consider both of the following situations when evaluating hazardous air pollutants:

1) a new or modified source of hazardous air pollutants is proposed for a location near an existing residential area or other sensitive receptor, and
2) a residential development or other sensitive receptor is proposed for a site near an existing source of hazardous air pollutants.

For the first scenario, the GAMAQI indicates that the Lead Agency should consult with the SJVAPCD's regarding anticipated hazardous air pollutant emissions, potential health impacts, and control measures. The GAMAQI states that "preparation of the environmental document should be closely coordinated with the SJVAPCD review of the facility's permit application when timing allows." The SJVAPCD's policies and regulations for implementing AB 2588 designate facilities as significant when they have a carcinogenic risk in excess of 10 in one million or a non-cancer risk Hazard Index of greater than one (if prescribed so by California's Office of Environmental Health Hazard Assessment).

The second scenario is not applicable because the proposed project does not include the construction of a residential development or other sensitive receptor.

Implementation of the SLSP, in and of itself, would not result in an increased exposure of sensitive receptors to localized concentrations of TACs. There is a potential for future commercial and industrial business, as permitted under the South Lathrop Specific Plan Zoning Ordinance, to result in increased exposure of sensitive receptors to localized concentrations of TACs. The emission

sources could be stationary sources and/or mobile source (i.e. diesel truck traffic). The following mitigation measure would ensure that each future business is assessed for TACs in accordance with the requirements of the Air Toxics "Hot Spots" Program, Facility Prioritization Guidelines (July 1990) Implementation of this measure would ensure that the impact is **less than significant**.

MITIGATION MEASURES

Mitigation Measure 3.3-12: *Prior to the construction and/or operation of any industrial or commercial building that would emit toxic air contaminants, the project proponent shall, at a minimum, perform prioritization screening in accordance with the Air Toxics "Hot Spots" Program, Facility Prioritization Guidelines (July 1990) and the Air Toxics "Hot Spots" Information and Assessment Act. The prioritization screening shall be performed in coordination with the San Joaquin Valley Air Pollution Control District, whom will be responsible for determining which facilities based on their prioritization screening score, must perform a health risk assessment. In determining the need to prepare a health risk assessment, the San Joaquin Valley Air Pollution Control District should consider the potency, toxicity, quantity, and volume of hazardous materials released from the facility, the proximity of the facility to potential receptors, and any other factors specific to the facility that indicate that it may pose a significant health risk.*

If a health risk assessment is warranted for a facility based on its prioritization score, the project applicant shall assess the facilities for the potential to expose the public to toxic air contaminants in excess of the following thresholds:

- *Probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds 10 in one million.*
- *Ground-level concentrations of non-carcinogenic toxic air contaminants would result in a Hazard Index greater than 1 for the MEI.*

Facilities that exceed the above thresholds have the potential to expose the public to toxic air contaminants levels that would be considered significant. Mitigation is required for such facilities to ensure that the toxic air contaminants are reduced to levels below the threshold.

Impact 3.3-5: The proposed project has the potential for exposure to odors (less than significant)

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 (Heath 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.

If a project would 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 SLSP does not propose sensitive receptors that could be exposed to odors in the vicinity, nor does it propose uses that would create odors that could expose receptors in the area. Implementation of the SLSP would have a ***less than significant*** impact relative to this topic.

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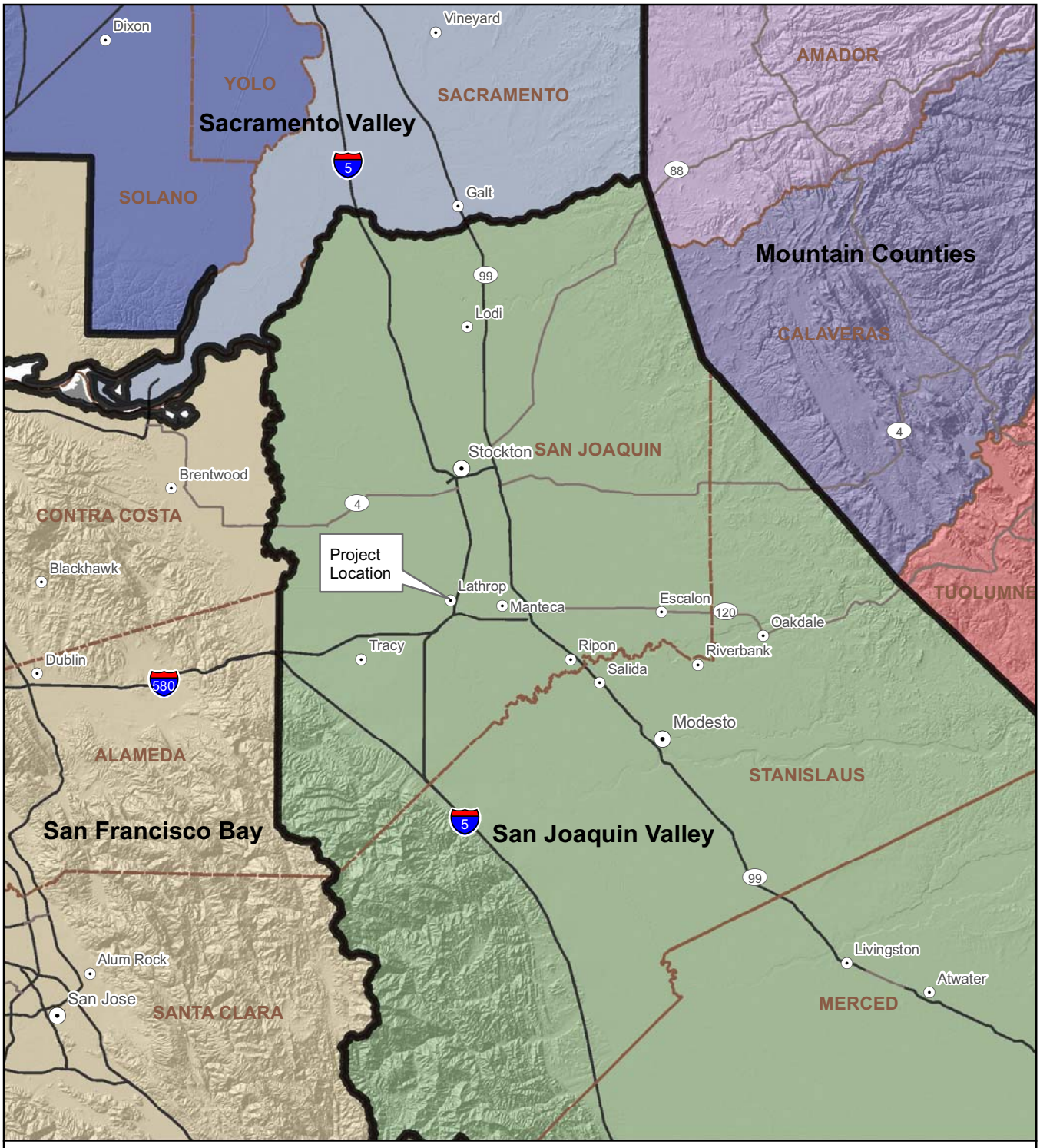

Air Districts

- Amador
- Bay Area
- Calaveras
- Sacramento Metro
- San Joaquin Valley Unified
- Tuolumne
- Yolo-Solano

- Air Basins
- County Boundaries

SOUTH LATHROP SPECIFIC PLAN

Figure 3.3-1: Air Basins and Districts

0 2.5 5 10
Miles

Data sources: California Enviornmental Protection Agency. Air Resources Board.
Shaded relief from the California Spatial Information Library. Map date: March 8, 2013.

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

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This section describes the regulatory setting, regional biological resources, and impacts that are likely to result from project implementation. This section is based in part on the following technical studies: *Wetland Delineation for South Lathrop 6A and 6B, San Joaquin County, California (ECORP 2005), Special-Status Species Assessment For South Lathrop South Village San Joaquin County, California (ECORP 2006), South Lathrop 6A and 68, San Joaquin County, California - Valley Elderberry Longhorn 8eetle Survey (ECORP 2007), South Lathrop Sites 6A and 6B - Burrowing Owl Survey and Riparian Brush Rabbit Habitat Assessment (ECORP 2007), Information Provided in Support of Section 7 Consultation with the U.S. Fish and Wildlife Service For South Lathrop 6a and 6b San Joaquin County, California (ECORP 2008), Special-Status Plant Survey For South Lathrop 6A and 68 San Joaquin County, California (ECORP 2008), US Department of the Army, Corps of Engineers, Jurisdictional Determination Letter (USACE 2008), Nationwide Permits (NWPs) No.7 and No. 39 For South Lathrop 6a and 6b San Joaquin County, California (ECORP 2008), South Lathrop 6a and6b Project - Water Quality Certification Request (ECORP 2008), and 1602 Notification - South Lathrop 6a and 6b, San Joaquin County, California (ECORP 2008).* As part of the effort to prepare this EIR, De Novo Planning Group performed field surveys and habitat evaluations over the entire Plan Area on March 21, 2013 and April 15, 2013. The habitat evaluation included a peer review of each of the above referenced technical study for applicability and use for the baseline environmental conditions. Based on the field surveys, habitat evaluations, and peer review, it was determined that baseline condtions were adequate for use in this EIR. Comments received during the NOP comment period regarding biological resources include: SJCOG, Inc.

3.4.1 ENVIRONMENTAL SETTING

GEOMORPHIC PROVINCES/BIOREGION

The City of Lathrop 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 bisects the City, and is immediately west of the Plan Area. 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 Lathrop 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 out of 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. 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

The Plan Area is comprised of relatively flat terrain and is situated at an elevation of approximately 5 to 15 feet above mean sea level. The majority of the Plan Area is being used for agricultural practices (i.e., alfalfa (*Medicago sativa*), winter wheat (*Triticum aestivum*), and cattle grazing). The western portion is being utilized for alfalfa and winter wheat production, and an irrigated cattle pasture is located in the southern central portion of the Plan Area. Several buildings are present in the Plan Area, including farmhouses and a number of commercial facilities on Guthmiller and Madruga Roads. A detention basin present to the north of the commercial facilities collects stormwater runoff from adjacent parking lots. The western border of the Plan Area is the San Joaquin River. The riverbank has been stabilized by rock riprap, and a disturbed riparian community has become established in the riprap.

The irrigated pasture is dominated by rose clover (*Trifolium hirtum*), Bermuda grass (*Cynodon dactylon*), barnyard grass (*Echinochloa crus-gaIIi*), deergrass (*Muhlenbergia rigens*), plantain (*Plantago major*), birdsfoot trefoil (*Latus corniculatus*), annual bluegrass (*Poa annua*), knotweed (*Polygonum arenastrum*), common frog-fruit (*Phyla nodiflora*), pennyroyal (*Marrubium vulgare*), and Kentucky fescue (*Festuca arundinacea*).

The riparian community along the western boundary of the Plan Area, adjacent to the San Joaquin River, is dominated by Fremont's cottonwood (*Populus fremontii*), valley oak (*Quercus lobata*), Goodding's willow (*Salix gooddingii*), sandbar willow (*S. exigua*), and arroyo willow (*S. lasiolepis*), Himalaya blackberry (*Rubus armeniacus*), Oregon ash (*Fraxinus latifolia*), California rose (*Rosa californica*), evening primrose (*Oenothera biennis*), Douglas' mugwort (*Artemisia douglasiana*), California tule pea (*Lathyrus jepsonii var. californicus*), water sedge (*Carex aquatilis var. dives*), white sweet clover (*Melilotus alba*), buttonbush (*Cephalanthus occidentalis*), soft rush (*Juncus effusus*), bristly foxtail (*Setaria gracilis*), South American vervain (*Verbena bonariensis*), annual rabbits-foot grass (*Polypagan monspeliensis*), and tall flatsedge (*Cyperus eragrostis*).

The eastern portion of the Plan Area is occupied by annual grassland. The annual grassland community is dominated by yellow-star thistle (*Centaurea solstitialis*), telegraph weed (*Heterotheca grandiflora*), common mallow (*Malva neglecta*), common tarweed (*Hemizonia pungens*), spreading alkali weed (*Cressa truxillensis*), alkali-mallow (*Malvella leprosa*), sacred thornapple (*Datura wrightii*), dodder (*Cuscuta species*), purple sandspurry (*Spergularia rubra*), saltgrass (*Distichlis spicata*), and Mediterranean barley (*Hordeum marinum*).

A wetland delineation was conducted in the Plan Area in accordance with the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987). Wetlands consist of 0.175 acres of seasonal wetlands, 0.010 acres of seasonal wetland swale, and 0.121 acres of other waters (stock pond). The total wetland acreage in the Plan Area is 0.306. The wetland delineation has been

verified by the USACE. The wetland delineation did not include the San Joaquin River; rather the impact acreage was calculated based on a storm drainage outfall detail provided by the applicant's engineer. A typical outfall detail is included in Appendix C Wetland Delineation: Attachment B. The impact area assocatedwith the storm drainage outfall is 0.140 acres.

The seasonal wetlands and seasonal wetland swales are located within the irrigated pasture, and the vegetation within these features is not significantly different from that of the surrounding pasture. The stock pond is primarily unvegetated, but species observed on the banks of the stock pond include cursed buttercup (*Ranunculus sceleratus*), water primrose (*Ludwigia peploides var. peploides*), annual bluegrass, and Fremont cottonwood (*Populus fremontii*).

The riparian corridor along the San Joaquin River in the vicinity of the storm drainage outfall supports a discontinuous band of valley oak, coastal live oak, and Fremont cottonwood. The leveed bank at the storm drainage outfall is open grassland and does not support riparian vegetation. There is also no marsh vegetation along the San Joaquin River water line.

Table 3.4-1 identifies the soils found in the Plan Area. The NRCS Soils Map is provided in Figure 3.2-2 in Section 3.2 Agricultural Resources.

TABLE 3.4-1: PLAN AREA SOILS

MAP UNIT SYMBOL MAP	NAME	PERCENT OF AOI
109	Bisgani loamy coarse sand, partially drained, 0 to 2 percent slopes	7.0%
142	Delhi loamy sand, 0 to 2 percent slopes	2.5%
148	Dello clay loam, drained, 0 to 2 percent slopes, overwashed	6.9%
153	Egbert silty clay loam, partially drained, 0 to 2 percent slopes	17.3%
166	Grangeville fine sandy loam, partially drained, 0 to 2 percent slopes	28.0%
169	Guard clay loam, drained, 0 to 2 percent slopes	7.3%
196	Manteca fine sandy loam, 0 to 2 percent slopes	31.0%

SOURCE: NRCS CUSTOM SOIL SURVEY

Agricultural and ruderal vegetation found in the Plan Area, and the riparian vegetation along the San Joaquin River, provides habitat for both common and rare 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, and all bat species are state species of special concern.

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.

Description of Plant Communities

Agricultural and natural plant communities provide habitat for a variety of biological resources in the region. Sensitive habitats include those that are of special concern to resource agencies or those that are protected under a Habitat Conservation Plan, Natural Community Conservation Plan, CEQA, the Fish and Game Code, or the Clean Water Act. Additionally, sensitive habitats are usually protected under specific policies from local agencies. Below is a list brief description of the communities found in the Plan Area. Figure 4.3-2 illustrates the plant communities (land cover types) in the vicinity of the Plan Area.

Agricultural: Agricultural areas occur throughout the region. The agricultural areas are generally flat and well drained, and as a result are well suited for many crops. Alfalfa fields, hay, row crops, orchards, annual grasslands, cattle pasture, and dairies dominate the agricultural areas. 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.

Riparian Communities: Riparian natural communities support woody vegetation found along rivers, creeks and streams. Riparian habitat can range from a dense thicket of shrubs to a closed canopy of large mature trees covered by vines. Riparian systems are considered one of the most important natural resources. While small in total area when compared to the state's size, they provide a special value for wildlife habitat.

Over 135 California bird species either completely depend upon riparian habitats or use them preferentially at some stage of their life history. Riparian habitat provides food, nesting habitat, cover, and migration corridors. Another 90 species of mammals, reptiles, invertebrates and amphibians depend on riparian habitat. Riparian habitat also provides riverbank protection, erosion control and improved water quality, as well as numerous recreational and aesthetic values.

Grassland Communities: Grassland communities occur in a wide range of soil types in disturbed and undisturbed environments. Additionally, grasslands can occur where other natural communities have occurred historically, but have been mechanically removed. Vernal pool and vernal swale grasslands are more restricted based on specific soil, drainage, geology, and climate requirements.

Wetland Communities: A wetland is an area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Wetlands are defined by regulatory agencies as having special vegetation, soil, and hydrology characteristics. Hydrology, or water inundation, is a catalyst for the formation of wetlands. Frequent inundation and low oxygen causes chemical changes to the soil properties resulting in what is known as hydric soils. The prevalent vegetation in wetland communities consists of hydrophytic plants, which are adapted to areas that are frequently inundated with water. Hydrophytic plant species have the ability to grow, effectively compete, reproduce, and persist in low oxygen soil conditions.

SPECIAL-STATUS SPECIES

The following discussion is based on a background search of special-status species that are documented in the California Natural Diversity Database (CNDDB), the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants, and the U.S. Fish and Wildlife Service's (USFWS) endangered and threatened species lists. The background search was regional in scope and focused on the documented occurrences within 10 miles of the Plan Area. Table 3.4-2 provides a list of special-status plants and Table 3.4-3 provides a list of special-status animals. Figure 3.4-3 and 3.4-4 present the documented occurrences within a one-mile and ten-mile radius of the Plan Area.

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

SPECIES	STATUS (FED./CA/ CNPS/SJMCP)	GEOGRAPHIC DISTRIBUTION	HABITAT	BLOOMING PERIOD
Suisun Marsh aster *Aster lentus*	--/--/1B.2/Yes	Sacramento-San Joaquin Delta, Suisun Marsh, Suisun Bay: Contra Costa, Napa, Sacramento, San Joaquin, and Solano Counties	Brackish and freshwater marshes and swamps; below 3 m	May-November
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
Slough thistle *Cirsium crassicaule*	--/--/1B.1/Yes	San Joaquin Valley: Kings, Kern, and San Joaquin Counties	Freshwater sloughs and marshes; 3-100 m	May-August
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
Round-leaved filaree *Erodium macrophyllum*	--/--/2.1/No	Scattered occurrences in the Great Valley, southern north Coast Ranges, San Francisco Bay area, south Coast Ranges, Channel Islands, Transverse Ranges, and Peninsular Ranges	Cismontane woodland, valley and foothill grassland on clay soils; 15-1,200 m	March-May
Delta button-celery *Eryngium racemosum*	--/E/1B.1/Yes	San Joaquin River delta floodplains and adjacent Sierra Nevada foothills: Calaveras, Merced, San Joaquin, and Stanislaus Counties	Riparian scrub, seasonally inundated depressions along floodplains on clay soils; below 75 m	June-August
Rose-mallow *Hibiscus lasiocarpos var. occidentalis*	--/--/1B.2/Yes	Scattered locations in central California in the central and southern Sacramento Valley, deltaic Central Valley from Butte to San Joaquin Counties	Freshwater marshes along rivers and sloughs; below 120 m	June-September
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	--/--/2.1/Yes	Scattered locations in the Central Valley; southern coast of Texas	Floodplains, moist places, on alkaline soils; below 450 m	May-September
Caper-fruited tropidocarpum *Tropidocarpum capparideum*	--/--/1B.1/Yes	Historically known from the northwest San Joaquin Valley and adjacent Coast Range foothills; currently known from Fresno, Monterey, and San Luis Obispo Counties	Alkaline hills in valley and foothill grassland; below 455 m	March-April

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.
T = threatened under the federal California Endangered Species Act.
R = rare 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.
3 = a review list – plants about which more information is needed.
4 = plants of limited distribution – a watch list
.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/ SJMCP)	GEOGRAPHIC DISTRIBUTION	HABITAT REQUIREMENTS
INVERTEBRATES			
Molestan blister beetle *Lytta molesta*	--/--/Yes	Distribution of this species is poorly known.	Annual grasslands, foothill woodlands or saltbush scrub.
Sacramento anthicid beetle *Anthicus sacramento*	--/--/No	Found in several locations along the Sacramento and San Joaquin rivers, from Shasta to San Joaquin counties, and at one site along the Feather River.	Sand dune area, sand slipfaces among bamboo and willow, but may not depend on these plants.
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.
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; also found in sandstone rock outcrop pools.
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.
BIRDS			
Aleutian goose *Branta canadensis leucopareia*	D/--/Yes	The entire population winters in Butte Sink, then moves to Los Banos, Modesto, the Delta, and East Bay reservoirs; stages near Crescent City during spring before migrating to breeding grounds.	Roosts in large marshes, flooded fields, stock ponds, and reservoirs; forages in pastures, meadows, and harvested grainfields; corn is especially preferred
White-tailed kite *Elanus leucurus*	--/FP/Yes	Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border	Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging
Swainson's hawk *Buteo swainsoni*	--/T/Yes	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, Yolo County	Nests in oaks or cottonwoods in or near riparian habitats. Forages in grasslands, irrigated pastures, and grain fields
Merlin *Falco columbarius*	--/SSC/Yes	Does not nest in California. Rare but widespread winter visitor to the Central Valley and coastal areas	Forages along coastline in open grasslands, savannas, and woodlands. Often forages near lakes and other wetlands
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	--/E/Yes	Nests along the upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado Rivers	Wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley oak riparian habitats where scrub jays are abundant

SPECIES	STATUS (FED/CA/ SJMCP)	GEOGRAPHIC DISTRIBUTION	HABITAT REQUIREMENTS
Western burrowing owl *Athene cunicularia hypugea*	--/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
Tricolored blackbird *Agelaius tricolor*	--/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
MAMMALS			
San Joaquin pocket mouse *Perognathus inornatus*	--/--/Yes	Occurs throughout the San Joaquin Valley and in the Salinas Valley	Favors grasslands and scrub habitats with fine textured soils
Riparian (San Joaquin Valley) woodrat *Neotoma fuscipes riparia*	E/SSC, FP/Yes	Historical distribution along the San Joaquin, Stanislaus, and Tuolumne Rivers, and Caswell State Park in San Joaquin, Stanislaus, and Merced Counties; presently limited to San Joaquin County at Caswell State Park and a possible second population near Vernalis	Riparian habitats with dense shrub cover, willow thickets, and an oak overstory
Riparian brush rabbit *Sylvilagus bachmani riparius*	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-way lands	Native valley riparian habitats with large clumps of dense shrubs, low-growing vines, and some tall shrubs and trees
American badger *Taxidea taxus*	--/SSC/Yes	In California, badgers occur throughout the state except in humid coastal forests of northwestern California in Del Norte and Humboldt Counties	Badgers occur in a wide variety of open, arid habitats but are most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub; the principal habitat requirements for the species appear to be sufficient food (burrowing rodents), friable soils, and relatively open, uncultivated ground
San Joaquin kit fox *Vulpes macrotis mutica*	E/T/Yes	Principally occurs in the San Joaquin Valley and adjacent open foothills to the west; recent records from 17 counties extending from Kern County north to Contra Costa County	Saltbush scrub, grassland, oak, savanna, and freshwater scrub
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.
Central Valley steelhead *Oncorhynchus mykiss*	T/--/No	Sacramento River and tributary Central Valley rivers.	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 7.8°C to 18°C. Habitat types are riffles, runs, and pools.

SPECIES	STATUS (FED/CA/ SJMCP)	GEOGRAPHIC DISTRIBUTION	HABITAT REQUIREMENTS
Central Valley fall- /late fall-run Chinook salmon *Oncorhynchus tshawytscha*	--/SSC/No	Sacramento and San Joaquin Rivers and tributary Central Valley rivers.	Have the same general habitat requirements as winter and spring-run Chinook salmon.
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.
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.
River lamprey *Lampetra ayresii*	--/SSC/No	Sacramento, San Joaquin, and Napa Rivers; tributaries of San Francisco Bay (Moyle 2002; Moyle et al. 1995)	Adults live in the ocean and migrate into fresh water to spawn
Hardhead *Mylopharodon conocephalus*	--/SSC/No	Tributary streams in the San Joaquin drainage; large tributary streams in the Sacramento River and the main stem	Reside in low to mid-elevation streams and prefer clear, deep pools and runs with slow velocities. Also occur in reservoirs.

Status explanations:

Federal

E = endangered under the federal Endangered Species Act.
T = threatened under the federal Endangered Species Act.
PE = proposed for endangered under the federal Endangered Species Act.
PT = proposed for threatened under the federal Endangered Species Act.
C = candidate species for listing under the federal Endangered Species Act.
D = delisted from federal listing status.

State

E = endangered under the California Endangered Species Act.
T = threatened under the California 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 Central Valley Regional Water Quality Control Board. 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 Central Valley Regional Water Quality Control Board (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

The 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 California Native Plant Society (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 Central Valley RWQCB 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 SJR is not currently a source of municipal water supply for the City of Lathrop and is not identified as a source for the proposed SLSP project, although some farms in the area use the river as a source of water for irrigation. The City currently uses groundwater only and surface water from the South San Joaquin Irrigation District (SSJID) South County Surface Water Supply Project (SCSWSP), which does not rely on the SJR.

- 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 Federal Endangered Species Act (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, Lathrop, 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 California Department of Fish and Wildlife (CDFW), and the US Fish and Wildlife Service. 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.

Since Lathrop became a signatory to the SJMSCP at the end of 2001, all applicants for projects within the City have chosen to participate in the Plan, rather than pursue compliance independently. 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. Therefore, SJCOG is currently in the process of updating the mitigation fee schedule to more accurately match the market value of the various land types.

City of Lathrop General Plan

The Lathrop General Plan establishes the following goals and policies relative to biological resources in the General Plan:

RESOURCE MANAGEMENT ELEMENT

Vegetation, Fish and Wildlife Policies:

The following policies seek not only the retention of virtually all of the beneficial habitat which now exists, but also to enhance habitat which has been degraded and to create new habitat where feasible.

Policy 1. The objective of habitat retention calls for:

- The integration of waterway habitat areas as part of the area wide system of open space.

- The preservation of all stands of vegetation along waterways which provide habitat, and achieving a standard of "no net loss of wetland acreage".

- The careful introduction of public and private recreation activities within habitat areas which will not disturb natural conditions either through intensity of operations, high levels of noise generation, or scarring of the landscape through development activity.

- The retention of hedgerows and other habitat areas within intensively farmed acreage which are compatible with agricultural operations.

- The protection of fisheries by preventing discharge of contaminated surface waters to waterways.

Policy 2. The objective of habitat enhancement calls for:

- The improvement of natural habitat along waterways.

- The creation of new habitat within multi-purpose open space area designated for reuse of treated wastewater for wildlife management and recreation.

- Cooperative approaches among landowners to manage farmlands so as to increase the numbers of desirable species of wildlife.

Policy 3. The City has adopted (effective October 15, 1996) a Habitat Conservation Plan (HCP) for the Swainson's hawk. The acquisition of lands required as replacement habitat for nesting and foraging is to be funded by fees imposed upon developers whose land development activities would threaten, endanger or eliminate existing habitat within the Lathrop planning area. The HCP shall be based upon a current habitat field survey taken during the Swainson's hawk nesting season to determine whether Core Conservation Areas or only foraging habitat exists.

It is the intent of the City of Lathrop to be a good steward of its biological resources for the benefit of its citizens and the general public. The General Plan EIR acknowledges that significant impacts would occur to Swainson's hawks, and potentially significant impacts could occur to other species. Mitigation measures are provided in the General Plan EIR to mitigate the impacts. The purpose of the following information is to clarify the proposed mitigation as a matter of General Plan policy.

a. A mitigation concept is presented on page 8-D-8 which states that the City should adopt its own HCP, or possibly participate in the plan being prepared by the City of Stockton. The City intends to prepare an HCP, in cooperation with other jurisdictions that would mutually benefit from Lathrop's HCP. Information and data from Stockton's HCP will be used to the extent appropriate. The City shall implement the following to fully mitigate impacts described in this policy and the EIR:

1. An HCP developed by the City, which meets the standards specified by the State of California Department of Fish and Game.

2. Participation in the "Stockton Plan". The "Stockton Plan' is a Habitat Management Plan which is, as of April 22, 1992, being developed by the Cities of Stockton, Tracy and Lathrop and the County of San Joaquin.

3. Until it is participating in an HCP, the City shall not pre-zone and/or annex any real property or approve a specific plan for the development of real property, unless these conditions are met:

a. For each acre annexed to, pre-zoned by or which is the subject of a specific plan (subject to an event), the City will mitigate the loss of Swainson's hawk habitat by providing a one-to-one ratio habitat, including foraging habitat, or equal value.

b. All property subject to an event shall be considered Swainson's hawk habitat. Habitat acquired for will be called the "preserve acreage". "Preserve Acreage" may also consist of conservation easements, and in lien fee ownership of property and shall be subject to the following conditions:

1. The "preserve acreage" must meet regulations specified by the State of California Department of Fish and Game.

2. The "preserve acreage" must be located within one mile of the property subject to the event.

3. The "preserve acreage" shall be deeded to the Department of Fish and Game, or the Land Utilization Trust.

4. A mitigation fee shall not be sufficient mitigation for real property subject to an event, but actual mitigation by acquisition of real property or a conservation easement shall be required.

5. A management fee will be collected in an amount to ensure that sufficient income will be available to manage the preserve property.

b. Lathrop's HCP will be completed prior to the City allowing specific project EIR's to be completed for projects proposed west of Interstate 5. This will ensure that the necessary mitigation plans and agreements with the State Department of Fish and Game (DFG) are in place for protection of Swainson's hawks. The HCP process will commence as soon as reasonably possible after General Plan adoption,

involving close cooperation with DFG. It is recognized that foraging habitat is one of the most important elements required for preservation of Swainson's hawks.

Policy 4. Developments proposed in sensitive biological areas shall be required to provide a site-specific analysis of the impacts of the project on fish and wildlife habitat. Because of the large-scale character of development proposed in the vicinity of biologically sensitive environments, including the conversion of several thousand acres of agricultural land to urban use, project proposals should be made to address ways in which new or enhanced habitat may be created as a trade-off to the general environmental impacts on biological resources associated with development under the General Plan.

Policy 5. Land use within areas of riparian habitat shall be restricted to nature-oriented passive recreation, which may include an arboretum, zoological gardens, hiking and nature study essential linear infrastructure and other such uses compatible with existing or enhanced riparian habitats. Structures, which would reduce the amount of area available for water detention, should be prohibited within the Paradise Cut flood plain unless they are accompanied by concurrent expansion of such detention areas in or adjacent to Paradise Cut.

Policy 6. A naturally landscaped corridor shall be provided along the western perimeter of SPA #2, which lies west of Interstate 5. This corridor should be wide enough to serve as a major component of the recreation and open space system, and should provide for a system of pedestrian, bicycle and equestrian trails where such uses are compatible with riparian habitats, where they exist. This corridor will also assure public access to the San Joaquin River as required by State policy and law and as permitted by RD-17.

Policy 7. The visual amenities of water and its potential as wildlife habitat are to be reflected where feasible in all developments by the inclusion of bodies of water as components of urban form. Such bodies of water may be in the form of lakes, ponds, lagoons, simulated streams or similar features which can be integrated by design within recreation open space corridors, parks, commercial and residential areas and public sites. The multi-purposes use of water bodies for surface water drainage, flood control, wastewater reclamation, wildlife management, recreation and visual amenity is encouraged.

Lathrop Municipal Code

CHAPTER 12.28 PROTECTION OF WATER COURSES

12.28.020 Rules and regulations.

A. It shall be unlawful for any person to interfere with, destroy or use in any manner whatsoever any levee, embankment, channel, dam, reservoir, rain or stream gauges, telephone line, piling; or other stream protection work constructed by the city or by any drainage district organized under the laws of the state, without having received a written permit therefor from the public works director, which permit shall be revocable whenever,

in the opinion of the public works director the public interest and welfare require the revocation thereof. Application for the use of any levee, embankment, channel, dam or reservoir shall be made to the public works director, setting forth the particular use desired, and the purpose and duration thereof. The public works director shall investigate such applications and may impose such terms and conditions as may be necessary to insure the proper maintenance of the property for flood control and drainage purposes.

B. It shall be unlawful for any person to place on or cause to be placed in any drainage ditch, water course, channel or conduit, or upon any property over which the city or any drainage district has an easement for flood control or drainage purposes duly recorded in the office of the city clerk, any wires, fence, building or other structure, or any refuse, rubbish, tin cans or other matter that may impede, retard or change the direction of the flow of water in such drainage ditch, water course, channel or conduit, or that will catch or collect debris carried by such water, or is placed where the natural flow of the storm and flood waters would carry the same downstream to the damage and detriment of either private or public property adjacent to said drainage ditch, water course, channel or conduit.

C. It shall be unlawful for any person to change the drainage on his or her property so as to divert the drainage to the nearest public road, without first obtaining a permit to do so from the public works director.

D. It shall be unlawful for any person to fill or obstruct or maintain any fill or obstruction in any drainage ditch, water course, channel or conduit carrying storm or drainage water unless a permit to do so has been obtained from the public works director.

E. It shall be unlawful for any person to do anything to any drainage ditch, water course, channel or conduit carrying storm or drainage water that will in any manner obstruct or interfere with the flow of water through such ditches, water courses, channels or conduits unless a permit to do so has been obtained from the public works director.

F. It shall be unlawful for any person to level land in a manner which would flood adjacent properties or public roadways.

G. Every property owner, whether it be a person or his lessee or tenant, through whose property a drainage ditch, water course, channel or conduit carrying storm or drainage water passes, shall keep and maintain the same free from obstacles that will prevent or retard the flow of water through such ditch, water course, channel or conduit except that same may be filled or altered if a permit to do so has been first obtained pursuant to this chapter. (Prior code § 158.02)

CHAPTER 13.28 - STORMWATER MANAGEMENT AND DISCHARGE CONTROL

13.28.020 Purpose and intent.

The purpose of this chapter is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within the city of Lathrop, pursuant to and consistent with the Federal Clean Water Act (33 U.S.C. Section 1251 et seq.) and the Porter-Cologne Water Quality Act (California Water Code Section 13000 et seq.). This chapter seeks to meet that purpose through the following objectives:

A. To comply with all federal and state laws, lawful standards and orders applicable to stormwater and urban runoff pollution control;

B. To prohibit any discharge which may interfere with the operation of, or cause any damage to the storm drain system or impair the beneficial use of the receiving waters;

C. To prohibit illicit discharges into the storm drain system;

D. To reduce non-stormwater discharge to the storm drain system to the maximum extent practicable;

E. Minimize increases in stormwater and runoff from any development in order to reduce flooding, siltation, and streambank erosion and maintain the integrity of drainage channels;

F. Minimize nonpoint source pollution caused by stormwater runoff from development that would otherwise degrade local water quality; and

G. Minimize the total annual volume of surface water runoff that flows from any specific site during and following development. (Ord. 07-265 § 1)

13.28.130 Requirement to prevent, control and reduce stormwater pollutants.

A. Authorization to Adopt and Impose Best Management Practices (BMPs). The city may adopt requirements identifying best management practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of stormwater, the storm drain system, or waters of the United States. Where best management practice requirements are promulgated by the city or any federal, state of California, or regional agency for any activity, operation, or facility which would otherwise cause the discharge of pollutants to the storm drain system or a waters of the United States, every person undertaking such activity or operation, or owning or operating such facility shall comply with such requirements.

B. New Development and Redevelopment. The city may adopt requirements identifying appropriate design standards and best management practices to control the volume, rate, and potential pollutant load of stormwater runoff from new development and redevelopment projects as may be appropriate to minimize the generation, transport and discharge of pollutants. The city shall incorporate such requirements in any land use entitlement and construction or building-related permit to be issued relative to such

development or redevelopment. The owner and developer shall comply with the terms, provisions, and conditions of such land use entitlements and building permits as required in this chapter.

C. Responsibility to Implement Best Management Practices. Notwithstanding the presence or absence of requirements promulgated pursuant to subsections A and B of this section, any person engaged in activities or operations, or owning facilities or property which will or may result in pollutants entering stormwater, the storm drain system, or waters of the United States shall implement best management practices to the extent they are technologically achievable to prevent and reduce such pollutants. The owner or operator of a commercial or industrial establishment shall provide reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses. Facilities to prevent accidental discharge of prohibited materials or other wastes shall be provided and maintained at the owner or operator's expense.

D. Maintenance Agreements. All structural and nonstructural permanent stormwater BMPs not in the control of the city of Lathrop shall have an enforceable maintenance agreement to ensure the system functions as designed. The agreement shall include any and all maintenance easements required to access and inspect the stormwater BMPs, and to perform routine maintenance as required. Such agreements shall specify the parties responsible for the proper maintenance of all stormwater BMPs.

City of Lathrop Stormwater Management Program

The City has an adopted a stormwater management program (SWMP) for compliance with requirements of the Phase 2 NPDES municipal stormwater permit (City of Lathrop 2003). The SWMP is composed of six program elements developed to reduce contaminants discharged into receiving water bodies. The six Minimum Control Measure (MCM) elements of the SWMP are public education and outreach, public involvement/participation, illicit discharge detection and elimination, construction site runoff control, post construction runoff control in new development and redevelopment, and pollution prevention/good housekeeping for municipal operations. For each MCM, the City has selected a suite of BMPs and measurable goals to address the specific stormwater problems identified within the city limits.

In association with the SWMP, the City adopted a Storm Water Ordinance, construction standards, and design review guidelines to reduce contaminants in stormwater runoff. Of particular relevance to the proposed project is the City's coordination of BMP review and implementation under the construction site runoff control program. New development and redevelopment control measures include development of structural controls, development of nonstructural controls, development of ordinances or regulatory mechanisms, and development of long-term operation and maintenance (O&M) practices.

Pollution prevention/good housekeeping for municipal operations addresses routine O&M activities for drainage systems, roadways, parks and open spaces, and other municipal operations to help ensure a reduction in pollutants entering the storm sewer system. The pollution prevention/good housekeeping program also includes a training component to prevent and reduce

stormwater pollution from municipal operations. The pollution prevention/good housekeeping BMPs can be separated into two broad categories: source controls and materials management. Source controls are BMPs designed to prevent or reduce pollutants at the source and include BMPs such as storm drainage system maintenance, structural floatable controls, street maintenance staff training, flood control projects, and litter ordinances. Materials management BMPs are designed to reduce pollutants with nonstructural controls such as pesticide education and spill prevention control.

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 has the potential to have a direct or indirect effect on special-status invertebrate species (less than significant)

There are four special-status invertebrates that are documented within a 10-mile radius of the Plan Area including: Molestan blister beetle (*Lytta molesta*), Sacramento anthicid beetle (*Anthicus sacramento*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), and vernal pool fairy shrimp (*Branchinecta lynchi*). Of the four documented species, there are two federal listed species (threatened), no state listed species, and one federal species of concern. The federal listed and federal species of concern are covered species under the SJMCP.

Field surveys and habitat evaluations were performed by ECORP on December 8, 2004, August 15, 2005, October17, 2007, October 19, 2007, and May 7 and June 19, 2008. Field surveys and habitat evaluation were also performed by De Novo Planning Group on March 21, 2013 and April 15, 2013.

Valley elderberry longhorn beetle (VELB) is a federal threatened insect, proposed for delisting. Elderberry (*Sambucus* sp.), which is a primary host species for valley elderberry longhorn beetle (VELB), is present within the Plan Area. Elderberry shrubs are a common component of riparian areas throughout the Central Valley region and are often found as isolated residual plants within and around Central Valley farmland. The Plan Area was surveyed by searching for the presence of elderberry shrubs and VELB. The full report is contained in Appendix C and is entitled *South Lathrop 6A and 68, San Joaquin County, California - Valley Elderberry Longhorn Beetle Survey (ECORP 2007)*. The western portion of the site was surveyed primarily from along the edges of the agricultural fields, along the San Joaquin River, and along the railroad tracks, scanning the entire area for elderberry shrubs. Meandering transects were walked throughout the eastern portion of the site. There are two elderberry shrubs present within the Plan Area. The shrubs were inspected for evidence of VELB. There is no evidence of VELB occurrence on these two elderberry shrubs (i.e., adult beetles or emergence holes). VELB is not anticipated to be directly affected by the SLSP because this species is presumed to be absent from the Plan Area. Nevertheless, VELB is a covered species under the SJMSCP.

The seasonal wetlands in the irrigated pasture within the Plan Area are considered unsuitable habitat for vernal pool fairy shrimp (*Branchinecta lynchi*) or any other vernal pool crustaceans. The vegetative community within the seasonal wetlands indicates that these features receive supplemental irrigation throughout the year, which would render these features unsuitable as habitat for the vernal pool crustaceans. Vernal pool fairy shrimp is not anticipated to be directly affected by the SLSP. Vernal pool fairy shrimp is a covered species under the SJMSCP.

Essential habitat for Molestan blister beetle and Sacramento anthicid beetle is not present in the Plan Area.

No special-status invertebrates were observed within the Plan Area or offsite improvement corridors during field surveys and none are expected to be affected by the SLSP. Therefore, the SLSP, including the offsite improvements (i.e. storm drainage outfall) would have a ***less than significant*** impact on special-status invertebrate species. While there are no special status invertebrate species that are anticipated to be affected by the SLSP, participation in the SJMSCP will provide the coverage for the incidental take of a species if it were to occur. The following mitigation measure will ensure coverage under the SJMSCP.

MITIGATION MEASURES

Mitigation Measure 3.4-1*: Prior to commencement of any grading activities, the project proponent shall seek coverage under the SJMSCP to mitigate for habitat impacts to covered special status species. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of open space 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. There are a wide variety of incidental take avoidance and minimization measures contained in the SJMSCP that were developed in consultation with the USFWS, CDFW, and local agencies. The applicability of incidental takes avoidance and minimization measures are determined by SJCOG on a project basis. The process of obtaining coverage for a project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a) and California Fish and Game Code Section 2081. The Section 10(a) permit also serves as a special-purpose permit for the incidental take of those species that are also protected under the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species. The SJMSCP includes the implementation of an ongoing Monitoring Plan to ensure success in mitigating the habitat impacts that are covered. The SJMSCP Monitoring Plan includes an Annual Report process, Biological Monitoring Plan, SJMSCP Compliance Monitoring Program, and the SJMSCP Adaptive Management Plan SJCOG.

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)

There is one special-status amphibian that is documented within a 10-mile radius of the Plan Area including: California tiger salamander (*Ambystoma californiense*). There is no essential habitat for this species in the Plan Area.

While not documented within the 10-mile search radius, the riparian habitat adjacent to the San Joaquin River represents potentially-suitable upland habitat for giant garter snake (*Thamnophis gigas*), which is a federal and state listed threatened species. Essential giant garter snake habitat components consist of 1) adequate water during early spring through mid-fall to provide prey base and cover, 2) emergent wetland vegetation for escape cover and foraging habitat, 3) uplands for basking and retreat sites, and 4) higher elevation upland for cover and flood refugia. The USFWS considers areas within 200 feet of aquatic habitat to represent potential upland habitat. Additionally, the USFWS identifies various levels of impact to giant garter snake habitat, from temporary to permanent, and applies mitigation requirements accordingly. The nearest previously documented giant garter snake occurrence is located greater than 10 miles to the northeast of the site, and while this special status species is not anticipated to be affected by the SLSP, participation in the SJMSCP will provide the coverage for the incidental take of a species if it were to occur.

While not documented within the 10-mile search radius, the San Joaquin River represents potentially-suitable habitat for western pond turtle (*Clemmys marmorata*), which is known to occur in aquatic habitats, such as streams, ponds, freshwater marshes, and lakes. They require still or slow-moving water with instream emergent woody debris, rocks, or other similar features for basking sites. Western pond turtle nests are typically located on unshaded upland slopes in dry substrates with clay or silt soils. The San Joaquin River provides suitable aquatic habitat for western pond turtles. The levees along the San Joaquin River could provide suitable nesting sites, but regular disturbance from vegetation removal activities, such as burning, mowing, and herbicide spraying, makes it very unlikely that pond turtles would nest in the levees. The

agricultural portion of the Plan Area is unlikely to be utilized by western pond turtle. The nearest previously documented western pond turtle occurrence is located greater than 10 miles from the Plan Area, and while this special status species is not anticipated to be affected by the SLSP, participation in the SJMSCP will provide the coverage for the incidental take of a species if it were to occur.

No special-status reptiles or amphibians were observed within the Plan Area or offsite improvement corridors during field surveys and none are expected to be affected by the SLSP. Therefore, the SLSP would have a ***less than significant*** impact on special status reptile or amphibian species. While there are no special status reptiles or amphibians species that are anticipated to be affected by the SLSP, participation in the SJMSCP will provide the coverage for the incidental take of a species if it were to occur. Mitigation Measure 3.4-1, previously listed, will ensure coverage under the SJMSCP.

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)

Special-status birds that are documented within a ten-mile radius of the Plan Area include: Aleutian goose (*Branta canadensis leucopareia*), white-tailed kite (*Elanus leucurus*), Swainson's hawk (*Buteo swainsoni*), Merlin (*Falco columbarius*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), western burrowing owl (*Athene cunicularia hypogea*), loggerhead shrike *(Lanius ludovicianus*) and Tricolored blackbird (*Agelaius tricolor*).

Plant communities within the Plan Area may provide suitable habitat for a variety of potentially occurring special-status birds, including those listed above. Potential nesting habitat is present for colonial nesting water birds, special-status and common raptors, and special-status songbirds. There is also the potential for other special-status birds that do not nest in this region and represent migrants or winter visitants.

Colonial Nesting Water Birds: Colonial nesting water bird rookery sites of double-crested cormorant *(Phalacrocorax auritus),* great blue heron *(Ardea herodias),* great egret *(Ardea alba),* snowy egret *(Egretta thula),* and black-crowned night heron *(Nycticorax nycticorax),* among others are considered sensitive. These species are not formally listed and protected pursuant to either the State or federal Endangered Species Acts but are of stated interest to CDFW and are protected by the Migratory Bird Treaty Act (MBTA).

The riparian habitat adjacent to the San Joaquin River represents potentially suitable nesting habitat for these species, although rookeries of these species have not been previously reported in this area nor were they observed during any of the field surveys. In general, the nesting season for these colonial nesters is from March through July, but may vary depending on weather conditions or disturbances. The agricultural area throughout the Plan Area provides foraging habitat for these colonial nesters. Although these species were not observed during any of the field surveys, they are common in the region and may use the Plan Area for foraging from time to time.

The construction of the storm drainage outfall would require disturbance to riparian habitat located along the San Joaquin River, which is potential nesting habitat for these colonial nesters. The SLSP would eliminate the agricultural areas in the Plan Area, which serve as foraging habitat for colonial nesters in the region. Construction activities in the Plan Area would create temporary sources of noise and light that could affect colonial nesters if they located adjacent to the Plan Area in the future. The ongoing activities associated with the operational phase (i.e. human and/or domesticated animal presence, light, noise, etc.) could disrupt colonial nesters if they located adjacent to the Plan Area in the future, although given the separation created by the open space designation the impact is less than significant. These colonial nesters are covered by the SJMSCP, which serves as a special-purpose permit for the incidental take of species that are protected under the MBTA. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of open space 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. Coverage under the SJMSCP would fully mitigate all habitat impacts on these colonial nesters. Incidental take avoidance and minimization measures are designed to fully mitigate direct and indirect impacts to the individuals and their activities.

Mitigation Measure 3.4-1 requires participation in the SJMSCP. Implementation of the following mitigation measure would require a preconstruction survey of the Plan Area and immediate vicinity prior to construction. If nesting birds are found, an appropriate buffer would be developed around active nests as deemed appropriate in coordination with the CDFW to ensure that the nesting birds are not disrupted during the breeding season. Implementation of the SLSP, with the Mitigation Measure 3.4-1 and 3.4-2, would ensure that potential impacts to special status colonial nesters are reduced to a ***less than significant*** level.

Nesting Raptors (Birds of Prey): All raptors (owls, hawks, eagles, falcons), including common 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.

The riparian habitat adjacent to the San Joaquin River and other trees throughout the Plan Area represent potentially suitable nesting habitat for a variety of special-status raptors, including white-tailed kite *(Elanus leucurus*), Swainson's hawk *(Buteo swainsoni*), and Cooper's hawk *(Accipiter cooperii*). The agricultural land represents potentially suitable nesting habitat for the ground-nesting northern harrier *(Circus cyaneus*) and burrowing owl *(Athene cunicularia*) and it also serves as foraging habitat for a wide variety of raptors. The CNDDB currently contains nesting records for Swainson's hawk and burrowing owl within one mile of the Plan Area.

In general, raptor nesting occurs from late February and early March through late July and early August, depending on various environmental conditions. In addition to the species described above, common raptors such as red-tailed hawk *(Buteo jamaicensis)* and great horned owl *(Bubo virginianus),* among others, may nest in or adjacent to the Plan Area.

The construction of the storm drainage outfall would require disturbance to riparian habitat located along the San Joaquin River, which is potential nesting habitat for nesting raptors. The SLSP would eliminate the agricultural areas in the Plan Area, which serve as potential nesting habitat for ground-nesting northern harrier *(Circus cyaneus*) and burrowing owl *(Athene cunicularia*) and foraging habitat for a variety of raptors in the region. Construction activities in the Plan Area would create temporary sources of noise and light that could affect nesting raptors if they located adjacent to the Plan Area in the future. The ongoing activities associated with the operational phase (i.e. human and/or domesticated animal presence, light, noise, etc.) could disrupt nesting raptors if they located adjacent to the Plan Area in the future, although give the separation created by the open space designation the impact is less than significant. These raptors are covered by the SJMSCP. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of open space 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. Coverage under the SJMSCP would fully mitigate all habitat impacts on these raptors. Incidental take avoidance and minimization measures are designed to fully mitigate direct and indirect impacts to the individuals and their activities.

Mitigation Measure 3.4-1 requires participation in the SJMSCP. Implementation of the following mitigation measure would require a preconstruction survey of the Plan Area and immediate vicinity prior to construction. If nesting birds are found, an appropriate buffer would be developed around active nests as deemed appropriate in coordination with the CDFW to ensure that the nesting birds are not disrupted during the breeding season. Implementation of the SLSP, with the Mitigation Measure 3.4-1 and 3.4-2, would ensure that potential impacts to special status nesting raptors are reduced to a ***less than significant*** level.

Nesting Songbirds: Potentially suitable nesting habitat is present in the Plan Area for two regionally occurring special-status songbirds: loggerhead shrike *(Lanius ludovicianus*) and tricolored blackbird *(Agelaius tricolor*). Loggerhead shrikes nest in small trees and shrubs within oak woodland/savannah and grassland communities. Tricolored blackbirds nest in large colonies in patches of cattails, tule, or other dense vegetation near water.

The riparian habitat adjacent to the San Joaquin River represents potentially suitable nesting habitat for these species, although rookeries of these species have not been previously reported in this area nor were they observed during any of the field surveys. In general, the nesting season for these nesting songbirds is from March through July, but may vary depending on weather conditions or disturbances. The agricultural area throughout the Plan Area provides foraging habitat for these nesting songbirds. Although these species were not observed during any of the field surveys, they are common in the region and may use the Plan Area for foraging from time to time.

The construction of the storm drainage outfall would require disturbance to riparian habitat located along the San Joaquin River, which is potential nesting habitat for nesting songbirds. The SLSP would eliminate the agricultural areas in the Plan Area, which serve as potential foraging

habitat for these species. Construction activities in the Plan Area would create temporary sources of noise and light that could affect nesting songbirds if they located adjacent to the Plan Area in the future. The ongoing activities associated with the operational phase (i.e. human and/or domesticated animal presence, light, noise, etc.) could disrupt nesting songbirds if they located adjacent to the Plan Area in the future, although given the separation created by the open space designation the impact is less than significant. These nesting songbirds are covered by the SJMSCP. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of open space 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. Coverage under the SJMSCP would fully mitigate all habitat impacts on these nesting songbirds. Incidental take avoidance and minimization measures are designed to fully mitigate direct and indirect impacts to the individuals and their activities.

Mitigation Measure 3.4-1 requires participation in the SJMSCP. Implementation of the following mitigation measure would require a preconstruction survey of the Plan Area and immediate vicinity prior to construction. If nesting birds are found, an appropriate buffer would be developed around active nests as deemed appropriate in coordination with the CDFW to ensure that the nesting birds are not disrupted during the breeding season. Implementation of the SLSP, with the Mitigation Measure 3.4-1 and 3.4-2, would ensure that potential impacts to special status nesting songbirds are reduced to a ***less than significant*** level.

Other Non-Nesting Birds: Other special-status birds that may occur in the Plan Area but are not known to nest in this region, or suitable nesting habitat is not present in the Plan Area include: ferruginous hawk *(Buteo rega*), golden eagle *(Aquila chrysaetos*), merlin *(Falco columbarius*) and prairie falcon *(Falco mexicanus*). Foraging habitat for these species is present in the agricultural fields within the Plan Area.

The SLSP would eliminate the agricultural areas in the Plan Area, which serve as potential foraging habitat for these other non-nesting birds. Construction activities in the Plan Area would create temporary sources of noise and light that could affect these birds if they located adjacent to the Plan Area in the future. The ongoing activities associated with the operational phase (i.e. human and/or domesticated animal presence, light, noise, etc.) could disrupt these birds if they located adjacent to the Plan Area in the future, although given the separation created by the open space designation the impact is less than significant. These birds are covered by the SJMSCP. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of open space 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. Coverage under the SJMSCP would fully mitigate all habitat impacts on these birds. Incidental take avoidance and minimization measures are designed to fully mitigate direct and indirect impacts to the individual birds and their activities.

Mitigation Measure 3.4-1 requires participation in the SJMSCP. Implementation of the SLSP, with the Mitigation Measure 3.4-1, would ensure that potential impacts to special status non-nesting birds are reduced to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.4-2: *If construction activities occur during the avian breeding season (March 1 – August 31) then the project proponent shall conduct pre-construction surveys to prevent impacts to nesting birds. No more than 15 days prior to the start of construction a bird survey shall be conducted by a qualified biologist to identify any active nests within the Plan Area or Offsite Infrastructure Corridor. If construction stops for a period of 15 days or more during the avian breeding season than an additional bird survey shall be conducted. The biologist will conduct a survey in the Plan Area or Offsite Infrastructure Corridor, including the San Joaquin River, for all special-status birds protected by the federal and state ESA, MBTA and CFGC, including but not limited to those that are documented within a ten-mile radius of the Plan Area and are known to nest in the region. The biologist shall map all nests that are within, and visible from, the Plan Area or Offsite Infrastructure Corridor. If nests are identified, the biologist shall develop buffer zones around active nests as deemed appropriate in coordination with the CDFW. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails. Nests shall be monitored at least twice per week and a report submitted to the City and CDFW monthly.*

Impact 3.4-4: The proposed project has the potential to result in direct or indirect effects on special-status mammal species (less than significant)

Special-status mammals that are documented within a 10-mile radius of the Plan Area include: San Joaquin pocket mouse (*Perognathus inornatus*), Riparian (San Joaquin Valley) woodrat (*Neotoma fuscipes riparia*), Riparian brush rabbit (*Sylvilagus bachmani riparius*), American badger (*Taxidea taxus*), and San Joaquin kit fox (*Vulpes macrotis mutica*).

Riparian (San Joaquin Valley) woodrat and riparian brush rabbit: The riparian habitat in the Plan Area along the San Joaquin River may represent potential habitat for riparian (San Joaquin Valley) woodrat and riparian brush rabbit. The riparian habitat was surveyed on October 19, 2007 and on March 21, 2013 and included surveys of the entire property to determine if any areas represented potentially suitable habitat for either species. The area that is bounded by the San Joaquin River levee road on the east, the San Joaquin River to the west, the railroad/railroad bridge to the south, and Highway 120 to the north represents the only potentially suitable habitat for both species. The habitat within this narrow strip is highly variable in vegetative composition. The approximate northern half of this area is predominantly non-native annual grasslands while the southern half is a mix of oak (*Quercus* spp.), cottonwood (*Populus* spp.), and willow riparian woodland with a variable understory including patches of non-native annual grassland, California wild rose (*Rosa califarnica*), stinging nettles (*Urtica dioica*), and willow scrub (*Salix spp*.). As such, the southern portion of the interior (river side) levee area provides potentially suitable riparian habitat for riparian (San Joaquin Valley) woodrat and riparian brush rabbit. These species were not observed during the field surveys and have not been documented in the Plan Area. Based on surveys these

species are not present. Therefore, the SLSP would have a ***less than significant*** impact on this special-status species.

With the exception of the storm drainage outfall, the riparian habitat will be preserved in open space and levee parkland. The riparian (San Joaquin Valley) woodrat and riparian brush rabbit habitat are not anticipated to be directly affected by the commercial and industrial development. Participation in the SJMSCP will provide coverage for the impact on habitat for these species, although this habitat is deemed unoccupied by these species. 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.

Special-status bats: The Plan Area provides potential habitat for several special-status bats, including: 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*), 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.

Development of the Plan Area would eliminate foraging habitat for special status bats by removing the open agricultural areas. Additionally, the riparian area along the San Joaquin River provides potential roosting habitat, which could be affected during construction of the storm drain outfall. This potential roosting area could also be affected by the ongoing human activities associated with long term operation of the project.

These special status bat species are covered by the SJMSCP. Coverage is intended to reduce impacts to special status bat species through the payment of a fee that is 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. Mitigation Measure 3.4-1 requires participation in the SJMSCP.

These special status bat species were not observed during the field surveys and have not been documented in the Plan Area; therefore they are not expected to be directly affected. The SLSP will maintain the riparian habitat along the San Joaquin River in open space, which will preserve the potential roosting habitat. Implementation of Mitigation Measure 3.4-1 would provide compensation for the loss of the potential foraging habitat. Therefore, the SLSP would have a ***less than significant*** impact on special status bat species.

American badger, San Joaquin kit fox, or San Joaquin pocket mouse: The Plan Area is frequently disturbed from active agricultural activities. As a result, the Plan Area does not contain high quality habitat for the American badger, San Joaquin kit fox, or San Joaquin pocket mouse. All but one of the documented occurrences of the San Joaquin kit fox occur on the southwest side of Tracy near the foothills. One documented occurrence is located near Mountain House. There is only one documented occurrence of American badger southeast of Tracy. The closest documented occurrence of San Joaquin pocket mouse is approximately five miles west of the Plan Area. It is highly unlikely that the Plan Area is used by American badger, San Joaquin kit fox, or San Joaquin

pocket mouse and these species have not been observed during recent or previous field surveys. Therefore, the SLSP would have a ***less than significant*** impact on these species. Nevertheless, these 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.

Impact 3.4-5: The proposed project has the potential for direct or indirect effects on candidate, sensitive, or special-status plant species (less than significant)

The records search identified nine documented special-status plant species within a 10 mile radius of the Plan Area. These nine special status plants include: Suisun Marsh aster (*Aster lentus*), Big tarplant (*Blepharizonia plumose*), Slough thistle (*Cirsium crassicaule*), Recurved larkspur (*Delphinium recurvatum*), Round-leaved filaree (*Erodium macrophyllum*), Delta button-celery (*Eryngium racemosum*), Rose-mallow (*Hibiscus lasiocarpos var. occidentalis*), Wright's trichocoronis (*Trichocoronis wrightii var. wrightii*), and Caper-fruited tropidocarpum (*Tropidocarpum capparideum*).

Of the nine documented species, there are no federal listed species, one state listed species (endangered), six CNPS 1B listed species, and one CNPS 2 listed species. The state listed species and CNPS 1B listed species are covered species under the SJMCP. The CNPS 2 listed species is not covered under the SJMCP.

Field surveys and habitat evaluations were performed by ECORP on December 8, 2004, August 15, 2005, October17, 2007, October 19, 2007, and May 7 and June 19, 2008. Field surveys and habitat evaluations were also performed by De Novo Planning Group on March 21, 2013 and April 15, 2013. The collection of field surveys included surveys that coincided with the optimum blooming period for special status plants known to occur within the region.

No special-status plants were observed within the Plan Area or offsite improvement corridors (i.e. storm drainage outfall, etc.) during field surveys. The surveys were conducted within the blooming period for all species. Implementation of the SLSP will have a ***less than significant*** impact on special status plants.

Impact 3.4-6: Effects on Protected Wetlands and Jurisdictional Waters (less than significant with mitigation)

A Wetland Delineation for South Lathrop 6A and 6B, San Joaquin County, California (ECORP 2005) was prepared for the Plan Area and verified by the Army Corps of Engineers (2008). In March 2013, De Novo Planning Group reviewed the ECORP (2005) wetland delineation and visited the Plan Area to determine the applicability of this previous study for use in the EIR. It was concluded that the conditions of the Plan Area in 2013 remain unchanged from the conditions reported in the wetland delineation. As such, the wetland delineation serves as the basis for the following analysis.

The ECORP (2005) documented a total of 0.306 acres of potentially jurisdictional waters of the U.S. as shown in Table 3.4-4 below. The 0.306 acres was verified by the USACE. The full wetland delineation, including maps and routine wetland determination forms are included in the appendix.

TABLE 3.4-4: WETLAND DELINEATION RESULTS

WETLAND TYPE	*ACERS*
Wetlands	
Seasonal Wetland	0.175
Seasonal Wetland Swale'	0.01
Other Waters	
Stock Pond	0.121
San Joaquin River	0.140
Total	0.446

**A1THOUGH NOT DELINEATED IN THE 10 NOVEMBER 2005 SUBMITTAL, THE PROPOSED OUTFALL DESIGN IS ANTICIPATED TO IMPACT 0.140 ACRE OF THE SAN JOAQUIN RIVER.*
SOURCE: ECORP, 2005.

The Plan Area contains state and federally protected wetlands and other waters of the United States, consisting of seasonal wetlands, seasonal wetland swale, and stock pond. The Plan Area also contains the San Joaquin River, which is a U.S. water. The development of the land uses within the Plan Area will require fill and/or discharge into 0.306 acres of wetlands.

In addition, runoff from the Plan Area is anticipated to discharge to the San Joaquin River through a storm drainage outfall located near the southwest corner of the Plan Area. The storm drainage outfall is regional facility that is consistent with the City's Master Drainage Plan. This facility serves an area beyond the Plan Area, including the Lathrop Gateway Business Park Specific Plan (LGBPSP) and development along the McKinley Corridor. The storm drainage outfall was identified in the LGBP Specific Plan and was addressed in the EIR for that project.

The storm drain outfall would be constructed along the east bank of the San Joaquin River, which is a navigable Water of the U.S. The section of the San Joaquin River at the outfall is bounded by levees on both sides, providing a clear separation between jurisdictional waters and adjacent farmlands. The jurisdictional limit of the river is defined by an ordinary high water mark, and the water side of the levees is vegetated with riparian trees and shrubs. The San Joaquin River falls under the jurisdiction of several agencies, including the USACE, CDFW, the State Reclamation Board, and the Regional Water Quality Control Board.

The off-site San Joaquin River was not included in the wetland delineation; however, impact acreages for the San Joaquin River are based upon outfall design and drawings provided by the applicant's engineer. A typical outfall detail is included in Appendix C Wetland Delineation: Attachment B.

In addition, it is not clear at this time whether the storm drainage outfall would be installed by the City, developers within the LGBPSP, developers along the McKinley Corridor, or the project

applicant, all of which benefit from the storm drainage outfall. Regardless of the entity that constructs the storm drainage outfall, the impact acreage is anticipated to be 0.140 acres.

Implementation of the proposed project, including the storm drainage outfall, would impact 0.446 acres of jurisdictional area. This is a potentially significant impact. Implementation of the following mitigation measures would reduce the impact to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.4-3*: Prior to any construction activities that would disturb protected wetlands in the Plan Area and/or jurisdictional areas of the San Joaquin River associated with the storm drainage outfall, the appropriate state and federal authorizations (Streambed Alteration Agreement, Section 404 permit, Section 401 water quality certification) shall be obtained. All requirements of these authorizations shall be adhered to throughout the construction phase.*

Mitigation Measure 3.4-4*: The project applicant shall compensate for any authorized disturbance to protected wetlands and/or jurisdictional areas to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state, federal, and local agencies as part of the permitting process for the project. Unless determined otherwise by the regulatory/permitting agency, the compensation shall be at a minimum ratio of 1 acre restored, created, and/or preserved for every 1 acre of wetland disturbed. It is anticipated that the total compensation will be 0.306 acres mitigated. Compensation may comprise onsite restoration/creation, off-site restoration, preservation, or mitigation credits (or a combination of these elements).*

Impact 3.4-7: Adverse Effects on Riparian Habitat or Sensitive Natural Community (less than significant with mitigation)

The CNDDB record search revealed documented occurrences of four sensitive habitats within 10 miles of the Plan Area including: Elderberry Savanna, Great Valley Cottonwood Riparian Forest, Great Valley Mixed Riparian Forest, and Great Valley Valley Oak Riparian. None of these sensitive natural communities occur within the portion of the Plan Area that will be developed with commercial and industrial uses. The strip of riparian habitat along the San Joaquin River will remain in open space to preserve the biological functions of the area, with the exception of the acreage affected by the storm drainage outfall construction. The riparian habitat contains elements of the above referenced sensitive natural communities, but is not identified as such in any local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service and is not high quality habitat that is commonly associated with these sensitive natural community designations. Nevertheless, the majority of the riparian habitat will remain intact.

The storm drainage outfall located near the southwest corner of the Plan Area is located within riparian habitat. The storm drainage outfall is regional facility that is consistent with the City's Master Drainage Plan. This facility serves an area beyond the Plan Area, including the Lathrop Gateway Business Park Specific Plan (LGBPSP) and development along the McKinley Corridor. The

storm drainage outfall was identified in the LGBP Specific Plan and was addressed in the EIR for that project.

The storm drain outfall would be constructed along the east bank of the San Joaquin River. The section of the San Joaquin River at the outfall is bounded by levees on both sides, providing a clear separation between the riparian area and adjacent farmlands. The water side of the levees is vegetated with a discontinuous band of riparian trees and shrubs. The exact design and placement of the storm drain outfall has not been identified in the SLSP; therefore the impact acreage on riparian habitat cannot be precisely quantified. There are areas were the outfall could be placed that would minimize the impact on riparian habitat because the riparian vegetation along the San Joaquin River frontage is discontinuous. The storm drainage outfall should be located in an area with low vegetation density and sparse tree coverage to minimize impacts on riparian habitat. Implementation of the following mitigation measures would ensure that the potential impact to riparian habitat is reduced to a ***less than significant*** level. There are no other sensitive natural communities within the Plan Area.

MITIGATION MEASURES

Mitigation Measure 3.4-5*: The storm drainage outfall shall be designed and located such that it avoids and minimizes impacts to riparian vegetation to the extent feasible (i.e. identify areas where vegetation density is lower and trees are sparse).*

Mitigation Measure 3.4-6*: Prior to installation of the storm drainage outfall, compensate/replace for any disturbance to riparian habitat along the San Joaquin River in association with the storm drainage outfall. Compensation/replacement ratios shall be at a minimum ratio of 1 acre restored, created, and/or preserved for every 1 acre of riparian disturbed. The acreage impacted shall be calculated based on the final design of the storm drainage outfall. Compensation may comprise onsite restoration/creation, off-site restoration, preservation, or mitigation credits (or a combination of these elements).*

Impact 3.4-8: 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 with mitigation)

The CNDDB record search did not reveal any documented wildlife corridors or wildlife nursery sites on or adjacent to the project site. The San Joaquin River, however, is a natural movement corridor for native fish that are documented in the region including: Delta smelt (*Hypomesus transpacificus*), Central Valley steelhead (*Oncorhynchus mykiss*), Central Valley fall-/late fall-run Chinook salmon (*Oncorhynchus tshawytscha*), Longfin smelt (*Spirinchus thaleichthys*), Sacramento splittail (*Pogonichthys macrolepidotus*), River lamprey (*Lampetra ayresii*), Hardhead (*Mylopharodon conocephalus).*

The land uses within the Plan Area would not have any direct disturbance to the San Joaquin River or its tributaries, and therefore, would not have any direct disturbance to these fish species. The stormwater outfall would require limited construction activities on the bank of the San Joaquin

River. These activities would not be expected to have a direct impact on these fish species as it would not interfere with movement or use of the San Joaquin River during or after the construction activities.

Construction activities associated with the outfall could have indirect impacts on these fish species from the potential for sedimentation and other pollution to enter into the San Joaquin River during construction. The outfall construction will require authorization from the USACE, RWQCB, and CDFW through the regulatory permit processes (See Mitigation Measure 3.4-3 and 3.4-4). These regulatory agencies will impose standard conditions that include best management practices that are aimed at minimizing pollution associated with construction activities.

The ongoing operational phase of the SLSP requires discharge of stormwater into the San Joaquin River through the above referenced outfall. The discharge of stormwater could result in indirect impacts to special status fish and wildlife if stormwater was not appropriately treated through BMPs prior to its discharge to the San Joaquin River. The Lathrop Municipal Code provides rules and regulations to protect water courses (Chapter 12.28) and to manage and control stormwater and discharge (Chapter 13.28). Section 13.28.130 specifically provides requirement to prevent, control and reduce stormwater pollutants. This includes requirements to implement best management practices to the extent they are technologically achievable to prevent and reduce pollutants. Under this requirement, the owner or operator of a commercial or industrial establishment shall provide reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses. Facilities to prevent accidental discharge of prohibited materials or other wastes shall be provided and maintained at the owner or operator's expense.

There are various non-structural and structural stormwater BMPs that can be implemented to reduce pollution. Non-structural BMPs are typically aimed at prevention of pollution through public education and outreach. Non-structural BMPs identified in the City's Storm Water Master Plan (SWMP) include: school educational programs, newsletters, website information, commercial, billboards/advertisements, river cleanups, and storm drain stenciling. Structural BMPS are aimed at the physical collection, filtering, and detaining of stormwater. Structural BMPs include items such as drop inlet filters, vault filters, hydrodynamic separators, surface detention basins, and underground detention facilities. The following mitigation measures would ensure that BMPs are implemented to reduce the amount of pollution in stormwater discharged from the Plan Area into the San Joaquin River. The management of water quality through BMPs is intended to ensure that water quality does not degrade to levels that would interfere or impede fish or wildlife in the San Joaquin River. Implementation of these mitigation measures would ensure that this potential impact is reduced to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.4-7*: The project applicant shall implement the following nonstructural BMPs that focus on preventing pollutants from entering stormwater:*

- *Pollution Prevention/Good Housekeeping*

- *A spill response and prevention plan shall be developed as a component of (1) SWPPPs prepared for construction activities, (2) SWPPPs for facilities subject to the NPDES general Industrial Stormwater Permit, and (3) spill prevention control and countermeasure plans for qualifying facilities.*
- *Streets and parking lots shall be swept at least once every two weeks.*

- *Operation and Maintenance (O&M) of Treatment Controls*
  - *An Operation and Maintenance (O&M) Plan shall be developed for the storm drainage facilities to ensure long-term performance. The O&M plan shall incorporate the manufacturers' recommended maintenance procedures and include (1) provisions for debris removal, (2) guidance for addressing public health or safety issues, and (3) methods and criteria for assessing the efficacy of the storm drainage system. An annual report shall be submitted to the City certifying that maintenance of the facilities was conducted according to the O&M plan.*

***Mitigation Measure 3.4-8**: The project applicant shall implement the following structural BMPs that focus on preventing pollutants from entering stormwater, or alternative BMPs approved by the City of Lathrop:*

- *Extended Detention Facilities: Extended detention refers to the facilities proposed for the Plan Area that would detain and temporarily store stormwater runoff to reduce the peak rates of discharge to the San Joaquin River. Detention of stormwater allows particles and other pollutants to settle and thereby potentially reduce concentrations and mass loading of contaminants in the discharge.*
- *Grassed Swales: A swale is a vegetated, open channel management practice designed to treat and attenuate stormwater runoff for a specified water quality volume. Stormwater runoff flowing through these channels is treated by being filtered through vegetation in the channel, through a subsoil matrix, and/or through infiltration into the underlying soils. Swales can be used throughout the SLSP area where feasible in the landscape design to treat parking lot runoff.*
- *Proprietary Devices: There are a variety of commercially available stormwater treatment devices designed to remove contaminants from drainage once flows enter the conveyance systems. StormFilter™ units, or equivalent filtration-type systems, are recommended within the commercial and industrial areas as the main structural BMP for these areas. Bioswales are also recommended for streets and parking areas. Drop inlet filters should also be used to control drainage runoff water quality.*

Impact 3.4-9: Conflict with an Adopted Habitat Conservation Plan (less than significant)

The SLSP is subject to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). The SLSP does not conflict with the SJMSCP. Therefore, the SLSP would have a ***less than significant*** impact relative to this topic. Mitigation Measure 3.4-1 requires participation in the SJMSCP.

Impact 3.4-10: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (less than significant)

The Resource Management Element of the General Plan establishes policies numerous policies related to vegetation, fish and wildlife. Below is a consistency review of the policies applicable to the proposed project.

Policy 1 seeks to retain habitat by integrating waterway habitat areas as part of an open space system, preserving standards of vegetation along waterways, achieving a "no net loss" of wetland acreage, careful introduction of recreation into habitat areas, retention of hedgerows and other habitat areas within farmland, and protection of fisheries by preventing discharge of contaminated surface waters to waterways.

The SLSP is consistent with this policy because it has incorporated an open space corridor in the southern portion of the Plan Area that includes the San Joaquin River and its adjacent riparian habitat. Additionally, mitigation is provided within this EIR that would ensure "no net loss" of wetland acreage. The open space area is passive and will not be designed in a way that would result in degradation of the riparian habitat.

Policy 2 seeks to enhance habitat by improving natural habitat along waterways, creating new habitat within multi-purpose open space areas, and cooperating with landowners to manage farmlands to increase numbers of desirable wildlife. The SLSP is partially consistent with this policy because it has incorporated an open space corridor in the southern portion of the Plan Area that includes the San Joaquin River and its adjacent riparian habitat. The SLSP does not include measures to enhance the natural habitat along the San Joaquin River. There will be minor enhancements associated with the minor impact to riparian habitat when the storm drainage outfall is installed; however, additional enhancements to the existing riparian habitat are not warranted as mitigation and have not been proposed in the SLSP.

Policy 3 references a Habitat Conservation Plan (HCP) for the Swainson's hawk that the City adopted on October 15, 1996. This policy is no longer relevant in the City of Lathrop because the SJMSCP, which is administered by SJCOG, provides coverage for Swainson's hawk including compensatory mitigation for the loss of foraging habitat.

Policy 4 requires developments proposed in sensitive biological areas to provide a site-specific analysis of the impacts of the project on fish and wildlife habitat. This policy also requires development to address ways in which new or enhanced habitat may be created. The SLSP is consistent with this policy through the analysis contained in the numerous technical biological studies and this EIR.

Policy 5 requires that land uses within areas of riparian habitat be restricted to nature-oriented passive recreation, which is considered compatible with existing or enhanced riparian habitats. The SLSP is consistent with this policy because it has incorporated an open space corridor in the southern portion of the Plan Area that includes the San Joaquin River, it's adjacent riparian

habitat, and the levee system as a natural-oriented passive recreational opportunity for the community.

Policy 6 provides requirements within SPA #2. This policy is not relevant because the Plan Area is within SPA #1.

Policy 7 requires the visual amenities of water and its potential as wildlife habitat to be reflected where feasible in all developments by the inclusion of bodies of water as components of urban form. This includes lakes, ponds, lagoons, simulated streams or similar features which can be integrated by design within recreation open space corridors, parks, commercial and residential areas and public sites. The multi-purposes use of water bodies for surface water drainage, flood control, wastewater reclamation, wildlife management, recreation and visual amenity is encouraged. The SLSP is consistent with this policy because it has incorporated an open space corridor in the southern portion of the Plan Area that includes the San Joaquin River, it's adjacent riparian habitat, and the levee system as a multi-purpose use for recreation, wildlife/vegetation management, and flood control.

The SLSP does not conflict with any of the above referenced General Plan policies protecting biological resources. There are no tree preservation ordinances or other ordinances protecting biological resources. The SLSP would have a ***less than significant*** impact relative to this topic.

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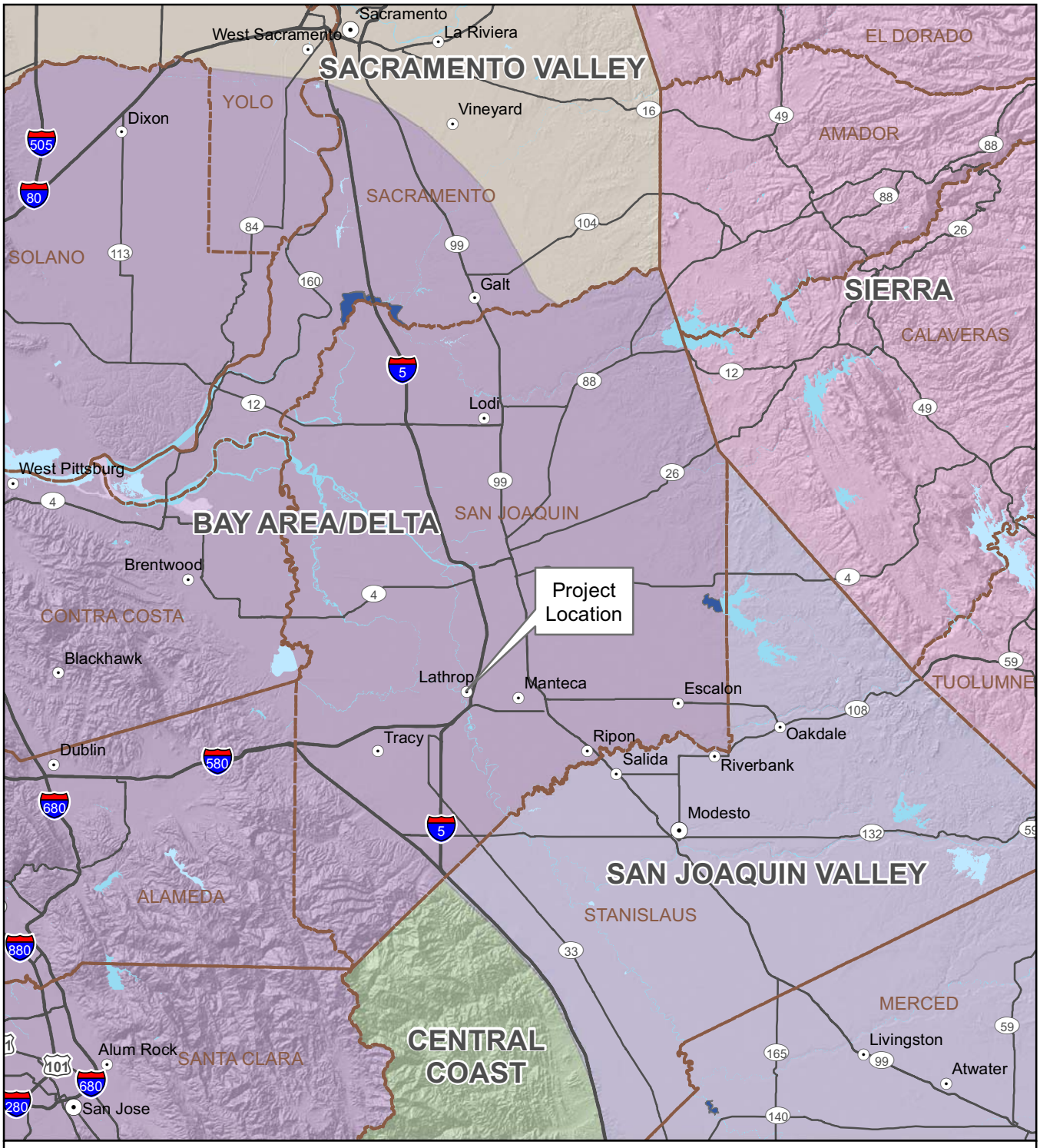

SOUTH LATHROP SPECIFIC PLAN

Figure 3.4-1: Bioregions Map

- Bay Area/Delta
- Central Coast
- Sacramento Valley
- San Joaquin Valley
- Sierra
- County Boundaries

0 5 10
Miles

1:750,000

Data sources: California Department of Forestry and Fire Protection, Bioregions (INACC Regions), publication date 2004. Shaded relief from the California Spatial Information Library. Map date: March 7, 2013.

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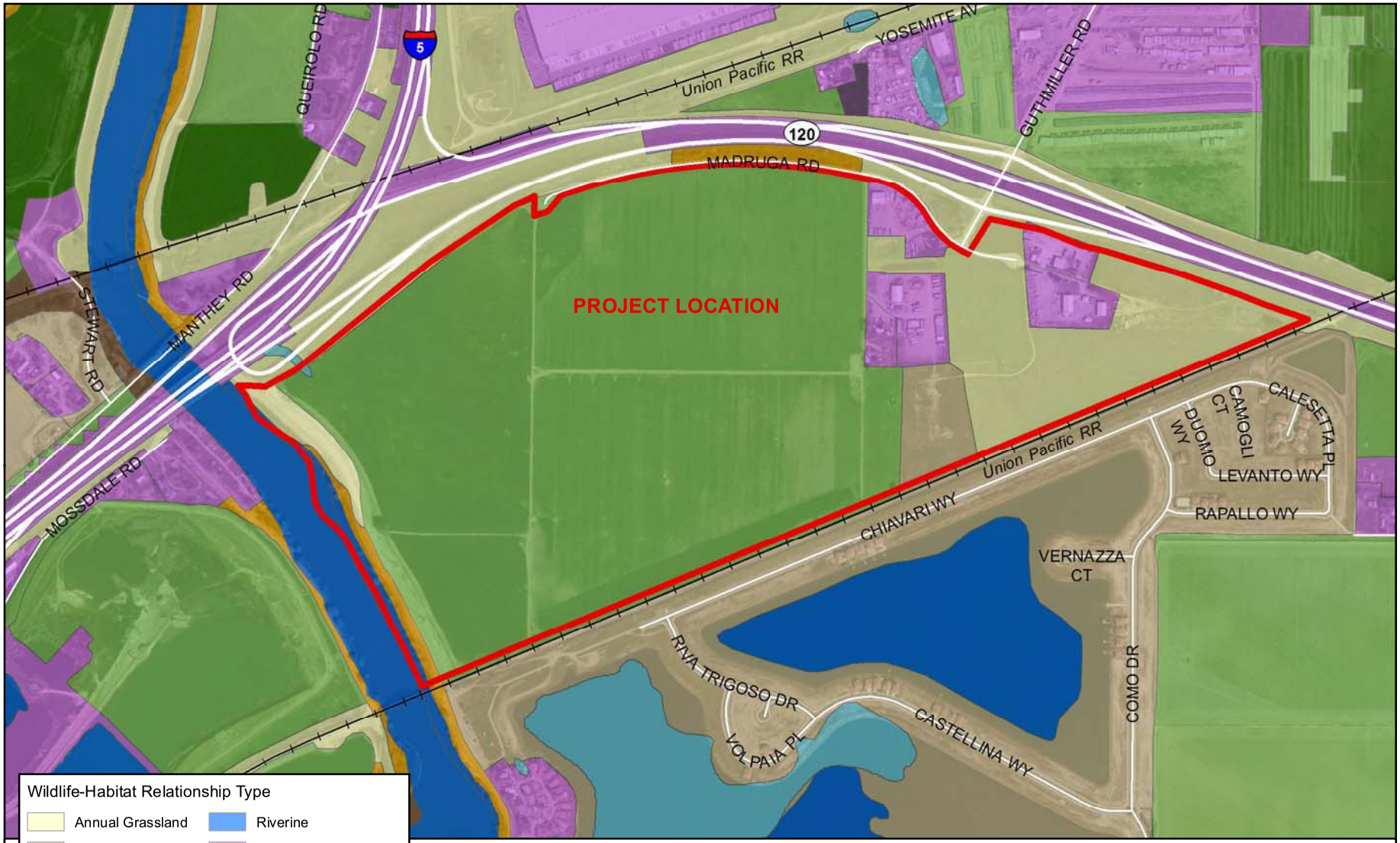

Data sources: USDA Forest Service-Pacific Southwest Region-Remote Sensing Lab, August 2009: EvegTile29A_00_07_100k_v2; San Joaquin County GIS; ArcGIS Online BING aerial image map service. Map date: March 7, 2013.

SOUTH LATHROP SPECIFIC PLAN

Figure 3.4-2: Land Cover Types

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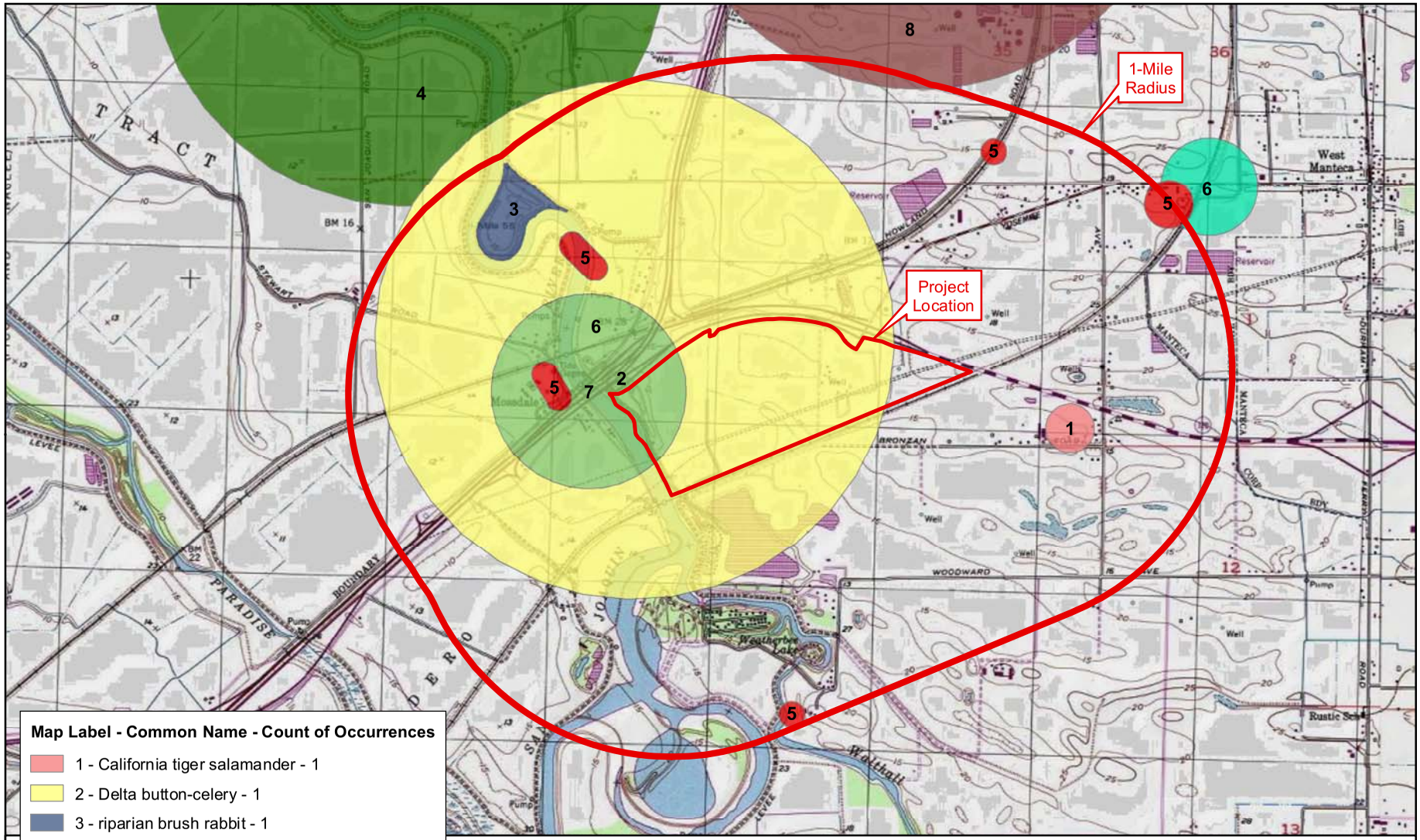

Data sources: California Department of Fish and Wildlife California Natural Diversity Database, March 5, 2013; 2011 National Geographic Society, iCubed. Map date: March 13, 2013.

SOUTH LATHROP SPECIFIC PLAN

Figure 3.4-3: Special Status Species: 1-Mile Radius

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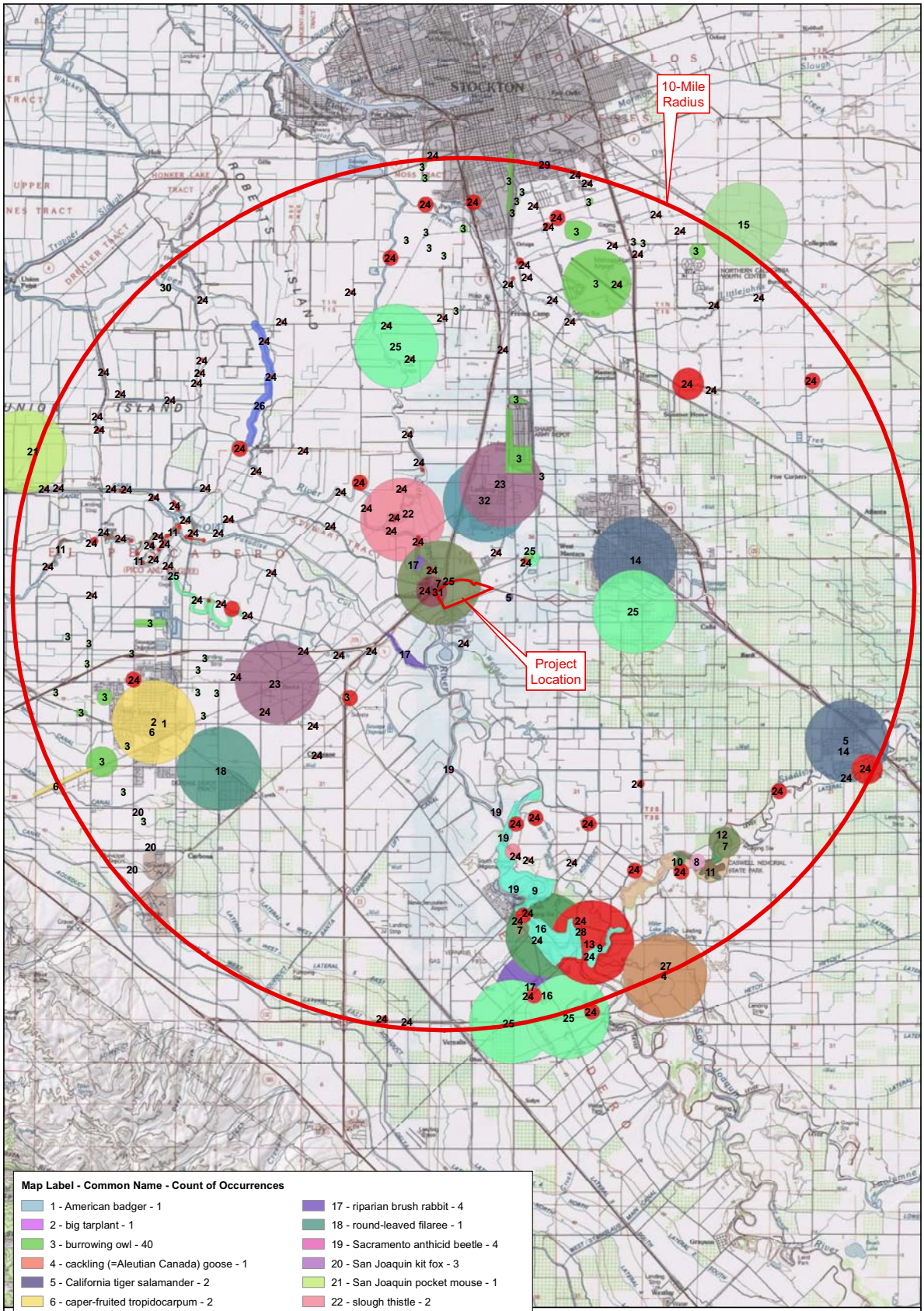

Data sources: California Department of Fish and Wildlife California Natural Diversity Database (CNDDB) March 5, 2013, 2011 Natinal Geographic, iCubed. Map date: March 13, 2013.

SOUTH LATHROP SPECIFIC PLAN

Figure 3.4-4: Special Status Species: 10-Mile Radius

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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. The NOP was sent to the Native American Heritage Commission (NAHC) in accordance with SB 18. The NAHC did not provide comments, and did not provide a list of Native American contacts. There were no comments received during the public review period for the NOP related to cultural resources. Information in this section is derived primarily from the *Cultural Resources Inventory and Assessment South Lathrop South Village* (ECORP Consulting, Inc., July 2006) and the *Subsurface Testing and Evaluation at South Lathrop South Village (Confidential)* (ECORP Consulting, Inc., June 2008).

3.5.1 ENVIRONMENTAL SETTING

PROJECT SETTING

The Plan Area is located within Sections 2 and 3 of Township 2S and Range 6E, Mount Diablo Base Meridian, as shown on the U.S. Geological Survey Lathrop, California 7.5-minute quadrangle. The Plan Area's elevation is approximately 10 to 15 feet above mean sea level. Located in a rural setting of agricultural fields, the land within the Plan Area is primarily flat plowed and graded fields. The Plan Area is located within the Great Valley region just west of the San Joaquin River, which joins the Sacramento River about five miles east of its confluence with Suisun Bay, the northern end of the San Francisco Bay area.

CULTURAL AND HISTORICAL SETTING

Local Prehistory

Prior to its occupation and conversion to agricultural production by European settlers, the Great Valley supported a diversity of natural communities including vast grasslands, valley oak savannahs, riparian woodlands, and marshes. The earliest evidence of the prehistoric inhabitants of the region surrounding the project area comes from a single, deeply buried site in the bank of Arcade Creek, north of Sacramento, containing grinding tools and large, stemmed projectile points. The points and grinding implements suggest an occupation date of sometime between 6,000 and 3,000 B.C.

It was not until after about 3,500 B.C., in the Late Archaic Period, that people began to move into the San Joaquin and Sacramento Valleys in any significant numbers. This earliest permanent settlement of the Delta region of the Sacramento River is called the Windmiller Tradition and is known primarily from burial sites containing relatively elaborate grave goods. The Windmiller Tradition reflects the amplification of cultural trends begun in the Middle Archaic, as seen in the proliferation of finished artifacts such as projectile points, shell beads and pendants, and highly polished charmstones. Stone mortars and pestles, milling stones, bone tools such as fishhooks, awls, and pins, are also present. It is probable that people during this time subsisted on deer and other game, salmon, and hard seeds. They also were apparently the first Californians to discover the process for leaching the tannins out of acorns, thus making them edible by humans. Based on

linguistic evidence, it has been suggested that the Windmiller culture was ancestral to several historic tribes in the Central Valley, including the Penutian-speaking Nisenan.

The Windmiller Tradition lasted until about 1000 B.C., around which time, subsistence strategies in the Delta region became noticeably more "focal," with a clear increase in the reliance on acorns and salmon. Culturally, this has been dubbed the Cosumnes Tradition (1700 B.C. to A.D. 500), and appears to be an outgrowth of the Windmiller Tradition. People in this time continued to occupy knolls or similar high spots above the floodplain of the Sacramento River and the terraces of tributaries such as the Cosumnes and American Rivers, flowing out of the foothills of the Sierra Nevada mountains, located to the east. Populations increased, and villages became more numerous than before, with more milling tools, and specialized equipment for hunting and fishing. Trade appears to have increased, with burials containing larger amounts of seashell and obsidian. Burial styles became more varied, with the addition of flexed interments along with the extended ones of the Windmiller period. Projectile points found embedded in the bones of excavated skeletons suggest that warfare was on the rise, possibly as a result of increased competition over available resources and trade.

The subsequent and final, discrete prehistoric culture is the Hotchkiss Tradition (A.D. 500 to 1769) that lasted until the arrival of European settlers in central California. During this period, use of acorns and salmon reached its peak, with hunting of deer. Diet was supplemented with the addition of waterfowl, hard seeds, and other resources. Large sedentary villages along the lower Sacramento and San Joaquin Rivers, and their tributaries and delta were common. The size and density of these settlements suggest a further increase in population from Cosumnes times. Trade goods were plentiful, and burials exhibit a marked stratification of society with wide differences in the amount and variety of grave goods. Cremation of the dead appears, along with the flexed inhumations of the previous period. While ornamental or ritual artifacts, such as large, fragile projectile points and trimmed bird bone increase during this period, milling tools are rare or absent. Shell beads continue in large numbers, and there are numerous utilitarian artifacts of bones such as awls, needles, and barbed harpoon points. Polished charmstones are rare during this time, but ground stone pipes become more abundant. In addition, fired and unfired clay objects begin to appear (ECORP Consulting 2008).

Ethnography

The Plan Area is in the northern portion of the territory once occupied by the Penutian speaking Northern Valley Yokuts. The territory extended from above the junction of the San Joaquin, Old, and Mokelumne rivers on the north, to the big westward bend in the San Joaquin in the south. The ethnography of the northern (lower) San Joaquin Valley is poorly known, due to the fact that the native inhabitants were for the most part gone by the time studies were undertaken. Disease, flight from missionization, and conflicts with the miners and settlers who suddenly entered the area in large numbers reduced the native population to small, isolated remnants. Thus, available information has been gleaned from historic accounts of early explorers, soldiers, hunters and trappers, missionaries, etc. Archaeology has added some information, but the record is by no means complete. The Yokuts, (meaning "person" or "people") Penutian/Yokutsan speakers, were divided into three distinct groups: the Northern Valley Yokuts, the Southern Valley Yokuts, and

the Foothills Yokuts. These groups spoke different dialects, and were separated by topography. Controversy surrounds the date for Yokut presence in the northern part of the San Joaquin Valley.

Linguistic studies suggest that the Northern Valley Yokuts were relatively recent arrivals, moving from the south about 500 years ago, as a result of pressure from Numic speakers moving into the San Joaquin drainage from the west. A Yokuts presence in the Stockton area is suggested in the archaeological record before A.D. 400, and a drying up of the lower foothills and valley may have triggered that occupation of the riverbanks.

In any case, by the time of the Spanish entrada in the early part of the nineteenth century, the Northern Valley Yokuts were well entrenched, with established settlements, on low mounds in the delta, and along the banks of the San Joaquin and its tributaries. Total population estimates for the San Joaquin Valley range from 11,000 to 52,000+, but the true population is not known. Settlements were of small round to oval structures, covered with light, woven tule reed mats, concentrated in a narrow strip, mostly along the eastern bank of the San Joaquin, and along its tributaries. Sweathouses and ceremonial chambers were also found in these villages. Territories of the tribes within the Yokuts group are thought to have averaged about 300 square miles, about a half-day's walk in each direction. Though no records exist, it is likely that social organization was centered on the family. It has been suggested that the Southern Valley Yokuts were divided into two moieties based on patrilineal descent, and this may have been true for those in the north, too. However, marriage was matrilocal, with the groom moving in with the bride's family. Polygamy was also practiced, with wives located in several villages, creating ties and alliances between dispersed groups. A large part of Northern Valley Yokuts subsistence was based on fishing. King salmon, which spawned in the San Joaquin and its tributaries, were an important resource, but they made use of other native species such as white sturgeon, river perch, western suckers, and Sacramento pike as well. Dragnets with stone sinkers were used, as were harpoons with bone or antler tips. In addition, the enormous populations of waterfowl present in the valley were exploited, as were the large herds of tule elk and pronghorn antelope. It is thought, however, that hunting was a marginal resource procurement activity, when compared to fishing. Gathering of plant resources, though, was as important as fishing, with acorns from the stands of huge valley oaks being a major component of this activity. Tule roots and a variety of seeds were also utilized.

Like their Nisenan neighbors to the north, the Northern Valley Yokuts were politically organized into tribelets, estimated to be of about 300 people each. Triblets known to be in the Delta area were the Chulamni, the Cholbones, the Coybos, and the Nototemnes. A tribe identified as the Leuchas reportedly lived near the Plan Area, but were mostly missionized by about 1815. Generally sedentary, the Northern Valley Yokuts would disperse seasonally for hunting and gathering expeditions and were sometimes forced out by flooding. Chiefs gained their position through wealth, and since women were occasionally chiefs, inheritance appears to have been important. The Spanish moved into the Central Valley around 1769, and by 1776, the territory had been explored by José Canizares. In 1808, the area was crossed by Gabriel Moraga, and in 1813, a major battle was fought between the Miwok to the north and the Spaniards near the

mouth of the Cosumnes River. Though the Yokuts appear to have escaped being removed to missions by the Spanish, they were not spared the ravages of European-spread disease. In 1833, an epidemic – probably malaria – raged through the Sacramento and San Joaquin valleys, killing an estimated 75% of the native population. Not far to the north, when John Sutter erected his fort at the future site of Sacramento, he had no problem getting the few neighboring Nisenan survivors to settle nearby. The discovery of gold in 1848, near the Nisenan village of Colluma (also Coloma), drew thousands of miners into the area, and led to widespread killing and the near total destruction of traditional Nisenan and Yokuts cultures. By the latter part of the 1800s, the Yokuts had virtually ceased to exist (ECORP Consulting 2008).

History

Although the Spanish had made forays into the Central Valley since about 1769, it was not until 1808 that Capitán Gabriel Moraga explored, and named, the Sacramento area. Other than fighting with the Indians, as in 1813 when Luis A. Arguello fought a major battle with the Miwok near the mouth of the Cosumnes River, the Spanish took little interest in the area. Moraga named the Cosumnes Rivers, an apparent Spanish spelling for the Miwok name, Ko'sum, meaning "Salmon." However, he deemed the area too swampy and mosquito infested to bother with and led the Spanish to concentrate their efforts elsewhere.

In 1827, American trapper Jedidiah Smith traveled up the Sacramento River and into the San Joaquin Valley to meet other trappers he had left encamped there, but no permanent settlements were established. The first historic Euro- American settlement in the region was about five miles to the north at French Camp by French Canadian fur trappers working for the Hudson Bay Fur Company. Between 1828 and 1845, trapping beaver in the abundant wetlands drew hundreds of trappers to the valley. However, little other information is available on the area for the period prior to 1840.

In August of 1839, a European immigrant, John A. Sutter, arrived at the confluence of the American and Sacramento rivers, armed with expectations of a land grant from the Mexican government, and dreams of an agricultural empire. He and his party erected a fort. Originally called New Helvetia, it later came to be known as Sutter's Fort. In 1841, Sutter received his land grant – some 97 square miles – and proceeded to set up fisheries, a flourmill, and a lumber mill. The fort attracted other businesses, and after gold was discovered in a flume at Sutter's lumber mill near the Nisenan village of Culloma, a store established on the Sacramento River waterfront by Samuel Brannan soon became the heart of the new settlement of Sacramento. Sutter's son John, Jr. laid out the town itself, in 1849. By 1850, the population of Sacramento had grown to about 9,000 (ECORP Consulting 2008).

LOCAL HISTORY

The Campo de Franceses land grant, second largest of the many land grants made by the Mexican government, included the area around Stockton about ten miles to the north of the Plan Area. It was granted to Guillermo Gulnak in 1844. It was later sold, and the town of Tuleberg was founded on the southern side of the Stockton Channel. The town was renamed in 1849 for Commodore Robert F. Stockton of the U.S. Navy, becoming the first town in California with a

name not of Spanish or Indian origin. During the gold rush, numerous claims were worked along the American River and on the upper reaches of the Cosumnes River. Many miners traveled into the Sierra Nevada via the San Joaquin Valley, and a number returned to the area around Stockton to start farms and ranches to supply the gold camps with meat and other goods.

Stockton became a major commercial hub, with flourmills, grain and flour exporting, and factories for agricultural equipment such as harvesters and track-type tractors. Boat building provided many of the paddle-wheel steamers that plied the Delta, and the San Joaquin and Sacramento rivers. In 1848, Jacob Bonsell and John Doak started the first ferry service across the San Joaquin, at the place where the Interstate-5 and the Union Pacific bridges presently cross the river. In 1933, the Port of Stockton opened, becoming the first and largest inland seaport in California. The first bridge across the San Joaquin River was built to accommodate the transcontinental railroad, on its way to Oakland and San Francisco.

The City of Lathrop became San Joaquin's newest city in 1990. Located five miles south of Stockton, Lathrop is the largest industrial employer in the county. In 1870, the founder of the City, Leland Stanford , changed the town's name from Wilson's Station to Lathrop in honor of his brother-in-law, Charles Lathrop. Stanford was a director of the Southern Pacific and Central Pacific Railroads, and had been a pioneer merchant in nearby French Camp and was a major landowner in the area. In 1871, various machine shops and a roadhouse were constructed at Lathrop by the Southern Pacific Railroad (SPRR) which had merged with the Central Pacific in 1870.

Since Lathrop was a division point, a "wye," the largest in California and still in use, was built there for the switching and making up of trains. The Western Pacific Railroad was completed in 1909 and ran from Oakland via Sacramento and Oroville to Salt Lake City using the Feather River Canyon to cross the Sierra Nevada. At Salt Lake City it connected with the Denver and Rio Grande Western Railway to form a transcontinental connection.

Reaching its peak historical growth in 1879, by 1890 Lathrop was still very much a railroad town. By the 1920s, Lathrop was described as a silent reminder of the time when Stanford and the SPRR endeavored to develop a town as a rival to Stockton. Later, from 1942 to 1944, during World War II, Permanente Metals Corporation, located in Lathrop and managed by Henry J. Kaiser of Kaiser Industries, began supplying the military with aircraft and bomb parts. Also, in the 1940s, Lathrop expanded into five square miles east of Louise Avenue and Interstate-5. This region was still primarily agricultural, and in the late 1940s, there was considerable shipment of milk to condensing plants and cheese factories. Later a fertilizer plant and automobile glass plant were built and later closed. Today, agriculture is the major industry in the San Joaquin Valley, with related support industries such as trucking and shipping. However, steady industrial growth with factories making items such as concrete pipe, baked good, wood products, fabricated steel, and ship building, and residential development to supply homes for the growing population of workers is changing the face of the valley (ECORP Consulting 2008).

MOSSDALE BRIDGE AND LANDING

William S. Moss was an Ohio steamboat captain who, in the mid-1800s, owned much of the land surrounding the City of Lathrop. Serving as a river port during the gold rush, early pioneers moved supplies through Mossdale Landing to found the New Hope Agricultural Project on the Stanislaus River. The site subsequently became both a major agricultural center and the site of the first ferry crossing of the San Joaquin River. In 1846, the Comet, a sailing ship coming from San Francisco, landed in this part of the San Joaquin Valley. Carrying 20 Mormon pioneers, these were the first Euro-Americans to settle in the area. The Mormon New Hope settlement lasted only one year, but for the next couple of decades, the San Joaquin River was one of the major routes into the Central Valley. The first bridge crossing of the San Joaquin River was built as a vertical lift bridge to give way to passing ships. The railroad drawbridge at Mossdale made history when it was completed in 1869, linking San Francisco with the Central Pacific transcontinental railroad. Trains still use the bridge (ECORP Consulting 2008).

METHODOLOGY

ECORP Consulting, Inc. performed a records search, literature review, Native American consultation, and field surveys as part of the investigation of potential cultural and historical resources in the Plan Area. The records search and literature review informed the previous discussion of the area's prehistory, ethnography, and history. A summary of the research and field survey results is provided below.

Research

A records search for the project location (USGS Lathrop, California 7.5' Quad, Township 2 South, and Range 6 East, sections 2 and 3, Mount Diablo Base Meridian (MDBM)) was undertaken at the Northern California Information Center at the University of California, Sacramento. The purpose of the records search was to determine the extent of previous surveys in the project area, and whether previously documented prehistoric or historic archaeological sites, architectural resources, or traditional cultural properties exist within this area. The records show that eleven previous archaeological surveys were conducted in the vicinity of the project: *Cultural Resources Evaluation for the Manteca Wastewater Project San Joaquin County, California,* David Chavez, San Francisco, CA, 1981; *A Preliminary Cultural Resources Investigation of the South Manteca Area Plan, 7,800 Acres in San Joaquin County, California*, L. Kyle Napton, California State University, Stanislaus Institute for Archaeological Research, Turlock, CA, 1993; *Cultural Resources Assessment within Reclamation District 17, San Joaquin County, California*, Frank Deitz, USACE,1998; *Cultural Resources Assessment Report, Oakwood Lake Expansion EIR, San Joaquin County, CA*, William Self Associates, 1999; *Archaeological Survey Report, Mossdale Widening Project,* California Department of Transportation, 2001; *Cultural Resources Survey for the Mossdale Landing Urban Design Concept, City of Lathrop, San Joaquin County,* Charlene Gross, EDAW, INC., 2002; *Historic Property Survey Report. Mossdale I-5 Widening Project, San Joaquin County, California,* California Department of Transportation, 2003; *Results of the Discovery Phase of Data Recovery at CA-SJO-3; South County Water Supply Program, San Joaquin County, California*, Kenneth M. Becker, Statistical Research, Inc., Redlands, CA, 2004; *Archaeological*

Inventory Survey Mossdale Landing South Project, c. 100 acres South of Lathrop, San Joaquin County, California, Peter M. Jensen, Jensen & Associates, Chico, CA, 2004.

In addition to the official records and maps for archaeological sites and surveys in San Joaquin County, ECORP Consulting also reviewed the following historic references: the *National Register of Historic Places- Listed properties* (Office of Historic Preservation 2007 and updates), *California Historical Landmarks* (Office of Historic Preservation 1996 and updates), *California Points of Historical Interest* (1992 and updates), *Gold Districts of California* (Clark 1963 and updates), *California Gold Camps* (1975), *California Place Names* (Gudde 1969), *1500 California Place Names* (Bright 1998); *A Field Guide to American Houses* (McAlester 2000); *Survey of Surveys Historic and Architectural Resources* (1989), *Directory of Properties in the Historical Resources Inventory* (1999), *Caltrans Local Bridge Survey* (1989, updated 2000), *Caltrans State Bridge Survey* (1987), *California and Pony Express Trail* (1984), *Historic Spots in California* (2002), and *Handbook of North American Indians, Vol. 8* (1978). Archival research has been conducted to determine the history of the occupation and use of the sites. Research was also conducted at the San Joaquin County Assessor's Office, ECORP's research library, and DataQuick. Contacts were also made with the current land tenant to obtain property history information.

RESEARCH RESULTS

ECORP's records research indicated that no historic or prehistoric sites are known to be located within the project boundary. However, records indicate that there are several significant prehistoric sites and historic sites, and two prehistoric isolates, located within one mile of the Plan Area but are not within the project boundaries (ECORP 2008). These resources include:

- CA-SJO-3/H: Prehistoric/historic - multi-component prehistoric occupation/burial site and historic school;
- CA-SJO-19/H: Prehistoric/historic - multi-component prehistoric occupation, burial site, and historic homestead;
- CA-SJO-165: Prehistoric - 18 burials, fire hearths, 3 large sandstone bowl mortars, an 1876 penny, various types of beads, and large and small obsidian projectile points;
- P-435 (Mossdale Bridge # 29C-0127): Historic bridge remains consisting of two pylons of iron sheet metal riveted into cylinders and filled with cement; and
- CA-SJO-274H: Historic bridge remains consisting of two pylons of iron sheet metal riveted into cylinders and filled with cement.

The three sites with prehistoric components include: 1) CA-SJO-3/H, a multi-component prehistoric occupation and burial site and historic school; 2) CA-SJO-19/H, a multi-component prehistoric occupation and burial site, and historic homestead; and 3) CA-SJO-165, a prehistoric site that consists of 18 burials, fire hearths, 3 large sandstone bowl mortars, an 1876 penny,

various types of beads, and large and small obsidian projectile points. An historic structure was built on top of the prehistoric component of the site in 1870.

The two previously recorded historic resources located within one mile are: 1) P-435 (Bridge # 29C-0127, known as the Mossdale Bridge); and 2) CA-SJO-274H, which are bridge remains consisting of two pylons of iron sheet metal riveted into cylinders and filled with concrete.

The two isolates are P-4235, a mano, and P-4336, an obsidian biface.

A review of the listed historic references revealed California Historic Landmark #437, which commemorates the landing area for the first known sail launch to ascend San Joaquin River from San Francisco, in 1846. Two years later, Bonsell and Doak started their ferry service at this location. Mossdale School is noted on the 1912 USGS quadrangle map. In addition, the railroad drawbridge at Mossdale is located within 0.25 mile of the southwestern corner of the Plan Area. This bridge made history when it was completed in 1869, linking San Francisco with the Central Pacific transcontinental railroad. (ECORP 2008)

In addition to the information gathered during the records search and literature review, as presented in the 2006 ECORP survey report and additional archival research was performed for the 2008 report prepared by ECORP. Of particular importance was the ability to establish a historical chronology for the Plan Area. Construction dates of features and structures in the vicinity were important for determining human presence and activity in the area that may have contributed to the formation of the archaeological sites being evaluated. Historical maps and photographs were compared over time to note the construction of railroads, roads, and buildings. Likewise, the disappearance of constructed features was also noted. Toward this end, historical aerial photographs and topographic maps of the Plan Area and vicinity were acquired from a commercial supplier and from archival records. The aerial photographs spanned from 1957 to 2005. Historic maps for the Plan Area include the 1857 – 1907 General Land Office Plat. Topographic maps acquired for the Plan Area included the USGS map dated 1996.

Native American Consultation

During the previous cultural resources survey (August 2006), ECORP consulted with the Native American Heritage Commission (NAHC) concerning potential areas of Native American concern regarding the Plan Area. A letter was mailed to extend necessary consideration to Native American representative, Kathrine Erolinda-Perez, on the proposed undertaking. ECORP received a response from Ms. Erolinda-Perez during the initial consultation phase. Ms. Erolinda- Perez expressed concerns with the possibility of burials and requested a copy of the project report. Because more than one year had passed since Ms. Erolinda-Perez had been contacted about this project, and because subsurface testing was being carried out in an area that she expressed as being sensitive, ECORP contacted her again as part of the later evaluation phase. On November 19, 2007, ECORP contacted Ms. Erolinda-Perez by letter, stating the results of the archaeological survey and the status of upcoming work. Follow-up phone calls were conducted on December 12 and 24, 2007 and an updated letter was mailed on January 10, 2008 to inquire about any other

concerns. Ms. Erolinda-Perez has not responded to the letters or phone messages sent by ECORP. (ECORP 2008)

Field Survey and Site Investigation

MARCH 2005/JANUARY 2006 FIELD SURVEY AND RESULTS

On March 8, 2005 and January 10, 2006, a systematic archaeological survey, designed to identify historic and prehistoric sites, features, and artifacts on the Plan Area, was conducted by ECORP Consulting, Inc. employees, Julia Green, RPA, Michael Oberndorf, RPA, Sandra Wadsworth, Marcos Guerrero, and Kyle Johnson. The survey was conducted to the standards set by the Secretary of the Interior (National Park Service 1983; 1990). Transects with 30 meter intervals were walked and shovel scrapes were conducted when survey area vegetation coverage was greater than 50 percent. This survey effort identified two historic resources, EC-06-52 and EC-06-53, as well as six isolate and four prehistoric resources. (ECORP 2006).

The cultural resources identified as part of the survey were:

CA-SJO-313H -EC-06-052, Debris Scatter. This site consists of a sparse scatter of disturbed historic debris, including white and off-white ceramic shards and glass shards including a brown jug rim and handle and blue and purple glass. No diagnostic materials were observed. The site measures 45 by 68 feet and appeared to have been heavily disturbed by plowing and rodent burrowing. Artifact 1, a bottle with a decorative motif around the shoulder, appears to have surfaced as a result of rodent burrowing. Additional modern artifacts, such as plastic, were also noted.

P39-004604 -EC-06-53, Irrigation System. This site consists of a water conveyance system composed of a concrete standpipe, two alfalfa valves, and floodgates. The site appears to have been part of an irrigation system used to water an adjacent field. Feature 1 consists of one concrete standpipe with an embedded metal pipe; its purpose is not clear. Feature 2 consists of three floodgates, with heights varying depending on soil deposited near the gates. Two of the gates are badly damaged and only remnant portions of the walls exist, with two missing the alfalfa valves. Feature 3 is composed of two alfalfa valves.

The prehistoric isolates include ISO-1, a fragment of grandet ground stone; ISO-2, a ground stone mano; a green chert flake; and a small piece of fire cracked rock. The historic isolates include a poured concrete water trough and a Bean electric turbine spray pump with a manufacture date of February 27, 1948.

DECEMBER 2007 FIELD SURVEY AND RESULTS

On December 5, 2007, ECORP conducted systematic archaeological testing on the Plan Area. Three localities were examined using subsurface testing techniques to determine the presence or absence of cultural material that could assist in evaluating the resources using NRHP and CRHR eligibility criteria. Site CA-SJO-313H and two additional areas that correspond to black dots on topographic maps (but did not have observed surface cultural material) were subjected to

subsurface testing. Due to the nature of site P39-004604 (irrigation features), this site was evaluated through archival research only. Fairly heavy vegetation cover limited visibility in a few parts and plowing had occurred throughout the entire test area. Nevertheless, visibility was generally good, that is greater than 50 percent, in at least half of the surveyed areas, with bare patches and rodent backdirt in the less visible vegetated portions.

CA-SJO-313H

In an effort to locate evidence of subsurface deposits associated with a former residence in the area of site CA-SJO-313H, and to assist in the placement of subsurface units, ECORP first consulted historic aerial and topographic maps. The review of the 1957 and 1963 aerial photographs identified a structure just west of the large oak tree that is still present within the CASJO- 313H site boundary. This structure was no longer present in the 1983, 1987, 1993, and 2005 aerial photographs, which suggests that it was constructed before 1957 and was demolished before 1983. The 1952 edition of the USGS Lathrop quad and subsequent photorevisions (1968, 1976, 1987, and 1996) show a structure marked in black in that same location, indicating that the structure was built prior to 1952.

On December 13, 2007, ECORP archaeologist Marcos Guerrero contacted Mr. Mainard Roorda, the current tenant and former owner, in an attempt to determine the age of the structure located at or near the location of CA-SJO-313H. Mr. Roorda explained that he initially acquired the property in 1976 (Richland Communities subsequently purchased the property). At this time the feature had already been demolished and there was no evidence of any structure in the general vicinity. He said he suspected there might have been a house in or around this location because there was a well nearby. Therefore, based on aerial photographs and informant accounts, the structure was constructed before 1952 and was removed between 1963 and 1976.

Because this structure was constructed prior to 1952, the archaeological deposits associated with the former structure are more than 50 years old and required evaluation for significance. Therefore, a testing program was carried out by ECORP. Within the site boundary numerous glass, ceramic, and metal artifacts were observed. Prior to subsurface testing, ECORP conducted a surface collection of temporally or technologically diagnostic artifacts from the site (Table 3.5-1).

TABLE 3.5-1: DIAGNOSTIC ARTIFACT SURFACE COLLECTION RESULTS OF CA-SJO-313H

CATALOG #	COLLECTION AREA	DESCRIPTION OF CULTURAL MATERIAL	DATE
10	Surface	One complete machine-made glass medicine bottle with plastic screw-on cap. Has "Aristocrat 3" embossed on base and mL and ounces measurements along side.	Unknown
11	Surface	One machine-made kidney-shaped liquor bottle base with "D-9 83 54 M-1621A" embossed and faint C/G stamp	1945- present
12	Surface	Machine-made beverage bottle: partial base and body w/ parison mold lines	1925- present
13	Surface	Machine-made beverage bottle: partial base w/ parison mold lines	1925- present

CATALOG #	COLLECTION AREA	DESCRIPTION OF CULTURAL MATERIAL	DATE
14	Surface	Machine-made small diameter glass base (drinking glass) with "1" embossed	Unknown
15	Surface	Machine-made bottle marked with Owens-Illinois Glass Co. and Duraglass in middle, and a plant code of "20" indicating either Backinridge, PA or Oakland , CA	1940-1956
16	Surface	Machine-made liquor bottle top. Screw top with perforated metal bottom portion of cap still attached.	1920s - present
17	Surface	Machine-made, thick base, jar or bottle, with parison mold lines	1925- present
18	Surface	Machine-made square or rectangular partial base and body; body outside is roughened and "24" on bottom	Unknown
19	Surface	Bottle body fragment, embossed letters "..OT BE..", "..INCE 1.."; most likely root beer bottle	Unknown
20	Surface	Bottle or jar body fragment; corrugated or threaded at top	Unknown
21	Surface	Machine-made jar base and body fragment with "BE.." on base	1890s- 1960s
22	Surface	Jar or bottle body fragment	1890s- 1960s
23	Surface	Machine-made pitcher handle with seam in half, portion of corrugated pitcher attached	Unknown
24	Surface	3 jadeite fragments of mug/cup (1 rim, 1 rim/handle, 1 base	1930-1972
25	Surface	White ceramic plate fragment with light blue checkerboard print	Unknown

SOURCE: ECORP CONSULTING, INC., 2008

Following the surface collections, three Shovel Test Probes (STPs) were placed in areas with the highest surface artifact concentrations in order to locate subsurface deposits that may contain data useful in the evaluation of the site relative to NRHP Criterion D and CRHR Criterion 4 (Table 3.5-2). All STPs measured 40 centimeters in diameter and ranged in depth from 40 to 55 centimeters below the surface. The STPs were excavated and recorded in 20-centimeter levels.

TABLE 3.5-2: STPS AT CA-SJO-313H

STP NO.	DIAMETER (CM)	DEPTH (CMBS)	SOIL COLOR	CULTURAL MATERIAL
1	40	0-20	5Y 4/3	Glass, Shell
1	40	20-40	5Y 4/3	None
1	40	40-50	5Y 4/3	None
2	40	0-20	5Y 4/3	Metal, Glass
2	40	20-40	5Y 4/3	Fauna
2	40	40-55	5Y 4/3	None
3	40	0-20	5Y 4/3	Ceramic, Glass
3	40	20-40	5Y 4/3	None

SOURCE: ECORP CONSULTING, INC., 2008

As a result of testing, it was determined the entire site area had been plowed, with the plow zone ranging from 0 to 40 centimeters below the surface. All cultural deposits were found within the

plow zone. STP 1 was placed approximately two meters east of the levee along the southwestern portion of the site boundary. The STP was taken down to a depth of 50 centimeters below surface (cmbs). From 0 to 40 cmbs, the soil consisted of loose sandy silt, interpreted as the plow zone, where glass and metal fragments were uncovered. From 40 to 50 cmbs, the soil consisted of gritty sandy silt and no artifacts were found. The unit was then considered to be culturally sterile and was closed.

STP 2 was placed approximately three meters west of a large oak along the central portion of the site area. The STP was excavated to a depth of 55 cmbs. From 0 to 40 cmbs, the soil consisted of loose sandy silt (the plow zone), where glass and metal fragments and faunal bone fragments were uncovered. From 40 to 55 cmbs, the soil consisted of gritty sandy silt and no artifacts were found. At that point, the unit was considered to be culturally sterile and was closed.

STP 3 was placed approximately 20 meters east of a large oak along the southeastern portion of the site area. The STP was excavated to a depth of 40 cmbs. From 0 to 20 cmbs, the soil consisted of loose sandy silt (the plow zone) where glass and metal fragments and faunal bone fragments were uncovered. No cultural material came from the 20 to cmbs level and the STP was terminated at 40 cmbs.

ECORP identified artifacts from the STPs in order to attempt to establish a tentative timeline for the material recovered. Table 3.5-3 presents the results of the analysis.

TABLE 3.5-3: STPS AT CA-SJO-313H

CATALOG NUMBER	STP NO.	DEPTH (CMBS)	DESCRIPTION OF CULTURAL MATERIAL
1	1	0-20	1 piece colorless window glass, 2 pieces tinted window glass, 3 pieces colorless weathered bottle glass
2	1	0-20	1 fragment freshwater clam/mussel shell
3	2	0-20	22-cal. Shell with "F" embossed on bottom
4	2	0-20	rounded fragment of glass bottle/jar
5	2	20-40	2 fragments of bottle glass (1 brown, 1 colorless), 1 melted globule of olive glass
6	2	20-40	1 fragment of bone, possibly beef
7	3	0-20	1 fragment brown bottle glass, 2 fragments colorless glass with round bulbs (possibly from a mug)
8	3	0-20	1 white glazed ceramic plate fragment (has partial base), 1 white glazed fragment
9	3	0-20	2 fragments freshwater mussel shell

SOURCE: ECORP CONSULTING, INC., 2008

In summary, the stratigraphy of the site revealed a relatively consistent subsurface deposition. A plow zone, composed of loose sandy silt and artifacts, was present on the surface to approximately 40 cmbs. Beneath the plow zone is culturally sterile soil. All of the artifacts were found within the plow zone, and were composed of typical domestic refuse. Although many of the artifacts could not be accurately dated, due to lack of integrity, many were associated with

the 1920s to 1960. The artifact assemblage recovered from site CASJO- 313H is consistent with typical domestic debris, including beer and soda bottles, ceramic tableware, a mug or cup, and beef bone fragments, which suggests that the former structure was a house. The apparent absence of subsurface foundations or concentrated refuse deposits does not provide enough data to answer research questions developed for this site. (ECORP 2008)

P39-004604

Site P39-004604, a water conveyance system, consists of three features: a concrete standpipe, two alfalfa valves, and three floodgates. Site P39-004604 was located within a plowed agricultural field. The site appears to have been part of irrigation system used to water the corresponding field. Additional related irrigation features were observed throughout the project area. Archival research was conducted in order to locate information that may contain data useful in the evaluation of the site relative to NRHP Criteria A, B, and C, and CRHR Criteria 1, 2, and 3. In an effort to determine the age of the irrigation system, ECORP consulted historic aerial and topographic maps. The review of the 1957 and 1963 aerial photographs showed the adjacent agricultural field in use before 1957. However, the water conveyance system designated as P39-004604 does not appear on the airphotos until 1983. Prior to 1983, it was an informal irrigation system. A review of the USGS 1952, 1968, 1976, 1987, and 1996 Lathrop quadrangle maps does not show any evidence of a historic structures or features at the location of P39-004604. (ECORP 2008)

Additional Testing Areas

During archival research and map reviews, ECORP noted the presence of two possible historic structures on the 1996 USGS Lathrop topographic quadrangle map that did not correspond to associated archaeological deposits. These two features were represented on the map by irregularly shaped black marks that appeared to represent industrial or commercial structures that predated the photorevisions to the map and would have been present when the original edition of the map was published in 1952. The black marks were located south of site CA-SJO-313H, and along the river. Due to the presence of other historical structures in the area, and the likelihood that other structures might be present along the Western Pacific Railroad, ECORP placed shovel test units at these locations, referred to as the Central and Southern testing areas to refer to their relative location south of CA-SJO-313H.

Within the Central testing area, ECORP excavated six STPs in the area where the structure was believed to exist. All STPs measured 40 centimeters in diameter and ranged from 45 to 60 cmbs. As a result of testing, ECORP concluded that the entire area had been plowed, with the plow zone extending from 0 to 40 cmbs. No cultural material was located or observed.

Within the Southern test area, ECORP placed one STP in the area where the structure was believed to exist. The STP measured 40 centimeters in diameter and was excavated to a point 50 cmbs. As a result of testing, ECORP concluded that the entire area had been plowed, with the plow level existing from 0 to 40 cmbs. No cultural material was located or observed.

After testing, which yielded no cultural deposits at either location, ECORP concluded that these two irregular black dots were the result of a rare ink splotch error on the 1987 quadrangle that was carried over onto the 1996 map. No structures had been present at these locations, and the subsurface testing results are consistent with this conclusion. (ECORP 2008)

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 National Register of Historic Places (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.*

STATE

California Register of Historic Resources

The California Register of Historical Resources (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

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 Public Resources Code (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.

Assembly Bill 978

In 2001, Assembly Bill (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.

LOCAL

City of Lathrop General Plan

The Community Development and Resource Management Elements of the City of Lathrop General Plan contains the following policies that are relevant to cultural or historical aspects of the proposed project.

COMMUNITY DEVELOPMENT ELEMENT

Policy 7.3: Significant natural open space and cultural resources should be identified prior to development and incorporated into site-specific development project design.

RESOURCE MANAGEMENT ELEMENT

Archaeological and Cultural Resource Policies

Policy 1. Existing known archaeological and cultural resources are to be protected, beginning with the filing of an application for development in the immediate vicinity of such resources. The City shall follow the procedures set forth in Appendix K of CEQA Guidelines. Confidentiality shall be maintained between the City and developer to avoid vandalism or desecration of such resources. Alternatives for development design intended to protect cultural resources shall be reviewed by a Native American having competence in understanding and interpreting the importance of the resources and of the most desirable methods to assure their preservation.

Policy 2. The potential loss of as yet unknown archaeological and cultural resources shall be avoided by close monitoring of the development process. The close proximity of properties intended for development to natural watercourses or to known archaeological or cultural resources shall be taken as a signal by the City and

developer of a potential for unearthing unknown resources. In such cases, the City shall instruct the developers, construction foremen and City inspectors of the potential for damage to artifacts and sites, and provide written instructions requiring a halt to all excavation work in the event of any find until the significance of the find can be evaluated by competent archaeological and Native American specialists. The costs of such protection work shall be the responsibility of the developer.

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 resources if it will:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5;
- Cause a substantial adverse change in the significance of archaeological resource pursuant to CEQA Guidelines §15064.5;
- Directly or indirectly destroy a unique paleontological resource;
- Disturb any human remains, including those interred outside of formal cemeteries.

IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: Project implementation has the potential to cause a substantial adverse change to a significant historical resource, as Defined in CEQA Guidelines §15064.5 (Less than Significant with Mitigation)

As described above, the Plan Area is located in an area known to have cultural and historical resources. During the field surveys conducted in the Plan Area, historical and prehistorical resources were identified. Two resources, CA-SJP-313H and P39-004604, and associated artifacts and features were identified in the Plan Area, as previously described. Cultural and historic isolates were also identified in the Plan Area, as previously described.

FEDERAL CRITERIA

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;

(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."

In addition, the resource must be at least 50 years old, except in exceptional circumstances (36 CFR 60.4).

Effects to NRHP-eligible resources (historic properties) are adverse if the project may alter, directly or indirectly, any of the characteristics of an historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

STATE CRITERIA

Under state law (the CEQA) the purpose of the test programs at the archaeological sites in the Plan Area was to obtain data with which to evaluate the sites using CRHR eligibility criteria in order to determine whether any of the sites are Historical Resources, as defined by CEQA. CEQA requires that impacts to Historical Resources be identified and, if the impacts would be significant, that mitigation measures to reduce the impacts be applied. A Historical Resource is a resource that:

1) Is listed in or has been determined eligible for listing in the CRHR by the State Historical Resources Commission,

2) Is included in a local register of historical resources, as defined in Public Resources Code 5020.1(k),

3) Has been identified as significant in an historical resources survey, as defined in Public Resources Code 5024.1(g), or

4) Is determined to be historically significant by the CEQA lead agency [CCR Title 14, Section 15064.5(a)].

The eligibility criteria for the CRHR are as follows [CCR Title 14, Section 4852(b)]:

1) *It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;*

2) *It is associated with the lives of persons important to local, California, or national history;*

3) *It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or*

4) *It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.*

In addition, the resource must retain integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [CCR Title 14, Section 4852(c)].

Impacts to a Historical Resource (as defined by CEQA) are significant if the resource is demolished or destroyed or if the resource or its immediate surroundings are altered such that the significance of the historical resource would be materially impaired [CCR Title 14, Section 15064.5(b)].

CEQA CRITERIA

CEQA Guidelines §15064.5 provides guidance for determining the significance of impacts to 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 Public Resources Code (PRC) §§21083.2 and 21084.1.

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.

Evaluation of Resources

CA-SJO-313H

NRHP Criterion A and CRHR Criterion 1 address the association of this site to important events in national or state history. No association can be confirmed between this site and anyone or any event important in history. Therefore, this site appears to be ineligible for listing in the NRHP or CRHR under NRHP Criterion A and CRHR Criterion 1.

NRHP Criterion B and CRHR Criterion 2 address the association of this site to important persons in national or state history. Because neither the archival nor the archaeological records can connect this site to any person or persons, regardless of their historical significance, this site appears to be ineligible for listing in the NRHP or CRHR under NRHP Criterion B and CRHR Criterion 2.

NRHP Criterion C and CRHR Criterion 3 address whether or not this site possesses distinctive characteristics of construction or architecture. Because this site lacks standing structures, it appears to be ineligible for listing in the NRHP or CRHR under NRHP Criterion C and CRHR Criterion 3.

Finally, NRHP Criterion D and CRHR Criterion 4 address whether or not this site has the potential to yield information important in the history of the nation or the state, through an examination of pertinent research themes presented above. Subsurface excavation failed to yield substantial deposits, and the artifacts that were recovered during testing are associated with the 20th century, and are not associated with early settlement of the area. None of the artifacts recovered suggest an association with the historic railroad, and they fail to provide information about agricultural activities inside the project area. The remnants of the former house are representative of a typical early to mid-20th century rural residential structure; hence, the research questions presented above cannot be addressed through further examination of these refuse deposits. As such, this site appears to be ineligible for listing in the NRHP or CRHR under NRHP Criterion D and CRHR Criterion 4.

CA-SJO-313H is evaluated as not eligible under any NRHP Criteria and CRHR Criteria. (ECORP 2008). In addition, it cannot be clearly demonstrated that there is a high probability that this resource: 1) contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; 2) has a special and particular quality such as being the oldest of its type or the best available example of its type; or 3) directly associates with a scientifically recognized important prehistoric or historic event. As such, this resource does not meet the definition of a "unique" site as outlined in PRC §21083.2 and it is not considered a significant resource by the lead agency.

P39-004604

The site consists of several features related to the agricultural use of the Plan Area that do not appear on historical topographic maps or aerial photographs until 1983. Moreover, irrigation systems are common features in the built landscape in California and lack subsurface deposits. No association can be confirmed between this site and anyone or any event important in history.

Therefore, this site appears to be ineligible for listing in the NRHP or CRHR under NRHP Criterion A and CRHR Criterion 1.

Because neither the archival nor the archaeological records can connect this site to any person or persons, regardless of their historical significance, this site appears to be ineligible for listing in the NRHP or CRHR under NRHP Criterion B and CRHR Criterion 2.

Because this site lacks standing structures, it appears to be ineligible for listing in the NRHP or CRHR under NRHP Criterion C and CRHR Criterion 3.

In light of these considerations, and the absence of adequate data beyond that which has already been recorded and that would be important in history (NRHP Criterion D, CRHR Criterion 4), this site is considered to be ineligible for inclusion on the NRHP or CRHR. (ECORP 2008)

It cannot be clearly demonstrated that there is a high probability that this resource: 1) contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; 2) has a special and particular quality such as being the oldest of its type or the best available example of its type; or 3) directly associates with a scientifically recognized important prehistoric or historic event. As such, this resource does not meet the definition of a "unique" site as outlined in PRC §21083.2 and it is not considered a significant resource by the lead agency.

Isolates

Isolates have no potential to yield important information (NRHP Criterion D), are not associated with important events or persons (NRHP Criteria A and B), and are not architecturally distinctive (NRHP Criterion C). Therefore, all isolates within the project area are not eligible for the NRHP or the CRHR. No further investigation of the isolates is necessary. (ECORP 2008) It cannot be clearly demonstrated that there is a high probability that this resource: 1) contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; 2) has a special and particular quality such as being the oldest of its type or the best available example of its type; or 3) directly associates with a scientifically recognized important prehistoric or historic event. As such, this resource does not meet the definition of a "unique" site as outlined in PRC §21083.2 and it is not considered a significant resource by the lead agency.

Summary

The resources identified in the Plan Area are not eligible for listing based on the four criteria under the NRHP and CRHP as previously discussed. Additionally, it cannot be clearly demonstrated that there is a high probability that these resources: 1) contain information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; 2) have a special and particular quality such as being the oldest of its type or the best available example of its type; or 3) directly associates with a scientifically recognized important prehistoric or historic event. As such, these resources do not meet the definition of a "unique" site as outlined in PRC §21083.2 and it is not considered a significant

resource by the lead agency. The resources have been recorded and the loss of these resources would be a less than significant impact. However, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or historical resource or human remains. The implementation of the following mitigation measure would ensure that this potential impact is **less than significant**.

MITIGATION MEASURES

Mitigation Measure 3.5-1*: If any cultural resources, including prehistoric or historic artifact, or other indications of archaeological resources are found during grading and construction activities, all work shall be halted immediately within a 200-foot radius of the discovery until the 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 cannot 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.

If a potentially-eligible resource is encountered, then the archaeologist, lead agency, and project proponent shall arrange for either 1) total avoidance of the resource, if possible; or 2) test excavations to evaluate eligibility and, if eligible, total data recovery as mitigation. The determination shall be formally documented in writing and submitted to the lead agency as verification that the provisions in CEQA for managing unanticipated discoveries have been met.

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 Applicant's expense.

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 (Less than Significant with Mitigation)

The Plan Area is located in an area known to have cultural resources. During the field surveys conducted in the Plan Area, cultural resources were identified. Two resources, CA-SJP-313H and P39-004604, and associated artifacts and features were identified in the Plan Area. Cultural isolates were also identified in the Plan Area. These resources do not meet the definition of a "unique" site as outlined in PRC §21083.2 and they are not considered a significant resource by the lead agency. The resources have been recorded and the loss of these resources would be a less than significant impact. The field surveys did not reveal a significant archeological resource or site in the Plan Area. However, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural resource or human remains. The implementation of the Mitigation Measure would ensure that this potential impact is **less than significant**.

MITIGATION MEASURES

Implement Mitigation Measure 3.5-1

Impact 3.5-3: Project implementation has the potential to directly or indirectly destroy a unique paleontological resource (Less than Significant with Mitigation)

The field surveys by ECORP (2006) and (2008) did not reveal any surface evidence of paleontological resources in the Plan Area. The Plan Area is not expected to contain subsurface paleontological resources, although it is possible.

Damage to or destruction of a paleontological resource would be considered a potentially significant impact under local, state, or federal criteria. Implementation of the following mitigation measure would ensure steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction. This mitigation measure would reduce this impact to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.5-2: *If paleontological resources are discovered during the course of construction, work shall be halted immediately within 50 meters (165 feet) of the discovery, the City of Lathrop shall be notified, and a qualified paleontologist shall be retained to determine the significance of the discovery. If the paleontological resource is considered significant, it should be excavated by a qualified paleontologist and given to a local agency, State University, or other applicable institution, where they could be curated and displayed for public education purposes.*

Impact 3.5-4: Project implementation has the potential to disturb human remains, including those interred outside of formal cemeteries (Less than Significant with Mitigation)

Indications are 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." Additionally, 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.

Implementation of the following mitigation measure would ensure that all construction activities that inadvertently discover human remains implement state required consultation methods to determine the disposition and historical significance of any discovered human remains. The following mitigation measure would reduce this impact to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.5-3: *If human remains are discovered during the course of construction, work shall be halted at the site and any nearby area reasonably suspected to overlie adjacent human remains until he San Joaquin County Coroner has been informed and has determined that no investigation of the cause of death is required. If the remains are of Native American origin, either of the following steps will be taken:*

- *The coroner will contact the Native American Heritage Commission in order to ascertain the proper descendants from the deceased individual. The coroner will make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.*
- *The landowner shall retain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance when any of the following conditions occurs:*
    - *The Native American Heritage Commission is unable to identify a descendent.*
    - *The descendant identified fails to make a recommendation.*
    - *The City of Lathrop or its authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.*

The purpose of this section is to disclose and analyze the potential impacts associated with the geology of the Plan Area 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: *Comprehensive General Plan for the City of Lathrop* (City of Lathrop 2004), *General Plan Environmental Impact Report* (City of Lathrop 1991), *Preliminary Geotechnical Report* (Engeo 2004), *Custom Soils Report for San Joaquin County, California* (NRCS 2013a) and NRCS Web Soil Survey (NRCS 2013b). No comments were received regarding geology and soils during the NOP review period.

3.6.1 ENVIRONMENTAL SETTING

GEOLOGIC SETTING

Regional Geology

The Plan Area lies in the San Joaquin Valley in central California. The San Joaquin Valley is located 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 San Joaquin Valley (Valley) is filled with thick sedimentary rock sequences that were deposited as much as 130 million years ago. 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.

Local Setting

The Plan Area has relatively flat terrain that varies between elevation 10 and 13 feet above sea level. The UPRR tracks are elevated along the south and eastern boundaries between elevation 24 and 31 feet. SR 120 is elevated along the northern boundary between elevation 20 and 50 feet. A levee is elevated along the western boundary at approximately 31 feet. High voltage power lines (115 and 60 Kilovolts), within Pacific Gas & Electric (PG&E) power line easements, traverse portions of the Plan Area running east/west and north/south.

A Custom Soil Survey was completed for the Plan Area using the NRCS Web Soil Survey program. Table 3.6-1 identifies the soils found in the Plan Area. The NRCS Soils Map is provided in Figure 3.2-2 in Section 3.2 Agricultural Resources.

TABLE 3.6-1: PLAN AREA SOILS

MAP UNIT SYMBOL MAP	*NAME*	*PERCENT OF AOI*
109	Bisgani loamy coarse sand, partially drained, 0 to 2 percent slopes	7.0%
142	Delhi loamy sand, 0 to 2 percent slopes	2.5%
148	Dello clay loam, drained, 0 to 2 percent slopes, overwashed	6.9%
153	Egbert silty clay loam, partially drained, 0 to 2 percent slopes	17.3%
166	Grangeville fine sandy loam, partially drained, 0 to 2 percent slopes	28.0%
169	Guard clay loam, drained, 0 to 2 percent slopes	7.3%
196	Manteca fine sandy loam, 0 to 2 percent slopes	31.0%

SOURCE: NRCS CUSTOM SOIL SURVEY

Bisgani loamy coarse sand, partially drained. This very deep, poorly drained, nearly level soil formed in alluvium. Permeability is rapid in this soil. Runoff is very slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is low. The risk of corrosion is high for uncoated steel, and low for concrete. Soil limitations on building site development are considered moderate to severe, due to flooding potential.

Delhi loamy sand. This very deep, somewhat excessively drained, nearly level soil was formed in wind-modified alluvium. Permeability is rapid in this soil. Runoff is slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is low. The risk of corrosion is moderate for uncoated steel, and low for concrete. Soil limitations on building site development are slight, except that shallow excavations are subject to caving.

Dello clay loam, drained. The Dello series consist of very deep, very poorly drained soils that formed in alluvium from granitic rock sources. Dello soils are in small depressions and have slopes of 0 to 2 percent. The frequency of flooding is rare or occasional.

Egbert silty clay loam, partially drained. This very deep, poorly drained, nearly level soil formed in alluvium. Permeability is slow in this soil. Runoff is slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is moderate to high. The risk of corrosion is high for uncoated steel, and moderate for concrete. Soil limitations on building site development are considered moderate to severe, due to shrink-swell and flooding potential.

Grangeville fine sandy loam. This very deep, somewhat poorly drained, nearly level soil formed in alluvium. Permeability is moderately rapid in this soil. Runoff is slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is low. The risk of corrosion is high for uncoated steel, and low for concrete. Soil limitations on building site development are considered moderate to severe, due to flooding potential.

Guard clay loam. This very deep, poorly drained, nearly level soil formed in alluvium. Permeability is slow in this soil. Runoff is slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is moderate. The risk of corrosion is high for uncoated steel, and low for concrete. Soil limitations on building site development are considered moderate to severe, due to flooding and shrink-swell potential.

Manteca fine sandy loam. This moderately well drained, nearly level soil formed in alluvium. Permeability is moderate in this soil. Runoff is slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is low. The risk of corrosion is high for uncoated steel, and low for concrete. Soil limitations on building site development are considered moderate to severe, due to flooding potential and the existence of cemented pan.

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

The 2010 Fault Activity Map provided by the California Department of Conservation identified potential seismic sources within 100 kilometers (62 miles) of the Plan Area. Two of the closest known faults classified as active by the California Geological Survey are the Greenville fault, located approximately 23 miles to the west, and the Foothills Fault System, located approximately 33 miles to the east. The Vernalis Fault is located approximately 13 miles to the west. Other faults that could potentially affect the SLSP include the Mount Diablo, Calaveras, Hayward, Ortigalita and San Andreas Faults. See Figure 3.6-1.

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 SCALE*	*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.

According to the California Geological Survey's Probabilistic Seismic Hazard Assessment Program, San Joaquin County is considered to be 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.

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 California Geologic Survey (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 Plan Area is not within an Alquist-Priolo Special Study Zone.

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 Plan Area is expected during the life of the SLSP. All structures will be built in accordance with the seismic design standards in California.

Fault Rupture

A fault rupture occurs when the surface of the earth breaks as a result 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 Plan Area 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. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet. *The Preliminary Geotechnical Report* (Engeo 2004) determined that the Plan Area has a low chance of liquefaction. Soil data from the NRCS Web Soil Survey (NRCS 2013b) also suggests a low potential for liquefaction.

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 moderately low and the slopes or free faces in the Plan Area are minor or nonexistent, the potential for lateral spreading is considered 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 Plan Area is basically flat with a minor elevation gain of approximately three feet, therefore, the potential for a landslide in the Plan Area is non-existent.

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 *Custom Soils Report*, the soils in the Plan Area have a range of low to high regarding the shrink-swell potential. This potential is directly related to the expansion potential of the Plan Area. The *Preliminary Geotechnical Report* (Engeo 2004) completed for a portion of the Plan Area also identifies that the southern portion of the Plan Area has a high shrink-swell potential (Engeo, pg. 6). The shrink-swell potential for the Plan Area is shown in Figure 3.6-2. The *Preliminary Geotechnical Report* (Engeo 2004) recommended that further evaluation is needed and specific mitigation developed as the conceptual grading plan becomes available to ensure that improvements and structural are properly engineered.

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 as a result of human activity, primarily through the development of facilities and impervious surfaces and the removal of vegetative cover.

The *Custom Soils Report* identified the erosion potential for the soils in the Plan Area. This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. Soil property data for each map unit component includes the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the surface horizon. According to the NRCS the erosion potential of soils found in the Plan Area is considered 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. Soils in the Plan Area were not identified by the geotechnical studies to be susceptible to collapse.

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) as a result 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 not been identified in the Lathrop General Plan or the *Preliminary Geotechnical Report* (Engeo 2004) as an issue in the Lathrop area.

3.6.2 REGULATORY SETTING

FEDERAL

Uniform Building Code (UBC)

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.

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 (USDOT) and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials (DOE 2002).

Resource Conservation and Recovery Act

The 1976 Federal Resource Conservation and Recovery Act (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 establishes 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. Owners and operators of USTs had until December 1998 to meet the new tank standards. As of 2001, an estimated 85 percent of USTs were in compliance with the required standards.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (the Act) introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. The Act was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous substances releases. The Act 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.

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 as long as they are not incompatible.

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

Title 24 of the California Code of Regulations, known as the California Building Standards Code (CBSC) or just "Title 24," contains the regulations that govern the construction of buildings in California. The CBSC includes 12 parts including: California Building Standards Administrative Code, California Building Code, California Residential Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Historical Building Code, California Fire Code, California Existing Building Code, California Green Building Standards Code (CALGreen Code), California Reference Standards Code. 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 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 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. Memo20-1 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.

LOCAL

City of Lathrop General Plan

The Lathrop General Plan establishes the following goals and policies relative to geology and soils in the General Plan:

HAZARD MANAGEMENT ELEMENT

Seismic Policies

Policy 2: All new building construction shall conform to the latest seismic requirements of the Uniform Building Code as a minimum standard.

Policy 5: Preliminary soil compaction tests and geotechnical analysis of soil conditions shall be submitted as part of the justification for development proposals contained in any Specific Plan.

Policy 6: Soil compaction tests, and geotechnical analysis of soil conditions and behavior under seismic conditions shall be required of all subdivisions and of all commercial, industrial and institutional structures over 6,000 square feet in area (or in the case of institutional structures, those which hold 100 or more people).

Policy 7: A preliminary soils report is to be prepared by a registered geo-technical engineer for any residential development project, based upon adequate test borings. If the report indicates the presence of critically expansive soils or other soil problems which, if not corrected, would lead to structural defects, the developer shall provide for and submit the findings of a soil investigation of each non-residential lot or housing site proposed. The soil investigation shall be prepared by a state registered civil engineer and shall recommend

corrective action likely to prevent structural damage to each dwelling to be constructed. Prior to the issuance of a building permit, any recommended action approved by the Building Official shall be incorporated into the construction of each dwelling.

Policy 8: A preliminary geologic report, prepared by a state-certified engineering geologist and based on adequate test borings, shall be submitted to the Building Official for every subdivision, planned development or other residential project at the time of submitting a tentative map or other type of development application to the City.

Policy 9: If the preliminary geologic report indicates the presence of critically expansive soils or other soil problems (e.g., potential for liquefaction which if not corrected could lead to structural defects), the developer shall provide such additional soils investigation for each development site as may be requested by the Building Official. The geologic investigation shall be prepared by a state-certified engineering geologist and shall, recommend further corrective action likely to prevent structural damage to dwelling units. Prior to the issuance of a building permit, any recommended action approved by the Building Official shall be incorporated into site preparation and the construction of each dwelling.

Policy 10: The provisions of policy nos. 6 - 9, above, shall be applicable to all commercial, industrial, institutional and public development projects.

City of Lathrop Design and Construction Standards

The City of Lathrop has design and construction standards, some of which are relevant to geologic and soils conditions. The City, in accordance with the California Building Code Part 2, Chapter 18, Section 1803.1.1.1, has adopted a requirements for a preliminary soil report for each project requiring a building permit and that the report be based upon adequate test borings or excavations, of every subdivision. The geotechnical report must address the requirements outlined in Section 1803 and be submitted as an item for the City's review of grading, improvement, and building plans. The City reviews the geotechnical report along with other project design documents to confirm that the recommendations in the geotechnical report are reflected in project design.

3.6.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the SLSP will have a significant impact on geology and soils if it will:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Strong seismic ground shaking; or
    - Seismic-related ground failure, including liquefaction;
- 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 as a result 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 risks to life or property;

IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: The proposed project may expose people or structures to potential substantial adverse effects involving strong seismic ground shaking or seismic related ground failure (less than significant)

The California Geologic Survey (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. The Plan Area is not within an Alquist-Priolo Special Study Zone.

The 2010 Fault Activity Map provided by the California Department of Conservation identified potential seismic sources within 100 kilometers (62 miles) of the Plan Area. Two of the closest known faults classified as active by the California Geological Survey are the Greenville fault, located approximately 23 miles to the west, and the Foothills Fault System, located approximately 33 miles to the east. The Vernalis Fault is located approximately 13 miles to the west. Other faults that could potentially affect the SLSP include the Mount Diablo, Calaveras, Hayward, Ortigalita and San Andreas Faults.

According to the California Geological Survey's Probabilistic Seismic Hazard Assessment Program, Lathrop is considered to be 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.

The Lathrop General Plan includes policies which assist in the protection of persons and structures in the event of an earthquake. Seismic Policy 2 requires all building construction to conform to the latest seismic requirements of the UBC. Policies 5 and 6 require soil compaction test and geotechnical analysis to be completed for developments in Lathrop. Policies 7, 8, and 9 require preliminary soils and geologic reports to be completed in order to determine the steps necessary to make the land suitable for development. Policy 10 requires all commercial, industrial, institutional and public development project to adhere to policies 6 through 9.

There will always be a potential for groundshaking caused by seismic activity anywhere in California, including the Plan Area. Seismic activity could come from a known active fault such as the Greenville 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 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 Lathrop, 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. Additionally, the City of Lathrop has adopted Design and Construction Standards and incorporated numerous policies relative to seismicity to ensure the health and safety of all people. Design in accordance with these standards and policies would reduce any potential impact to a less than significant level. Because all development in the Plan Area must be designed in conformance with these state and local standards and policies, any potential impact would be ***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)

According to the United States Environmental Protection Agency, polluted stormwater runoff is a leading cause of impairment to the nearly 40 percent of surveyed U.S. water bodies which do not meet water quality standards. Over land or via storm sewer systems, polluted runoff is discharged, often untreated, directly into local water bodies. Soil erosion and the loss of topsoil is one of the most common sources of polluted stormwater runoff during construction activities. When left uncontrolled, storm water runoff can erode soil and cause sedimentation in waterways, which collectively result in the destruction of fish, wildlife, and aquatic life habitats; a loss in aesthetic value; and threats to public health due to contaminated food, drinking water supplies, and recreational waterways.

Mandated by Congress under the Clean Water Act, the NPDES Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges which adversely affect the quality of our nation's waters. The program uses the National Pollutant Discharge Elimination System (NPDES) permitting mechanism to require the implementation of controls designed to prevent harmful pollutants, including soil erosion, from being washed by stormwater runoff into local water bodies. The construction activities for the proposed project would be governed by the General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), which states:

> *"…Particular attention must be paid to large, mass graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great and where there is potential for significant sediment discharge from the site to surface waters. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single most important factor in reducing erosion at construction sites. The discharger is required to consider measures such as: covering*

disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. 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. Erosion control BMPs should be the primary means of preventing storm water contamination, and sediment control techniques should be used to capture any soil that becomes eroded…"

General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ) further states that:

"Sediment control BMPs should be the secondary means of preventing storm water contamination. When erosion control techniques are ineffective, sediment control techniques should be used to capture any soil that becomes eroded. The discharger is required to consider perimeter control measures such as: installing silt fences or placing straw wattles below slopes. These sediment control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed…Inappropriate management of run-on and runoff can result in excessive physical impacts to receiving waters from sediment and increased flows. The discharger is required to manage all run-on and runoff from a project site. Examples include: installing berms and other temporary run-on and runoff diversions…All measures must be periodically inspected, maintained and repaired to ensure that receiving water quality is protected. Frequent inspections coupled with thorough documentation and timely repair is necessary to ensure that all measures are functioning as intended…"

To ensure that construction activities are covered under General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), projects in California must prepare a Stormwater Pollution Prevention Plan (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. The SWPPP, once approved, is 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.

The NRCS Custom Soils Report identifies the Plan Area as having a "slight" potential for erosion. This is largely due to the fact that the Plan Area is relatively flat. 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 temporarily expose soils and increase the potential for soil erosion and sedimentation during rail events. Construction activities can also result in soil compaction and wind erosion effects that can adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

In accordance with the NPDES Stormwater Program, Mitigation Measure 3.6-1 requires an approved SWPPP 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 the review and approval by the RWQCB and are existing regulatory requirements. Implementation of the SLSP would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURES

Mitigation Measure 3.6-1: *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation, the Project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). The SWPPP shall be designed with Best Management Practices (BMPs) that the RWQCB has deemed as effective at reducing erosion, controlling sediment, and managing runoff. These include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Sediment control BMPs, installing silt fences or placing straw wattles below slopes, installing berms and other temporary run-on and runoff diversions. These BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Final selection of BMPs will be subject to approval by City of Lathrop and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*

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)

Liquefaction

Soil liquefaction results from loss of strength during cyclic loading, such as imposed by earthquakes. Soils most susceptible to liquefaction are clean, loose, saturated, uniformly graded, fine-grained sands. The *Preliminary Geotechnical Report* (Engeo 2004) identified a low potential for liquefaction in the Plan Area. Soil data from the NRCS Web Soil Survey (NRCS 2013b) also suggests a low potential for liquefaction in the Plan Area.

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 also directly associated with areas of liquefaction. The majority of the Plan Area is flat with soils that are not prone to lateral spreading. There is limited potential for lateral spreading associated with the engineered levee slopes located in the southern and eastern portion of the Plan Area, and associated with the

engineered slopes from the freeways located in the northern and western portion of the Plan Area. There are no buildings proposed in the areas with these slopes. There is a storm drainage outfall that is proposed through the levee, but the installation process will involve compaction and soils testing in accordance with the RD-17 requirements for the levee. With proper compaction, including soils and compaction testing, the storm drainage outfall is not anticipated to create the potential for the levee to become unstable resulting in lateral spreading. Given that the liquefaction potential for the Plan Area is low, combined with the fact that there are no buildings proposed in the areas with engineered slopes, and the storm drainage outfall construction effort is anticipated to be monitored for appropriate compaction and soil engineering, the potential for lateral spreading is considered 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 Plan Area is basically flat with a minor elevation gain of approximately three feet; therefore, the potential for a landslide in the Plan Area is non-existent.

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. 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. The *Preliminary Geotechnical Report* (Engeo 2004) did not identify the soils in the Plan Area as susceptible to collapse.

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) as a result 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 not been identified in the Lathrop General Plan or the *Preliminary Geotechnical Report* (Engeo 2004) as an issue in the Lathrop area.

Conclusion

The Plan Area does not have a significant risk of becoming unstable as a result landslide, lateral spreading, subsidence, liquefaction or collapse. These geotechnical concerns are not a significant concern in the Plan Area. Therefore, the SLSP would have a ***less than significant*** impact relative to this topic.

Impact 3.6-4: Potential for expansive soils to create substantial risks to life or property (less than significant with mitigation)

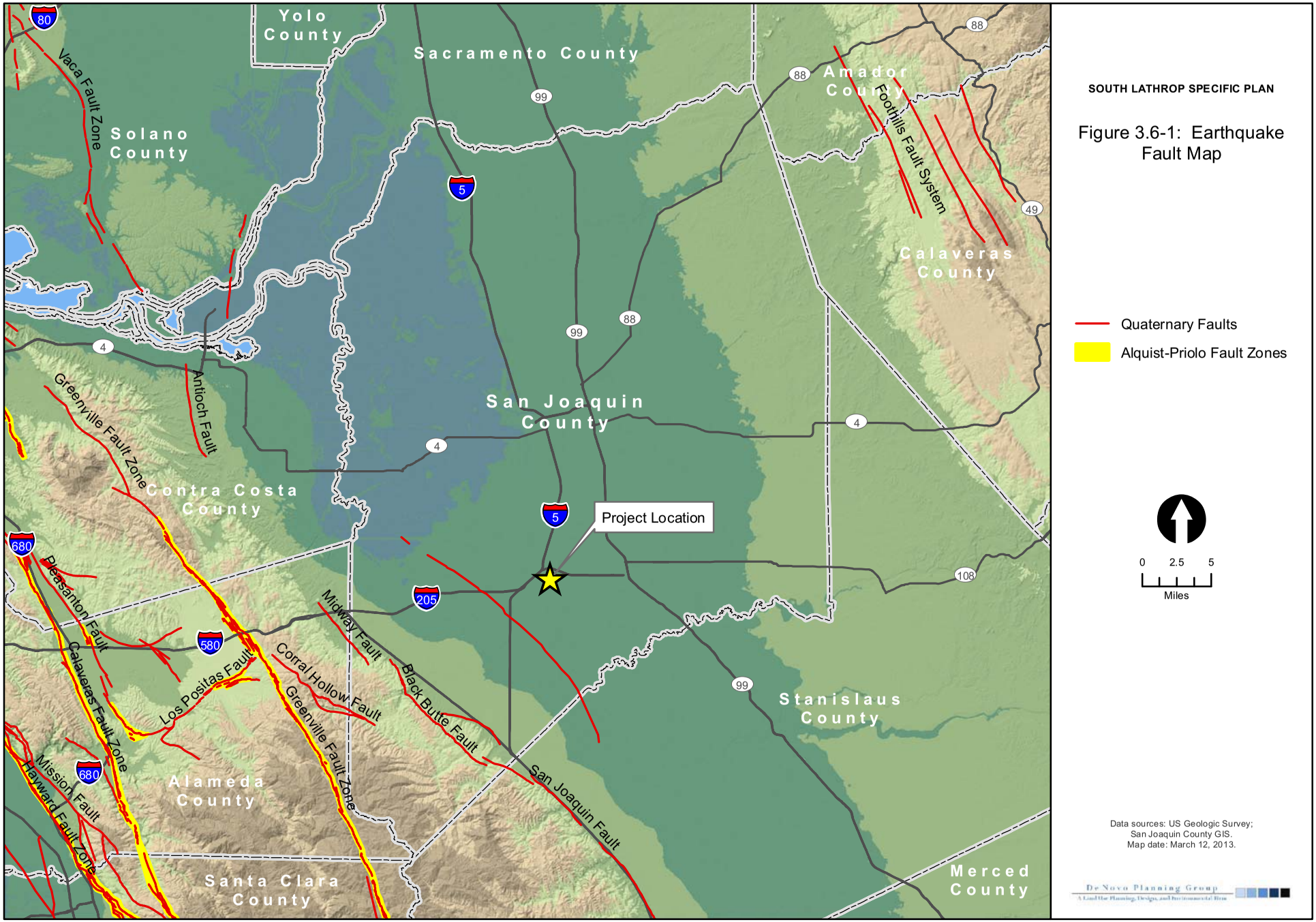
Expansive soils are those that undergo volume changes as moisture content fluctuates; swelling substantially when wet or shrinking when dry. Soil expansion can damage structures by cracking foundations, causing settlement and distorting structural elements. Expansion is a typical characteristic of clay-type soils. Expansive soils shrink and swell in volume during changes in moisture content, such as a result of seasonal rain events, and can cause damage to foundations, concrete slabs, roadway improvements, and pavement sections.

According to the *Custom Soils Report*, the soils in the Plan Area have a range of low to high regarding the shrink-swell potential. This potential is directly related to the expansion potential of the site. The *Preliminary Geotechnical Report* (Engeo 2004) also identifies that the southern portion of the Plan Area has a high shrink-swell potential (Engeo, pg. 6). The *Preliminary Geotechnical Report* (Engeo 2004) recommended that a design-level evaluation of soils be performed to address expansive soils.

The California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 requires specific geotechnical evaluation when a preliminary geotechnical evaluation determines that expansive or other special soil conditions are present, which, if not corrected, would lead to structural defects. The City of Lathrop 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. Mitigation Measure 3.6-3, presented below, provides the requirement for a final geotechnical evaluation 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 outfall and building plans, are required to be designed in accordance with the recommendations provided in the final geotechnical evaluation. With the implementation of Mitigation Measure 3.6-3 the SLSP would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURES

Mitigation Measure 3.6-3*: Prior to earthmoving activities, a certified geotechnical engineer, or equivalent, shall be retained to perform a final geotechnical evaluation of the soils at a design-level as required by the recommendations contained in the Preliminary Geotechnical Report (Engeo 2004) and the requirements of the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils and other soil conditions. The evaluation shall be prepared in accordance with the standards and requirements outlined in 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 shall 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 outfall and building plans shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.*



SOUTH LATHROP SPECIFIC PLAN

Figure 3.6-1: Earthquake Fault Map

Quaternary Faults

Alquist-Priolo Fault Zones

Data sources: US Geologic Survey; San Joaquin County GIS.
Map date: March 12, 2013.

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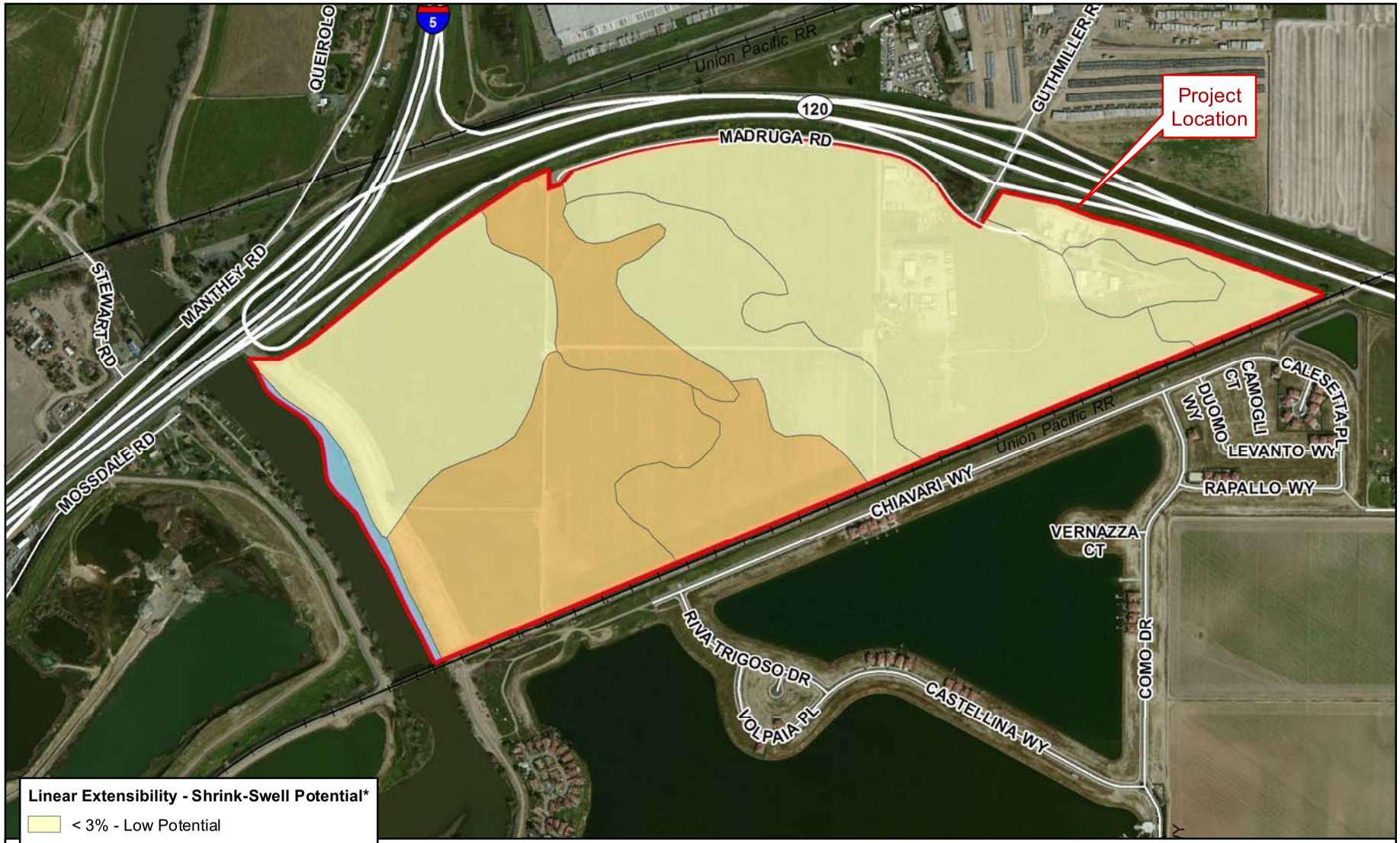

** Linear Extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. The volume change is reported as a percent change for the whole soil. Percentages mapped are reported from the surface. The shrink-swell potential is low if the soil has a linear extensibility of less than 3%; moderate if 3-6%, high if 6-9%, and very high if more than 9%.*

Data sources: USDA NRCS Soil Data Mart, San Joaquin County GIS; San Joaquin County GIS; ArcGIS Online BING aerial image map service. Map date: March 15, 2013.

SOUTH LATHROP SPECIFIC PLAN

Figure 3.6-2: Shrink-Swell Potential of Soils

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This section discusses regional greenhouse gas (GHG) emissions and climate change impacts that could result from implementation of the SLSP. 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 and climate change impacts in this section focuses on the SLSP's consistency with local, regional, and statewide climate change planning efforts and discusses the context of these planning efforts as they relate to the SLSP.

3.7.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric greenhouse gases (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 greenhouse gases 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 greenhouse gases, but they are, for the most part, solely a product of industrial activities. Although the direct greenhouse gases 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 2005, concentrations of these three greenhouse gases have increased globally by 36, 148, and 18 percent, respectively (IPCC 2007)[1].

Greenhouse gases, 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, commercial, and agricultural sectors (California Air Resources Board, 2012)[2]. In California, the

1 Intergovernmental Panel on Climate Change. 2007. "Climate Change 2007: The Physical Science Basis, Summary for Policymakers."
http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg1_report_the_physical_science_basis.htm

[2] California Air Resources Board. 2012. "Greenhouse Gas Inventory Data, 2000-2009.
http://www.arb.ca.gov/cc/inventory/data/data.htm

transportation sector is the largest emitter of GHGs, followed by electricity generation (California Air Resources Board, 2012).

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 492 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2004 (California Energy Commission 2006a)[3]. By 2020, California is projected to produce 507 $MMTCO_2e$ per year.[4]

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 2008, accounting for 36.9% of total GHG emissions in the state (California Air Resources Board, 2012). This category was followed by the electric power sector (including both in-state and out of-state sources) (24.8%) and the industrial sector (21.1%) (California Air Resources Board, 2012).

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. The snowpack portion of the supply could potentially decline by 70% to 90% by the end of the 21st century (Cal EPA 2006)[5]. This phenomenon could lead to significant challenges securing an adequate water

3 California Energy Commission. 2006a. Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004. http://www.arb.ca.gov/cc/inventory/archive/archive.htm

4 California Air Resources Board. 2010. "Functional Equivalent Document prepared for the California Cap on GHG Emissions and Market-Based Compliance Mechanisms."

5 California Environmental Protection Agency, Climate Action Team. 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature.
http://www.climatechange.ca.gov/climate_action_team/reports/

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 (Cal EPA 2006). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands (Cal EPA 2006). 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. Under the emissions scenarios of the Climate Scenarios report (Cal EPA 2006), 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 of wildfires. 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

The consumption of nonrenewable energy (primarily gasoline and diesel fuel) associated with the operation of passenger, public transit, and commercial vehicles results in GHG emissions that ultimately result in 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 nuclear generation resources. Approximately 71 percent of the electrical power needed to meet California's demand is produced in the state. Approximately 29 percent of its electricity demand is imported from the Pacific Northwest and the Southwest (California Energy Commission, 2012)[6]. In 2010, California's in-state generated electricity was derived from natural gas (53.4 percent), large hydroelectric resources (14.6 percent), coal (1.7 percent), nuclear sources (15.7 percent), and renewable resources that include geothermal, biomass, small hydroelectric resources, wind, and solar (14.6 percent) (California Energy Commission, 2012).

6 California Energy Commission (2012). Energy Almanac. Retrieved August 2012, from http://energyalmanac.ca.gov/overview/index.html

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 (California Energy Commission Energy Almanac, 2012). Statewide consumption was 274,985 GWh in 2010, an annual growth rate of 0.9 percent between 1997 and 2010.

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 2009, world consumption of oil had reached 96 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 (The World Factbook 2009, Washington, DC: Central Intelligence Agency, 2009). The transportation sector relies heavily on oil. In California, petroleum based fuels currently provide approximately 96 percent of the state's transportation energy needs (California Energy Commission, 2012).

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). In 2006, California produced 325.6 billion cubic feet of natural gas (California Energy Commission, 2012).

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: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor National Ambient Air Quality Standards (NAAQS) 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.

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.

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for a clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Intermodal Surface Transportation Efficiency Act (ISTEA)

ISTEA (49 U.S.C. § 101 et seq.) promoted the development of intermodal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that metropolitan planning organizations (MPOs), such as SACOG, were to address in developing transportation plans and programs, including some energy-related factors. To meet the ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values that were to guide transportation decisions in that metropolitan

area. The planning process was then to address these policies. Another requirement was to consider the consistency of transportation planning with federal, state, and local energy goals. Through this requirement, energy consumption was expected to become a criterion, along with cost and other values that determine the best transportation solution.

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)

SAFETEA-LU (23 U.S.C. § 507), renewed the Transportation Equity Act for the 21st Century (TEA-21) of 1998 (23 U.S.C.; 49 U.S.C.) through FY 2009. SAFETEA-LU authorized the federal surface transportation programs for highways, highway safety, and transit. SAFETEA-LU addressed the many challenges facing our transportation system today—such as improving safety, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, and protecting the environment—as well as laying the groundwork for addressing future challenges. SAFETEA-LU promoted more efficient and effective federal surface transportation programs by focusing on transportation issues of national significance, while giving state and local transportation decision makers more flexibility to solve transportation problems in their communities. SAFETEA-LU was extended in March of 2010 for nine months, and expired in December of the same year. In June 2012, SAFETEA-LU was replaced by the Moving Ahead for Progress in the 21st Century Act (MAP-21), which will take effect October 1, 2012.

Federal Climate Change Policy

According to the 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 federal government's goal is to reduce the greenhouse gas (GHG) intensity (a measurement of GHG emissions per unit of economic activity) of the American economy by 18 percent over the 10-year period from 2002 to 2012. In addition, the EPA administers multiple programs that encourage voluntary GHG reductions, including "ENERGY STAR", "Climate Leaders", and Methane Voluntary Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO_2 per year. This publically available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial greenhouse gases along with vehicle and engine manufacturers will report at the corporate level. An estimated 85% of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

STATE

Assembly Bill 1493

In response to AB 1493, CARB approved amendments to the California Code of Regulations (CCR) adding GHG emission standards to California's existing motor vehicle emission standards. Amendments to CCR Title 13 Sections 1900 (CCR 13 1900) and 1961 (CCR 13 1961), and adoption of Section 1961.1 (CCR 13 1961.1) require automobile manufacturers to meet fleet average GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Emission limits are further reduced each model year through 2016. For passenger cars and light-duty trucks 3,750 pounds or less loaded vehicle weight (LVW), the 2016 GHG emission limits are approximately 37 percent lower than during the first year of the regulations in 2009. For medium-duty passenger vehicles and light-duty trucks 3,751 LVW to 8,500 pounds gross vehicle weight (GVW), GHG emissions are reduced approximately 24 percent between 2009 and 2016.

CARB requested a waiver of federal preemption of California's Greenhouse Gas Emissions Standards. The intent of the waiver is to allow California to enact emissions standards to reduce carbon dioxide and other greenhouse gas emissions from automobiles in accordance with the regulation amendments to the CCRs that fulfill the requirements of AB 1493. The EPA granted a waiver to California to implement its greenhouse gas emissions standards for cars.

Assembly Bill 1007

Assembly Bill 1007, (Pavley, Chapter 371, Statutes of 2005) directed the CEC to prepare a plan to increase the use of alternative fuels in California. As a result, the CEC prepared the State Alternative Fuels Plan in consultation with the state, federal, and local agencies. The plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce greenhouse gas emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Bioenergy Action Plan – Executive Order #S-06-06

Executive Order #S-06-06 establishes targets for the use and production of biofuels and biopower and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The executive order establishes the following target to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels within California by 2010, 40 percent by 2020, and 75 percent by 2050. The executive order also calls for the state to meet a target for use of biomass electricity.

California Executive Orders S-3-05 and S-20-06, and Assembly Bill 32

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80% below the 1990 levels by the year 2050.

In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

Assembly Bill 32- Climate Change Scoping Plan

On December 11, 2008 ARB adopted its *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap of ARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. The Scoping Plan contains the main strategies California will implement to reduce CO_2e emissions by 169 million metric tons (MMT), or approximately 30 percent, from the state's projected 2020 emissions level of 596 MMT of CO_2e under a business-as-usual scenario. (This is a reduction of 42 MMT CO_2e, or almost 10 percent, from 2002–2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.) The Scoping Plan also breaks down the amount of GHG emissions reductions ARB recommends for each emissions sector of the state's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO_2e),
- the Low-Carbon Fuel Standard (15.0 MMT CO_2e),
- energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO_2e), and
- a renewable portfolio standard for electricity production (21.3 MMT CO_2e).

California Strategy to Reduce Petroleum Dependence (AB 2076)

In response to the requirements of AB 2076 (Chapter 936, Statutes of 2000), the CEC and the CARB developed a strategy to reduce petroleum dependence in California. The strategy, *Reducing California's Petroleum Dependence*, was adopted by the CEC and CARB in 2003. The strategy recommends that California reduce on-road gasoline and diesel fuel demand to 15 percent below 2003 demand levels by 2020 and maintain that level for the foreseeable future; the Governor and Legislature work to establish national fuel economy standards that double the fuel efficiency of new cars, light trucks, and sport utility vehicles (SUVs); and increase the use of non- petroleum fuels to 20 percent of on-road fuel consumption by 2020 and 30 percent by 2030.

Climate Action Program at Caltrans

The California Department of Transportation, Business, Transportation, and Housing Agency, prepared a Climate Action Program in response to new regulatory directives. The goal of the Climate Action Program is to promote clean and energy efficient transportation, and provide guidance for mainstreaming energy and climate change issues into business operations. The overall approach to lower fuel consumption and CO_2 from transportation is twofold: (1) reduce congestion and improve efficiency of transportation systems through smart land use, operational improvements, and Intelligent Transportation Systems; and (2) institutionalize energy efficiency and GHG emission reduction measures and technology into planning, project development, operations, and maintenance of transportation facilities, fleets, buildings, and equipment.

The reasoning underlying the Climate Action Program is the conclusion that "the most effective approach to addressing GHG reduction, in the short-to-medium term, is strong technology policy and market mechanisms to encourage innovations. Rapid development and availability of alternative fuels and vehicles, increased efficiency in new cars and trucks (light and heavy duty), and super clean fuels are the most direct approach to reducing GHG emissions from motor vehicles (emission performance standards and fuel or carbon performance standards)."

Governor's Low Carbon Fuel Standard (Executive Order #S-01-07)

Executive Order #S-01-07 establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 through establishment of a Low Carbon Fuel Standard. The Low Carbon Fuel Standard is incorporated into the State Alternative Fuels Plan and is one of the proposed discrete early action GHG reduction measures identified by CARB pursuant to AB 32.

Senate Bill 97 (SB 97)

Senate Bill 97 (Chapter 185, 2007) required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions. OPR prepared its recommended amendments to the State CEQA Guidelines to provide guidance to public agencies regarding the analysis and mitigation of greenhouse gas emissions and the effects of greenhouse gas emissions in draft CEQA documents. The Amendments became effective on March 18, 2010.

Senate Bill 375

Sen. Bill No. 375 (Stats. 2008, ch. 728) (SB 375) was built on AB 32 (California's 2006 climate change law). SB 375's core provision is a requirement for regional transportation agencies to develop a Sustainable Communities Strategy (SCS) in order to reduce GHG emissions from passenger vehicles. The SCS is one component of the Regional Transportation Plan (RTP).

The SCS outlines the region's plan for combining transportation resources, such as roads and mass transit, with a realistic land use pattern, in order to meet a state target for reducing GHG emissions. The strategy must take into account the region's housing needs, transportation demands, and protection of resource and farmlands.

Additionally, SB 375 modified the state's Housing Element Law to achieve consistency between the land use pattern outlined in the SCS and the Regional Housing Needs Assessment allocation. The legislation also substantially improved cities' and counties' accountability for carrying out their housing element plans.

Finally, SB 375 amended the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) to ease the environmental review of developments that help reduce the growth of GHG emissions.

California Building Energy Efficiency Standards

Title 24, Part 6 of the California Code of Regulations, known as the Building Energy Efficiency Standards, was established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. On January 1, 2010, the California Building Standards Commission adopted CALGreen and became the first state in the United States to adopt a statewide green building standards code. CALGreen requires new buildings to reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills, and install low pollutant-emitting materials.

CEQA Guidelines Appendix F

In order to assure that energy implications are considered in project decisions, the California Environmental Quality Act requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy. The goal of conserving energy implies the wise and efficient use of energy.

LOCAL

San Joaquin Valley Air Pollution Control District Climate Change Action Plan

In August 2008, the San Joaquin Valley APCD adopted its Climate Change Action Plan. The Climate Change Action Plan directed the SJVAPCD's Air Pollution Control Officer to develop guidance to assist APCD staff, Valley businesses, land use agencies and other permitting agencies in addressing GHG emissions as part of the CEQA process. Regarding CEQA guidance, some of the goals of the Climate Change Action Plan are to assist local land use agencies, developers and the public by identifying and quantifying GHG emission reduction measures for development projects and by providing tools to streamline evaluation of project-specific GHG effects, and to assist Valley businesses in complying with State law related to GHG emissions.

A product of this direction to provide CEQA guidance is the Final Staff Report – Climate Change Action Plan: Addressing GHG Emissions Impacts, presented to the APCD Board in December 2009. A central component of the Final Staff Report is the establishment of Best Performance Standards, which are specifications or project design elements that identify effective, feasible GHG emission

reduction measures. Emission reductions achieved through Best Performance Standards implementation would be pre-quantified, thus negating the need for project-specific quantification of GHG emissions.

For projects not implementing Best Performance Standards, demonstration of a 29% reduction in GHG emissions from business-as-usual conditions is required to determine that a project would have a less than cumulatively significant impact. Appendix J of the Final Staff Report provides a table of GHG emission reduction measures for development projects, along with a point value that corresponds to a percentage decrease in GHG emissions when available.

2014 Regional Transportation Plan/Sustainable Communities Strategy

The 2014 San Joaquin County Regional Transportation Plan, which has been named "Valley Visions San Joaquin," will be the first Regional Transportation Plan in San Joaquin County to contain a Sustainable Communities Strategy (SCS), the result of the Sustainable Communities and Climate Protection Act of 2008 (i.e., SB-375). The SCS will coordinate future transportation investments and land use strategies to prioritize a multi-modal investment plan covering a 27-year period extending out to 2040.

The RTP is a long-range transportation plan that guides the region's transportation improvements over a minimum of 20-years and is updated every four. Using growth forecasts and economic trends projected out over study timeframe, the RTP considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address our mobility needs. The 2014 RTP will address all transportation modes including motor vehicles, transit (commuter and local), rail (commuter and inter-regional), goods movement (rail, truck, and water), bicycle and pedestrian facilities, aviation systems, transportation systems management (TSM) and transportation demand management (TDM) programs, and other projects considered over the planning horizon of 2040. Regional transportation improvement projects proposed to be funded, in whole or in part, in the state transportation improvement program must be included in the adopted RTP.

The eight counties of the San Joaquin Valley are coordinating on some aspects of these planning efforts to maximize resources, with each area's Metropolitan Planning Organization (MPO) developing a separate plan. MPOs are responsible for setting transportation policy and priorities for a region and documenting how transportation funds will be spent in a Regional Transportation Plan. Specifically, the San Joaquin County SCS will:

- Identify the general location of uses, residential densities, and building intensities within the region
- Identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region
- Gather and consider the best practically available scientific information regarding resource areas and farmland in the region
- Set forth a forecasted development pattern for the region
- Identify areas within the region sufficient to house all the population of the region

- Identify a transportation network to service the transportation needs of the region
- Quantify the reduction in greenhouse gas emissions projected to be achieved by the SCS

The Greenhouse Gas Reduction Targets for the 2014 San Joaquin County Regional Transportation Plan are as follows:

- 5% - per capita reduction from 2005 levels by 2020
- 10%--per capita reduction from 2005 levels by 2035

City of Lathrop General Plan

The Lathrop General Plan establishes the following goals and policies relative to greenhouse gas emissions in the General Plan:

RESOURCES MANAGEMENT ELEMENT

Air Quality Policies:

Policy 1. Mitigation of air quality impacts is to be achieved in part through the design and construction of an efficient system of arterial and collector streets and interchange and freeway improvements that will assure high levels of traffic service and the avoidance of unmanageable levels of traffic congestion.

Policy 2. Mitigation of air quality impacts is to be achieved in part through the development of a regional rail transit service to be incorporated into early stages of development.

Policy 3. The City shall adopt standards, which require industrial process analysis before the fact of site and building permit approval to assure compliance with State air quality and water quality standards.

Standards shall provide for periodic monitoring of industrial processes, which could have an adverse impact on water or air quality. Industrial process review that may be required should be conducted as part of environmental assessment by an engineer licensed in California having demonstrated experience in the industrial processes involved.

Policy 4. The City shall require positive control of dust particles during project construction activities, including watering or use of emulsions, parking of heavy equipment on paved surfaces, prohibition of land grading operations during days of high wind (beginning at 10 mph, with gusts exceeding 20 mph), and prohibition of burning on vacant parcels. The City should seek the cooperation of agricultural operators to refrain from the plowing of fields on windy days, and to keep loose soils under control to the extent reasonable to avoid heavy wind erosion of soils.

Policy 5. The beneficial effects of open space and vegetation on the air resource are to be reflected in the arrangement of land uses depicted on the General Plan. Heavy plantings of trees are encouraged to assist in maintaining oxygen levels.

Policy 6. The need to protect and preserve the air resource within the planning area and to reduce levels of vehicle emissions of air pollutants imposes practical limitations on the extent to which the City can depend on the automobile as the principal source of transportation into the next Century.

3.7.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the SLSP 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.

In accordance with AB 32, the City of Lathrop, as lead agency, has prepared a quantitative GHG analysis for the SLSP in order to demonstrate that the SLSP would promote sustainability and implement operational GHG emission reduction strategies that would reduce the project's GHG emissions from Business as Usual (BAU) levels by 29 percent, in compliance with AB 32 and the Scoping Plan, and in accordance with the guidance from the SJVAPCD.

The significance thresholds for GHG emissions should be related to compliance with AB 32, and the City of Lathrop, as lead agency, has chosen to utilize a threshold of significance for GHG emissions based on the guidance from the SJVAPCD that a development project must show a minimum GHG emission reduction of 29 percent from projected 2005 Business as Usual (BAU) levels by the year 2020. The BAU level is the 2005 scenario, which corresponds to pre-AB 32. The BAU levels does not assume the use of Pavely and Low Carbon fuels, which is a result of legislation after AB 32. Thus, the SLSP's BAU levels were evaluated in order to determine the net decrease in the SLSP's GHG emissions over time.

Using this methodology, if the SLSP does not show a 29 percent reduction from projected BAU levels compared to the project's estimated 2020 levels, the project would be considered to result in a cumulatively considerable contribution to global climate change. GHG emission reduction measures could include, but are not limited to, compliance with local, State, or federal plans or strategies for GHG reductions, on-site and off-site mitigation recommendations from the Office of the Attorney General, and project design features. It should be noted that the SLSP would be required to comply with the minimum mandated measures of 2010 California Green Building Standards Code (CalGreen Code), such as a 20 percent mandatory reduction in indoor water use and diversion of 50 percent of construction waste from landfills. A variety of voluntary CalGreen Code measures also exists that would further reduce GHG emissions, but are not mandatory.

IMPACTS AND MITIGATION MEASURES

Impact 3-1: Potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (less than significant with mitigation)

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 SLSP would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to future 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 SLSP's short-term construction-related and long-term operational GHG emissions were estimated using the California Emission Estimator Model (CalEEMod)^{TM} (v.2011.1.14). 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., $MTCO_2e$), based on the global warming potential of the individual pollutants.

Short-Term Construction GHG Emissions: Estimated increases in GHG emissions associated with construction of the SLSP are summarized in Table 3.7-1.

TABLE 3.7-1: CONSTRUCTION GHG EMISSIONS (UNMITIGATED METRIC TONS/YR)

	Bio- CO_2	*NBio- CO_2*	*Total CO_2*	*CH_4*	*N2O*	*CO_2e*
2014	0.00	597.07	597.07	0.06	0.00	598.26
2015	0.00	586.76	586.76	0.06	0.00	587.92
2016	0.00	657.87	657.87	0.05	0.00	658.96
2017	0.00	653.33	653.33	0.05	0.00	654.32
2018	0.00	654.01	654.01	0.04	0.00	654.92
2019	0.00	652.39	652.39	0.04	0.00	653.22
2020	0.00	653.43	653.43	0.04	0.00	654.19
2021	0.00	656.96	656.96	0.03	0.00	657.67
2022	0.00	653.16	653.16	0.03	0.00	653.82
2023	0.00	137.92	137.92	0.01	0.00	138.05
Total	0.00	5,902.90	5,902.90	0.41	0.00	5,911.33

SOURCES: CALEEMOD (V.2011.1.1)

As presented in the table, short-term construction emissions of GHG associated are estimated to be 5,911.33 $MTCO_2e$. This represents a low of 587.92 and a high of 657.67 $MTCO_2e$ emitted during each of the construction years (2014 through 2022). The final construction year would result in 138.05 $MTCO_2e$ emitted, which is a representation of construction activities ceasing part way through the year. These construction GHG emissions are a one-time release and are comparatively much lower than emissions associated with operational phases of a project. Cumulatively, these construction emissions would not generate a significant contribution to global climate change.

Long-Term Operational GHG Emissions: The long-term operational GHG emissions estimate for the SLSP incorporates the potential area source and vehicle emissions, and emissions associated with utility and water usage, and wastewater and solid waste generation. The modeling included mitigation inputs for the year 2020 including the following:

Traffic Mitigation

- Increase Transit Accessibility in the Plan Area (minimum distance to transit stops is .2 miles)
- Improve Pedestrian Network so that the Plan Area connects to offsite pedestrian networks
- Provide traffic calming measures on all street segments and intersections
- Implement a voluntary trip reduction program for all employees
- Encourage telecommuting and Alternative work schedules. Ensure that 10% of employees have a 9/80, 4/40, or telecommute 1.5 days/wk.
- Provide a Ride Sharing Program for all employees

Energy Mitigation

- Exceed Title 24 by 15%
- Install High Efficiency Lighting
- Install High Efficiency Appliances within all Industrial and Commercial buildings

Water Mitigation

- Apply a Water Conservation Strategy to achieve a 20% reduction in indoor and outdoor water usage
- Utilize the City's reclaimed water system to irrigate outdoor landscaping, including medians once available (i.e. installation recycled water infrastructure to the Plan Area)
- Install low flow bathroom faucet
- Install low-flow kitchen faucet
- Install low-flow toilet
- Install low-flow shower
- Use water-efficient irrigation systems

Solid Waste Mitigation

- Institute Recycling and Composting Services to achieve a 50% reduction in waste disposal

Estimated GHG emissions associated with the SLSP in 2020 with and without the above mitigation incorporated are summarized in Table 3.7-2 and 3.7-3. As shown in the table, the annual 2020 GHG emissions associated with the SLSP would be 137,432.96 $MTCO_2e$ with the above referenced mitigation incorporated and 207,039.77 without mitigation. The mitigation results in a decrease of 69,606.04 $MTCO_2e$.

TABLE 3.7-2: OPERATIONAL GHG EMISSIONS 2020 (UNMITIGATED METRIC TONS/YR)

	Bio- CO_2	*NBio- CO_2*	*Total CO_2*	*CH_4*	*N2O*	*CO_2e*
Area	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	16,038.84	16,038.84	0.61	0.28	16,138.55
Mobile	0.00	30,187.77	30,187.77	1.07	0.00	30,210.28
Waste	49,129.60	0.00	49,129.60	2,903.48	0.00	110,102.60
Water	0.00	32,462.96	32,462.96	626.23	16.05	50,588.34
Total	49,129.60	78,689.57	127,819.17	3,531.39	16.33	207,039.77

SOURCES: CALEEMOD (V.2011.1.1)

TABLE 3.7-3: OPERATIONAL GHG EMISSIONS 2020 (MITIGATED METRIC TONS/YR)

	Bio- CO_2	*NBio- CO_2*	*Total CO_2*	*CH_4*	*N2O*	*CO_2e*
Area	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	13,233.06	13,233.06	0.50	0.23	13,315.31
Mobile	0.00	26,046.48	26,046.48	0.94	0.00	26,066.26
Waste	24,564.80	0.00	24,564.80	1,451.74	0.00	55,051.30
Water	0.00	27,593.52	27,593.52	532.29	13.64	43,000.09
Total	**24,564.80**	**66,873.06**	**91,437.86**	**1,985.47**	**13.87**	**137,432.96**

SOURCES: CALEEMOD (V.2011.1.1)

The significance thresholds for GHG emissions should be related to compliance with AB 32, and the City of Lathrop, as lead agency, has chosen to utilize a threshold of significance for GHG emissions based on the guidance from the SJVAPCD that a development project must show a minimum GHG emission reduction of 29 percent from projected Business as Usual (BAU) levels (i.e., 2005 scenario) by the year 2020. Thus, the SLSP's Business as Usual levels were evaluated in order to determine the net decrease in the SLSP's GHG emissions over time. Table 3.7-4 presents the projected BAU GHG emissions, which are estimated to be 215,685.16 MTCO2e.

TABLE 3.7-4: OPERATIONAL GHG EMISSIONS BUSINESS AS USUAL (UNMITIGATED METRIC TONS/YR)

	Bio- CO_2	*NBio- CO_2*	*Total CO_2*	*CH_4*	*N2O*	*CO_2e*
Area	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	16,038.84	16,038.84	0.61	0.28	16,138.55
Mobile	0.00	38,780.47	38,780.47	3.58	0.00	38,855.67
Waste	49,129.60	0.00	49,129.60	2,903.48	0.00	110,102.60
Water	0.00	32,462.96	32,462.96	626.23	16.05	50,588.34
Total	**49,129.60**	**87,282.27**	**136,411.87**	**3,533.90**	**16.33**	**215,685.16**

SOURCES: CALEEMOD (V.2011.1.1)

Consequently, the SLSP would result in approximately a 36.3 percent reduction in annual GHG emissions from the BAU level by 2020 ([215,685.16 MTCO2e – 137,432.96 MTCO2e] / 215,685.16 MTCO2e x 100% = 36.3%). The reduction in GHG emissions would be attributable to the traffic, energy, water, and solid waste mitigation model inputs as well as the advancement of vehicle and equipment efficiency, and more stringent standards and regulations as time progresses, such as State regulation emission reductions (e.g., Pavley, Low Carbon Fuel Standard, and Renewable Portfolio Standard). It should be noted that although a reduction related to such attributes would occur for every development project, CalEEMod takes into consideration how much of each attribute is applied for each specific project based on the size of the project and associated land uses.

In addition, as stated previously, the SLSP would be required to comply with the minimum mandatory measures of the CalGreen Code, which would result in an estimated 1.8 percent reduction. Furthermore, reduction of cumulative ROG and NOx emissions due to the Indirect Source Rule mitigation (discussed in Section 3.1 Air Quality) would subsequently result in an associated reduction in CO_2 emissions. The total reduction in GHG emissions from BAU levels will exceed the City's minimum reduction threshold of 29 percent per the guidance provided by the SJVAPCD.

Energy Consumption: As shown if Table 3.7-4 above, "Energy" is one of the categories that was modeled for GHG emissions. The total GHG emissions generated from the "Energy" category is 16,138.55 MTCO2e. The following discussion includes a more detailed breakdown of energy consumption in terms of natural gas and electricity consumption. The modeling was performed with and without mitigation. The mitigation measures incorporated into the model are intended to reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, and maintenance/landscaping. The mitigation assumed in the modeling includes:

- Exceed Title 24 by 15%
- Install High Efficiency Lighting
- Install High Efficiency Appliances within all Industrial and Commercial buildings

Natural Gas: Unmitigated natural gas energy consumption by land use is presented in Table 3.7-5 below. This table also includes the GHG emissions that are generated by the natural gas use. Table 3.7.6 shows the natural gas consumption by land use with mitigation incorporated.

As shown, the mitigation incorporated would result in a reduction of 1.241503e+007 kBTU of natural gas consumption on an annual basis. This represents a reduction of 15.0 percent in natural gas consumption in a year.

TABLE 3.7-5: NATURAL GAS USE AND GHG EMISSIONS BY LAND USE (UNMITIGATED)

	Natural Gas Use	*Bio-CO2*	*NBio- CO2*	*Total CO2*	*CH4*	*N2O*	*CO2e*
Land Use	kBTU	MT/yr					
General Light Industry	8.15384e+007	0.00	4,351.20	4,351.20	0.08	0.08	4,377.68
Office Park	1.50021e+006	0.00	80.06	80.06	0.00	0.00	80.54
Total		0.00	4,431.26	4,431.26	0.08	0.08	4,458.22

SOURCES: CALEEMOD (V.2011.1.1)

TABLE 3.7-6: NATURAL GAS USE AND GHG EMISSIONS BY LAND USE (MITIGATED)

	Natural Gas Use	*Bio- CO2*	*NBio-CO2*	*Total CO2*	*CH4*	*N2O*	*CO2e*
Land Use	kBTU	MT/yr					
General Light Industry	6.9345e+007	0.00	3,700.52	3,700.52	0.07	0.07	3,723.04
Office Park	1.27518e+006	0.00	68.05	68.05	0.00	0.00	68.46
Total		0.00	3,768.57	3,768.57	0.07	0.07	3,791.50

SOURCES: CALEEMOD (V.2011.1.1)

Electricity: Unmitigated electricity energy consumption by land use is presented in Table 3.7-7 below. This table also includes the GHG emissions that are generated by the electricity use. Table 3.7.8 shows the electricity consumption by land use with mitigation incorporated.

As shown, the mitigation incorporated would result in a reduction of 0.736675e+007 kWh of electricity consumption on an annual basis. This represents a reduction of 18.5 percent in electricity consumption in a year.

TABLE 3.7-7: ELECTRICITY USE AND GHG EMISSIONS BY LAND USE (UNMITIGATED)

	Electricity Use	*Total CO2*	*CH4*	*N2O*	*CO2e*
Land Use	kWh	MT/yr			
General Light Industry	3.83783e+007	11,164.70	0.50	0.19	11,234.66
Office Park	1.52242e+006	442.89	0.02	0.01	445.67
Total		11,607.59	0.52	0.20	11,680.33

SOURCES: CALEEMOD (V.2011.1.1)

TABLE 3.7-8: ELECTRICITY USE AND GHG EMISSIONS BY LAND USE (MITIGATED)

	Electricity Use	*Total CO2*	*CH4*	*N2O*	*CO2e*
Land Use	kWh	MT/yr			
General Light Industry	3.12765e+007	9,098.69	0.41	0.16	9,155.70
Office Park	1.25747e+006	365.81	0.02	0.01	368.10
Total		9,464.50	0.43	0.17	9,523.80

SOURCES: CALEEMOD (V.2011.1.1)

Conclusion: As stated previously, 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 SLSP. With the implementation of the following mitigation measure and those presented in Section 3.1 Air Quality, the overall annual GHG emissions associated with the SLSP would be reduced by over 36.3 percent by the year 2020, consistent with applicable standards and thresholds of a 29 percent reduction. Because the SLSP would meet the City's 29 percent minimum reduction threshold, the SLSP would not hinder the State's ability to reach the GHG reduction target.

As previously discussed, the Final Staff Report for the SJVAPCD's Climate Change Action Plan provides a table of GHG emission reduction measures for development projects, along with a point value that corresponds to a percentage decrease in GHG emissions when available. According to the Final Staff Report, projects achieving a 29% reduction in GHG emissions would be determined to have a less than significant individual and cumulative impact for GHG emissions. The percentage reduction is consistent with the GHG reduction percentage sought by the state's Scoping Plan. As discussed, the GHG emission reductions anticipated from Specific Plan features plus the proposed mitigation measures would be at 36.3%. Therefore, the SLSP would be consistent with the reduction target set in the Climate Change Action Plan.

Overall, the SLSP would be consistent with the reduction targets established by the Scoping Plan and the APCD. Based on the criteria set forth in the APCD's Climate Change Action Plan, the SLSP would have an individual and cumulative impact that is less than significant.

The project's energy requirements would be reduced by 15.0 percent (natural gas) and 18.5 percent (electricity) with the incorporation of mitigation. The energy requirements for the proposed project would come from PG&E and would not adversely affect the local and regional energy supplies or cause a need for additional capacity. PG&E manages the supply and transmission of electricity and natural gas for the region in an effort to maintain a quality supply at base and peak periods of demand. The proposed project will comply with Title 24, Part 6 of the California Code of Regulations, known as the Building Energy Efficiency Standards. This includes the CALGreen requirements for new buildings to reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills, and install low pollutant-emitting materials. The City will review individual building plans as they are prepared to ensure that they comply with the latest Title 24 requirements, including CALGreen.

Implementation of the SLSP would not conflict with any applicable plan, policy, or regulation related to GHG reduction, and impacts related to GHG emissions and global climate change would be considered **less-than-significant** with the implementation of mitigation measures.

MITIGATION MEASURES

Mitigation Measure 3.5-1*: To reduce Greenhouse Gas Emissions and Energy Consumption, the project applicant shall institute measures to reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, and maintenance/landscaping. As the individual projects are designed and undergo Design Review by the City of Lathrop, there should be*

an explanation as to why certain measures were incorporated in the individual projects and why other measures were dismissed.

- *Increase transit accessibility in the Plan Area by ensuring a minimum distance of 0.2 miles to transit stops*
- *Ensure that the pedestrian network within the Plan Area connects to offsite pedestrian networks*
- *Provide traffic calming measures on all street segments and intersections*
- *Implement a voluntary trip reduction program for all employees*
- *Encourage telecommuting and alternative work schedules. Ensure that 10% of employees have a 9/80, 4/40, or telecommute 1.5 days/wk.*
- *Provide a Ride Sharing Program for all employees*
- *Exceed Title 24 by 15%*
- *Install high efficiency lighting and appliance within all buildings*
- *Apply a water conservation strategy to achieve a 15% reduction in indoor and outdoor water usage*
- *Utilize the City's reclaimed water system to irrigate outdoor landscaping, including medians once available (i.e. installation recycled water infrastructure to the Plan Area)*
- *Install low faucets, toilets, and showers as applicable*
- *Use water-efficient irrigation systems throughout the Plan Area*
- *Institute Recycling and Composting Services to achieve a 50% reduction in waste disposal*
- *Plant 100 hardwood tree species within the overall landscaping for the Plan Area*

The purpose of this section is to disclose and analyze the potential impacts associated with hazards and hazardous materials related to the Plan Area and general vicinity, and to analyze the potential for exposure of people to hazards and hazardous materials as the SLSP is built and operated in the future. This section is based in part on the following technical studies: *Phase 1 ESA Crossroads Commerce Center and CNA Property* (ENGEO, Crossroads), *Phase 1 ESA Boatman Property* (ENGEO, Boatman), *Phase 1 ESA RTC Property* (ENGEO, RTC), *Phase 1 ESA Madonna Property* (ENGEO, Madonna), *Comprehensive General Plan for the City of Lathrop* (City of Lathrop 2004), and *General Plan Environmental Impact Report* (City of Lathrop 1991). No comments were received during the NOP review period regarding hazards and/or hazardous materials.

3.8.1 ENVIRONMENTAL SETTING

PHYSICAL SETTING

The Plan Area is a mixture of agricultural uses and industrial uses. The San Joaquin River and I-5 form the western boundary of the Plan Area. SR 120 forms the northern and eastern boundaries, the Union Pacific Railroad (UPRR) tracks form the southern boundary of the Plan Area. The majority of the Plan Area controlled by participating landowners has been assessed for environmental hazards in Phase 1 Environmental Site Assessments (ESA) prepared for the Crossroads, Boatman, RTC and Madonna properties. These Phase 1 ESAs are hereby incorporated by reference into this Draft EIR.These Phase 1 ESAs are contained in Appendix F. The remainder of the Plan Area was assessed for environmental hazards through a geohazards evaluation utilizing, in large part, existing databases and studies performed on adjacent properties.

The Crossroad property has been used for agricultural purposes since at least the 1930's. Agricultural activities produced a variety of row and feed crops and limited almond production. Remaining agricultural activities are conducted using recycled water. Monitoring wells and agricultural wells are located on this property.

The RTC property is currently occupied by XMGM, which is a company that does structural repair work on trailers, and by a small residence that includes a domestic water production well. Historically, the property was used for dry pasture but the structures have been in the Plan Area since the 1960's. An auto body shop was the first industrial use in 1997.

The Boatman property includes a single family residence and a mobile home, two sheds, a chicken coop, three fenced pastures for cattle, a propane tank and swimming pool. Historically the property has been used for dry farming since the 1970's.

The Madonna property was farmed since the 1930's but has been used for construction equipment storage since the 1980's. Power transmission lines traverse the property from west to east.

East of the Boatman property access are industrial companies (Food Express Inc. and MGM Transportation Services Inc.). A large above-ground storage tank and a fuel pump are located on the Food Express site. An industrial complex is located at the eastern terminus of Madruga Road. A

large retention basin is located south of SR-120 and power transmission lines traverse the site from northwest to southeast.

Site Topography

The elevation of the Plan Area is relatively level at an elevation of between 10 to 13 feet above sea level. Figure 2-3 USGS Topographic Map in Section 2.0 Project Description illustrates the topography of the Plan Area. Soil types are discussed in Section 3.6 Geology, Soils and Minerals.

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 wastes are 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). As previously noted, the majority of the Plan Area was assessed for environmental hazards in the Phase 1 ESA's, with the remainder being evaluated through a geohazard evaluation including database search. The objective of the Phase 1 ESA's and geohazard evaluation was to provide an evaluation of current and historical use of the Plan Area to assess whether such use has, or is expected to, result in environmental degradation of the Plan Area. Table 3.8-1 Phase 1 ESAs shows the Assessor's Parcel Numbers for all of the properties in the Plan Area, the corresponding ESA, and identifies those properties that were not surveyed (NS) under a Phase 1 ESA but which are analyzed as part of a geohazards evaluation for this EIR.

TABLE 3.8-1: PHASE 1 ESAS

APN	*PROPERTIES INCLUDED IN ESAS*	*ACRES*	*PARTICIPATING AND NON-PARTICIPATING LANDOWNERS*
241-020-070	Crossroads Phase 1	70	P-HCW Lathrop Investors, LLC
241-020-071	Crossroads Phase 1	1.86	NP-Reclamation District 17
241-030-014	Crossroads Phase 1	1.45	NP-Reclamation District 17
241-030-013	Crossroads Phase 1	161.05	P-Southchase LTD
241-410-006	Boatman Phase 1	6.5	P-WSI Lathrop Holdings
241-410-003	RTC Phase 1	8	P-RMD Lathrop Holdings
241-410-007	Madonna Phase 1	37.01	P-Warm Springs Investments LP
241-410-002	Madonna Phase 1	1.20	P P-Warm Springs Investments LP
241-410-005	Madonna Phase 1	0.10	P-McMonagle
241-410-028	NS	1.03	NP-Keeney
241-410-039	NS	1.12	NP-Keeney
241-410-027	NS	1.47	NP-Keeney
241-410-038	NS	0.05	NP-Keeney
241-410-025	NS	1.20	NP-Keeney
241-410-041	NS	6.36	NP-Bottini
241-410-042	NS	3	NP-Bottini
241-410-043	NS	2.93	NP-Schwartz
241-410-037	NS	5	NP-Bottini

Adjoining Properties

The area north of SR-120 and east of I-5 is a largely industrial and commercial business park within the Crossroads Commerce Center area. The areas south and east of the Plan Area, on the other side of the San Joaquin River and UPRR tracks, are largely residential and agricultural. During ESA investigations for the Crossroads properties (some properties are located north of the Plan Area, and north of SR-120), it was noted that a plume of contaminated groundwater has migrated. The plume is comprised of pesticides and fumigants and originates at the Oxychem facility owned by J. R. Simplot. Monitoring wells located in the area have delineated the extent of the contaminated groundwater plume. The responsible party, Simplot, is presently undertaking remediation of the contamination under the oversight of the Central Valley Regional Water Quality Control Board. The Crossroads ESA Phase I (p. 21) reviewed the Conestoga-Rovers & Associates Annual Report of Groundwater Remediation for Simplot and noted that trend analysis of concentrations present in groundwater indicated that over the 21 year remediation program contaminants have been declining.

Additionally, agricultural activities use recycled water for irrigation. The recycled water originates from the neighboring wastewater treatment plant that is operated according to the requirements of the Central Valley Water Quality Control Board and thus this activity is not a Recognized Environmental Condition. Pursuant to ASTM E1527 – 05, the term Recognized Environmental Condition means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not Recognized Environmental Conditions.

Food Express, Inc is located north of the RTC property and this property contains a large above-ground storage tank labeled as flammable. A radio tower is also located on this property.

Interviews and Site Reconnaissance

Site reconnaissance was conducted for each of the Phase 1 ESAs on different dates. Interviews with various persons familiar with the vicinity, including representatives of public agencies, were conducted for the purpose of identifying past and present uses, which may contribute to Recognized Environmental Conditions (REC) in the Plan Area. Results of those interviews and site reconnaissance are discussed in the following sections.

Crossroads: ENGEO conducted a site reconnaissance of the Crossroads site with a representative of the property owners on December 8, 2003. The site was visually inspected for evidence of materials storage, staining or discoloration of surface soil, debris, stressed vegetation or other condition that may indicate chemical discharge, and presence of fill/ventilation pipes, ground subsidence or other evidence of existing or preexisting underground storage tanks. The high

voltage lines that traverse the site include three transformers. PG&E was interviewed and stated that the transformers on the property are PCB free (ENGEO Crossroads, p. 27). The property was farmed. An irrigation well powered by a diesel engine and 1,000 gallon diesel above-ground tank was located at the west central portion of the property. No staining was indicated (ENGEO Crossroads, p. 23-24). Recycled wastewater is used for irrigation. Use of recycled wastewater in California is regulated under CCR Title 22, Division 4. The regulations ensure the protection of public health associated with the use of recycled water and establish acceptable levels of constituents and pathogens in recycled water for a range of uses. The California Department of Health Services (DHS) has jurisdiction over the distribution of recycled water and the enforcement of Title 22 regulations. A 60-acre quarry operated on the eastern property. No RECs were identified on the property.

RTC: ENGEO conducted a site reconnaissance of the RTC property with the property owner on June 17, 2005. The site is accessed from a private paved road that extends south from Madruga Road. The majority of the property is occupied by a large, 6-bay shop occupied by XMGM that does repair for large trailers and chassis. An office is located on the north side of the shop, a trailer and three storage containers on the south side of the property. Fifteen 5-gallon containers of motor oil and other substances were located in the shop. These liquids are not considered RECs provided the property owner provides proper use or disposal of the containers and their contents. Metal waste was located in one of the containers. The owner stated that the metal and waste oil is collected and taken to a recycler. Stored equipment and scattered debris were on the property.

In the southwest corner of the property is a residence consisting of a manufactured home, detached garage and well shed. These structures were constructed at a time when asbestos (ACBMs) could have been used as well as lead based paint. A domestic well and septic tank serve the residence. A Cal-OSHA certified ACBM and lead based paint contractor should be retained to assess the structures prior to any renovation or demolition activities. If asbestos-containing materials and/or lead are found in the buildings, a Cal-OSHA certified ACBM and lead based paint contractor must be retained to remove the asbestos-containing materials and lead in accordance with EPA and California Occupational Safety and Health Administration (Cal/OSHA) standards. In addition, all activities (construction or demolition) in the vicinity of these materials must comply with Cal/OSHA asbestos and lead worker construction standards. The ACBM and lead must be disposed of properly at an appropriate offsite disposal facility.

Two areas of stained gravel were observed in the parking area of the shop. Stained gravel should be collected and properly disposed and if surface staining is found to extend to a depth of more than six inches a hazardous waste specialist must be engaged to further assess the stained area. This is addressed in further detail under the impact analysis. Mitigation is provided that requires the appropriate sampling, collection, and disposal of the stained gravel.

Many of the areas around buildings have been paved and ENGEO was not able to assess if soil staining occurred under the pavement. In areas that are presently paved, if during site preparation soil staining is encountered or potential hazardous materials encountered, a hazardous waste specialist (Phase 2) shall be engaged to further assess the stained area. The septic tank and domestic water supply wells shall be upgraded or abandoned under permit from the San Joaquin

County Department of Environmental Health. A large retention basin is located at the northern boundary of the site that collects storm drainage but no indication of hazardous substances or stressed vegetation around the pond (ENGOE, RTC, p. 15-21). No RECs were identified on the property (ENGEO RTC, p.1).

Boatman: ENGEO conducted a site reconnaissance of the Boatman property with the property owner on January 28, 2005. The site is accessed from a one-lane gravel driveway that extends south from Madruga Road. The property contains a single family residence, detached garage and covered patio and a second residence consisting of a manufactured home, two wood storage sheds with concrete slab floors, a wood chicken coop and three fenced pastures. These structures were constructed at a time when asbestos (ACBMs) could have been used as well as lead based paint. Two domestic wells and a septic tank serve the residence. Several small containers were located on site that were not labeled or properly sealed that appear to contain household cleaners, gasoline, paint, waste oil lubricants, and antifreeze. No indication of spillage or staining was observed. Several recreational vehicles were parked on site. One REC is on the property consisting of an unregistered above ground propane tank. No evidence of spilling or staining was observed. Two sets of high power transmission lines traverse the property from northeast to southwest and overhead pole mounted electric lines serve the site.

Madonna: ENGEO conducted a site reconnaissance of the Madonna site with a representative of the property owners on December 8, 2003. The property has been used for equipment storage since the 1980's and was farmed but is now fallow. Four area of surface soil staining were observed under parked equipment. Two sets of overhead tower mounted electric lines traverse the southern portion of the site in an east-west direction. The site is also served by overhead pole mounted lines. A dirt road from Madruga Road leads to the fenced equipment storage area on the western portion of parcel 241-410-07. Three 20,000-gallon empty storage tanks were located on the western portion of the site. Approximately 45 empty 55-gallon drums were scattered throughout the site. Two drums appeared to contain waste oil and two appeared to contain transmission fluid. No surface staining or odor was observed around the storage tank or drums. Scattered metal and plastic debris was on the storage site. No RECs were identified on the site. The storage tanks and drums should be properly disposed and if soil staining is observed, a Phase 2 assessment was recommended in the Phase 1 ESA and is required as part of this CEQA document. The four areas of stained surface soil should be collected and disposed of properly.

HISTORICAL USE INFORMATION

Historical information was reviewed to develop a history of the previous uses of the Plan Area and surrounding area, in order to evaluate the Plan Area and adjoining properties for evidence of Recognized Environmental Conditions. Standard historical sources reviewed during the preparation of this report included the following, as available:

AERIAL PHOTOGRAPHS

Historical aerial photographs of the Plan Area and general vicinity were reviewed for the Plan Area. The Plan Area has been used for agricultural purposes since the 1930's and the western 2/3rds of

the Plan Area included in the Crossroads ESA is still used for agriculture. The remainder of the Plan Area was originally also farmland with a few residences but was gradually converted starting in the late 1990's to industrial uses along the western portion of Madruga Road.

BUILDING DEPARTMENT RECORDS

San Joaquin County Building Department records on the Crossroads portion of the site included permits for five percolation ponds for waste water disposal on the western portion and a 60-acre quarry on the eastern portion.

ZONING AND LAND USE RECORDS

General Plan and Zoning information for the Plan Area is discussed in detail in Chapter 3.10 Land Use of this EIR. The portion of the Plan Area designated for development would be designated for limited industrial and commercial office uses.

All light industry is permitted including: assembly of small electrical equipment and appliances, manufacture and assembly of medical, ceramic, equipment, appliances, lumber yards, gasoline stations, public utilities, incidental offices, and like uses (Title 17.58.040). The required conditions (Title 17.58.044) are that the property be maintained in good condition free from debris, uses must be safe for persons residing or working in the area, no discharge of air pollutants, no discharge of waste is permitted except into a sewage disposal system in compliance with Central Valley Regional Water Quality Control Board.

The commercial office provides for commercial and professional offices; retail; financial, government, entertainment, and clean light industry. A variety of retail sales are permitted, including auto and machinery sales, lumber yards, contractors center, furniture and regional high volume retail such as auto mall, and factory outlet. Retail service uses are permitted including appliance repair and auto sales and service. Educational and recreational uses such as a bowling alley, civic center, instruction/meeting hall are permitted and office uses including administrative headquarters (Title 17.58.021).

Environmental Records

Environmental Data Resources Inc. performed a search of local, state and federal agency databases for the Plan Area and known contaminated sites in the vicinity. No parcels in the Plan Area were found to contain any known contamination.

The EPA Toxic Release Inventory (TRI) does not list data on disposal or other releases of toxic chemicals in the Plan Area. (USEPA 2012).

The CA Department of Toxic Substances Control (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. There is one site listed in the database within one mile of the Plan Area. The site is D'arcy Parkway Road Extension located at 400-500 D'arcy Parkway. The site is listed as "other" in the database and is considered open-

inactive. There are no other sites listed in the vicinity of the Plan Area. See Table 3.8-2 for a complete list of active sites within the City of Lathrop.

The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by the California Integrated Waste Management Board (CIWMB). The SWIS data identifies active, planned and closed sites. The Plan Area does not have any active or planned solid waste facilities listed in the database

None of the records reviewed for the Plan Area indicates that a Recognized Environmental Condition is associated with the Plan Area.

DATABASES

There is a broad list of federal and state database 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 brief 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 Plan Area 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 Plan Area 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 potential hazardous waste sites that have been reported to EPA by states, municipalities, private companies, and individuals, pursuant to Section 103 of 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 Plan Area is not listed in this database. CERCLIS-NFRAP includes sites that are removed from CERCLIS post 1995, where following an initial investigation, contamination was removed or not serious enough to require Superfund action or NPL consideration. The Plan Area 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 Plan Area is not listed in this database.

RCRIS

RCRIS includes sites that generate, transport, store and treat/dispose of hazardous waste. The Plan Area is not listed in this database.

BRS

The Biennial Reporting System of the EPA collects data on generation and management of hazardous waste from Large Quantity Generators and Treatment, Storage, and Disposal Facilities. The Plan Area is not listed in this database.

RAATS System

RCRA Administrative Action Tracking System (RAATS) is an EPA database that contains records based on enforcement actions issued under RCRA pertaining to major violators, and includes administrative and civil actions brought by EPA. The Plan Area is not listed in this database.

PADS System

PCB Activity Database System (PADS) is an EPA database that identifies generators, transporters, commercial storers, and/or brokers and disposers of polychlorinated biphynels (PCBs) who are required to notify EPA of such activities. The Plan Area is not listed in this database.

CHMIRS Data

The California Hazardous Material Incident Report System (CHMIRS) contains information on reported hazardous materials incidents (i.e., accidental releases or spills). The source of this information is the California Office of Emergency Services. The Plan Area is not listed in this database.

ERNS Sites: The Emergency Response Notification System (ERNS) provides records of reported releases of oil and hazardous substances. The source of this database is the U.S. EPA. The Plan Area is not listed in this database.

Cortese Database: The Cortese database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with underground storage tanks (USTs) having a reportable release, and all solid waste disposal facilities from which there is known hazardous substance migration. The source of this database is the California Environmental Protection Agency (CAL-EPA). The Plan Area is not listed in this database.

LUST Reports: The Leaking Underground Storage Tank (LUST) Incident Reports contain an inventory of reported leaking underground storage tank incidents. This information comes from the State Water Resources Control Board Leaking Underground Storage Tank Information System. The Plan Area is not listed in this database.

UST Database: The Underground Storage Tank (UST) database lists registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The UST

information comes from the State Water Resources Control Board's Hazardous Substance Storage Container Database. The Plan Area is not listed in this database.

HIST UST Sites: The Hazardous Substance Storage Container Database is a historical listing of UST sites. The data source is the State Water Resources Control Board. The Plan Area is not listed in this database.

CA FID Information: The Facility Inventory Database (CA FID) lists active and inactive underground storage tank locations. This database is maintained by the State Water Resources Control Board. The Plan Area is not listed in this database.

HAZNET Database: The Hazardous Waste Information System (HAZNET) includes data extracted from the copies of hazardous waste manifests each year by the State Department of Toxic Substances Control. The Plan Area is not listed in this database.

FINDS Data: The Facility Index System (FINDS) contains both facility information and "pointers" to other sources of information that contain more detail (e.g., RCRA Info, Permit Compliance System [PCS], Aerometric Information Retrieval System [AIRS]). The source of this information is the U.S. EPA. The Plan Area is not listed in this database.

FTTS Database: The Federal Toxics Tracking System (FTTS) tracks administrative cases and pesticide enforcement actions/compliance activities related to the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA), Toxic Substances Control Act (TSCA), and Emergency Planning and Community Right-to-Know Act (EPCRA). The source of this data is the Environmental Protection Agency (EPA) Office of Prevention, Pesticides, and Toxic Substances. The Plan Area is not listed in this database.

CA SLIC Database: The statewide Spills, Leaks, Investigations, and Cleanups (CA SLIC) database includes unauthorized discharges from spills and leaks, other than from underground storage tanks or other regulated sites. The data source is the State Water Resources Control Board. The Plan Area is not listed in this database.

Notify 65 Records: Proposition 65 Notification Records (Notify 65) contain facility notifications about any release that could impact drinking water and thereby expose the public to a potential health risk. The State Water Resources Control Board maintains this database. The Plan Area is not listed in this database.

EMI Data: Emissions Inventory Data (EMI) is comprised of toxics and criteria pollutant emissions data collected by the state Air Resources Board and local pollution agencies. The Plan Area is not listed in this database.

Manufactured Gas Plant Database: This database includes records of coal gas plants (manufactured gas plants), which were in operation in the U.S. until the 1950s. Due to common past practices, the potential for on-site hazardous by-products (such as coal tar, sludge, oils, and chemical compounds) remains on such sites, which could result in soil or groundwater

contamination. These records are maintained by EDR, Inc., as part of its proprietary database. The Plan Area is not listed in this database.

SWEEPS Records: The Statewide Environmental Evaluation and Planning System (SWEEPS) UST list, which is no longer maintained or updated, was under the purview of the State Water Resources Control Board. Other agencies (e.g., as identified above) now maintain UST records. The Plan Area is not listed in this database.

Hazardous Material Sites

As noted above, the State of California Hazardous Waste and Substances Site List (also known as the "Cortese List") is a planning document used by the state, local agencies, and developers to comply with the California Environmental Quality Act (CEQA) requirements for providing information about the location of hazardous materials sites. Government Code Section 65962.5 requires the California Environmental Protection Agency (Cal EPA) to annually update the Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for preparing a portion of the information that comprises the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information that is part of the complete list.

The CAL-SITES Abandoned Site Program Information System (ASPIS) Database is compiled by Cal-EPA to identify and track potential hazardous waste sites.

GeoTracker is a geographic information system (GIS) that provides online access to environmental data and is the interface to the Geographic Environmental Information Management System (GEIMS), a data warehouse which tracks regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies. Searches of the above resources and records identified 41 active hazardous material sites in the City of Lathrop known to handle and store hazardous materials that are associated with a hazardous material related release or occurrence. The terms "release" or "occurrence" include any means by which a substance could harm the environment: by spilling, leaking, discharging, dumping, injecting, or escaping. Table 3.8-2 displays the known hazardous material sites in the City with a description of the hazards provided. No known hazardous sites are associated with the Plan Area. One site, D'arcy Parkway Road Extension, is within one mile of the Plan Area.

TABLE 3.8-2: GEOTRACKER KNOWN ACTIVE HAZARDOUS MATERIAL RELEASE SITES IN THE CITY OF LATHROP

SITE NAME	*TYPE*	*CLEANUP STATUS*	*ADDRESS*
Carpenter Company Inc	LUST	Open	17100 Harlan Rd
Arco Station #6080	LUST	Open	85 Louise Ave
A & W Farms	LUST	Open	12965 Manthey Rd
Two Guys Food & Fuel	LUST	Open	147 Lathrop Rd
Super Store Industries	LUST	Open	16888 Mckinley Ave
Lathrop Chevron	LUST	Open	140 Lathrop Rd
Tower Mart #104	LUST	Open	192 Lathrop Rd
Defense Distribution San Joaquin Ca-Sharpe -	Military	Open - Remediation	Roth Road

Defense Distribution San Joaquin Ca-Sharpe - Ou-2 - P-1a	Military	Open - Remediation	Roth Road
Defense Distribution San Joaquin Ca-Sharpe - Ou-2 - P-1b	Military	Open - Remediation	Roth Road
Defense Distribution San Joaquin Ca-Sharpe - Ou-2 - P-1c	Military	Open - Remediation	Roth Road
Defense Distribution San Joaquin Ca-Sharpe - Ou-2 - P-5a	Military	Open - Remediation	Roth Road
Defense Distribution San Joaquin Ca-Sharpe - Ou-2 - S-33/29	Military	Open - Remediation	Roth Road
Defense Distribution San Joaquin Ca-Sharpe - Groundwater Potable Supply	Military	Open - Site Assessment	Roth Road
Defense Distribution San Joaquin Ca-Sharpe - Ou-2 - P-1g	Military	Open - Remediation	Roth Road
Lathrop Agri Chemical Plant	Land Disposal	Open	16777 Howland
Lathrop Facility	Land Disposal	Open	342 Roth
J.R. Simplot Company	Other, DTSC Cleanup Site	Open - Site Assessment	16777 Howland Road
Libbey-Owens-Ford - Lathrop Plant	Other	Open - Site Assessment	500 East Louise Ave
Occidental Chemical Agricultural Products Company	Other	Open - Remediation	16777 Howland Road
Channel Construction Along Shulte Road	Other	Open - Inactive	Shulte Road
D'arcy Parkway Road Extension*	Other	Open - Inactive	400-500 D'arcy Parkway
Hayre's Egg Producers	LUST	Open - Inactive	12565 S. Manthey Road
Lague Sales Salvage Yard	Other	Open - Inactive	2112 East Louise Avenue
Monierlife Tile	Land Disposal	Open	342 Roth Road
J. R. Simplot Company	Other	Open - Verification Monitoring	16777 Howland Rd S
Phillips 66	LUST	Open - Eligible For Closure	16500 S. Harlan Road
Defense Distribution San Joaquin Ca-Sharpe - Site #12 Ust	DTSC Cleanup Site	Open - Verification Monitoring	850 Roth Rd E
Circle-K #1205	LUST	Open - Verification Monitoring	16470 Cambridge Rd
Defense Distribution San Joaquin Ca-Sharpe - Groundwater Extraction Systems	Military	Open - Remediation	850 Roth Road
Defense Distribution San Joaquin Ca-Sharpe - Groundwater Monitoring Reports	Military	Open - Remediation	300 Roth Road
Defense Distribution San Joaquin Ca-Sharpe - Ou-2 - S-26	Military	Open - Remediation	Roth Road
Defense Distribution San Joaquin Ca-Sharpe - Ou-2 - S-03	Military	Open - Remediation	850 Roth Road
Defense Distribution San Joaquin Ca-Sharpe - Ou-2 - S-30	Military	Open - Remediation	850 Roth Road
Defense Distribution San Joaquin Ca-Sharpe - Ou-2 - S-36	Military	Open - Remediation	850 Roth Road
Defense Distribution San Joaquin Ca-Sharpe - Bldg #271	Military	Open - Verification Monitoring	850 Roth Road
Defense Distribution San Joaquin Ca-Sharpe - Site#147	Military	Open - Verification Monitoring	850 Roth Road
Defense Distribution San Joaquin Ca-Sharpe - Site #07	Military	Open - Verification Monitoring	850 Roth Road
Defense Distribution San Joaquin Ca-Sharpe - Former Fueling Station	Military	Open - Verification Monitoring	850 Roth Road

Defense Distribution San Joaquin Ca-Sharpe - Mw326 Cluster Source Area	Military	Open - Site Assessment	Roth Road

SOURCE: SWRCB, GEOTRACKER, 2013

Note: LUST = Leaking Underground Storage Tank, DTSC = California Department of Toxic Substances Control. * site within ½ mile of project, ** site within 1 mile of project.

Transportation of Hazardous Materials

The transportation of hazardous materials within the City of Lathrop Planning Area is subject to various federal, state, and local regulations. The only roadway and transportation route approved for the transportation of explosives, poisonous inhalation hazards, and radioactive materials in the City of Lathrop Planning Area is Interstate 5. 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))

In addition to area roadways, hazardous materials are routinely transported on Union Pacific Railroad lines that are make up the south boundary of the site and are also location north of the site. Hazardous materials are transported on these lines. The risk of accidents, and more specifically accidents involving hazardous materials, is relatively low. The U.S. Department of Transportation 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% chance of an accident. Risk of a railroad accident containing hazardous materials is considered much lower, as only an average of eight accidents involving hazardous material spills occur annually in California.

The Union Pacific Railroad Company does implement 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.

3.8.2 REGULATORY SETTING

FEDERAL

The primary federal agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the Environmental Protection Agency (EPA), Department of Labor Occupational Safety and Health Administration (OSHA), and the Department of Transportation (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.

Resource Conservation and Recovery Act

The 1976 Federal Resource Conservation and Recovery Act (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 establishes 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. Owners and operators of USTs had until December 1998 to meet the new tank standards. As of 2001, an estimated 85 percent of USTs were in compliance with the required standards.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (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.

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 as long as they are not incompatible.

STATE

The primary state agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the California Office of Emergency Services (OES), California Environmental Protection Agency (Cal-EPA), Department of Toxic Substances Control (DTSC), California Department of Transportation (Caltrans), California Highway Patrol (CHP), California Water Quality Control Board, and the California Air Resources Board. Several laws governing the generation, transport, and disposal of hazardous 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

Cal-EPA 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

The California Code of Regulations (CCR) Title 22 provides state regulations for hazardous materials, and CCR Title 26 provides regulation of hazardous materials management. In 1996, Cal/EPA 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.

LOCAL

City of Lathrop General Plan

The City of Lathrop General Plan (City General Plan) does not specifically address the potential for existing hazardous materials in the Plan Area, but includes policies to regulate the extent and location of land uses that may generate hazardous materials and other public health impacts. The following policies under the Safety Goals and Policies section of the City General Plan would apply to the SLSP:

> **Policy No. 4**: The City will continue to maintain and update emergency service plans, including plans for managing emergency operations, the handling of hazardous materials and the rapid cleanup of hazardous materials spills.

Policy No. 6: The City will seek to reduce the risks and potential for hazards to the public through planning and zoning practices and regulations which avoid hazardous land use relationships, and by the continued and timely adoption of new-edition building and fire codes.

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 (CalARP) program, etc. Implementation of these programs involves permitting, inspecting, providing education/guidance, investigations, and enforcement.

3.8.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the SLSP 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, would it create a significant hazard to the public or the environment.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Risks associated with wildland fire and risks associated with location adjacent to an airport or airstrip were dismissed in the Initial Study. These topics will not be discussed further in this EIR; please refer to the Initial Study for further information on these topics.

IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: 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: Construction activities would occur in phases through the development of the SLSP. Construction equipment and materials would likely require the use of petroleum based products (oil, gasoline, diesel fuel), and a variety of chemicals including paints, cleaners, and solvents. The use of these materials at a construction site will pose a reasonable risk of release into the environment if not properly handled, stored, and transported. A release into the environment could pose significant impacts to the health and welfare of people and/or wildlife, and could result in contamination of water (groundwater or surface water), habitat, and countless important resources. This is a potentially significant impact. Mitigation Measure 3.8-1 requires a Soils Management Plan (SMP) to be submitted and approved by the San Joaquin County Department of Environmental Health prior to the issuance of a grading permit. The SMP will establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. If surface staining is found to extend to a depth of more than six inches in soil, a hazardous waste specialist will be engaged to further assess the stained area. The approved SMP must be posted and maintained onsite during construction activities and all construction personnel shall acknowledge that they have reviewed and understand the plan.

Like most agricultural and farming operations in the Central Valley, agricultural practices in the Plan Area have used agricultural chemicals including pesticides and herbicides as a standard practice. Although no contaminated soils have been identified in the Plan Area or the vicinity, residual concentrations of pesticides may be present in soil as a result 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, such as such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-diphenyl-dichloroethylene (DDE). This is a potentially significant impact.

Two areas of stained gravel were observed in the parking area of a shop within the Plan Area. The stained gravel must be collected and properly disposed of and if surface staining is found to extend to a depth of more than six inches a hazardous waste specialist must be engaged to further assess the stained area. This is a potentially significant impact.

Additionally, the existing industrial and commercial uses in the Plan Area could have resulted in contamination of soil in some locations. Several onsite structures were identified in the ESA as possibly containing asbestos-containing building materials and lead-containing materials (e.g., paint, sealants, pipe solder), which could become friable or mobile during demolition activities and come into contact with construction workers. Demolition, excavation, and construction activities in the Plan Area could result in the exposure of construction workers to hazardous materials, including asbestos, lead, petroleum hydrocarbons, pesticides, herbicides, and fertilizers. This is a potentially significant impact.

Implementation of the following mitigation measures will ensure that these potential impacts are reduced to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure 3.8-1*: A Soils Management Plan (SMP) shall be submitted and approved by the San Joaquin County Department of Environmental Health prior to the issuance of a grading permit. The SMP shall establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. If surface staining is found to extend to a depth of more than six inches in soil, a hazardous waste specialist (Phase 2) shall be engaged to further assess the stained area. 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 the removal of or issuance of demolition permits for buildings built prior to 1980, the applicant shall hire a qualified consultant to perform a Phase 2 ESA to: 1) sample the soils for residual agrichemicals, 3) sample any areas that appear stained, and32) investigate whether any of the buildings or facilities contain asbestos-containing materials and lead that could become friable or mobile during demolition activities. If toxic levels of residual agrichemicals are found, the contaminated soil shall be excavated from the site and disposed of at an off-site disposal facility designed to accept such waste. If any stained soils are found, the contaminated soil shall be excavated from the site and disposed of at an off-site disposal facility designed to accept such waste. If asbestos-containing materials and/or lead are found in the buildings, a Cal-OSHA certified ACBM and lead based paint contractor shall be retained to remove the asbestos-containing materials and lead in accordance with EPA and California Occupational Safety and Health Administration (Cal/OSHA) standards. In addition, all activities (construction or demolition) in the vicinity of these materials shall comply with Cal/OSHA asbestos and lead worker construction standards. The ACBM and lead shall be disposed of properly at an appropriate offsite disposal facility.*

Mitigation Measure 3.8-3*: Prior to the issuance of grading permits or demolition permits, the project proponent shall perform a Phase 2 assessment in accordance with the recommendations provided in the Phase 1 ESAs. San Joaquin County Department of Environmental Health shall be notified by the project applicant if evidence of previously undiscovered soil or groundwater contamination (e.g., stained soil, odorous groundwater) is encountered during the Phase 2 assessment. Any contaminated areas shall be remediated by the project applicant in accordance with recommendations made by San Joaquin County Department of Environmental Health, Regional Water Quality Control Board, Department of Toxic Substances Control, or other appropriate federal, state, or local regulatory agencies.*

Mitigation Measure 3.8-4*: Prior to the issuance of grading permits the septic tank and domestic water supply wells shall be upgraded or destructed under permit from the San Joaquin County Department of Environmental Health. Any destruction of these facilities shall be in accordance with the San Joaquin County Well Standards (San Joaquin County Ordinance Code Section 9-1115.6). The project applicant shall provide the City of Lathrop with a copy of the permit and a report or other information documenting the appropriate destruction of these facilities.*

Operational Phase: The operational phase of the SLSP would occur after construction is completed and business operators and their employees and customers move in to occupy the structures and facilities on a day-to-day basis. The construction and operation of the SLSP will occur in phases as infrastructure is financed, developed and constructed to serve more intense use of the Plan Area. Gradually, fallow and farmed properties will be converted to industrial and commercial office uses called for in the SLSP.

There were no Recognized Environmental Conditions (RECs) identified for the Plan Area. The Phase 1 ESAs did note that past and continuing farming operations and existing industrial uses could have resulted in contamination of soil in some locations. If potential contaminated sites are present in the Plan Area and are not properly remediated before occupation or use of the Plan Area, then long-term employees and others could be exposed to hazardous materials. There is also the potential that previously unrecorded incidences of contamination or RECs could be located in areas not evaluated in a Phase 1 ESA. And, due to long-term phasing of project implementation, there is also the potential for areas previously evaluated to become contaminated between the time of the Plan Area was evaluated and project construction.

The SLSP permits a number of industrial and commercial uses that will likely store, use and possibly generate a variety of hazardous materials (e.g., manufacturers, vehicle and equipment repair, dry cleaners). There is a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices. There is a wide variety of hazardous materials that could be used within industrial and commercial facilities/business within the Plan Area. Each business that uses a hazardous material 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 Plan Area including Hazardous Materials Business Plan (HMP) requirements, among numerous other programs. Implementation of this program involves permitting, inspecting, providing education/guidance, investigations, and enforcement. Consistency with local, state, and federal regulations related to the transport, storage, use, and disposal of hazardous materials ensures that the potential risk of upset and accident conditions from a release is minimized to the extent practical.

The SLSP does not provide for land uses and zoning that would allow for the manufacture of hazardous materials; thus there is not anticipated to be hazardous materials shipped from businesses in the Plan Area. It is anticipated that agrichemicals (pesticides and herbicides) would continue to be shipped to the Plan Area for use in farming operations until the farming operations cease with the buildout of the Plan Area. The transport of these hazardous materials on area roadways are regulated by the California Highway Patrol and Caltrans. The San Joaquin County Agricultural Commissioner is responsible for regulating agrichemicals in San Joaquin County. Farmers are required by law to notify the Commissioner's Office related to their agrichemical use. Consistency with local, state, and federal regulations related to agrichemical use ensures that the potential risk of upset and accident conditions from a release is minimized to the extent practical.

Implementation of the following mitigation measure will ensure that business operators consult with the San Joaquin County Department of Environmental Health for education/guidance related to specific requirements that their businesses must implement in the day-to-day operations. This includes the establishment of management practices for handling, storing, and disposal of hazardous materials, including fuels, paints, cleaners, solvents, pesticides, fertilizers, etc., during operations to reduce the potential for spills and to direct the safe handling of these materials if encountered. It also includes consultation related to specific permits that a business may require in order to operate (i.e. permits of underground storage tanks if they are part of the business). Implementation of the following mitigation measure would result in a **less than significant** impact relative to this issue.

MITIGATION MEASURES

Mitigation Measure 3.8-5*: Prior to the commencement of a business operation that involves the transport, storage, use, or disposal of a significant quantity hazardous material within the Plan Area, the business owner shall submit a Hazardous Materials Business Plan (HMBP) for review and approval by the San Joaquin County Department of Environmental Health. The HMBP shall establish management practices for handling, storing, and disposal of hazardous materials, including fuels, paints, cleaners, solvents, pesticides, fertilizers, etc., during operations to reduce the potential for spills and to direct the safe handling of these materials if encountered. The HMBP shall also identify the appropriate area for mixing/loading pesticides and fertilizers and for fuel dispensing, which shall be separated to ensure safety. The areas shall be designed with spillage catchments such that any accidental spillage is prevented from entering waterways. The business owner shall also consult with the San Joaquin County Department of Environmental Health to ensure that the particular business operations are compliant with all local, state, and federal regulations relative to their operations (i.e. proper permits for the installation and use of an underground storage of hazardous substances (USTs)). The approved HMBP and any other permit deemed to be required in order to commence the specific business operations shall be maintained onsite and all personnel shall acknowledge that they have reviewed and understand the HMBP and any other permit requirements.*

Railroad: The Union Pacific Railroad poses a small risk of accidental spill during transportation of hazardous materials. The Railroad is subject to compliance with state and federal regulations. The Union Pacific Railroad company has developed and implemented 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. This plan implements measures to reduce accidental spills, and assures that accidental spillages are remediated. These treatments would avoid significant safety risk to future employees and customers in the Plan Area as well as minimize harm to the environment. Therefore, this is a **less than significant** impact.

Impact 3.8-2: 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 SLSP is not anticipated to have businesses that would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. In addition, there are no existing or planned schools within a quarter mile of the Plan Area. In Lathrop, the closest schools include Mossdale Elementary School (0.9 miles northwest), Lathrop Elementary School (1.9 miles north), Lathrop High School (2.6miles northwest), and Joseph Widmer Jr. Elementary School (3.25 miles north). In Manteca, the closest schools include Sierra High School (1.7 miles east), Stella Brockman Elementary School (2.6 miles northeast), and George McParland Elementary School (3.23 miles northeast). There are a variety of other schools located beyond 3 miles from the Plan Area. Implementation of the SLSP would have a **less than significant** impact with regards to this environmental issue.

Impact 3.8-3: Potential to result in impacts from being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (less than significant)

The information in this section is based, in part, on reviews of the four previously prepared Phase I ESAs that cover most of the Plan Area and geohazards evaluations on the remainder of the Plan Area. The hazards assessments included site reconnaissance, interviews, historical land use research, and database research. The assessments revealed no evidence of historical or existing Recognized Environmental Conditions in connection with the Plan Area. In addition, the Plan Area is not located on a site compiled pursuant to Government Code Section 65962.5. Implementation of the SLSP would have a **less than significant** impact with regards to this environmental issue.

Impact 3.8-4: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (less than significant)

The Office of Emergency Services (OES) 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 situation. 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 SLSP does not include any actions that would impair or physically interfere with any of San Joaquin County's emergency plans or evacuation routes. Future industrial businesses located in the Plan Area 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. Implementation of the SLSP would have a **less than significant** impact with regards to this environmental issue.

This section describes the regulatory setting, regional hydrology and water quality, impacts that are likely to result from project implementation, and measures to reduce potential impacts to water quality. This section is based in part on the following documents, reports and studies: *Comprehensive General Plan for the City of Lathrop* (City of Lathrop 2004), *General Plan Environmental Impact Report*. (City of Lathrop 1991), *Municipal Services Review and Sphere of Influence Plan (City of Lathrop 2009), California Water Plan Update 2013* (DWR 2013), *California's Groundwater Bulletin 118, San Joaquin Valley Groundwater Basin, Eastern San Joaquin Subbasin* (DWR 2006), *California's Groundwater* (DWR 2003), *Eastern San Joaquin Groundwater Basin Groundwater Management Plan* (SJRGA 2013), *Custom Soils Report for San Joaquin County, California (NRCS 2013a), and Web Soil Survey* (NRCS 2013b). Comments received during the NOP comment period regarding hydrology and water quality include: Central Valley Regional Water Quality Control Board, FEMA, San Joaquin County Public Works, and Central Valley Flood Protection Board.

3.9.1 EXISTING SETTING

REGIONAL HYDROLOGY

San Joaquin County is located in the San Joaquin River watershed. The San Joaquin River is about 300 miles long. It begins in the Sierra Nevada mountain range on California's eastern border. The river runs down the western slope of the Sierra and flows roughly northwest through the Central Valley, to where it meets the Sacramento River at the Sacramento-San Joaquin Delta, a 1,000-square-mile maze of channels and islands that drains more than 40 percent of the state's lands (SJRGA 2013) .

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 (SJRGA 2013).

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 region has a fairly low annual precipitation, ranging from an average precipitation of 2.5 inches in the winter to zero in the summer.

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 located 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. 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 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 (DWR 2013, pg. SJR-5).

The City of Lathrop and much of the surrounding area is located in the Eastern San Joaquin River Subbasin. This groundwater basin 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 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. The Solano and South American are subbasins of the Sacramento Valley Groundwater Basin (DWR 2006, pg. 1).

The Plan Area is located in the Oakwood Lake - San Joaquin River watershed. See Figure 3.9-1.

Groundwater

The City of Lathrop is located in the Eastern San Joaquin River Groundwater Basin. The basin is not adjudicated; however, a basin management plan has been created. The Eastern San Joaquin Groundwater Basin Groundwater Management Plan (ESJGB-GMP) (NSJCGB, 2004) was prepared in September 2004. The purpose of the ESJGB-GMP is "to review, enhance, assess, and coordinate existing groundwater management policies and programs in Eastern San Joaquin County and to develop new policies and programs to ensure the long-term sustainability of groundwater resources in Eastern San Joaquin County." According to Department of Water Resources (DWR) Bulletin 118 (DWR, 2003), the ESJGB is in a critical condition of overdraft. The estimated safe yield of the groundwater basin is approximately 618,000 AF/YR (0.87 AFY per acre, average) and the estimated overdraft is 113,000 AF/YR. The available groundwater supply for the City is projected to increase to 12,096 AFY by 2020. Groundwater levels have declined in the basin since the 1960s with the lowest groundwater levels found in eastern San Joaquin County. Groundwater levels at City wells, however, have remained stable for the past two decades when taking into account seasonal variations and droughts (City of Lathrop, 2009). Specific siting studies and hydrogeological assessments are recommended for new wells to minimize potential impacts (such as saltwater intrusion) while optimizing groundwater extraction.

Most of the fresh groundwater is encountered at depths of less than 1,000 feet, and most of this shallow groundwater is unconfined. A discussion of basin hydrogeology is provided in the ESJGB-GMP. 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 Lathrop area penetrate through the Victor formation into the Laguna formation.

Underlying Lathrop, the groundwater surface generally slopes from south to north, with the highest groundwater elevations occurring near Yosemite Avenue east of McKinley Avenue and the lowest groundwater elevations occurring along Roth Road. There are some localized depressions due to industrial and municipal groundwater pumping operations. Groundwater elevations in the fall, after the high-use summer months, average about 3 feet lower than groundwater elevations in the spring.

LOCAL SETTING

The topography of the Plan Area is relatively flat with a three foot elevation gain throughout the Plan Area. The San Joaquin River borders the Plan Area to the west behind a 20 foot high levee. There are no natural water courses in the Plan Area. The current uses in the Plan Area and adjacent lands are a mix of agricultural and industrial uses. Crop types include alfalfa and winter wheat. The Plan Area is in the Oakwood Lake - San Joaquin River watershed, which is part of the San Joaquin River watershed.

Groundwater

Relatively shallow groundwater exists throughout the Plan Area and is influenced by the water level in the river, sub-surface flow from areas of higher elevation to the east, and local irrigation practices. Even though the groundwater level may decline with a reduction in farming activities, it is possible that this high ground water condition may generally persist after development, impacting both the construction and future operation of the storm drain system. Infiltration into the storm pipes through joints and underground structures can result in excessive pumping demands throughout the life of the SLSP. This impact has been dealt with in Lathrop by proper installation of pipes having rubber gasket sealed joints. High groundwater can also impact the effectiveness of detention basins. To the extent that groundwater enters the basins, the storage available for the runoff is diminished. The bottom of the basins must be designed to maintain a minimum of two feet of separation from groundwater or other design measures will be implemented such as impervious liners with sub drain systems.

Potable water will be supplied to the South Lathrop Specific Plan by the City of Lathrop. The City is expected to provide potable groundwater from an expansion of the City's well field and potable surface water from Phase 1 and/or the Phase 2 expansion of the South County Surface Water Supply Program (SCSWSP) by the South San Joaquin Irrigation District (SSJID). In 2010, approximately 43 percent, 6048 acre-feet per year (AFY), of the City's residential water supply is extracted from groundwater. By 2025 this is expected to increase to approximately 51 percent or 12,096 AFY. See Table 3.15-8 of this EIR for a complete accounting of groundwater demand in the City. The reader is referred to Section 3.15 Utilities for further discussion of water supply for the project.

Flooding

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.

The Plan Area 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. The City of Lathrop is also protected by levees, including those that encircle Stewart Tract. These levees are maintained by Reclamation District 0017 (RD17) for portions of the City east of the San Joaquin River, and RD 2062 for Stewart Tract, and are designated as "project levees" by the US Army Corps of Engineers (Corps). Approximately five miles of levees located within the City are designated as "non-project levees". The non-project levees are also maintained by local reclamation and levee maintenance districts. Non-project levees were not built to a common standard and have different heights and cross sections.

According to the Lathrop General Plan, "the potential for flooding within the Sub-Plan Areas #1 and #2, (the Plan Area is in Sub-Plan Area #1), under conditions of a 100 year intensity storm was eliminated with the reconstruction and enlargement of the levee along the east side of the San Joaquin River in the late 1980's" (City of Lathrop 2004, pg. 4-D-6). The Plan Area is located in Zone X, protected by levee, which by definition indicates an area protected by levees from the 1% annual chance flood. See Figure 3.9-2.

The RD-17 levee system was improved circa 2009/10 with seepage berms and/or other improvements to increase the resistance of RD-17's levee system to under-seepage and through-seepage and bring the levee system into compliance with applicable Federal and State standards. Land within the Plan Area along the levee frontage was acquired by RD-17 to construct a seepage berm. RD-17 has been working with the Department of Water Resources (DWR) and the Central Valley Flood Protection Board (CVFPB) to analyze 200-year protection. The land RD-17 acquired within the Plan Area to construct the 100-year improvements is anticipated to provide sufficient space for any additional incremental improvements to provide 200-year protection in the future.

Drainage

Currently, runoff from within the Plan Area is collected in a system of shallow agricultural ditches, roadside ditches and percolation basins. Public storm drain facilities are not available. The Plan Area is lower than the top of the San Joaquin River levee; therefore, development within the Plan Area would require stormwater runoff to be pumped over/through the levee. To avoid adverse impacts to the levee system, peak discharge rates from development projects in the City of Lathrop have been limited to a maximum of 30 percent of the 100-year flow rate. Runoff from the Plan Area is anticipated to discharge to the river through a new proposed storm drainage outfall located near the southwest corner of the Plan Area. The storm drainage outfall is regional facility consistent with the City's Master Drainage Plan, which will also serve the Lathrop Gateway

Business Park Specific Plan (LGBPSP) area and development area along the McKinley Corridor. The storm drainage outfall was identified in the LGBPSP and EIR. As shown on Figure 3.15-5 in Section 3.15 of this EIR, the Plan Area will consist of a system having the following three integrated components.

- Gravity lines that collect and deliver surface runoff;
- "Watershed" detention facilities that hold the runoff; and
- A pump station and force main that conveys water to a proposed San Joaquin River outfall structure.

The Plan Area consists of one major drainage shed with a detention basin to reduce the peak discharge from the Plan Area to the San Joaquin River. The basin size and location as illustrated on Figure 3.15-5 is conceptual and subject to change based on future planning and engineering efforts.

The proposed stormwater collection system functions by discharging all runoff directly into the river up to the point where the runoff rate exceeds the capacity of the pump station. When the rate of runoff exceeds the pump station capacity, water "backs up" into the detention basin until the runoff rate declines and once again equals the capacity of the pump station. The water level in the detention basin then decreases, emptying completely within a City mandated 24-hour period unless an extended period is approved by the City Engineer.

Based on preliminary information available at the time of Specific Plan approval, the approximate size of the detention basin is 10 acres allowing for a basin storage of 50 acre-feet of water.

Initial development phases may utilize interim retention (percolation) basins until the pump station, force main and outfall are constructed. An alternative temporary drainage solution may include pumping runoff from the Plan Area into the Crossroads Business Park existing drainage system.

A storm drain pipeline corridor through the Plan Area, located in Yosemite/Guthmiller Avenue and the local industrial street, is included as part of the drainage plan for future offsite development along the McKinley Avenue corridor. A storm drain pipeline corridor through the Plan Area, along the southern boundary adjacent to the UPRR tracks, is included as part of the drainage plan for the future offsite development within the LGBPSP. Pipelines from both of the offsite projects are anticipated to be shallow forcemains, which can be constructed at a future time following build-out of the SLSP and therefore not required to be constructed with development of the SLSP. Easements will be provided for portions of the offsite pipelines that are not located within the public right-of-way.

Dam Failure

The Plan Area is located within four dam failure inundation areas, New Melones Lake, San Luis Reservoir, Lake McClure, and Tulloch Reservoir. See 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 as a result 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.

New Melones Lake, approximately 45 miles from the Plan Area, is an artificial lake in the central Sierra Nevada foothills of Calaveras- and Tuolumne County, near Jamestown. This reservoir created by the construction of the New Melones Dam across the Stanislaus River has a 2,400,000 acre-foot capacity with a surface area of 12,500 acres. When full, the shoreline is more than 100 miles.

The *San Luis Reservoir*, approximately 50 miles from the Plan Area, is an artificial lake on San Luis Creek in the eastern slopes of the Diablo Range of Merced County, approximately 12 miles west of Los Banos. The reservoir stores water taken from the San Joaquin-Sacramento River Delta. Water is pumped uphill into the reservoir from the O'Neill Forebay which is fed by the California Aqueduct and is released back into the forebay to continue downstream along the aqueduct as needed for farm irrigation and other uses. Depending on water levels, the reservoir is approximately nine miles long from north to south at its longest point, and five miles wide. At the eastern end of the reservoir is the San Luis Dam, or the B.F. Sisk Dam, the fourth largest embankment dam in the United States, which allows for a total capacity of 2,041,000 acre feet.

Lake McClure, approximately 60 miles from the Plan Area, is an artificial lake in western Mariposa County, California, about 40 miles east of Modesto. It is formed by the New Exchequer Dam impounding the Merced River, a tributary of the San Joaquin River. The lake was first created by the original Exchequer Dam, built between 1924 and 1926, a concrete gravity arch dam. Exchequer Reservoir's original capacity was 281,000 acre-feet. New Exchequer Dam was built in 1967 to increase the reservoir's capacity to 1,032,000 acre-feet. It is a rock-fill dam with a reinforced concrete face, owned by the local Merced Irrigation District, which supplies northern Merced County farms with water for irrigation through its 750 mile network of canals. At the base of the dam is a hydroelectric plant with a capacity of 94.5 megawatts.

The Tulloch Reservoir, approximately 40 miles from the Plan Area, is an artificial lake in Calaveras and Tuolumne Counties. This reservoir created by the construction of the Tulloch Dam across the Stanislaus River has 68,400 acre-feet of capacity with a surface area of 1,280 acres. Tulloch Dam is a hydroelectric dam. The dam is part of the Stanislaus River Tri-Dam project cooperatively owned by the Oakdale and South San Joaquin Irrigation Districts, and was completed in 1958. It serves mainly for irrigation purposes but also has a power station with a capacity of 18 megawatts.

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. Those areas in the regional vicinity of the Plan Area 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).

3.9.2 REGULATORY SETTING

There are a number of 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 SLSP.

FEDERAL AND STATE

Clean Water Act (CWA)

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 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.

The State Water Resources Control Board (SWRCB) is responsible for implementing the Clean Water Act and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for stormwater discharges (individual permits and general permits). The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2013-001-DWQ-DWQ).

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.

200-Year Flood Protection in Central Valley

Both State policy and recently enacted State legislation (Senate Bill 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. Senate Bill 5 (SB5) 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 2015 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.

The RD-17 levee system is designed to a 100-year protection standard. Land within the Plan Area along the levee frontage was acquired by RD-17 to construct levee improvements approximately in 2009/10. RD-17 has been working with the Department of Water Resources (DWR) and the Central Valley Flood Protection Board (CVFPB) to analyze 200-year protection. The land RD-17 acquired within the Plan Area to construct the 100-year improvements is anticipated to provide sufficient space for any additional incremental improvements to provide 200-year protection in the future.

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 State Water Resource Control Board (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 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.

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 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 CWA.

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 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 SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and 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.

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 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 a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

LOCAL

City of Lathrop General Plan

The Lathrop General Plan establishes the following goals and policies relative to hydrology and water quality in the General Plan:

COMMUNITY DEVELOPMENT ELEMENT (SECTION D)

Water, Sewerage, Drainage, and Flood Control:

The following policies seek to provide guidance related to water supply, sewerage and drainage/flood control.

> **Policy 1**. The City of Lathrop is the most logical governmental entity to assume management responsibility for water service to the developing urban pattern. However, this preference allows for the creation of other special districts, including Irrigation Districts, especially if these districts can provide utility improvement financing that protects the City's existing rate payers. Development within the City's three sub-plan areas is to be served by the City under development agreements between the City and project developers.
>
> **Policy 2**. Urban development outside the existing city limits shall not be allowed to occur until reasonable certainty is established that additional firm supplies of potable water will be available to meet the needs of urban expansion into perpetuity.
>
> **Policy 3**. Any Water, Wastewater and Recycled Water Master Plan update should provide for the eventual integration of the water well and distribution system serving the existing community with the system(s) needed to serve areas of urban expansion to avoid potential future problems of groundwater quality associated with the existing system.

Policy 4. In developing additional groundwater sources to meet requirements for firm water supply, the City will be required to meet State and Federal standards of water quality, including concern for such factors as taste, odor control, color, removal of any unique compounds of minerals identified through water testing, and need for disinfection and/or residual chlorination.

Policy 5. Pressurized water for fire suppression should be available at flows in the range of 1000 gpm (for all residential areas) to 3000 gpm (for commercial, industrial and institutional areas) for a period of 60 to 120 minutes over and above normal community water uses. The City Fire Chief is to be consulted in establishing specific fire suppression plans for new development, including the need for automatic sprinkling systems in non-residential and multi-family residential developments and the need for above-ground storage to assure capacity for required periods of fire flow.

Lathrop Municipal Code

CHAPTER 12.28 PROTECTION OF WATER COURSES

12.28.020 Rules and regulations.

A. It shall be unlawful for any person to interfere with, destroy or use in any manner whatsoever any levee, embankment, channel, dam, reservoir, rain or stream gauges, telephone line, piling; or other stream protection work constructed by the city or by any drainage district organized under the laws of the state, without having received a written permit therefor from the public works director, which permit shall be revocable whenever, in the opinion of the public works director the public interest and welfare require the revocation thereof. Application for the use of any levee, embankment, channel, dam or reservoir shall be made to the public works director, setting forth the particular use desired, and the purpose and duration thereof. The public works director shall investigate such applications and may impose such terms and conditions as may be necessary to insure the proper maintenance of the property for flood control and drainage purposes.

B. It shall be unlawful for any person to place on or cause to be placed in any drainage ditch, water course, channel or conduit, or upon any property over which the city or any drainage district has an easement for flood control or drainage purposes duly recorded in the office of the city clerk, any wires, fence, building or other structure, or any refuse, rubbish, tin cans or other matter that may impede, retard or change the direction of the flow of water in such drainage ditch, water course, channel or conduit, or that will catch or collect debris carried by such water, or is placed where the natural flow of the storm and flood waters would carry the same downstream to the damage and detriment of either private or public property adjacent to said drainage ditch, water course, channel or conduit.

C. It shall be unlawful for any person to change the drainage on his or her property so as to divert the drainage to the nearest public road, without first obtaining a permit to do so from the public works director.

D. It shall be unlawful for any person to fill or obstruct or maintain any fill or obstruction in any drainage ditch, water course, channel or conduit carrying storm or drainage water unless a permit to do so has been obtained from the public works director.

E. It shall be unlawful for any person to do anything to any drainage ditch, water course, channel or conduit carrying storm or drainage water that will in any manner obstruct or interfere with the flow of water through such ditches, water courses, channels or conduits unless a permit to do so has been obtained from the public works director.

F. It shall be unlawful for any person to level land in a manner which would flood adjacent properties or public roadways.

G. Every property owner, whether it be a person or his lessee or tenant, through whose property a drainage ditch, water course, channel or conduit carrying storm or drainage water passes, shall keep and maintain the same free from obstacles that will prevent or retard the flow of water through such ditch, water course, channel or conduit except that same may be filled or altered if a permit to do so has been first obtained pursuant to this chapter. (Prior code § 158.02)

CHAPTER 13.28 - STORMWATER MANAGEMENT AND DISCHARGE CONTROL

13.28.020 Purpose and intent.

The purpose of this chapter is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within the city of Lathrop, pursuant to and consistent with the Federal Clean Water Act (33 U.S.C. Section 1251 et seq.) and the Porter-Cologne Water Quality Act (California Water Code Section 13000 et seq.). This chapter seeks to meet that purpose through the following objectives:

A. To comply with all federal and state laws, lawful standards and orders applicable to stormwater and urban runoff pollution control;

B. To prohibit any discharge which may interfere with the operation of, or cause any damage to the storm drain system or impair the beneficial use of the receiving waters;

C. To prohibit illicit discharges into the storm drain system;

D. To reduce non-stormwater discharge to the storm drain system to the maximum extent practicable;

E. Minimize increases in stormwater and runoff from any development in order to reduce flooding, siltation, and streambank erosion and maintain the integrity of drainage channels;

F. Minimize nonpoint source pollution caused by stormwater runoff from development that would otherwise degrade local water quality; and

G. Minimize the total annual volume of surface water runoff that flows from any specific site during and following development. (Ord. 07-265 § 1)

13.28.130 Requirement to prevent, control and reduce stormwater pollutants.

A. Authorization to Adopt and Impose Best Management Practices (BMPs). The city may adopt requirements identifying best management practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of stormwater, the storm drain system, or waters of the United States. Where best management practice requirements are promulgated by the city or any federal, state of California, or regional agency for any activity, operation, or facility which would otherwise cause the discharge of pollutants to the storm drain system or a waters of the United States, every person undertaking such activity or operation, or owning or operating such facility shall comply with such requirements.

B. New Development and Redevelopment. The city may adopt requirements identifying appropriate design standards and best management practices to control the volume, rate, and potential pollutant load of stormwater runoff from new development and redevelopment projects as may be appropriate to minimize the generation, transport and discharge of pollutants. The city shall incorporate such requirements in any land use entitlement and construction or building-related permit to be issued relative to such development or redevelopment. The owner and developer shall comply with the terms, provisions, and conditions of such land use entitlements and building permits as required in this chapter.

C. Responsibility to Implement Best Management Practices. Notwithstanding the presence or absence of requirements promulgated pursuant to subsections A and B of this section, any person engaged in activities or operations, or owning facilities or property which will or may result in pollutants entering stormwater, the storm drain system, or waters of the United States shall implement best management practices to the extent they are technologically achievable to prevent and reduce such pollutants. The owner or operator of a commercial or industrial establishment shall provide reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses. Facilities to prevent accidental discharge of prohibited materials or other wastes shall be provided and maintained at the owner or operator's expense.

D. Maintenance Agreements. All structural and nonstructural permanent stormwater BMPs not in the control of the city of Lathrop shall have an enforceable maintenance agreement to ensure the system functions as designed. The agreement shall include any and all maintenance easements required to access and inspect the stormwater BMPs, and to perform routine maintenance as required. Such agreements shall specify the parties responsible for the proper maintenance of all stormwater BMPs.

City of Lathrop Stormwater Management Program

The City has an adopted a stormwater management program (SWMP) for compliance with requirements of the Phase 2 NPDES municipal stormwater permit (City of Lathrop 2003). The SWMP is composed of six program elements developed to reduce contaminants discharged into

receiving water bodies. The six Minimum Control Measure (MCM) elements of the SWMP are public education and outreach, public involvement/participation, illicit discharge detection and elimination, construction site runoff control, post construction runoff control in new development and redevelopment, and pollution prevention/good housekeeping for municipal operations. For each MCM, the City has selected a suite of BMPs and measurable goals to address the specific stormwater problems identified within the city limits.

In association with the SWMP, the City adopted a Storm Water Ordinance, construction standards, and design review guidelines to reduce contaminants in stormwater runoff. Of particular relevance to the proposed project is the City's coordination of BMP review and implementation under the construction site runoff control program. New development and redevelopment control measures include development of structural controls, development of nonstructural controls, development of ordinances or regulatory mechanisms, and development of long-term operation and maintenance (O&M) practices.

Pollution prevention/good housekeeping for municipal operations addresses routine O&M activities for drainage systems, roadways, parks and open spaces, and other municipal operations to help ensure a reduction in pollutants entering the storm sewer system. The pollution prevention/good housekeeping program also includes a training component to prevent and reduce stormwater pollution from municipal operations. The pollution prevention/good housekeeping BMPs can be separated into two broad categories: source controls and materials management. Source controls are BMPs designed to prevent or reduce pollutants at the source and include BMPs such as storm drainage system maintenance, structural floatable controls, street maintenance staff training, flood control projects, and litter ordinances. Materials management BMPs are designed to reduce pollutants with nonstructural controls such as pesticide education and spill prevention control.

3.9.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the SLSP 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;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted;
- 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, siltation, run-off or flooding on- or off-site;

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the 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;
- Otherwise substantially degrade water quality;
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows;
- Expose people or structures to significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Result in inundation by seiche, tsunami or mudflow.

IMPACTS AND MITIGATION

Impact 3.9-1: The proposed project has the potential to violate water quality standards or waste discharge requirements during construction (less than significant)

Construction-Related Water Quality Impacts: According to the United States Environmental Protection Agency, polluted stormwater runoff is a leading cause of impairment to the nearly 40 percent of surveyed U.S. water bodies which do not meet water quality standards. Over land or via storm sewer systems, polluted runoff is discharged, often untreated, directly into local water bodies. Soil erosion is one of the most common sources of polluted stormwater runoff during construction activities. When left uncontrolled, storm water runoff can erode soil and cause sedimentation in waterways, which collectively result in the destruction of fish, wildlife, and aquatic life habitats; a loss in aesthetic value; and threats to public health due to contaminated food, drinking water supplies, and recreational waterways.

Mandated by Congress under the Clean Water Act, the NPDES Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges which adversely affect the quality of our nation's waters. The program uses the National Pollutant Discharge Elimination System (NPDES) permitting mechanism to require the implementation of controls designed to prevent harmful pollutants, including soil erosion, from being washed by stormwater runoff into local water bodies. The construction activities for the proposed project would be governed by the General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), which states:

> *"…Particular attention must be paid to large, mass graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great and where there is potential for significant sediment discharge from the site to surface waters. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single most important factor in reducing erosion at construction sites. The discharger is required to consider measures such as: covering*

disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. 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. Erosion control BMPs should be the primary means of preventing storm water contamination, and sediment control techniques should be used to capture any soil that becomes eroded…"

General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ) further states that:

"Sediment control BMPs should be the secondary means of preventing storm water contamination. When erosion control techniques are ineffective, sediment control techniques should be used to capture any soil that becomes eroded. The discharger is required to consider perimeter control measures such as: installing silt fences or placing straw wattles below slopes. These sediment control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed…Inappropriate management of run-on and runoff can result in excessive physical impacts to receiving waters from sediment and increased flows. The discharger is required to manage all run-on and runoff from a project site. Examples include: installing berms and other temporary run-on and runoff diversions…All measures must be periodically inspected, maintained and repaired to ensure that receiving water quality is protected. Frequent inspections coupled with thorough documentation and timely repair is necessary to ensure that all measures are functioning as intended…"

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. To ensure that construction activities are covered under General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), projects in California must prepare a Stormwater Pollution Prevention Plan (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. The SWPPP, once approved, is 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.

In accordance with the NPDES Stormwater Program, Mitigation Measure 3.6-1 contained in Section 3.6 Geology and Soils and reprinted below, ensures compliance with existing regulatory requirements to prepare a SWPPP 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 the review and approval by the RWQCB and are an existing regulatory requirement. Implementation of the SLSP would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURES (REPRINTED FROM SECTION 3.6 GEOLOGY AND SOILS)

Mitigation Measure 3.6-1: *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation, the Project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). The SWPPP shall be designed with Best Management Practices (BMPs) that the RWQCB has deemed as effective at reducing erosion, controlling sediment, and managing runoff. These include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Sediment control BMPs, installing silt fences or placing straw wattles below slopes, installing berms and other temporary run-on and runoff diversions. These BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Final selection of BMPs will be subject to approval by City of Lathrop and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*

Impact 3.9-2: The proposed project has the potential to violate water quality standards or waste discharge requirements during operation (less than significant)

Operational Impacts: The long-term operations of the SLSP could result in long-term impacts to surface water quality from urban stormwater runoff. The SLSP would result in new impervious areas associated with roadways, driveways, parking lots, buildings, and landscape areas. Normal activities in these developed areas include the use of various automotive petroleum products (i.e. oil, grease, fuel), common household hazardous materials, heavy metals, pesticides, herbicides, fertilizers, and sediment. Within urban areas, these pollutants are generally called nonpoint source pollutants. The pollutants pollutant levels vary based on factors such as time between storm events, volume of storm event, type of uses, and density of people.

The drainage collection system within the Plan Area is proposed to consist of gravity pipes, storage basins, a pump station, force mains and a new outfall to the San Joaquin River. The outfall will be sized consistent with the City's Master Storm Drain Plan for the southeast area of the City of Lathrop (the outfall will accommodate future development within the Gateway Business Park and along the McKinley corridor). The collection system will be designed to contain the 10-year storm event within the pipe system and basins while maintaining one foot of freeboard. The streets will be designed in combination with the pipe system to convey the 100-year storm event to the basins and pump station in accordance with City standards. To accommodate a potential emergency condition of the river being at flood stage for an extended period of time, the overall site grading will be designed to contain the rainfall from a 100-year event onsite, below finish building floor

elevations, without any pumping to the river (this provision assumes that pumping to the river may be severely restricted under emergency flood conditions). Early phases of development are proposed to rely on temporary percolation basins in order to delay the construction of the outfall. As development progresses, the new outfall would be constructed along with the proposed pump station and force main. An interim condition of pumping from the Plan Area into the existing Crossroads Business Park drainage system may be utilized to further delay the construction of the new outfall. The final design of all onsite and offsite storm drain infrastructure improvements is subject to the review and approval of the City of Lathrop.

The ongoing operational phase of the SLSP requires discharge of stormwater into the San Joaquin River through the outfall. The discharge of stormwater must be treated through BMPs prior to its discharge to the San Joaquin River. The Lathrop Municipal Code provides rules and regulations to protect water courses (Chapter 12.28) and to manage and control stormwater and discharge (Chapter 13.28). Section 13.28.130 specifically provides requirement to prevent, control and reduce stormwater pollutants. This includes requirements to implement best management practices to the extent they are technologically achievable to prevent and reduce pollutants. Under this requirement, the owner or operator of a commercial or industrial establishment shall provide reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses. Facilities to prevent accidental discharge of prohibited materials or other wastes shall be provided and maintained at the owner or operator's expense.

There are various non-structural and structural stormwater BMPs that can be implemented to reduce water pollution. Non-structural BMPs are typically aimed at prevention of pollution through public education and outreach. Non-structural BMPs identified in the City's Storm Water Master Plan (SWMP) include: school educational programs, newsletters, website information, commercial, billboards/advertisements, river cleanups, and storm drain stenciling. Structural BMPS are aimed at the physical collection, filtering, and detaining of stormwater. Structural BMPs include items such as drop inlet filters, vault filters, hydrodynamic separators, surface detention basins, and underground detention facilities.

In accordance with the City's Storm Water Master Plan (SWMP) and NPDES Stormwater Program (General Industrial Stormwater Permit), Mitigation Measure 3.4-7 and 3.4-8 contained in Section 3.4 Biological Resources and reprinted below, would ensure that BMPs are implemented to reduce the amount of pollution in stormwater discharged from the Plan Area into the San Joaquin River during the operational phase of the project. The management of water quality through obtaining a General Industrial Stormwater Permit and implementing BMPs is intended to ensure that water quality does not degrade to levels that would violate water quality standards. These are existing regulatory requirements. Implementation of the SLSP would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURES (REPRINTED FROM SECTION 3.4 BIOLOGICAL RESOURCES)

Mitigation Measure 3.4-7*: The project applicant shall implement the following nonstructural BMPs that focus on preventing pollutants from entering stormwater:*

- Pollution Prevention/Good Housekeeping
    - A spill response and prevention plan shall be developed as a component of (1) SWPPPs prepared for construction activities, (2) SWPPPs for facilities subject to the NPDES general Industrial Stormwater Permit, and (3) spill prevention control and countermeasure plans for qualifying facilities.
    - Streets and parking lots shall be swept at least once every two weeks.
- Operation and Maintenance (O&M) of Treatment Controls
    - An Operation and Maintenance (O&M) Plan shall be developed for the storm drainage facilities to ensure long-term performance. The O&M plan shall incorporate the manufacturers' recommended maintenance procedures and include (1) provisions for debris removal, (2) guidance for addressing public health or safety issues, and (3) methods and criteria for assessing the efficacy of the storm drainage system. An annual report shall be submitted to the City certifying that maintenance of the facilities was conducted according to the O&M plan.

Mitigation Measure 3.4-8*: The project applicant shall implement the following structural BMPs that focus on preventing pollutants from entering stormwater:*

- *Extended Detention Facilities: Extended detention refers to the facilities proposed for the Plan Area that would detain and temporarily store stormwater runoff to reduce the peak rates of discharge to the San Joaquin River. Detention of stormwater allows particles and other pollutants to settle and thereby potentially reduce concentrations and mass loading of contaminants in the discharge.*
- *Grassed Swales: A swale is a vegetated, open channel management practice designed to treat and attenuate stormwater runoff for a specified water quality volume. Stormwater runoff flowing through these channels is treated by being filtered through vegetation in the channel, through a subsoil matrix, and/or through infiltration into the underlying soils. Swales can be used throughout the SLSP area where feasible in the landscape design to treat parking lot runoff.*
- *Proprietary Devices: There are a variety of commercially available stormwater treatment devices designed to remove contaminants from drainage once flows enter the conveyance systems. StormFilter™ units, or equivalent filtration-type systems, are recommended within the commercial and industrial areas as the main structural BMP for these areas. Bioswales are also recommended for streets and parking areas. Drop inlet filters should also be used to control drainage runoff water quality.*

Recycled Water Use: The SLSP will maximize reuse opportunities for recycled water. The term "recycled water" refers to wastewater that has been treated and disinfected to tertiary levels. Water treated to this level has been determined by governmental regulations to be acceptable for human contact without cause for concern and is commonly used for irrigation. The use of recycled water is regulated by the RWQCB and the Department of Health Services, which apply stringent water quality, treatment and disinfection standards.

The use of recycled water for irrigation serves to conserve potable water for other uses. In addition, in the event the potable water supply is limited at any time, such as a "dry year" situation, the use of recycled water ensures a supply for landscaped areas and reduces the likelihood that potable water would be needed for this purpose.

The SLSP proposes to make recycled water an option for public irrigation uses, subject to approval by the RWQCB. This includes irrigation of landscaped areas within street rights-of-way and open space. In addition, there may be potential for the use of recycled water for private irrigation uses as well, such as common open space areas and landscaping around buildings.

As wastewater is treated off-site, it must be returned to the Plan Area or sent to the off-site disposal areas. Two separate recycled water systems have been constructed in the City of Lathrop that may potentially be utilized to deliver recycled water to the North Lathrop disposal fields and basins. The first system was constructed with the Mossdale Landing project and is connected to the existing Water Recycling Plant (WRP) #1 treatment plant. The second system was partially constructed with the Central Lathrop Specific Plan project and was intended to be connected to the future WRP #2 treatment plant.

Wastewater generated in the Plan Area would be conveyed to City of Lathrop's WRP #1 and/or #2 for treatment. Alternatively, if available, all or a portion of the Project's wastewater could be routed to the City of Manteca Wastewater Treatment Plant pursuant to an agreement between the two cities.

If WRP #1 and/or #2 is used for wastewater treatment, a portion of the recycled water generated by the future uses within the Plan Area could be land applied onsite for irrigation of public (e.g., landscape within roadway rights-of-way) and private landscaping if this option is pursued by the applicant and approved by the RWQCB. The remainder would be disposed of offsite through irrigation of dedicated agricultural spray fields.

There is the potential that the use of recycled water could result in contaminants reaching the San Joaquin River via over application of recycled water resulting in direct runoff, or from stormwater carrying contaminants from recycled water application areas to the river. Percolation of recycled water through the soil could also carry contaminants to sub-surface aquifers. However, for a variety of reasons, adverse impacts to the San Joaquin River and groundwater water quality from use of recycled water is considered highly unlikely.

Recycled water leaving WRPs #1 and #2 would be disinfected and would undergo tertiary treatment to Title 22 standards for unrestricted use. Tertiary treatment includes the removal of nutrients such as phosphorous and nitrogen, and practically all suspended and organic matter from wastewater. Therefore, the recycled water would contain minimal to no water quality constituents that could be directly (via runoff of recycled water) or indirectly (via deposition in the recycled water disposal areas then subsequent mobilization through stormwater runoff) transported to the San Joaquin River, or reach groundwater aquifers via percolation through the soil.

As indicated in the Water Master Plan EIR (EDAW 2001), extensive quantitative modeling conducted for a direct discharge of tertiary treated wastewater to the San Joaquin River indicated that resulting water quality effects on the river would be considered less than significant even under a direct discharge condition because the tertiary-treated water being discharged into the river would be of higher quality (i.e., lower levels of contaminants) than the river flow. The Water Master Plan EIR (EDAW 2001) is incorporated by reference.

Recycled water would be applied at agronomic rates to minimize percolation below the root zone and to avoid runoff or ponding at the surface. Therefore, recycled water is unlikely to reach the San Joaquin River through runoff from over irrigation, or contact groundwater from percolation through the soil. The uptake of any contaminants and nutrients by vegetation irrigated with the recycled water, and binding of contaminants and nutrients to soil particles, would further reduce the potential for recycled water to adversely affect the San Joaquin River or groundwater sources. Implementation of the SLSP would have a **less than-significant** impact relative to this topic.

Impact 3.9.3: The proposed project has the potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge (less than significant)

The SLSP 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.

Table 3.9-2 below identifies the soils in the Plan Area and the soils infiltration rate. Approximately 55.6 percent of the Plan Area has soils with a hydrologic rating of "C". Group C consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission. Another 35.0 percent of the Plan Area has the hydrologic rating of "B". Group B soils have a moderate infiltration rate when thoroughly wet.

TABLE 3.9-2: SOILS HYDROLOGIC RATING

MAP UNIT NAME	*RATING*	*PERCENT OF PLAN AREA*
Bisgani loamy coarse sand, partially drained, 0 to 2 percent slopes	B	7.0%
Delhi loamy sand, 0 to 2 percent slopes	A	2.5%
Dello clay loam, drained, 0 to 2 percent slopes, overwashed	A	6.9%
Egbert silty clay loam, partially drained, 0 to 2 percent slopes	C	17.3%
Grangeville fine sandy loam, partially drained, 0 to 2 percent slopes	B	28.0%
Guard clay loam, drained, 0 to 2 percent slopes	C	7.3%
Manteca fine sandy loam, 0 to 2 percent slopes	C	31.0%

SOURCE: NCRS 2013A

> Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

> Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.
>
> Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

As is shown, the infiltration rate of the soils in the Plan Area varies from high to slow according to the USDA, with 55.6 percent of the Plan Area considered slow, 35 percent considered moderate, and 9.4 percent considered high. As such, groundwater recharge is less than optimal in the Plan Area. While the existing soils in the Plan Area are less than optimal for groundwater recharge, development of the SLSP will cover much of the existing Plan Area with impervious surfaces and could reduce rainwater infiltration and groundwater recharge further. The collection of rainwater for those areas of impervious surfaces will be routed into the SLSP's storm drainage system and eventually flow into the San Joaquin River.

As described in the City's 2005 *Urban Water Management Plan* (UWMP), groundwater pumping in Lathrop increased from 1,545 AFY in 1988 to a maximum of 3,471 AFY in 2004. In addition to the City potable water supply wells, there are water wells in the service area that serve private industrial facilities, and agriculture. There are also 83 private agricultural wells within or near the City. Municipal, industrial, and private (agricultural) demands combined results in an annual groundwater pumping range of approximately 4,430 to 4,530 AFY.

According to the City's 2005 UWMP, groundwater pumping is projected to increase to 9,076 AFY by the year 2030 and remain at that level unless the City alters its groundwater/surface water balance. At full buildout, the SLSP is anticipated to use 565 AFY of water (West Yost 2013). This includes both surface and ground water. Based on the approximately 51 percent of the City's water supply coming from groundwater in 2020, see Table 3.15-8, the SLSP would use approximately 288 AFY of groundwater.

According to the City of Lathrop *Municipal Services Review and Sphere of Influence Plan*, with groundwater pumping projected to increase in the City and in Manteca, absolute preservation of groundwater quality does not appear possible (City of Lathrop, 2009). The impact, however, will be mitigated through: 1) the implementation of the SCWSP and the subsequent blending of groundwater with low-TDS surface water; 2) water treatment; and, 3) pursuit of alternative water supplies in accordance with WSS findings. In addition, regional implementation of the integrated conjunctive use program presented in the ESJGB-GMP (including groundwater recharge, increased surface water use, and reduced rates of groundwater pumping) could slow or reverse the migration of the groundwater salinity front.

Additionally, 90.6 percent of the Plan Area's soils have an infiltration rate of moderate to slow making for a less than optimal groundwater recharge area. For these reasons, the SLSP would not cause the substantial depletion of groundwater supplies or interfere substantially with

groundwater recharge. As such, implementation of the SLSP would have a ***less than significant*** impact relative to this topic.

Impact 3.9-4: The proposed project has the potential to alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, or polluted runoff (less than significant)

Currently, runoff from within the Plan Area is collected in a system of shallow agricultural ditches, roadside ditches and percolation basins. Public storm drain facilities are not currently available. The Plan Area is lower than the top of the San Joaquin River levee. Therefore, stormwater runoff must be pumped over/through the levee. To avoid adverse impacts to the levee system, peak discharge rates from development projects in the City of Lathrop have been limited to a maximum of 30 percent of the 100-year flow rate. Runoff from the Plan Area is anticipated to discharge to the river through a new proposed outfall located near the southwest corner of the Plan Area. The outfall is a regional facility consistent with the City's Master Drainage Plan, which will also serve the Lathrop Gateway Business Park Specific Plan (LGBPSP) area and development area along the McKinley Corridor. The outfall was identified in the LGBPSP and EIR. As shown on Figure 3.15-5 in Section 3.15 of this EIR, the Plan Area will consist of a system having the following three integrated components.

- Gravity lines that collect and deliver surface runoff;
- "Watershed" detention facilities that hold the runoff; and
- A pump station and force main that conveys water to a proposed San Joaquin River outfall structure.

The Plan Area consists of one major drainage shed with a detention basin to reduce the peak discharge from the Plan Area to the San Joaquin River. The basin size and location as illustrated on Figure 3.15-5 is conceptual and subject to change based on future planning and engineering efforts. The SLSP does not include details regarding alternative basin scenarios (i.e. alternative locations, sizes, etc.); however, the analysis of the physical impacts relative to the storm drainage system assumes that the detention basin location could be changed to alternative locations within the Plan Area, and such changes would not affect this analysis of the storm drainage system because the footprint of the Plan Area would not change. Additionally, the physical impacts relative to the basin size would not affect this analysis because the footprint of the Plan Area would not change.

The proposed stormwater collection system functions by discharging all runoff directly into the river up to the point where the runoff rate exceeds the capacity of the pump station. When the rate of runoff exceeds the pump station capacity, water "backs up" into the detention basin until the runoff rate declines and once again equals the capacity of the pump station. The water level in the detention basin then decreases, emptying completely within a City mandated 24-hour period unless an extended period is approved by the City Engineer.

Based on preliminary information available at the time of Specific Plan approval, the approximate size of the detention basin would be 10 acres allowing for a basin storage of 50 acre-feet of water.

Relatively shallow groundwater exists throughout the Plan Area and would be influenced by the water level in the river, sub-surface flow from areas of higher elevation to the east, and local irrigation practices. Even though the groundwater level may decline with a reduction in farming activities, it is possible that this high ground water condition may generally persist after development, impacting both the construction and future operation of the storm drain system. Infiltration into the storm pipes through joints and underground structures can result in excessive pumping demands throughout the life of the SLSP. This impact will be reduced by proper installation of pipes having rubber gasket sealed joints.

High groundwater can also impact the effectiveness of detention basins. To the extent that groundwater enters the basins, the storage available for the runoff is diminished. The bottom of the basins will be designed to maintain a minimum of two feet of separation from groundwater or other design measures will be implemented such as impervious liners with sub drain systems.

Initial development phases may utilize interim retention (percolation) basins until the pump station, force main and outfall are constructed. An alternative temporary drainage solution may include pumping runoff from the Plan Area into the Crossroads Business Park existing drainage system.

A storm drain pipeline corridor through the Plan Area, located in Yosemite/Guthmiller Avenue and the local industrial street, is included as part of the drainage plan for future offsite development along the McKinley Avenue corridor. A storm drain pipeline corridor through the Plan Area, along the southern boundary adjacent to the UPRR tracks, is included as part of the drainage plan for the future offsite development within the LGBPSP. Pipelines from both of the offsite projects are anticipated to be shallow forcemains, which can be constructed at a future time following build-out of the SLSP and therefore not required to be constructed with development of the SLSP. Easements will be provided for portions of the offsite pipelines that are not located within the public right-of-way.

With the design and construction of flood control improvements included in the proposed storm drainage system, the SLSP would have a ***less than significant*** impact relative to this topic.

Impact 3.9.5 The proposed project has the potential to otherwise substantially degrade water quality (less than significant)

Water Quality Impacts from Discharges to 303(d) Listed Water Bodies: Section 303(d) of the federal Clean Water Act (CWA) 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. Those areas in the regional vicinity of the Plan Area 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).

In accordance with the NPDES Stormwater Program, Mitigation Measure 3.6-1 contained in Section 3.6 Geology and Soils and reprinted below, requires an approved SWPPP 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. 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. The SWPPP, once approved, is 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. 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 the review and approval by the RWQCB.

The ongoing operational phase of the SLSP requires discharge of stormwater into the San Joaquin River through the outfall. The discharge of stormwater must be treated through BMPs prior to its discharge to the San Joaquin River. In accordance with the City's Storm Water Master Plan (SWMP) and NPDES Stormwater Program (General Industrial Stormwater Permit), Mitigation Measure 3.4-7 and 3.4-8 contained in Section 3.4 Biological Resources and reprinted below, would ensure that BMPs are implemented to reduce the amount of pollution in stormwater discharged from the Plan Area into the San Joaquin River during the operational phase of the project. There are various non-structural and structural stormwater BMPs that can be implemented to reduce water pollution. Non-structural BMPs are typically aimed at prevention of pollution through public education and outreach. Non-structural BMPs identified in the City's Storm Water Master Plan (SWMP) include: school educational programs, newsletters, website information, commercial, billboards/advertisements, river cleanups, and storm drain stenciling. Structural BMPS are aimed at the physical collection, filtering, and detaining of stormwater. Structural BMPs include items such as drop inlet filters, vault filters, hydrodynamic separators, surface detention basins, and underground detention facilities. The management of water quality through obtaining a General Industrial Stormwater Permit and implementing BMPs is intended to ensure that water quality does not degrade to levels that would violate water quality standards.

The use of BMPs are intended to treat runoff close to the source during the construction and long term operational phase of the project reduce stormwater quality impacts. The mitigation

measures listed below are existing regulator requirements. Implementation of SLSP would have a ***less-than-significant*** impact relative to this topic.

MITIGATION MEASURES (REPRINTED FROM SECTION 3.6 GEOLOGY AND SOILS)

Mitigation Measure 3.6-1: *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation, the Project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). The SWPPP shall be designed with Best Management Practices (BMPs) that the RWQCB has deemed as effective at reducing erosion, controlling sediment, and managing runoff. These include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Sediment control BMPs, installing silt fences or placing straw wattles below slopes, installing berms and other temporary run-on and runoff diversions. These BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Final selection of BMPs will be subject to approval by City of Lathrop and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*

MITIGATION MEASURES (REPRINTED FROM SECTION 3.4 BIOLOGICAL RESOURCES)

Mitigation Measure 3.4-7*: The project applicant shall implement the following nonstructural BMPs that focus on preventing pollutants from entering stormwater:*

- Pollution Prevention/Good Housekeeping
    - A spill response and prevention plan shall be developed as a component of (1) SWPPPs prepared for construction activities, (2) SWPPPs for facilities subject to the NPDES general Industrial Stormwater Permit, and (3) spill prevention control and countermeasure plans for qualifying facilities.
    - Streets and parking lots shall be swept at least once every two weeks.
- Operation and Maintenance (O&M) of Treatment Controls
    - An Operation and Maintenance (O&M) Plan shall be developed for the storm drainage facilities to ensure long-term performance. The O&M plan shall incorporate the manufacturers' recommended maintenance procedures and include (1) provisions for debris removal, (2) guidance for addressing public health or safety issues, and (3) methods and criteria for assessing the efficacy of the storm drainage system. An annual report shall be submitted to the City certifying that maintenance of the facilities was conducted according to the O&M plan.

Mitigation Measure 3.4-8*: The project applicant shall implement the following structural BMPs that focus on preventing pollutants from entering stormwater:*

- *Extended Detention Facilities: Extended detention refers to the facilities proposed for the Plan Area that would detain and temporarily store stormwater runoff to reduce the peak*

rates of discharge to the San Joaquin River. Detention of stormwater allows particles and other pollutants to settle and thereby potentially reduce concentrations and mass loading of contaminants in the discharge.

- *Grassed Swales: A swale is a vegetated, open channel management practice designed to treat and attenuate stormwater runoff for a specified water quality volume. Stormwater runoff flowing through these channels is treated by being filtered through vegetation in the channel, through a subsoil matrix, and/or through infiltration into the underlying soils. Swales can be used throughout the SLSP area where feasible in the landscape design to treat parking lot runoff.*
- *Proprietary Devices: There are a variety of commercially available stormwater treatment devices designed to remove contaminants from drainage once flows enter the conveyance systems. StormFilter™ units, or equivalent filtration-type systems, are recommended within the commercial and industrial areas as the main structural BMP for these areas. Bioswales are also recommended for streets and parking areas. Drop inlet filters should also be used to control drainage runoff water quality.*

Impact 3.9.6 Place housing or structures that would impede/redirect flows within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map (less than significant)

As shown on Figure 3.9-2, the Plan Area is currently identified by FEMA to be in Zone X (Levee) under Flood Insurance Rate Map (FIRM) panel number 06077C0620F. Zone X (Levee) indicates an areas protected by levees from the 1% annual chance (100-year) flood.

As discussed above, development of the SLSP would not place housing or structures in a flood hazard area. As a result the SLSP would have a ***less-than-significant*** impact relative to this topic.

Impact 3.9.7 The proposed project has the potential to expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, seiche, tsunami, or mudflow (less than significant)

A tsunami is a sea wave caused by a submarine earthquake, landslide, or volcanic eruption. Tsunami can cause catastrophic damage to shallow or exposed shorelines. The Plan Area is approximately 50 miles from San Francisco Bay and 70 miles from the coast, which is sufficiently distant to preclude effects from a tsunami.

Seiches are changes or oscillations of water levels within a confined water body. Seiches are caused by fluctuation in the atmosphere, tidal currents or earthquakes. The effect of this phenomenon is a standing wave that would occur when influences by the external causes. The Plan Area is adjacent to Oakwood Lake. However, the Union Pacific Railroad tracks are between the Plan Area and Oakwood Lake. These tracks are 14 to 20 feet higher than the ground elevation in the Plan Area and the lake is below the elevation of the Plan Area. A seiche of at least 30 feet would have to occur in order to impact the Plan Area.

A mudflow is a type of mass wasting or landslide, where earth and surface materials are rapidly transported downhill under the force of gravity. Mudflow events are caused by a combination of factors, including soil type, soil profile, precipitation, and slope. Mudflow may be triggered by heavy rainfall that the soil is not able to sufficiently drain or absorb. As a result of this super-saturation, soil and rock materials become unstable and eventually slide away from their existing location. Soils most susceptible to mudflow are saturated, loose, non-plastic, uniformly graded, and fine-grained sand deposits. The Plan Area is relatively flat making the potential of mudflows low.

The Plan Area is subject to flood inundation as a result of dam failure from four reservoirs/lakes. Figure 3.9-3 shows areas that are susceptible to dam inundation. 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. As discussed previously, 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 as a result 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.

Regular inspection by DSD and maintenance by the dam owners ensure that the dams are kept in safe operating condition. As such, failure of these dams is considered to have an extremely low probability of occurring and is not considered to be a reasonably foreseeable event.

The Plan Area is subject to flood inundation as a result of levee failure. The levee adjacent to the Plan Area is maintained by Reclamation District 0017 (RD17). Levees in the City east of the San Joaquin River, including the Plan Area, are designated as “project levees” by the US Army Corps of Engineers (USACOE). Approximately five miles of levees located within the City are designated as “non-project levees”. The non-project levees are also maintained by local reclamation and levee maintenance districts. Non-project levees were not built to a common standard and have different heights and cross sections.

The RD 17 levee system was originally constructed in the 1960’s and substantially upgraded in 1988. In 1990 the RD 17 levee was accredited by FEMA, which removed large areas of Stockton, Lathrop, Manteca and the County from the 100-year floodplain.

Following the accreditation in 1990, standards for flood protection have been changing and in May 2007 FEMA extended an offer of a Provisionally Accredited Levee (PAL) Agreement for the RD 17 levee system. A PAL is a levee that meets the FEMA requirements for flood protection but requires additional supporting documentation. In August 2007, the Lathrop City Council authorized the City Manager to execute a Provisional Accredited Levee Agreement with FEMA for the RD 17 levee.

Since August 2007, RD 17 has been implementing improvements to the levee system and constructed a seepage berm (a bank of earth placed against the existing levee) along the east levee of the San Joaquin River between the SR-120 and I-5 interchange and the Union Pacific Rail Road right-of-way within the Plan Area. The purpose of these improvements is to meet the flood protection requirements of FEMA and maintain the levee accreditation. The PAL Agreement expired in August 2009 and at that time FEMA determined based on the current condition of the levee and the additional supporting documentation, that the RD 17 levee will maintain its accreditation.

Regular inspection and maintenance by RD 17 ensure that the levees are kept in safe operating condition. As such, failure of the levee is considered to have an extremely low probability of occurring and is not considered to be a reasonably foreseeable event.

The SLSP would not result in the exposure people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, seiche, tsunami, or mudflow. This impact is considered ***less-than-significant***.

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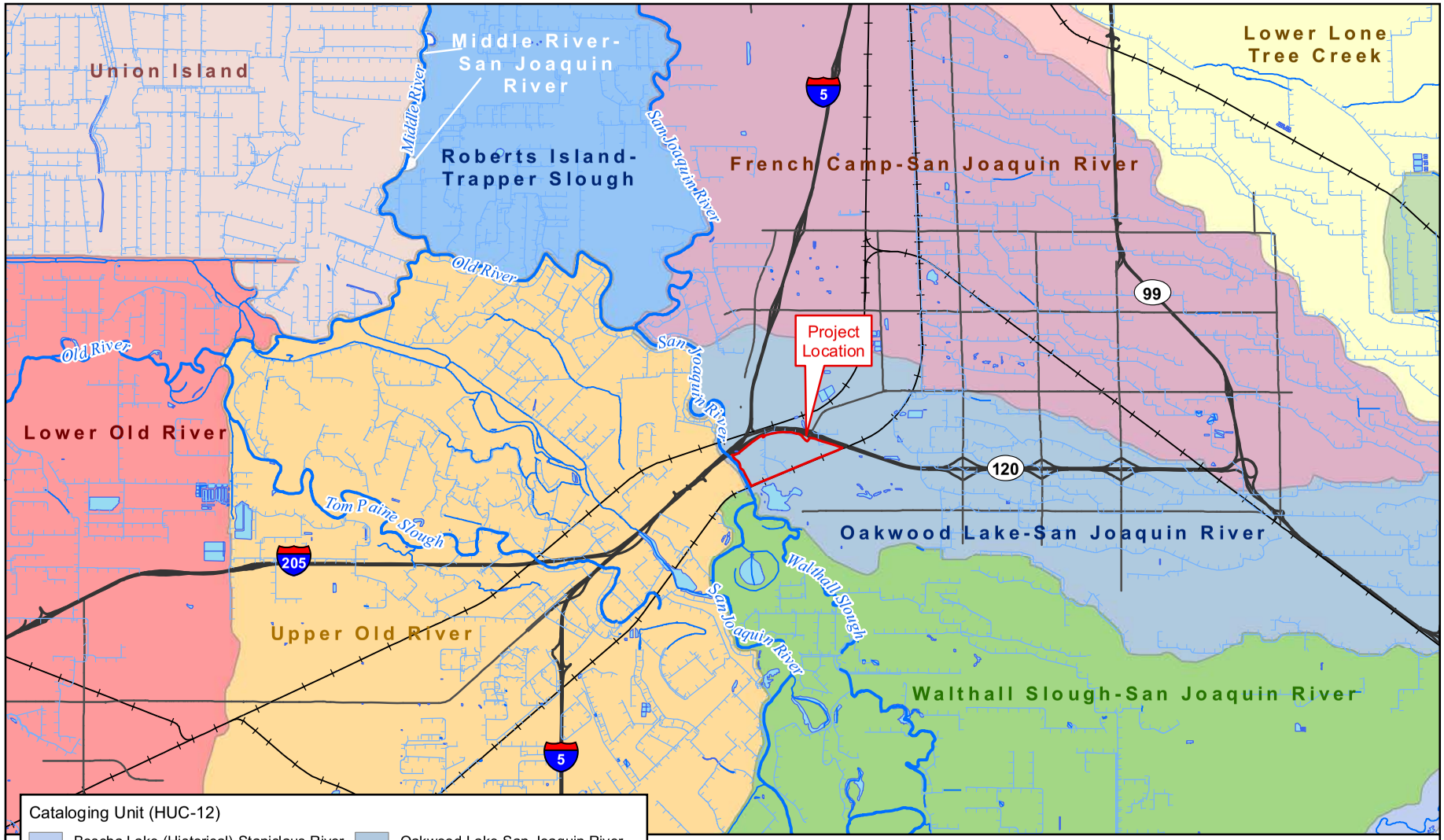

Data sources: USGS and USDA-NRCS Watershed Boundary Dataset; USGS National Hydrography Dataset; San Joaquin County GIS. Map date: March 12, 2013.

SOUTH LATHROP SPECIFIC PLAN

Figure 3.9-1: Watersheds

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Data sources: FEMA Map Service Center; San Joaquin County GIS; ArcGIS Online BING aerial image map service. Map date: March 8, 2013.

SOUTH LATHROP SPECIFIC PLAN

Figure 3.9-2: FEMA Flood Map

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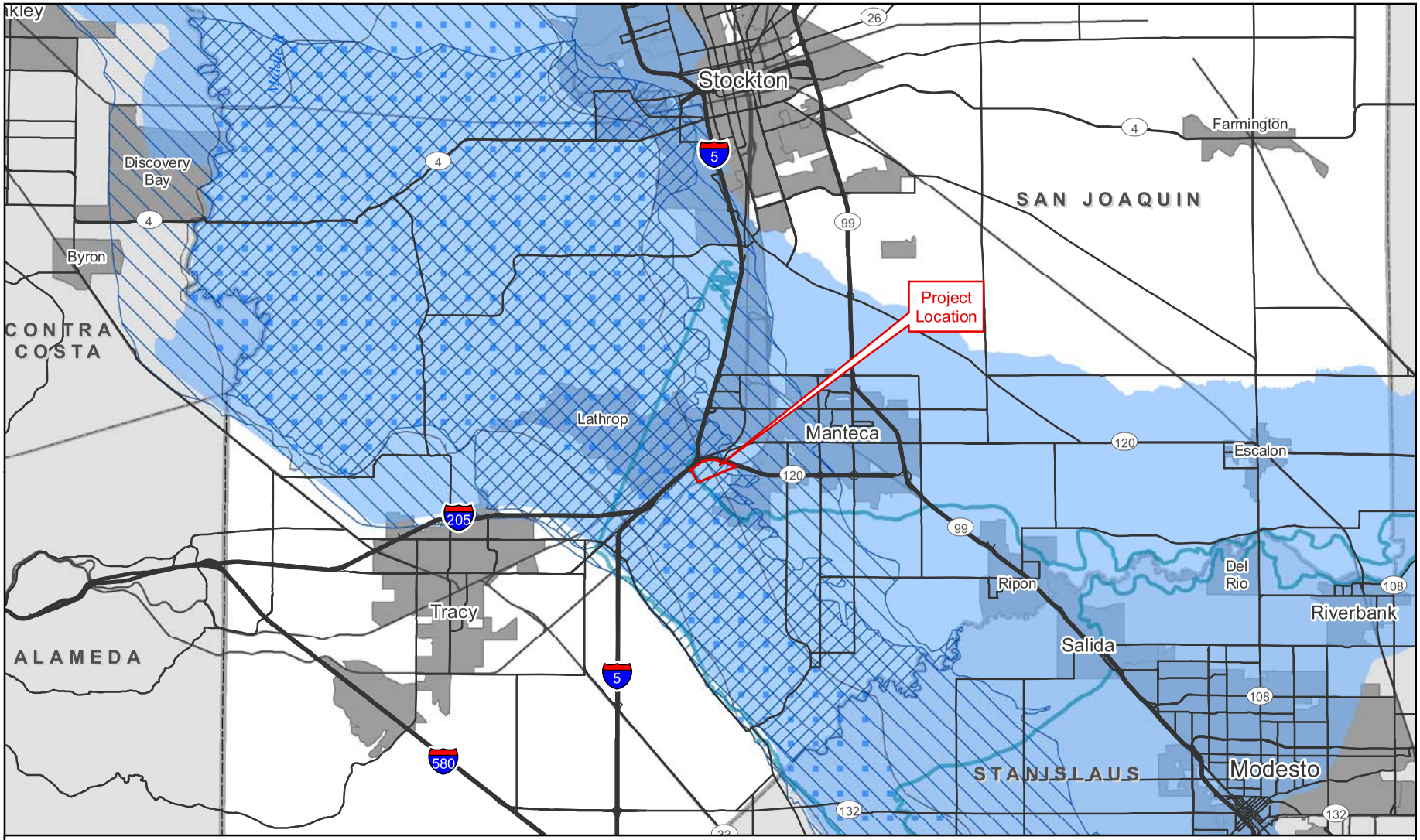

SOUTH LATHROP SPECIFIC PLAN

Figure 3.9-3: Dam Inundation Areas

Data sources: Cal EMA Dam Inundation Areas, 2009; San Joaquin County Office of Emergency Services Dam Failure Plan, 2003; ESRI StreetMap North America. Map date: March 12, 2013.

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This section describes the existing land uses in the Plan Area and in the surrounding area, describes the applicable land use regulations, and evaluates the environmental effects of implementation of the SLPS. The Plan Area is within the City of Lathrop Sphere of Influence (SOI) and would be annexed into the City as part of the proposed project. Key policy issues to be considered include consistency with City of Lathrop General Plan designations and policies, and San Joaquin County LAFCo policies. Additionally, this section describes the existing and projected population levels and housing units.

Information in this section is based on information provided by the project applicant in the Project application package submitted to the City of Lathrop, including the proposed South Lathrop Specific Plan (SLSP), site surveys conducted by De Novo Planning Group in 2012 and 2013, and the following reference documents: *City of Lathrop Comprehensive General Plan* (Lathrop GP, 2004), City of Lathrop *General Plan Draft EIR* (Lathrop EIR), the City of Lathrop Municipal Code - Zoning (Title 17), and the San Joaquin County General Plan.

No comments were received during the NOP review period regarding land use or population.

3.10.1 ENVIRONMENTAL SETTING

PLAN AREA

The Plan Area consists of approximately 315 acres of land located in San Joaquin County, south of State Route (SR) 120, north and west of the Union Pacific Railroad (UPRR) and east of the San Joaquin River. The Plan Area, located to the southeast of the City of Lathrop, is within the City's Sphere of Influence and General Plan area, and is identified as the southern portion of the City's Sub-Plan Area 1. The land use is currently designated as Limited Industrial within the City of Lathrop's General Plan and has been identified by the City of Lathrop to receive services from the City in the 2009 Municipal Services Review.

PROJECT SETTING

The current uses in the Plan Area and adjacent lands are a mix of agricultural and industrial uses. Crop types include alfalfa and winter wheat. No lands are under Williamson Act contracts. The existing access to the Plan Area is from SR 120 and Yosemite Avenue/Guthmiller Road. A frontage road (Madruga Road) currently provides access to both the agriculture and industrial areas.

The Plan Area is one of the last pockets of unincorporated San Joaquin County within the vicinity, as the Plan Area is generally surrounded by built or approved projects that are within the cities of Lathrop or Manteca. The Lathrop and Manteca General Plans call for extensive urban development along I-5 and SR 120. Lands to the south and east of the Plan Area are either planned for development or under construction, transitioning from agricultural uses to residential, industrial and commercial uses.

The Plan Area has relatively flat terrain that varies between elevation 10 and 13 feet above sea level. The UPRR rail lines are elevated along the south and eastern boundaries between elevation 24 and 31 feet. SR 120 is elevated along the northern boundary between elevation 20 and 50 feet. A levee is elevated along the western boundary at approximately 31 feet. High voltage power lines (115 and 60 Kilovolts), within Pacific Gas & Electric (PG&E) power line easements, traverse portions of the Plan Area running east/west and north/south. Figure 3.10-1 presents an aerial photo of the Plan Area and the immediate surroundings.

The Plan Area is located within the boundaries of 18 assessor's parcel numbers (APNs); the majority of the property owners, who own 273.6 acres (87%) within the Plan Area, are participating in the preparation of the Specific Plan. Property owners from approximately 25.9 acres of the Plan Area will not actively participate, but the land will be designated and pre-zoned in the City of Lathrop to Limited Industrial, generally consistent with the current use in the County. These owners comprise approximately 8% of the Plan Area and the land is presently predominately used for industrial purposes. Approximately 15.5 acres (5%) of the Plan Area are owned by the State of California Reclamation District 17 and the County of San Joaquin. These parcels include the existing Madruga Road right of way, owned by the County of San Joaquin, the portion of the levee owned by RD-17, and the portion of the San Joaquin River within the Plan Area, owned by the State of California. (SLSP, 2012) The Plan Area contains approximately 31.6 acres of designated open space, a portion of which may incorporate resource preservation and enhancement. This includes preservation of the natural habitat along the San Joaquin River in permanent open space.

Figure 3.10-2 depicts the ownership and parcel acreage, Figure 3.10-3 illustrates the proposed land uses within the SLSP. Table 3.10-1 lists the APNs, proposed use, and area proposed for development.

TABLE 3.10-1: SLSP PROPOSED LAND USES BY ACRE

LAND USE	*ACREAGE (NET)* [1]	*TOTAL SQ. FT. PER LAND USE*	*FAR RANGE*	*FAR TARGET*	*MAX. SQ. FT.*
Commercial Office (CO)	10	435,600	.20 to .60	.30	130,680
Limited Industrial (LI)	222	9,670,320	.15 to .65	.43	4,158,238
Open Space (OS)					
River/Levee Park	21				
River	10.5				
Public/Quasi Public Facilities (Recycled/Storm Water Basin)	36				
Subtotal	299.5				
Existing Roads[2]	5				
Major Roads[2]	10.5				
TOTAL	**315**				**4,288,918**

[1] *NET ACREAGE DOES NOT INCLUDE EXISTING/MAJOR ROADWAYS*
[2] *Major and existing roads include pedestrian and bicycle multi-use paths within the right-of-way*

Table 3.10-2 identifies the current City of Lathrop General Plan land use designations for the 18 parcels located in the Plan Area and the proposed SLSP land use designations by parcel. Some parcels have more than one proposed SLSP land use designation.

TABLE 3.10-2: PROJECT LAND USE DESIGNATIONS

APN	*LATHROP GENERAL PLAN LAND USE DESIGNATION*	*PROPOSED SOUTH LATHROP SPECIFIC PLAN DESIGNATIONS*
241-020-070	LI	OS, LI, P/QP
241-020-071	LI	LI
241-030-014	LI	LI
241-030-013	LI	OS, LI, P/QP
241-410-006	LI	LI
241-410-003	LI	LI
241-410-007	LI	LI, P/QP, CO
241-410-002	LI	LI
241-410-005	LI	LI
241-410-028	LI	LI
241-410-039	LI	LI
241-410-027	LI	LI
241-410-038	LI	LI
241-410-025	LI	LI
241-410-041	LI	LI, P/QP
241-410-042	LI	LI
241-410-043	LI	LI
241-410-037	LI	LI

Note: Lathrop General Plan Designations: LI = Limited Industrial;
SLSP Designations: LI=Limited Industrial, CO= Commercial Office, OS = Open Space (River/Levee Park & River), P/QP = Public/Quasi Public Facilities (Recycled & Storm Water Basins, Wetlands)

SURROUNDING LAND USES

The Plan Area is surrounded by a variety of land uses and is within or adjacent to several land use jurisdictions. To the north of SR-120 and west of I-5 in the City of Lathrop is Mossdale Village with residential and service commercial land uses, east of I-5 is Crossroads Commerce Center with office uses, northeast is the Lathrop Gateway Business Park currently developed with industrial, agricultural, rural residential and service land uses. The Lathrop Gateway Business Park Specific Plan designates and zones this area for Limited Industrial, Commercial Office, Service Commercial and Open Space. South of the Plan Area, in unincorporated San Joaquin County, is the Oakwood Lakes Subdivision, which is included in the Sphere of Influence for the City of Manteca (San Joaquin LAFCo, 10/08). To the east, in the City of Manteca, are developing lands including residential, commercial, business and public uses (including the regional Manteca Wastewater Quality Control Facility). The area to the west of the Plan Area is a sand and gravel borrow area within unincorporated San Joaquin County. Slightly further to the west is the proposed River Islands development within the City of Lathrop.

DEMOGRAPHICS

Population Trends

According to the City of Lathrop 2004 Housing Element, the City experienced a population increase from 1990 to 2000 of 3,604 persons as shown in Table 3.10-3. During the twelve years from 2000

to 2012, population continued to increase in the City, resulting in a total population of 18,908 in 2012, an 81.0 percent growth from 2000[1].

TABLE 3.10-3: POPULATION GROWTH

YEAR	POPULATION	CHANGE	PERCENT CHANGE
1990	6,841[1]	-	-
2000	10,445[1]	+3,604	52.7%
2010	18,023[2]	+7,578	72.6%
2012	18,908[3]	+885	4.9%

SOURCES: 1) LATHROP HOUSING ELEMENT, TABLE 7. 2) 2010 CENSUS. 3) DOF TABLE 2, HTTP://WWW.DOF.CA.GOV/RESEARCH/DEMOGRAPHIC/REPORTS/ESTIMATES/E-5/2011-20/VIEW.PHP

Housing Stock

Table 3.10-5 summarizes the growth of the City's housing stock between 2000 and 2012. The number of housing units increased from 2,967 in 2000 to 5,447 in 2012. This represents 83.6 percent growth in the City's housing stock.[2]

TABLE 3.10-4: HOUSING UNIT GROWTH

YEAR	HOUSING UNITS	CHANGE	PERCENT CHANGE
2000	2,967[1]		
2010	5,261[2]	2,294	77.3%
2012	5,447[2]	186	3.5%

SOURCES: 1) LATHROP HOUSING ELEMENT, 2) TABLE 44. DOF TABLE E-5. HTTP://WWW.DOF.CA.GOV/RESEARCH/DEMOGRAPHIC/REPORTS/ESTIMATES/E-5/2011-20/VIEW.PHP

Persons Per Dwelling Unit

The average number of persons residing in a dwelling unit in the City of Lathrop in 2012 was 3.18 (DOF, Table E-5).

Employment

Labor market information from the California Employment Development Department (EDD) identified that the City of Lathrop had an average annual unemployment rate of 13.7 percent in 2011. In December 2012, the labor force in Lathrop consisted of approximately 5,800 persons and the number of employed persons in the City was 5,100. This results in an unemployment rate of 11.7 percent in December 2012. The unemployment rate for San Joaquin County in December 2012 was 14.5. The County had an annual average unemployment rate for 2012 of 14.9 percent.

[1] Year 2000 Population of 10,445 – Year 2012 Population of 18,908 = 8,463/Year 2000 population of 10,445 = 81.0 percent growth.

[2] Year 2000 housing of 2,967 – Year 2012 housing of 5,447 = 2,480 / Year 2000 housing of 2,967 = 83.6 percent growth.

GROWTH PROJECTIONS

The City of Lathrop Municipal Services Review (MSR) included population and housing unit growth projections through the year 2038 in order to determine the future need in the City for public services. Two population projections were prepared as part of the MSR using a growth rate method and a housing unit method.

Population projections using the growth rate method are shown in Table 3.10-5 (Growth Projections – Growth Rate Method) and are based on the San Joaquin Council of Government's (SJCOG) population projections adopted by SJCOG in 2004 and the California Department of Finance (DOF) population projections for 2008. However, these numbers were modified significantly to reflect current economic and housing market conditions that have led to the postponement of major planned residential projects, as well contributing to the large amount of recent foreclosures. As such, adjustments to the growth rate were made for these projections. The growth rate begins at one percent of growth per year for the first five years and increase by 0.5 percent increments every five years for the duration of the thirty year time horizon.

Population projections using the Housing Unit Method are shown in Table 3.10-5 (Growth Projections – Housing Unit Method) and are based DOF's population estimate for 2008, the 2000 U.S. Census average persons per household for the City (3.54), approved residential units in the City, and a six percent vacancy rate. This growth projection method incorporates the major residential developments and potential future development in east Lathrop previously described (totaling 21,370 units). However, given current economic and housing market conditions, the major residential developments are now largely on-hold. As such, the housing unit method assumes no new units would be built over the next five years, and that only 13,375 units of the planned 21,370 units would be built over the next 30 years (approximately 60 percent). The majority of the projected growth is assumed to begin after 2023, when housing market conditions are anticipated to be more favorable.

TABLE 3.10-5: GROWTH PROJECTIONS

YEAR	GROWTH RATE METHOD		HOUSING UNIT METHOD	
	PERSONS	CHANGE	UNITS	CHANGE
2013	18,316	0	17,429	0
2018	19,729	1,413	23,424	5,995
2023	21,780	2,051	29,419	5,995
2028	24,641	2,861	41,424	12,005
2033	28,563	3,922	53,429	12,005
2038	33,852	5,289	65,434	12,005

SOURCE: CITY OF LATHROP MSR, TABLES 2-2 AND 2-3.

The population projections using the Housing Unit Method are significantly higher than those using the Growth Rate Method and represent the worst case scenario for the City. As such, the housing unit growth projections were used in the MSR to analyze the City's ability to provide adequate public services.

3.10.2 REGULATORY SETTING

STATE

Specific Plan Authority

Specific Plans are authorized and described in California Government Code Section 65450 et seq. As set forth in the Government Code Section 65451, Specific Plans are required to contain the following information:

"(a) A specific plan shall include a text and a diagram or diagrams which specify all of the following in detail: (1) The distribution, location, and extent of the uses of land, including open space, within the area covered by the plan. (2) The proposed distribution, location and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan and needed to support the land use described by the plan. (3) Standards and criteria by which development will proceed, and standards for the conservation, development and utilization of natural resources, where applicable. (4) A program of implementation measures including regulations, programs, public works projects and financing measures necessary to carry out paragraphs (1), (2) and (3)."

(b) Section 65454 states: "No specific plan may be adopted or amended unless the proposed plan or amendment is consistent with the General Plan.

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 Local Agency Formation Commission 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.

Delta Reform Act

The California Legislature passed the Johnston-Baker-Andal-Boatwright Delta Protection Act of 1992 (Delta Protection Act) on September 23, 1992 and it was updated in 2009 and renamed the Delta Reform Act. The Act provided the means to prepare the Land Use and Resource Management Plan (2010) for the Primary Zone of the Delta. The Management Plan includes policies and recommendations with the overall goal to "protect, maintain, and where possible, enhance and restore the overall quality of the Delta environment, including but not limited to

agriculture, wildlife habitat, and recreational activities." Two zones have been established under the Delta Protection Act; the Primary Zone and the Secondary Zone. The Plan Area is within the Secondary Zone. The Primary Zone is not adjacent to the Plan Area and is on the west side of I-5, generally following the San Joaquin River. The following are the applicable policies with relation to land use:

LAND USE POLICIES

Policy P-3: New non-agriculturally oriented residential, recreational, commercial, habitat, restoration or industrial development shall ensure that appropriate buffer areas are provided by those proposing new development to prevent conflicts between any proposed use and existing adjacent agricultural parcels. Buffers shall adequately protect the integrity of land for existing and future agricultural uses and shall not include uses that conflict with agricultural operations on adjacent agricultural lands. Appropriate buffer setbacks shall be determined in consultation with local Agricultural Commissioners, and shall be based on applicable general plan policies and criteria included in Right-to-Farm Ordinances adopted by local jurisdictions.

Policy P-8: Local government policies regarding mitigation of adverse environmental impacts under the California Environmental Quality Act may allow mitigation beyond county boundaries, if acceptable to reviewing fish and wildlife agencies, for example in approved mitigation banks. Mitigation in the Primary Zone for the loss of agricultural lands in the Secondary Zone may be appropriate if the mitigation program supports continued farming in the Primary Zone.

LOCAL

City of Lathrop General Plan (Lathrop GP)

While the Plan Area is currently in an unincorporated area and under the jurisdiction of San Joaquin County, the Plan Area is located within the Sphere of Influence of the City of Lathrop. The applicant has proposed that the Plan Area be annexed into the City of Lathrop and the SLSP must be consistent with the City of Lathrop 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. State law requires General Plans to address seven mandated components: circulation, conservation, housing, land use, noise, open space, and safety. In addition to those components required by State law, the Lathrop GP also contains an optional recreation element. The elements have been combined into three "Super Elements" called the Community Development Element, the Resource Management Element, and the Hazard Management Element. They represent a functional consolidation which simplifies the task of element description by combining those elements which are closely related to each another. Consolidation also makes it easier to achieve internal consistency among elements as required by State Law (Lathrop GP, p. 1-4).

The General Plan functions as a "constitution" for the City of Lathrop and reflects the long-range aspirations of physical form and amenity and provides guidance to the substance of developmental regulations and other programs of the City Council. The Lathrop GP is comprehensive, long-range and general (Lathrop GP, p. 1-2). The area covered by the General Plan has three significant geographic dimensions called Sub-Plan Areas (SPA). Each of the Sub-Plan Areas exhibits some differences in developmental policies and proposals.

General Plan Land Use Map (2012): The General Plan (GP) Land Use Map portrays the ultimate uses of land in the City of Lathrop through land use designations. The GP Land Use Map depicts the three Sub-Plan Areas mentioned above; the Plan Area is located in Sub-Plan Area #1, which comprises all area within the existing SOI adopted by LAFCo that is coterminous with the city limits existing as of December, 1991, as well as acreage south of State Route 120 outside of the city limits which is the Plan Area. With the exception of lands held for industrial use, the SPA #1 is substantially developed.

The GP Land Use Map designates the Plan Area as Limited Industrial (IL). Below is a description of this land use designation within Sub-Plan Area #1:

Limited Industrial: The building density is 1-4 stories in height, and building intensity is up to 90% site area coverage, excluding off-street parking and loading. Limited Industrial use is proposed primarily within the corridor formed by the (former) Southern Pacific and Union Pacific Railroads. The term "limited" implies the accommodation of industrial operations which are relatively low in intensity of operations, clean in character of appearance and operation and which generally require modest sites of 5-20 acres.

City of Lathrop General Plan Policies: General Plan policies applicable to land use are summarized below. General Plan policies associated with specific environmental topics (aesthetics, air quality, agriculture, biological resources, cultural resources, geology/soils/mineral resources, hazards, hydrology/water quality, noise, public services/recreation, transportation, utilities, etc.) are discussed in the relevant chapters of this EIR.

Annexation through Phased Development:

The annexation of lands to the outer boundaries of urbanization depicted by the General Plan Diagram is to be pursued through development phasing which seeks to avoid a disjointed pattern of urbanization, to avoid creating unnecessary conflicts with continuing agricultural operations, and to avoid adverse impacts on the provision and maintenance of public services and facilities. Annexation is not intended as a means to foster the premature development of lands within the Lathrop Planning Area. However, annexation may be viewed as an opportunity to assure that land will ultimately be developed in accordance with policies of the Lathrop General Plan even though development soon after annexation may not be intended either by the landowner or the City (Lathrop GP, p.2-13).

Achieving Visual and Functional Quality in New Development:

Policy 1: Architectural design review should be required of all Planned Developments (PD's), and of all multi-family, office, commercial, institutional and industrial uses.

Policy 5 Major components of the regional open space system are to include a park and recreation corridor along the San Joaquin River, natural waterways and riparian vegetation, a pedestrian and bike trail linking all three Sub-Plan areas, and private marinas open to the public along the San Joaquin River. Access to trails should be designed so as to prevent use by motor vehicles, including motorcycles, motorbikes and similar off-road vehicles.

Adoption of Specific Plans as Primary Tools of General Plan Implementation:

A number of Specific Plans are envisioned which are to serve as the primary instruments of the City of Lathrop in carrying out policies and proposals of the Lathrop General Plan.

Goal 1: Balance the social and economic costs and benefits of urbanization

Industrial Development:

Policy 1: Areas designated for industrial use are intended to take advantage of rail and freeway access. Industrial development priorities must involve lands south of Lathrop Road east of I-5 until sewage treatment facilities can be extended to other areas within SPA #1.

Policy 2: Areas designated for industrial use are to assure that there will be sufficient long-term availability of industrial land to expand the City's economic base and capability for meeting the on-going costs of public services required by the community. A slow pace of industrial development is not to be construed alone as justification for designating industrial land areas for another type of urban use unless such use would be of a regional commercial character.

Policy 3: Industrial proposals should be located where possible within an industrial park designed for the accommodation of a community of industries that are compatible in terms of operational characteristics, aesthetic qualities, utility service requirements and street circulation.

Commercial Development:

Policy 4: Proposals for the classifications of retail activity described in Part IV-A of the Plan are to be considered as offering flexibility for ingenuity and innovation in the selection, promotion, design and development of commercial centers and uses.

Urban Open Space System:

Policy 2: Major components of the regional open space system should include natural waterways and riparian vegetation south of Route 120 close to the San Joaquin River, a pedestrian and bike trail linking all three Sub-Plan areas, and private marinas open to the

public along the San Joaquin River and Old River. Access to trails should be designed so as to prevent use by motor vehicles, including motorcycles, motorbikes and similar off-road vehicles.

Policy 4: Industries are to be developed and operated in such manner as to avoid damage, destruction or degradation of the environment.

City of Lathrop Proposed/Approved New Master Planned Communities Map: Authority for the preparation of specific plans is found in California Government Code Sections 65450-65457. The City of Lathrop Proposed/Approved New Master Planned Communities Map depicts proposed and approved new master planned communities including: West Lathrop Specific Plan, Mossdale Village, River Islands, Central Lathrop Specific Plan, and the Lathrop Gateway Business Park. The City of Lathrop Proposed/Approved New Master Planned Communities Map overlay map includes the Plan Area as an area for a new master planned community.

South Lathrop Specific Plan Zoning Ordinance

The proposed project includes the adoption of a Zoning Ordinance, which will serve to implement the goals and policies of the SLSP by regulating the uses of land and structures within the Plan Area. The zoning districts in this South Lathrop Specific Plan Zoning Ordinance are designed to provide the opportunity for a wide variety of office, commercial, industrial and open space uses that are compatible with the SLSP. The South Lathrop Specific Plan Zoning Ordinance, which is contained within the SLSP, contains regulations that are supplemented by the entire text of the SLSP. These zoning districts, ending in "-SL," are limited to the South Lathrop Specific Plan area. Table 3.10-7 provides the development standards and a description of each zoning district within the Plan Area follows.

Table 3.10-7: SLSP Nonresidential Site Development Standards

	CO-SL	*IL-SL*
Minimum Parcel Size (sf)	5,000	5,000
Minimum Lot		
Width	50'	50'
Depth	100'	100'
Minimum Setbacks (1)		
Street Frontage	50' (2)	50' (2)
Front yard	15'	15'
Side yard	5'	0' (3)
Rear yard	5'	0' (3)
Distance between structures	10'	10'
Maximum Lot Coverage	70%	70%
Maximum Building Height	40'	76'
Landscape Requirements (4)		
Landscape coverage (minimum) (5)	15% (6)	10% (6)
Minimum Parking Requirements	Per Lathrop Zoning Ordinance, Chapter 17.76	Per Lathrop Zoning Ordinance, Chapter 17.76
Signage	Per Master Signage Program, and/or Chapter 17.84	Per Master Signage Program, and/or Chapter 17.84

(1) Minimum standards may need to be revised based on parcel configuration and proposed land use; Community Development Director to approve minor deviations.
(2) Those sites with public street frontage on a curve or cul-de-sac may have frontages of not less than 40', provided that the width of the site as measured along the front yard setback line is at least 50'.
(3) Except where abutting an adjacent structure; see distance between structures standard.
(4) For landscape standards reference Chapter 17.92 of the Lathrop Municipal Code.
(5) Measured as a percentage of net lot acreage.
(6) Landscape coverage is encouraged to include recreation and open space amenities for employees and visitors consistent with Section 5.5.1.1.F, Public Spaces and Pedestrian Amenities, of the South Lathrop Specific Plan; recreation and open space amenities will count toward the landscape requirement.

CO-SL: COMMERCIAL OFFICE ZONING DISTRICT: The CO-SL zoning district provides a range of large and small scale commercial development opportunities for the location of professional and commercial offices; retail; financial; governmental; professional, business services and entertainment activities; clean light industrial uses; and other uses to serve the local and regional community. Land requirements for most Commercial Office uses generally dictate their application along main roads of the City which generally have convenient access and/or high visibility.

IL-SL: LIMITED INDUSTRIAL ZONING DISTRICT: The IL-SL district is intended to provide opportunities for certain types of limited industrial plants to concentrate in mutually beneficial relationships to each other; to provide adequate space to meet the needs of modern industrial development, including off-street parking and truck loading areas; and to provide industrial employment opportunities for residents of the city and region. The IL district is intended to protect areas appropriate for industrial use from intrusion by residences and other inharmonious uses; to protect residential, commercial and nuisance-free, nonhazardous industrial uses from noise, odor, dust, dirt, smoke, vibration, heat, glare, fire, explosion, noxious fumes, radiation, hazardous chemicals and other hazardous and objectionable influences incidental to certain industrial uses; and to reserve appropriately located areas for various types of industrial plants and related activities. Land requirements for most limited industrial uses generally dictate a location with close access to major transit corridors and highways without the need for high visibility.

OS-SL: OPEN SPACE: The OS-SL zoning district is intended to provide for permanent open space areas that include the levees and trail system as called for in the South Lathrop Specific Plan.

PF-SL: PUBLIC FACILITIES DISTRICT: The PF-SL zoning district is intended to provide for permanent open space areas for well sites, water quality, storm water detention basins, and other necessary slope embankments as called for in the South Lathrop Specific Plan.

City of Lathrop Municipal Code-Agricultural Land Preservation (Title 15.48.040)

The City of Lathrop Right-to-Farm Ordinance (15.48.030) of the City's Agricultural Land Preservation Ordinance (15.48.040), was adopted in 1991 to conserve and protect agricultural land in the City and protect agricultural landowners form nuisance complaints related to cultivation, irrigation, spraying, fertilizing, and other activities related to normal agricultural operations. A disclosure statement is required whenever adjacent property is sold or building permit application is submitted, notifying the prospective buyer/applicant of adjacent agricultural land and possible

discomforts and nuisance factors related to agricultural operations. The focus of the ordinance is to reduce the loss of agricultural resources in the City by clarifying the circumstances under which agricultural operations may be considered a nuisance.

The SLSP will apply the notification procedures identified in the Ordinance 15.48.060. Interim Agricultural uses are subject to Agricultural Development Standards and Use Regulations located in the City's Zoning Ordinance. Right-to-Farm provisions for the South Lathrop Specific Plan development are discussed in Section 2.6.5.1 of the SLSP.

County of San Joaquin General Plan (County GP)

The County GP has a policy of growth accommodation with the caveat that in order for the growth to occur, the property must be annexed and financial mechanisms in place to ensure adequate urban services are provided. The County GP has directed most of the anticipated development to designated urban communities. The City of Lathrop is a designated urban community in the County GP (County GP, p. IV-2).

The Plan Area is currently located in the planning jurisdiction, and zoned for industrial and agricultural uses by the County of San Joaquin. The County GP envisions the Plan Area to be served by a public minor arterial roadway, a wastewater treatment plant, a potable water system, and a drainage system. Industrial uses are intended to be grouped to make efficient use of services and reduce conflict with surrounding uses. Industrial areas should be protected from encroachment by other land uses, except that commercial uses may be provided to meet the needs of the industrial center (p. IV-34).

County of San Joaquin General Plan Land Use Map (2012): The Land Use Map portrays the ultimate uses of land in San Joaquin County through land use designations. The County GP Land Use Map designates the western half of the Plan Area as Open Space/ Resource Conservation (OS/RC) and the eastern half as Limited Industrial. The Project applicant will be requesting that the Plan Area be annexed to the City of Lathrop to eliminate the conflict with all County land use designations and to permit the Plan Area to be developed under a Specific Plan. Below is a description of each of the current County GP land use designations for the Plan Area:

Limited Industrial: This designation provides for a range of industrial activities, including production, assembly, warehousing and distribution. Business offices are also appropriate in this designation. Typical developments would average range from five to 25 employees per acre. Industrial activity is conducted entirely within enclosed buildings and screened outdoor storage areas to ensure compatibility with surrounding uses. Buildings are not permitted to exceed 100 ft. in height or occupy more than 60% of the lot area, except where zoned Warehouse Industrial where they shall occupy no more than 40% of the lot area.

Open Space/Resource Conservation: This designation provides for the protection of the County's natural resources including agricultural lands and water resources. The objective of this designation is to preserve open space land for the continuation of commercial agricultural and

productive uses, the enjoyment of scenic beauty and recreation, the protection and use of natural resources, and for protection from natural hazards. Development is only permitted where it will not have a negative impact on the continued existence of the resource. Waterways and levees are encouraged to be used for recreation and trails. The county intends to minimize the impact on agriculture in the transition of agricultural areas to urban development.

San Joaquin Local Agency Formation Commission (LAFCo)

The San Joaquin Local Agency Formation Commission (LAFCo) is responsible for coordinating orderly reorganization to local jurisdictional boundaries, including annexations. Annexation of the Plan Area to the City of Lathrop 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 is capable of providing 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 (5-10 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 (5-10 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 in order 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 is capable of meeting 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 in order 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. In order 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 of 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

   For the purpose of 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 (66-2/3%) 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 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 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.

LAFCo Procedures for the California Environmental Quality Act (Adopted June 20, 2007)

LAFCO AS RESPONSIBLE AGENCY

When LAFCo is a Responsible Agency, the Commission shall 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.

1. Consultation: The Executive Officer shall respond to consultation by the Lead Agency to assure that the environmental document will be adequate for LAFCo's use. The Executive Officer shall reply certified mail within 30 days after receiving a Notice of Preparation from the Lead Agency.

2. Comments: The Executive Officer shall submit comments to the Lead Agency on draft EIRs and Negative Declarations concerning the adequacy or appropriateness of the document. The comments shall be limited to those project activities which are related to LAFCo's area of expertise or which will be required to be considered by LAFCo.

3. Adequacy of EIR or Negative Declaration: If the Executive Officer finds that the Negative Declaration or EIR prepared by the Lead Agency is not adequate for LAFCo use, the Executive Officer shall bring the matter to the Commission prior to 30 days after the Lead Agency files a Notice of Determination.

4. Final EIR or Negative Declaration: The Executive Officer shall provide the final EIR or Negative Declaration to Commissioners prior to, or along with, the Staff Report.

5. Findings and Statements: The Executive Officer shall prepare, or cause to be prepared, "draft" Findings and Statements, findings for approval, and statements of overriding considerations for Commission consideration.

6. Notice of Determination: The Executive Officer shall file a Notice of Determination within 5 working days after deciding to carry out or approve the project.

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 allow the landowners to retain ownership of the land and continue agricultural operations, essentially preserving such lands in perpetuity. (SLSP, 2012).

The City of Lathrop is a permit holder and is responsible for local implementation responsibilities including collection of fees, maintenance of implementing ordinances/resolutions and coordinating with the 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 planning if it will:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect;
- Conflict with any applicable habitat conservation plan or natural community conservation plan.
- Induce substantial 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);
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; and/or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

IMPACTS AND MITIGATION MEASURES

Impact 3.10-1: The proposed project has the potential to physically divide an established community (less than significant)

The Plan Area is physically isolated from the adjacent communities of Lathrop, Manteca, and the Oakwood Lakes subdivision in San Joaquin County. The Plan Area is surrounded by I-5 and SR 120 on the northwest and north boundaries, the San Joaquin River levee forms the western boundary and the elevated UPRR tracks form the southern and eastern boundaries. The ground elevation of the Plan Area is below these elevated structures an average of 30 feet and is not visible from the surrounding communities except from the SR 120, I-5, or levee. Access to the Plan Area is limited to Guthmiller/Yosemite Road. The Plan Area is partially developed with industrial uses and agriculture. The SLSP would result in expansion of the industrial uses and the addition of commercial office uses.

The SLSP proposes to create an open space corridor along the San Joaquin River, which is intended as a local community wide facility with the possibility of regional linkage. This open space corridor would provide the ability to connect the South Lathrop Specific Plan north into west Lathrop and south into San Joaquin County (SLSP, p.40). It would provide the opportunity for local and possibly

regional linkages along the San Joaquin River and would provide better public access through the Plan Area. The existing levee maintenance would remain through the open space area (SLSP, Figure 1.2).

The SLSP would not result in any division of an established community. Therefore, this impact would be **less than significant.**

Impact 3.10-2: The proposed project has the potential to 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)

CONSISTENCY WITH SAN JOAQUIN COUNTY LAFCO

The SLSP is currently in an unincorporated portion of San Joaquin County adjacent to the City of Lathrop's city limits and within the City's Sphere of Influence (SOI). The SLSP requires annexation of the approximately 315-acre Plan Area into the city limits for urban development. LAFCo 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, 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. Consistent with LAFCo policy to not approve annexations that result in an island of unincorporated land, when LAFCo considers the annexation of the SLSP to the City of Lathrop, it will also consider annexation of a portion of the Lathrop Gateway Business Park. The Lathrop Gateway Business Park was previously approved by the City and the project's impacts were examined in an EIR. The annexation approved by LAFCo, however, did not include the entire area considered in the EIR for the LGBP project. There are no changed circumstances or changes to the LGBP that would result in new significant impacts from those disclosed in the EIR for that project. Nor are there any unexamined impacts that would result from including a portion of the LGBP in the annexation of the SLSP. The City of Lathrop and the LAFCo Executive Officer have consulted to assure that the EIR will be adequate for LAFCo's use. 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 Executive Officer determines that the Draft and Final EIR are adequate for their use, he/she 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 working days after deciding to approve the annexation.

The San Joaquin LAFCo will be 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. These policies, unless specifically noted below, were not adopted to avoid or mitigate

an environmental effect; rather they are intended to ensure orderly reorganization to local jurisdictional boundaries, including annexations. Annexations must be consistent with the policies and procedures. Below is a consistency review relative to each policy:

GENERAL STANDARDS FOR ANNEXATION AND DETACHMENT

1. Spheres and Municipal Service Reviews: This policy requires an annexation to be consistent with the internal planning horizon of the SOI, which means that the land would normally lie within the first planning increment (5-10 year) boundary. The annexation must also only be approved if the Municipal Services Review and the SOI Plan demonstrates that adequate services can be provided with the timeframe needed by the inhabitants of the annexed area. Proposed annexations that lie outside of the first planning increment (5-10 year) boundary are presumed to be inconsistent with the Sphere Plan and must first request a sphere amendment prior to proceeding with the annexation. As an exception to the presumed inconsistency mentioned above, Master Plan and Specific Plan developments may span several planning horizons of the SOI. Annexation of the entire project area may be desirable in order 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 SOI Plan.

   The Plan Area is not within the first planning increment; however, the proposed annexation falls under the exception for Specific Plan developments that span several planning horizons. Annexation of the Plan Area is desirable for the City of Lathrop, in part because, some regional infrastructure (storm drainage) needed for development in the first planning increment (5-10 year) boundary (i.e. Lathrop Gateway Business Park) must traverse through the SLSP Plan Area where it ultimately terminates in a regional outfall at the San Joaquin River. Ultimately, LAFCo will decide whether the proposed annexation would first require an SOI amendment. The proposed annexation would likely require an update to the *Lathrop Municipal Service Review and Sphere of Influence Plan* in order to approve the annexation. A determination of consistency cannot be made in this EIR.

2. Plan for Services: This policy states that 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.

   The SLSP is a comprehensive planning document that covers all services needed for development, including those items identified in Section 56653 of the Government Code. The Draft EIR also assesses service capacity and demands for these services. There is not any service deficiencies noted in the SLSP or this EIR that are anticipated to occur after installation of infrastructure and appropriate financing. The proposed annexation would likely require an update to the *Lathrop Municipal Service Review and Sphere of Influence Plan* in order to ensure consistency with this policy. A determination of consistency cannot be made in this EIR.

3. Contiguity: This policy requires the land to be annexed to be contiguous to the city. 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.

   The Plan Area is contiguous to the Lathrop city limits along most of the northern boundary of the Plan Area. The Plan Area consists of approximately 273.6 acres of lands controlled by the applicant that are properties participating in the Specific Plan. Approximately 25.9 acres, located in the northeast area of the Plan Area are not controlled by the applicant and are properties that are non-participating in the Specific Plan, but would be annexed to the City of Lathrop. Annexation of the Plan Area lands would be City-initiated. In addition, land within the Lathrop Gateway Business Park, located to the north of the Plan Area, would also be included in the annexation. To remain consistent with the recent annexations to the City of Lathrop, the Plan Area boundary is shown to the center of the San Joaquin River. These 10.5 acres are currently owned by the State of California. The existing right-of-way of Madruga Road, which is included within the Plan Area, is currently owned by the County of San Joaquin. This 5 acre parcel would be annexed into the City of Lathrop with the annexation of the Plan Area and converted to City of Lathrop ownership. The proposed annexation is consistent with this policy.

4. Development within Jurisdiction: This policy encourages development of existing vacant or non-prime agricultural lands for urban uses within the existing jurisdiction or SOI before approval that would lead to the development of existing open space lands for non-open space uses.

   The Plan Area is within the SOI: The majority of the Plan Area is designated for urban development under the General Plan. A small portion of the Plan Area located on the San Joaquin River side of the levee is proposed for Open Space uses and would not be developed for urban uses other than passive recreation. The SLSP would not result in the development of existing open space lands for non-open space uses. The proposed annexation is consistent with this policy.

5. Progressive Urban Pattern: This policy states that annexations shall be progressive steps toward filling in the territory designated by the SOI. Proposed growth shall be from inner toward outer areas.

   The Plan Area is within the SOI and is designated for urban development under the General Plan. The City of Lathrop has historically taken progressive steps with development in their jurisdiction by requiring developers to prepare a Specific Plan that provides a comprehensive planning framework and urban pattern. The applicant has prepared a Specific Plan for the proposed annexation. The proposed annexation is consistent with this policy.

6. Piecemeal Annexation Prohibited: This policy requires annexations 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 in order 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.

   The *Lathrop Municipal Services Review and Sphere of Influence Plan* does not identify the Plan Area within the first planning increment; however, the proposed annexation falls under the exception identified for Specific Plan developments that span several planning horizons. Annexation of the Plan Area is desirable for the City of Lathrop, in part because, some regional infrastructure (storm drainage) needed for development in the first planning increment (5-10 year) boundary (i.e. Lathrop Gateway Business Park) must traverse through the SLSP Plan Area where it ultimately terminates in a regional outfall at the San Joaquin River. Additionally, there is approximately 25.9 acres, located in the northeast area of the Plan Area that is not controlled by the applicant. These properties are non-participating in the Specific Plan, but would be annexed to the City of Lathrop to avoid creating an island and to ensure consistency with LAFCo policies and procedures. In addition, land within the Lathrop Gateway Business Park, located to the north of the Plan Area, would also be included in the annexation. To remain consistent with the recent annexations to the City of Lathrop, the Plan Area boundary is shown to the center of the San Joaquin River. These 10.5 acres are currently owned by the State of California. The existing right-of-way of Madruga Road, which is included within the Plan Area, is currently owned by the County of San Joaquin. This 5 acre parcel will be annexed into the City of Lathrop with the annexation of the Plan Area and converted to City of Lathrop ownership. The proposed annexation is consistent with this policy. The proposed annexation is consistent with this policy.

7. Annexations to Eliminate Islands: This policy states that 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. In order 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.

   There is approximately 25.9 acres, located in the northeast area of the Plan Area that is not controlled by the applicant. These properties are non-participating in the Specific Plan, but would be annexed to the City of Lathrop to avoid creating an island and to ensure consistency with LAFCo policies and procedures. In addition, land within the Lathrop Gateway Business Park, located to the north of the Plan Area, would also be included in the annexation. To remain consistent with the recent annexations to the City of Lathrop, the Plan Area boundary is shown to the center of the San Joaquin River. These 10.5 acres are currently owned by the State of California. The existing right-of-way of Madruga Road,

which is included within the Plan Area, is currently owned by the County of San Joaquin. This 5 acre parcel will be annexed into the City of Lathrop with the annexation of the Plan Area and converted to City of Lathrop ownership. The proposed annexation is consistent with this policy.

8. Annexations that Create Islands: This policy states that an annexation will not be approved if it will result in the creation of an island of unincorporated territory of 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.

   There is approximately 25.9 acres, located in the northeast area of the Plan Area that is not controlled by the applicant. These properties are non-participating in the Specific Plan, but would be annexed to the City of Lathrop to avoid creating an island and to ensure consistency with LAFCo policies and procedures. In addition, land within the Lathrop Gateway Business Park, located to the north of the Plan Area, would also be included in the annexation. To remain consistent with the recent annexations to the City of Lathrop, the Plan Area boundary is shown to the center of the San Joaquin River. These 10.5 acres are currently owned by the State of California. The existing right-of-way of Madruga Road, which is included within the Plan Area, is currently owned by the County of San Joaquin. This 5 acre parcel will be annexed into the City of Lathrop with the annexation of the Plan Area and converted to City of Lathrop ownership. The proposed annexation is consistent with this policy.

9. Substantially Surrounded: This policy states that for the purpose of 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 (66-2/3%) of its boundary is surrounded by the affected city.

   As previously stated, the proposed annexation includes approximately 25.9 acres, located in the northeast area of the Plan Area that is not controlled by the applicant. These properties are non-participating in the Specific Plan, but would be annexed to the City of Lathrop to avoid creating an island and to ensure consistency with LAFCo policies and procedures. These properties are within the SOI, but are not currently "substantially surrounded" by the city limits. If this area was not annexed it would create an island that meets the definition of "substantially surrounded." The San Joaquin LAFCo will determine whether the annexation shall proceed with or without protest hearings in accordance with their policies and procedures. A determination of consistency cannot be made in this EIR.

10. Definite and Certain Boundaries: This policy states that 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.

The proposed annexation boundaries are definite and certain and conform to lines of ownership. The proposed annexation is consistent with this policy.

11. Service Requirements: This policy states that 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 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 consistent with this policy.

12. Adverse Impact of Annexation on the Other Agencies: This policy states that 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 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.

    This EIR includes an assessment of the impacts of the SLSP and proposed annexation on service agencies. The SLSP and proposed annexation would not result in an adverse impact to any of the service agencies such that it would seriously impair operation. The proposed annexation is consistent with this policy.

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.

14. Disadvantaged Unincorporated Communities: This policy prohibits an annexation where a Disadvantaged Unincorporated Community (DUC) 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 Plan Area is not within or contiguous to an area designated as a Disadvantaged Unincorporated Community (DUC). This policy is not relevant to the proposed annexation.

CITY ANNEXATIONS

1. Annexation of Streets: This policy states that annexations shall 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. 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 may be used as the boundary or may follow a boundary reached by agreement of the affected cities.

2. Pre-zoning Required: This policy states that 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 years after completion of the annexation.

   The proposed project includes the adoption of a Zoning Ordinance specifically for the Plan Area, which will serve to implement the goals and policies of the SLSP by regulating the uses of land and structures within the Plan Area. The Plan Area will be pre-zoned to the zoning districts in accordance with the land use changes and will be subject to the special development standards as described in the SLSP Zoning Ordinance. The SLSP Zoning Ordinance is proposed to ensure consistency between land use and zoning designations. The proposed annexation is consistent with this policy.

The policies discussed above are intended to ensure orderly reorganization to local jurisdictional boundaries, including annexations. Policies 13 and 14 are not relevant to the proposed annexation. A consistency determination relative to Policies 1, 2, and 9 cannot be made in this EIR. LAFCo will determine whether the proposed annexation would first require an SOI amendment and also whether an update to the *Lathrop Municipal Service Review and Sphere of Influence Plan* is in order to approve the annexation. The SLSP and proposed annexation is consistent with the other LAFCo policies listed. These LAFCo policies were not specifically adopted to avoid or mitigate an environmental effect. As such, implementation of the SLSP will have a ***less than significant*** impact relative to this topic.

CONSISTENCY WITH THE SAN JOAQUIN COUNTY GENERAL PLAN

The County General Plan designates the western half of the Plan Area as OS/RC and the eastern half as IL. The proposed SLSP land use designations are not entirely consistent with the County land use designations; however, the proposed annexation would shift land use authority to the City of Lathrop effectively eliminating the need to be consistent with the County's land use designations.

The County General Plan has a policy of growth accommodation and has directed most of the anticipated development in the County to designated urban communities including the City of Lathrop (County GP, p. IV-2). The County GP requires the development lands to be annexed and financial mechanisms in place to ensure adequate urban services are provided. The SLSP is consistent with this policy in that the development is proposed via annexation to a designated urban community (Lathrop) and the SLSP contains a detailed development phasing and financing plan for provision of adequate urban services.

Because 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 such policies. (*Sequoyah Hills Homeowners Association v. City of Oakland* (1993) 23 Cal.App.4th 704, 719.) Although the SLSP would result in land use and zoning inconsistencies under the County General Plan, the SLSP is consistent with the overall intent of the County GP to focus urbanization in designated communities and the proposed annexation will shift land use authority to the City of Lathrop. Therefore, implementation of the SLSP, including the annexation, would have a **less than significant** impact relative to the County General Plan.

CONSISTENCY WITH THE CITY OF LATHROP GENERAL PLAN

The SLSP would result in the annexation of a total of approximately 315 acres into the City of Lathrop. The SLSP would include amendments to the land use designations and the Lathrop General Plan Map. The City's general plan designates the entire Plan Area as LI Limited Industrial. The General Plan Map would be amended to include the CO Commercial Office, OS Open Space, and Public/Quasi-Public designations within the Plan Area and the General Plan land use designations would be amended to include CO, OS, and P/QP within the SLSP.

The Plan Area is located within Sub-Plan Area #1 of the Lathrop GP. The City has a major policy of overriding significance calling for annexation of lands to the outer boundaries of urbanization be pursued through development phasing that avoids disjointed patterns of urbanization, avoids conflict with continuing agricultural operations and provides for adequate urban services (Lathrop GP, p. 2-13). The SLSP is consistent with this overriding policy in that the plan includes a detailed phasing and financing plan for the orderly progressive development of the Plan Area and provision of urban utilities and services. The SLSP recognizes the continued operation of farming in the Plan Area and provides for them to continue as non-conforming uses until such time that phased development occurs. The SLSP includes a Right-to-Farm provision.

Policy 1 of the Visual and Functional Quality of New Development requires architectural review of all industrial uses. The SLSP will be subject to design review. Policy 5 calls for a park and recreation corridor, to include a pedestrian and bike trail linking the three Sub-Plan areas along the San Joaquin River. The SLSP has designated the levee along the San Joaquin River as Open Space zoned as a River/Levee Park and included within the park the levee maintenance road and trail. The SLSP is consistent with the Lathrop GP call for the adoption of Specific Plans as the primary tool of General Plan implementation.

Policy 1 of the Industrial Development discussion of the GP notes that industrial areas are intended to take advantage of rail and freeway access. The SLSP has direct and close access to I-5 and SR 120 via Guthmiller/Yosemite Road. And, although the UPRR tracks form the southern boundary of the Plan Area, accessibility to the UPRR would be via the closest rail station. The GP notes that development of industrial lands will be limited until sewer service can be provided. The SLSP provides for extension of sewer pumping and conveyance infrastructure to the Plan Area and addresses treatment plant expansion. Policy 2 encourages areas designated for industrial use to be developed to expand the City's economic base upon the ability to provide public services and discourages conversion of industrial lands unless they would be of a regional commercial character. The SLSP devotes the majority of the 315 acre site to industrial development except for 10 acres of Commercial Office in the center of the access area for the site. The proposed Commercial Office would be a more compatible use with the Limited Industrial planned development than regional commercial which would require more points of access, more land devoted to parking, and could encourage further conversion of the industrial uses to commercial land. Policy 3 encourages industrial projects to be in an industrial park to encourage synergy between the uses and to provide for efficient delivery of utilities and services. The uses proposed in the SLSP are consistent with this policy.

Commercial Development Policy 4 notes that classifications of commercial activity should be flexible to encourage ingenuity and innovation in the development of commercial centers and uses. The *Flexibility in Commercial Development* discussion further discusses that flexibility is especially needed in the Office and of the Service Commercial categories. "Hard and fast limitations on the selection and mixing of uses that has dominated zoning practice for most of the 20th Century is discouraged in favor of a Planned Development and/or Specific Plan process which permits flexibility if operational and aesthetic conflicts among uses are avoided in the development process through excellence in site and building design and functional arrangement among uses" This policy appears to give some leeway to encourage flexibility in the permitted uses of the SLSP to permit the inclusion of ten acres of stand-alone office uses, beyond those permitted as incidental to the industrial uses.

Policy 4 encourages industries to be developed and operated in such manner as to avoid damage, destruction or degradation of the environment. The SLSP provides for a planned and phased expansion of industrial development with concurrent expansion of adequate utilities and services such that utilities are not overburdened or inadequate to accommodate the sewage and storm drainage generated by the SLSP. This ensures protection of water quality. Participation in the SJMCSP ensures that agricultural resources, habitat, and biological resources are protected. Other resources (environmental topics) are discussed in their appropriate chapters within this EIR.

Amendment of the City of Lathrop General Plan to add OC, OS, and P/QP land use designations to the Plan Area in accordance with the SLSP will cure project inconsistencies with the General Plan Land Use Map and General Plan land use designations. The SLSP is substantially consistent with the policies contained within the City of Lathrop General Plan. Some policies in the General Plan are

specifically designed to avoid or mitigate an environmental effect associated with development. These General Plan policies are discussed throughout this EIR in sections that are relevant to the policy topic. The SLSP does not conflict with, or change, any of those General Plan policies that are designed to avoid or mitigate an environmental effect. Mitigation measures have been developed in this EIR to ensure that the SLSP does not conflict with any of those policies that are designed to avoid or mitigate an environmental effect. As such, implementation of the SLSP will have a ***less than significant*** impact relative to this topic.

CONSISTENCY WITH THE CITY OF LATHROP ZONING ORDINANCE AND MAP

The Zoning Ordinance of the City of Lathrop has been established to promote and protect the public health, safety, and general welfare. Among the various objectives of the Zoning Ordinance include the promotion of development at appropriate densities/ floor area ratios in order to conserve and enhance the City's physical scale and character as defined in the General Plan. The City of Lathrop's Zoning Ordinance includes land use, development densities and development standards.

The proposed project includes the adoption of a Zoning Ordinance specifically for the Plan Area, which will serve to implement the goals and policies of the SLSP by regulating the uses of land and structures within the Plan Area. The zoning districts in this South Lathrop Specific Plan Zoning Ordinance are designed to provide the opportunity for a wide variety of office, commercial, industrial and open space uses that are compatible with the SLSP. The South Lathrop Specific Plan Zoning Ordinance, which is contained within the SLSP, contains regulations that are supplemented by the entire text of the SLSP. These zoning districts, ending in "-SL," are limited to the South Lathrop Specific Plan area. The Plan Area will be pre-zoned to these zoning districts in accordance with the land use changes and will be subject to the special development standards as described in the SLSP Zoning Ordinance. The SLSP Zoning Ordinance is proposed to ensure consistency between land use and zoning designations. Where the SLSP Zoning Ordinance does not discuss a particular zoning topic (e.g. parking requirements) the City's Zoning Ordinance will apply. The SLSP Zoning Ordinance is not specifically proposed to avoid or mitigate an environmental effect. As such, implementation of the SLSP will have a ***less than significant*** impact relative to this topic.

CONSISTENCY WITH THE LATHROP GATEWAY BUSINESS PARK SPECIFIC PLAN (LGBP)

The SLSP is located directly southwest of the LGBP, across SR 120. The two Specific Plans share access on Guthmiller/Yosemite Roads and will tie in to the same existing and future planned utility and service infrastructure systems. The SLSP is requesting similar land use designation changes to the LGBP; approval of the specific plan would change the General Plan designations for 10 acres of the Plan Area from Limited Industrial to Commercial Office. The SLSP proposes to locate CO on the eastern side of Guthmiller/Yosemite Road which would mirror the CO proposed in the LGBP on the east side of Guthmiller/Yosemite Roads, across SR 120. Within the LGBP, CO use was directed toward the State Route 120 and Yosemite Avenue corridors to capitalize on the vehicular access, visibility, and the logical "capture" market for these uses along these corridors. The sections of the LGBP around the SR-120/Guthmiller Road interchange form the hub or core of the commercial

component, with opportunity for supporting office uses on the northeast and northwest quadrants of the interchange (LGBP EIR p. 3-9). The CO proposed in the SLSP will provide for supporting office uses in the southeast quadrant of the interchange and can provide additional synergy between these Specific Plans. The 15.6 acres of stormwater detention areas within the LGBP are also located opposite planned detention stormwater detention and recycled water basins on the SLSP site. Both Specific Plans are planned to be developed in phases, as supporting infrastructure is financed and developed.

The SLSP is consistent with and supporting of the approved LGBP. The LGBP includes specific policies and mitigation measures that are intended to avoid or mitigate an environmental effect associated with development of the LGBP. The SLSP does not conflict with, or change, and of those policies and mitigation measures. The SLSP does not conflict with a Specific Plan or other land use planning document/map. Implementation of the SLSP would have a **less than significant** impact relative to this topic.

CONSISTENCY WITH THE LATHROP RIGHT TO FARM ORDINANCE

The SLSP anticipates that the development plan will be phased over time and existing agricultural uses in the Plan Area will remain as Interim Agricultural uses. The SLSP notes that these uses are subject to the Nonconforming Uses and Structures Standards and Use Regulations located in the City of Lathrop Zoning Code (Title 17.116) until such time that they are developed in a later phase of the SLSP, as the market allows and services and utilities can be extended. The Lathrop Right to Farm Ordinance was adopted to avoid and/or mitigate environmental effects associated with the compatibility of urban uses adjacent to agricultural operations. Section 2.6.5.1 of the SLSP requires that future development within the SLSP comply with notification requirements of the Right-to-Farm provisions of the Zoning Code for the City of Lathrop. As such, the SLSP does not conflict with the Lathrop Right to Farm Ordinance and implementation of the SLSP would have a **less than significant** impact relative to this topic.

Impact 3.10-3: The proposed project has the potential to conflict with an applicable habitat conservation plan or natural community conservation plan (less than significant)

SAN JOAQUIN COUNTY MULTI-SPECIES HABITAT CONSERVATION AND OPEN SPACE PLAN

A key component of the SLSP mitigation strategy is participation in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). The City of Lathrop adopted the SJMSCP in January 2001, and signed the implementation agreement in 2002. The City's participation allows projects within Lathrop's jurisdiction to seek coverage under the SJMSCP for impacts to endangered, threatened, and species of special concern. The SLSP requires compliance with the SJMSCP through the payment of mitigation fees for the impacted habitat, and implementation of Avoidance and Minimization Measures as described in the SJMSCP. Details of the mitigation fee amounts and Avoidance and Minimization Measures will be determined in consultation with SJCOG.

The SJMSCP provides a process to offset impacts to biological resources, conserve open space, maintain the agricultural economy, and allow development within the County. It was also created to obtain the necessary 32 permits from the U.S. Fish and Wildlife Service and the California Department of Fish and Game for the next 50 years in exchange for participating projects paying mitigation fees. Fees are based on the amount and quality of land converted from agricultural or open space uses to urban uses. These fees are used to preserve and create habitats to be managed in perpetuity through the establishment of habitat preserves. Ninety-seven species are covered under the SJMSCP, with the intent to provide comprehensive mitigation pursuant to local, state, and federal regulations for impacts on these species from permitted activities under the Plan. Participation in the SJMSCP confers authorization for activities that result (or may result in) incidental take of covered state-listed species, federally listed species, and other covered (SMSP, 2012)

The SMSP requires that all individual project applications must comply with the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). The SJMSCP, prepared by San Joaquin County and other participating agencies, protects special-status plants and wildlife and their habitats, while allowing for planned growth in the County. This protection is accomplished by, 1) identifying important habitats and habitat features to aid in the development of protection areas, and 2) establishing a funding mechanism through which project proponents can provide replacement habitat while enabling them to meet their no net loss of habitat value goals. Although the SJMSCP is voluntary, project proponents as part of the SLSP will be required to participate in the SJMSCP by contributing appropriate impact fees and implementing mitigation as identified by the SJMSCP (Draft SLSP, p. 110).

Prior to issuance of grading permits the project proponent will be required to coordinate with SJCOG and will be responsible for the appropriate coverage, permits, compensatory mitigation or fees, and project specific avoidance, minimization, and mitigation measures as defined within the SJMSCP. The SLSP does not conflict with the implementation of the SJMSCP and has appropriate measures to ensure compliance with payment of mitigation fees. Implementation of the SLSP would have a **less than significant** impact relative to compliance with the SJMSCP.

LAND USE AND RESOURCE MANAGEMENT PLAN OF THE DELTA REFORM ACT

Two zones have been established under the Delta Reform Act; the Primary Zone and the Secondary Zone. The Land Use and Resource Management Plan is concerned with the protection, maintenance, and enhancement or restoration of the overall quality of the Delta environment, including agriculture, wildlife habitat, and recreational activities within the Primary Zone. The Plan Area is within the Secondary Zone. The Primary Zone is not adjacent to the Plan Area and is on the west side of I-5, generally following the San Joaquin River.

To the extent that land use activities in the Secondary Zone may have an impact on the Primary Zone, the SLSP is reviewed below with respect to the Management Plan policies:

Policy P-3 of the Management Plan requires new development to prevent conflict (via buffers) between any proposed use and existing adjacent agricultural properties. Buffers are to adequately protect the integrity of adjacent lands for existing and future agricultural uses and shall not include uses that conflict with agricultural operations on adjacent agricultural lands. Appropriate buffer setbacks shall be determined in consultation with local Agricultural Commissioners, and shall be based on applicable general plan policies and criteria included in Right-to-Farm Ordinances adopted by local jurisdictions. The Plan Area is isolated by surrounding freeways, highways, levees and the UPRR elevated tracks and is not directly contiguous to any other agricultural uses. Cessation of agricultural use of the western portion of the Plan Area over time will have no influence on the closest agricultural uses south and west of the Plan Area as these lands are already designated for urban uses (River Islands, Oakwood Lakes subdivision) or they are some distance from the Plan Area and that distance provides a buffer.

Policy P-8 of the Management Plan addresses the provision of lands for mitigation banking. The SLSP will comply with the policy through payment of fees and adherence to the SJMSCP as discussed above. Implementation of the SLSP would have a **less than significant** impact relative to compliance with the Management Plan of the Delta Reform Act.

Impact 3.10-4: The proposed project has the potential to induce substantial population growth in an area (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: The SLSP consists of industrial and commercial office development. This would require a General Plan amendment for 10 acres from Limited Industrial (LI) designation to Commercial Office (CO) to allow for the proposed commercial office development. No housing is proposed as part of the SLSP, and therefore project implementation would not lead to direct population growth.

Indirect Population Growth: As described above, projects that do not directly induce population growth still 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 SLSP would provide job growth to the area. It is anticipated that local employment would be increased to provide administrative, management, industrial manufacture and service, retail services, and landscape and maintenance in the Plan Area. 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 county residents and would attract new residents.

The SLSP seeks to establish a variety of business opportunities that can support the skilled and educated workforce of Lathrop and the local area. The SLSP seeks to expand the San Joaquin County Enterprise Zone and attract new business to the region. Attracting business is essential in reducing the need for residents to commute out of the area thus decreasing emissions and fuel consumption from car trips for workers commuting throughout the County and beyond. To

accommodate new growth, the City General Plan focuses on developing areas west, north, and south of the current City boundaries, within the SOI (SLSP, p.14).

Implementation of the South Lathrop Specific Plan will also result in the extension of infrastructure into the Plan Area which is not now served. Extension of infrastructure to serve the SLSP is discussed in detail in the Public Services and Utilities Chapters of this EIR.

Although the jobs created by implementation of the SLSP will attract new residents to the area, there is considerable new housing already approved within the City of Lathrop including approximately 18,000 homes in the River Islands and Central Lathrop Specific Plan areas combined. Development of the Plan Area with job producing industrial uses and associated extension and expansion of infrastructure and services to the Plan Area to accommodate that development has been anticipated within the City of Lathrop General Plan since 1991. Further infrastructure expansion to properties south or west of the Plan Area is not anticipated. Those adjacent properties are already developed in the case of the Oakwood Lakes subdivision and served by the City of Manteca or are outside of the City of Lathrop SOI and are anticipated to be annexed into the City of Manteca.

Therefore, the SLSP is not anticipated to exceed the planned growth (directly or indirectly) in the area beyond what is anticipated in the City of Lathrop General Plan. Growth inducement is a **less than significant** impact of the SLSP.

Impact 3.10-5: The proposed project has the potential to displace substantial numbers of people or existing housing (less than significant)

There are no existing homes or other types of residential structures in the Plan Area. Therefore, development in the Plan Area would not directly displace any persons or existing housing.

The proposed offsite infrastructure routes are located within existing street right-of-way. There are no designs or improvement plans for offsite infrastructure at this time. Utilities that are proposed near residential development will avoid housing through design to the extent feasible; however, partial acquisitions of right-of-way could be necessary because the infrastructure routes may encroach into areas without a utility easement. Partial acquisitions of utility easements would consist of the purchase of a small swath (i.e. 15-30 foot wide swath) typically where the parcel and right-of-way abut. While it is possible that there would be a partial acquisition, the SLSP does not proposed any at this time. Additionally, full acquisition of parcels with homes along the offsite infrastructure route is not necessary; therefore there will be not displacements or relocations. State and federal law provides a process whereby property owners are compensated appropriately for any property that is acquired for public use, including utilities. Compliance with state and federal laws relative to the potential need for partial acquisitions for utility easements will ensure that this impact is **less than significant**.

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0 600 1,200
Feet

1:24,000

Data sources: ArcGIS Online BING aerial images with labels web mapping service; San Joaquin County GIS. Map date: March 18, 2013.

SOUTH LATHROP SPECIFIC PLAN

Figure 3-10.1: Aerial Photo

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

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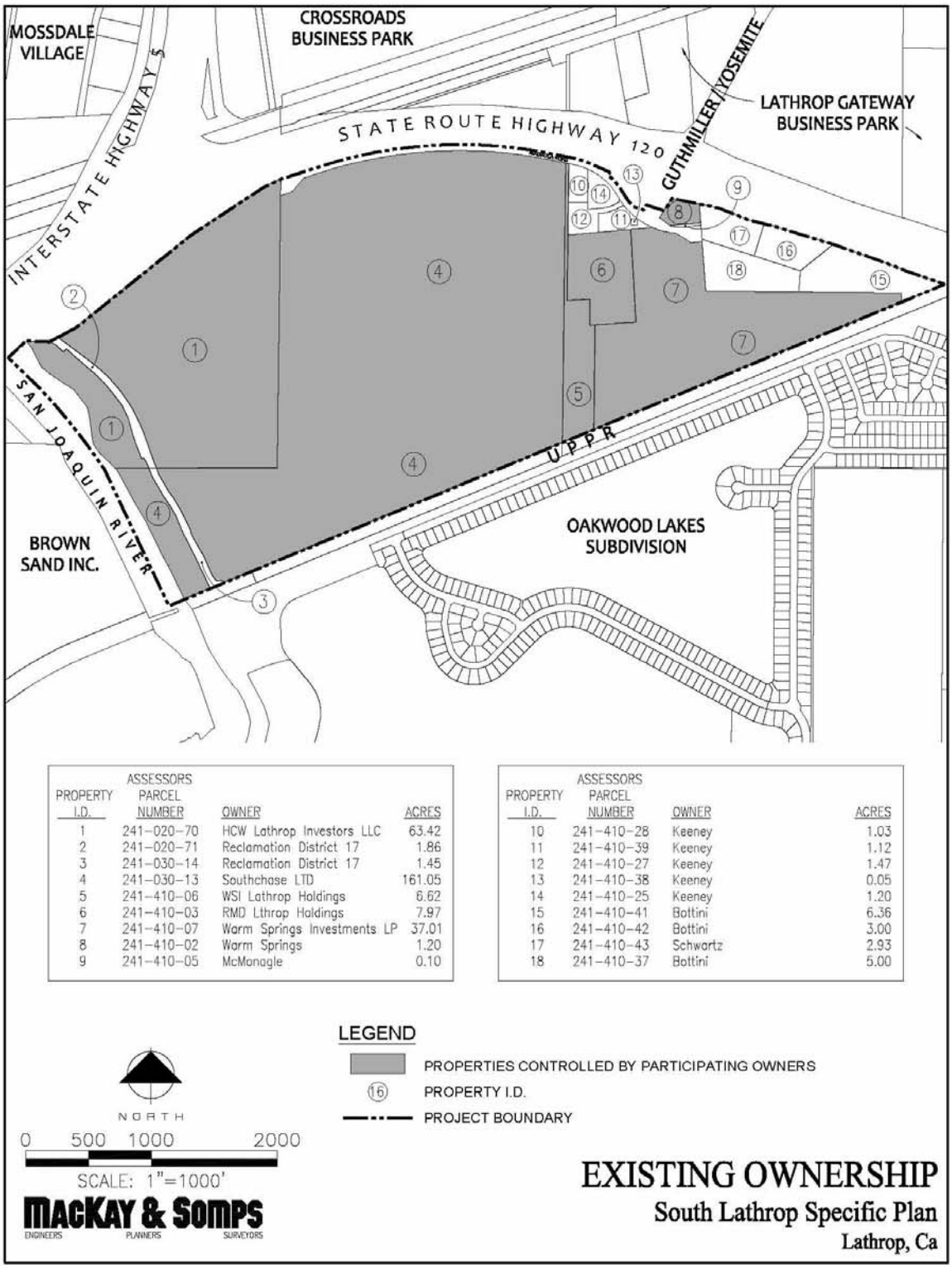

PROPERTY I.D.	ASSESSORS PARCEL NUMBER	OWNER	ACRES
1	241-020-70	HCW Lathrop Investors LLC	63.42
2	241-020-71	Reclamation District 17	1.86
3	241-030-14	Reclamation District 17	1.45
4	241-030-13	Southchase LTD	161.05
5	241-410-06	WSI Lathrop Holdings	6.62
6	241-410-03	RMD Lthrop Holdings	7.97
7	241-410-07	Warm Springs Investments LP	37.01
8	241-410-02	Warm Springs	1.20
9	241-410-05	McManagle	0.10

PROPERTY I.D.	ASSESSORS PARCEL NUMBER	OWNER	ACRES
10	241-410-28	Keeney	1.03
11	241-410-39	Keeney	1.12
12	241-410-27	Keeney	1.47
13	241-410-38	Keeney	0.05
14	241-410-25	Keeney	1.20
15	241-410-41	Bottini	6.36
16	241-410-42	Bottini	3.00
17	241-410-43	Schwartz	2.93
18	241-410-37	Bottini	5.00

SOUTH LATHROP SPECIFC PLAN

Figure 3.10-2: Existing Ownership

Data source: MacKay &Somps. Map date: March 18, 2013.

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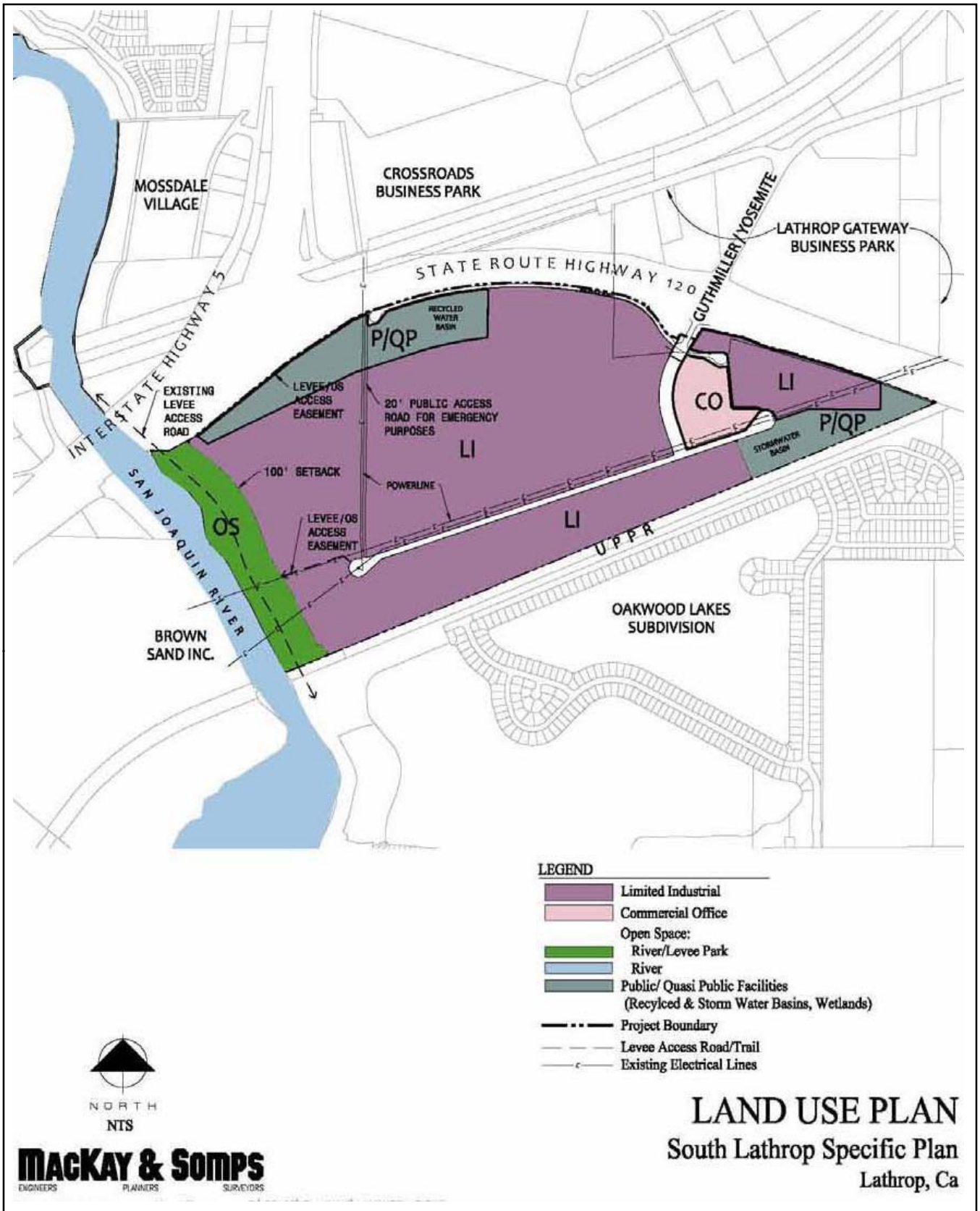

SOUTH LATHROP SPECIFIC PLAN

Figure 3.10-3 Land Use Plan

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This section describes mineral resources located in the Plan Area, as well as the regional setting for mineral resources and environmental impacts associated with mineral resources. Information in this section is based on information provided by the project applicant in the project application package submitted to the City of Lathrop, *Special Report 199 Update of Mineral Land Classification for Portland Cement Concrete-Grade Aggregate in the Stockton-Lodi Production-Consumption Region, San Joaquin and Stanislaus Counties, California* (California Geological Survey, 2012), *San Joaquin County Planning Handout-GP-V3-IV-B* (San Joaquin County 19923), *San Joaquin County General Plan Background Report – Natural Resources* (San Joaquin County, July 2009), *City of Lathrop General Plan* (City of Lathrop 2004), *City of Lathrop General Plan EIR* (City of Lathrop 1991), and the *City of Lathrop Zoning Code* (City of Lathrop 2013) .

3.11.1 ENVIRONMENTAL SETTING

STATEWIDE

In 2012, the California Geological Survey identified that approximately 4 billion tons of permitted aggregate reserves lie within the 31 aggregate study areas in California. These permitted aggregate reserves have been determined to be acceptable for commercial use, exist within properties owned or leased by aggregate producing companies, and have permits allowing mining of aggregate material. Sand, gravel, and crushed stones are construction materials that are collectively referred to as construction aggregate. These materials provide the bulk and strength to Portland cement concrete (PCC), asphaltic concrete (AC), plaster, and stucco. Other uses include road base, subbase, railroad ballast, and fill.

From 1981 to 2010, California consumed an average of about 180 million tons of construction aggregate (all grades) per year. (CGS, 2012)

REGIONAL SETTING

The primary mineral resources in San Joaquin County are sand, gravel, and natural gas, with limited mining of peat, gold, and silver. In 2012, the California Geological Survey assessed the Stockton-Lodi Production-Consumption (P-C) Region mineral resources, with a focus on aggregate resources. Mineral resources in the region are classified based on whether the aggregate meets the specifications for use in PCC. This aggregate is termed “PCC-grade aggregate.” The material quality specifications for PCC-grade aggregate are more restrictive than the specifications for aggregate for other applications. As a result of the strict specifications, PCC-grade aggregate deposits are more scarce and valuable than other aggregate resources.

Known Mineral Resources

The California Geological Survey issued Special Report 199 designating areas within the Stockton-Lodi P-C Region based on the significance of mineral resources. The Stockton-Lodi P-C Region contains about 969 million tons PCC-grade aggregate resources and 67 million tons PCC-grade

sand resources. These resources are classified into different mineral resource zone designations, as described below.

To be considered significant for the purpose of mineral land classification, a mineral deposit or group of deposits, must meet criteria adopted by the State Mining and Geology Board. These criteria include marketability and threshold values. The threshold value is approximately $17.375 million for a construction aggregate deposit. PCC-grade aggregate sells for about $13 per ton in the Stockton-Lodi P-C Region; therefore, $17,375,000 equates to about 1.3 million tons of PCC-grade aggregate material.

The following Mineral Resource Zone (MRZ) descriptions are for PCC-grade aggregate.

MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.

MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.

MRZ-3: Areas containing mineral deposits, the significance of which cannot be evaluated from available data.

MRZ-4: Areas where available information is inadequate for assignment to any other MRZ zone.

Mineral Extraction Activities

Approximately 232 million tons of PCC-grade aggregate reserves are permitted for production in the County (CGS, 2012). There are 34 active and inactive aggregate mines within San Joaquin County (San Joaquin County, 2009). Three mines are located in the vicinity of the Plan Area:

Mine ID# 91-39-0001 – Oakwood Lake. Mine is closed and was operated by Beck Properties.

Mine ID# 91-39-0012 – Mossdale Road. Mine is closed and was operated by FTG Construction Materials.

Mine ID# 91-39-0022 – Mossdale-Brown Sand. Mine is active and is operated by Brown Sand, Inc.

PLAN AREA

The Plan Area is located in Resource Sector D, which consists of a large PCC-grade sand deposit situated along the San Joaquin River west of Manteca and south of Lathrop near the middle of the valley. This sector covers approximately 878 acres. Physical features, including Interstate 5, Highway 205, San Joaquin River, and railroad lines, divide this sector into multiple subsectors. Sectors D-7 and D-8 are located within the project boundaries. Both of these subsectors are designated by the State Mining and Geology Board as containing regionally significant PCC-grade aggregate resources. These sectors are both classified as MRZ-2 (PCC sand). The Plan Area also

contains an area that is not designated as containing regionally significant resources; this area is located in the northern portion of the Plan Area and is designated MRZ-3.

No known natural gas fields were identified in the vicinity of the Plan Area (San Joaquin County, 19920).

3.11.2 REGULATORY SETTING

STATE

Surface Mining and Reclamation Act of 1975

The State Mining and Reclamation Act of 1975 (California Public Resources Code [PRC] Section 2710 et seq.) (SMARA) required that the California State Geologist implement a mineral land classification system to identify and protect mineral resources of regional or statewide significance in areas where urban expansion or other irreversible land uses may occur. This information is intended to be considered in local land use planning activities through the adoption of general plan mineral resource management policies (California Public Resources Code Section 2762). The California State Mining and Geology Board (SMGB) classifies such urban and non-urban lands according to a priority list, or when the Board is otherwise petitioned to classify a particular land area.

As mandated by SMARA, aggregate mineral resources within the State are classified by the SMGB through application of the MRZ System. The MRZ is used to map all mineral commodities within identified jurisdictional boundaries, with priority given to areas where future mineral resource extraction may be prevented or restricted by land use compatibility issues, or where mineral resources may be mined during the 50-year period following their classification. The MRZ classifies lands that contain mineral deposits and identifies the presence or absence of substantial sand and gravel deposits and crushed rock source areas (i.e., commodities used as, or in the production of, construction materials).

PRC Section 2762(d) and 2763 requires a lead agency to prepare a statement specifying its reasons for permitting a use that would threaten the potential to extract mineral resources either 1) in an area that has been designated in its general plan as having important minerals to be protected, or 2) f the use is proposed in an area with significant resources pursuant to Section 2761(b)(2) and the lead agency has not yet acted on State's designation. PRC Section 2763 requires that lead agency land use decisions involving areas designated as being of regional significance shall be in accordance with the lead agency's mineral resource management policies and shall also, in balancing mineral values against alternative land uses, consider the importance of these minerals to their market region as a whole and not just their importance to the lead agency's area of jurisdiction.

Division of Mines and Geology

The California Division of Mines and Geology (DMG) operates within the Department of Conservation. The DMG is responsible for assisting in the utilization of mineral deposits and the identification of geological hazards.

State Geological Survey

Similar to the DMG, the California Geological Survey is responsible for assisting in the identification and proper utilization of mineral deposits, as well as the identification of fault locations and other geological hazards.

LOCAL

City of Lathrop General Plan

The City of Lathrop General Plan establishes the City's goals, policies, and programs related to development, resource conservation, and other planning activities. The Resource Management Element addresses mineral resources and establishes the following policies.

RESOURCE MANAGEMENT ELEMENT

Mineral Resource Policies

1. Lands classified by the State Department of Conservation as MRZ-2 as shown on Figure V-l and as designated by the State Mining and Geology Board as shown on Figure V-1.5, are urged for protection to assure their availability for mining under applicable provisions of State Law and local ordinance. If determined practical and feasible, these lands are to be mined and reclaimed in accordance with the provisions of the California Surface Mining and Reclamation Act of 1975, as amended, prior to their being utilized for the various urban purposes depicted on the General Plan Diagram and described in this document.

2. While the depth of the known sand deposits of regional significance is considerable, the potential for mining to this depth is recognized only for the lands between the I-5/SR 120 merge and the Union Pacific Railroad. Lands classified MRZ-2 and designated, between the merge and the Southern Pacific Railroad may be mined to a much lesser depth, or not at all, because of the potential of this site location for Regional Commercial development.

3. Lands classified MRZ-2 and designated as described above shall be zoned by the City with a combining "mineral resource open space zone" to identify the presence of known mineral deposits and which may restrict the encroachment of incompatible land uses in those areas for which mineral conservation is urged. As an alternative, such restriction may be included in any Specific Plan applicable to the affected property.

4. In consideration of mineral policy #2, above, lands classified MRZ-2 and designated may be developed for urban use without first being mined only if compelling reasons can be stated by the City in writing in support of such action and upon fulfilling the requirements of

Section 2762(d) and Section 2796(a) of the Surface Mining and Reclamation Act of 1975, as amended. Action by the City shall consider the need to balance mineral values against alternative land uses, and the importance of these mineral deposits to the regional market demand for their use.

PRC Section 2762(d) and 2763 requires a lead agency to prepare a statement specifying its reasons for permitting a use that would threaten the potential to extract mineral resources either 1) in an area that has been designated in its general plan as having important minerals to be protected, or 2) if the use is proposed in an area with significant resources pursuant to Section 2761(b)(2) and the lead agency has not yet acted on the State's designation. PRC Section 2763 requires that lead agency land use decisions involving areas designated as being of regional significance shall be in accordance with the lead agency's mineral resource management policies and shall also, in balancing mineral values against alternative land uses, consider the importance of these minerals to their market region as a whole and not just their importance to the lead agency's area of jurisdiction.

City of Lathrop Zoning Code

The Zoning Code implements the goals and policies of the City of Lathrop General Plan by regulating the uses of land and structures within the City. The Plan Area has not yet been pre-zoned or zoned by the City.

San Joaquin County General Plan

The San Joaquin County General Plan establishes the County's objectives, policies, and implementation steps related to resource extraction. The Resource Element addresses resource extraction and establishes the following policy.

RESOURCE MANAGEMENT ELEMENT

Extractive Resources Policies

1. Mineral deposits of significant quantity, value, or quality, as identified by the State Division of Mines and Geology reports as MRZ-2 Mineral Resource Zones, shall remain in open space uses until extraction of resources, unless the immediate area has been committed to other uses.

3.11.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

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

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; and/or

- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

IMPACTS AND MITIGATION MEASURES

Impact 3.11-1: The project would result in the loss of a known mineral resource that would be of value to the region (significant and unavoidable)

The majority of the Plan Area is classified MRZ-2 (PCC grade) and a portion of the northern area of the Plan Area is designated MRZ-3. As previously discussed, the MRZ-2 designation indicates areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists and the MRZ-3 designation indicates areas containing mineral deposits, the significance of which cannot be evaluated from available data.

The PCC grade aggregate that is within the MRZ-2 zone is considered the scarcest and most valuable aggregate resource, according to the CGS (CGS, 2012). Special Report 199, published in 2012, identifies that the projected 50-year demand for construction aggregate in the Stockton-Lodi P-C Region is 687 million tons, of which 275 million tons must be PCC-grade and further identifies that currently permitted PCC-grade aggregate reserves are projected to last through 2033. The demand for PCC-grade aggregate, combined with its mined value, makes it a mineral resource that is of value to the region.

Implementation of the SLSP would permanently convert the Plan Area to urban uses and would preclude the recovery of mineral resources from the Plan Area. While mitigation requiring the reclamation of mineral resources prior to urbanization of the site has been considered, this mitigation would conflict with project objectives identified in Chapter 2, Project Description. Project objectives that would be in conflict are reprinted below.

> *"Establish a core of regional and local serving business and commercial uses that capitalize upon the visibility and access provided by SR 120, and augment City sales tax revenue."*
>
> *"Provide for local and regional employment opportunities that take advantage of the Plan Area's high level of accessibility, allow for the expansion of the City's economic base, help create a jobs/housing balance, and reduce the commute for regional residents."*
>
> *"Provide access to the San Joaquin River Trail, connecting to the City of Lathrop."*
>
> *"Provide an efficient circulation system that includes not only automobile transportation but also pedestrian, bicycle and public transit."*

"Provide infrastructure and services that meet City standards, integrate with existing and planned facilities and connections and do not diminish services to existing residents of the City."

"Establish a logical phasing plan designed to ensure that each phase of development would include necessary public improvements required to meet City standards."

"Strengthen the City's economic base through South Lathrop Specific Plan's job creation; development related investment; disposable income from future employees; and increased property, sales, and transient occupancy taxes."

"Development of land use densities and intensities at quantities that maximize the use of the land to meet the demands of the market while considering zoning and land uses restrictions. The quantifiable objectives include the development of up to 222 acres of limited industrial, 10 acres of commercial office, 31.5 acres of open space, 36 acres of related public facilities and 15.5 acres of right-of-way at ultimate build out, with a projected potential of approximately 4,288,918 square feet of employment-generating development."

The above project objectives would be in conflict with a mitigation measure that would require recovery of mineral resources prior to urbanization of the Plan Area. Additionally, because of the high groundwater levels in the area, due in part to the proximity of the Plan Area to the San Joaquin River, recovery of the mineral resources would result in a mine pit filled with water that effectively becomes a manmade lake. Two examples are present on neighboring properties—the Brown Sand mining facility directly to the south of the Plan Area, and the Oakwood Lakes Subdivision to the southeast. The Brown Sand facility is an active mine that has resulted in a large pit filled with water. The water filled pit is undevelopable for urban uses in the future. The Oakwood Lakes Subdivision is a reclaimed mine, that includes a large lake (the result of a mine pit) that is surrounded by residential homes. The large lake was deemed undevelopable at the time the property was reclaimed and developed. Similar to these two examples, mining of the Plan Area would result in a pit filled with water which would make the majority of the Plan Area undevelopable for urban uses. A mitigation measure that would require recovery of mineral resources prior to urbanization of the site would be in conflict with the project objectives, and would significantly reduce the area that could be developed with urban uses. There is no feasible mitigation measure available that would fulfill the project objectives and reduce the impact to a less than significant level. Therefore, this impact is considered **significant and unavoidable**.

Impact 3.11-2: The project would result in the loss of a locally important mineral resource recovery site delineated on a local general plan (significant and unavoidable)

The Plan Area is designated as MRZ-2 by the City's General Plan and the City's General Plan includes policies in support of the reclamation of MRZ-2 mineral resources and specifically includes those resources in the project area.

The City's General Plan indicates that the lands classified as MRZ-2 are considered important to the area and of regional and statewide significance. Specifically, the General Plan identifies Mineral Resources Policy 1 which indicates that MRZ-2 lands should be mined and reclaimed, if determined practical and feasible, prior to their use for various urban purposes. Mineral Resources Policy 2 indicates that the depth of the known sand deposits of regional significance is considerable and that potential for mining to the depth is recognized for the lands between the I-5/SR 120 merge and the UPRR, which is where the Plan Area is located. Mineral Resources Policy 3 requires lands classified MRZ-2 with potential to mine to depth to have the combining "mineral resource open space zone." While Policies 1 through 3 encourage the mining and reclamation of MRZ-2 lands, which includes those in the Plan Area, Policy 4 provides for development of such lands with urban uses without first being mined if compelling reasons can be stated by the City in support of such actions and the requirements of the relevant Public Resources Code sections are fulfilled. The analysis in this Draft EIR is limited to the environmental impacts of the SLSP and is not focused on the project's social or economic merits. The City Council will consider the merits of the SLSP along with the environmental impacts at a hearing prior to their decision to approve or deny the SLSP.

Implementation of the SLSP would permanently convert the Plan Area to urban uses and would preclude the recovery of mineral resources from the Plan Area. While mitigation requiring the reclamation of mineral resources prior to urbanization of the Plan Area has been considered, this mitigation would conflict with the project objectives identified in Chapter 2, Project Description as described under Impact 3.11-1 because it would be in conflict with the project objectives and would significantly reduce the area that could be developed with urban uses. Therefore, this impact is considered **significant and unavoidable**.

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 SLSP. 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.

3.12.1 ENVIRONMENTAL SETTING

The SLSP provides a comprehensively planned development of approximately 315 acres including a plan for the construction of infrastructure and the provision of services to adequately and responsibly support development. Proposed land use designations within the Plan Area include commercial office, limited industrial, open space and related public facilities.

The majority of the property owners are participating in the preparation of the SLSP. Participating owners comprise 273.6 acres or 87 percent of the Plan Area. There are 25.9 acres of non-participating property owners. Non-participating properties will be included in the SLSP and pre-zoned to Limited Industrial, generally consistent with the current use in the County and conforming within the City of Lathrop zoning code. An additional 15.5 acres of the Plan Area are owned by the State of California, Reclamation District No. 17 and County of San Joaquin, including portions of the San Joaquin River RD 17 levee system and existing Madruga Road right-of-way.

The Plan Area is located in San Joaquin County, south of SR 120, north and west of the UPRR and east of the San Joaquin River. The Plan Area, located to the southeast of the City of Lathrop, is within the City's Sphere of Influence and General Plan area, and is identified as the southern portion of the City's Sub-Plan Area 1. The land use is currently designated as Limited Industrial within the City of Lathrop's General Plan and has been identified by the City of Lathrop to receive services from the City in the 2009 Municipal Services Review.

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.
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 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. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

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 (Leq), 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 Leq is the foundation of the composite noise descriptor, Ldn, and shows very good correlation with community response to noise.

The day/night average level (Ldn) 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 Ldn represents a 24-hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to Ldn, but includes a +5 dB penalty for evening noise. Table 3.12-1 lists several examples of the noise levels associated with common situations.

TABLE 3.12-1: 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. NOVEMBER 2009.

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 changecannot 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 LEVELS

Traffic Noise Levels

The FHWA Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop Ldn (24-hour average) noise contours for the primary project-area roadways. The model is based upon the CALVENO noise emission 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 predicts hourly Leq values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict Ldn values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour period.

Existing traffic volumes were obtained from the traffic study prepared for the project (Fehr & Peers, March 2013). Day/night traffic distributions were based upon continuous hourly noise

measurement data collected and file data for similar roadways. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing conditions. Locations of continuous noise monitoring sites are shown on Figure 3.12-1. Table 3.12-2 shows the results of this analysis. Appendix A provides the complete inputs and results for the FHWA traffic noise modeling.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segments. In some locations sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the project-area roadway segments analyzed in this report.

The actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated roadways, or elevated receivers. The distances reported in Table 3.12-2 are generally considered to be conservative estimates of noise exposure along the project-area roadways.

TABLE 3.12-2: PREDICTED EXISTING TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVEL AT CLOSEST RECEPTORS (LDN)	DISTANCES TO TRAFFIC NOISE CONTOURS, LDN (FEET)		
			70 DB	65 DB	60 DB
Airport Way	North of Yosemite	63.9	29	63	136
Airport Way	Yosemite to Daniels	63.8	29	62	134
Airport Way	Daniels to SR 120	63.8	38	83	178
Airport Way	South of SR 120	66.9	47	101	217
Daniels Street	East of Airport	58.4	10	22	47
Lathrop Road	West of McKinley	66.8	37	79	170
Lathrop Road	East of McKinley	66.7	36	78	168
Louise Avenue	West of McKinley	65.8	40	85	183
Louise Avenue	East of McKinley	65.2	36	78	168
McKinley Avenue	Lathrop to Louise	61.0	12	27	58
McKinley Avenue	Louise to Yosemite	55.1	20	44	94
McKinley Avenue	Yosemite to SR 120	59.1	9	20	44
McKinley Avenue	South of SR 120	54.9	8	17	37
SR 120	I-5 to Guthmiller/Yosemite	71.3	368	793	1709
SR 120	Guthmiller/Yosemite to McKinley	71.2	363	782	1685
SR 120	McKinley to Airport	63.8	106	229	493
SR 120	East of Airport	68.6	104	225	485
Yosemite Avenue	SR 120 to D'Arcy Parkway	49.1	18	39	85
Yosemite Avenue	D'Arcy Parkway to McKinley	58.6	17	37	80
Yosemite Avenue	McKinley to Airport	63.5	28	60	129
Yosemite Avenue	East of Airport	65.5	37	81	174

NOTES: DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. EXISTING NOISE LEVELS ARE BASED ON PREDICTIONS, NOT FULL MEASUREMENTS.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS., CALTRANS AND J.C. BRENNAN & ASSOCIATES, INC. 2013.

Railroad Noise Levels

Railroad activity occurs on the Union Pacific Railroad (UPRR) line which parallels the south side of the Plan Area.

In order to quantify noise exposure from existing train operations, a continuous (24-hour) noise level measurement survey was conducted. The purpose of the noise level measurements was to determine typical SELs for railroad line operations, while accounting for the effects of travel speed, warning horns, and other factors which may affect noise generation. In addition, the noise measurement equipment was programmed to identify individual train events, so that the typical number of train operations could be determined.

Locations of continuous noise monitoring sites are shown on Figure 3.12-1. Table 3.12-3 shows a summary of the continuous noise measurement results for the UPRR line.

TABLE 3.12-3: RAILROAD NOISE MEASUREMENT RESULTS

MEASUREMENT LOCATION	*RAILROAD TRACK*	*GRADE CROSSING/ WARNING HORN*	*TRAIN EVENTS PER 24-HR PERIOD*	*DISTANCE TO CL*	*AVERAGE SEL*
LT-2	UPRR	No	15 (10 day / 5 night)	120'	95 dB

SOURCE: J.C. BRENNAN & ASSOCIATES, INC - 2013

Noise measurement equipment consisted of a Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meter equipped with a LDL ½" microphone. The measurement system was calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

Based upon the noise level measurements shown in Table 3.12-3, the average SEL for train operations along the CFNR line was 95 dB at a distance of 120 feet from the track centerline, with approximately 10 train events occurring during daytime (7:00 am – 10:00 pm) hours and 5 nighttime (10:00 pm – 7:00 am) train events.

It should be noted that based upon the results of the railroad noise measurements, train warning horns are not currently used during train passages along the Plan Area.

To determine the distances to the day/night average (Ldn) railroad contours, it is necessary to calculate the Ldn for typical train operations. This was done using the SEL values and above-described number and distribution of daily freight train operations. The Ldn may be calculated as follows:

$$Ldn = SEL + 10 \log N_{eq} - 49.4 \text{ dB, where:}$$

SEL is the mean Sound Exposure Level of the event, Neq is the sum of the number of daytime events (7 a.m. to 10 p.m.) per day, plus 10 times the number of nighttime events (10 p.m. to 7 a.m.) per day, and 49.4 is ten times the logarithm of the number of seconds per day.

Based upon the above-described noise level data, number of operations and methods of calculation, the Ldn value for railroad line operations have been calculated, and the distances to the Ldn noise level contours are shown in Table 3.12-4.

TABLE 3.12-4: APPROXIMATE DISTANCES TO THE RAILROAD NOISE CONTOURS (UPRR LINE)

LDN AT MEASUREMENT SITE	DISTANCE TO LDN CONTOUR		
	60 DB	65 DB	70 DB
64 dB Ldn – No Warning Horns	215'	100'	46'

SOURCE: J.C. BRENNAN & ASSOCIATES, INC. 2013.

COMMUNITY NOISE SURVEY

A community noise survey was conducted to document existing ambient noise levels in the Plan Area. Continuous 24-hour noise monitoring was conducted at two sites to record day-night statistical noise level trends. The data collected included the hourly average (Leq), median (L50), and the maximum level (Lmax) during the measurement period. Noise monitoring sites and the measured noise levels at each site are summarized in Table 3.12-5. Figure 3.12-1 shows the locations of the noise monitoring sites. The completed 24-hr noise monitoring results are contained in the Noise Report in the appendix.

Community noise monitoring equipment included Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters equipped with LDL ½" microphones. The measurement systems were calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

TABLE 3.12-5: EXISTING AMBIENT NOISE MONITORING RESULTS

SITE	LOCATION	LDN (DBA)	MEASURED HOURLY NOISE LEVELS, DBA					
			DAYTIME (7:00 AM - 10:00 PM)			NIGHTTIME (10:00 PM – 7:00 AM)		
			LEQ	L50	LMAX	LEQ	L50	LMAX
A	North edge of Plan Area – End of Madruga Lane – 320' to SR 120 centerline	68	64	63	75	61	59	73
B	Oakwood Lakes Subdivision – 120' to UPRR centerline	65	60	50	76	59	50	74

SOURCE: J.C. BRENNAN & ASSOCIATES, INC. - 2013

The results of the community noise survey shown in Table 3.12-5 indicate that existing transportation noise sources were the major contributor of ambient noise in the project vicinity. Specifically, traffic noise from SR 120 and railroad noise on the UPRR were observed to be the primary noise sources in the Plan Area and adjacent residential areas.

3.12.2 REGULATORY SETTING

STATE

Governor's Office of Planning and Research (OPR)

The *State of California General Plan Guidelines* (State of California 1998), published by OPR provides guidance for the acceptability of projects within specific CNEL contours. The guidelines also present adjustment factors that may be used in order to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

LOCAL

City of Lathrop General Plan

For the purposes of evaluating noise impacts due to new projects, the goals and policies of the City of Lathrop General Plan Noise Element are used. The Noise Element outlines the following Goals and Policies:

Goals

The Goals of the Noise Element of the General Plan are to protect citizens from the harmful effects of exposure to excessive noise, and to protect the economic base of the City by preventing the encroachment of incompatible land uses near noise-producing roadways, industries, the railroad, and other sources.

Policies

The following policies reflect the commitment of the City to the noise-related goals outlined above:

1. Areas within the City shall be designated as noise-impacted if exposed to existing or projected future noise levels exterior to buildings exceeding 60 dB CNEL or the performance standards pre scribed in Table VI-1.

2. New development of residential or other noise sensitive land uses will not be permitted in noise impacted areas unless effective mitigation measures are incorporated into project designs to reduce noise to the following levels:

FIGURE VI-1: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS

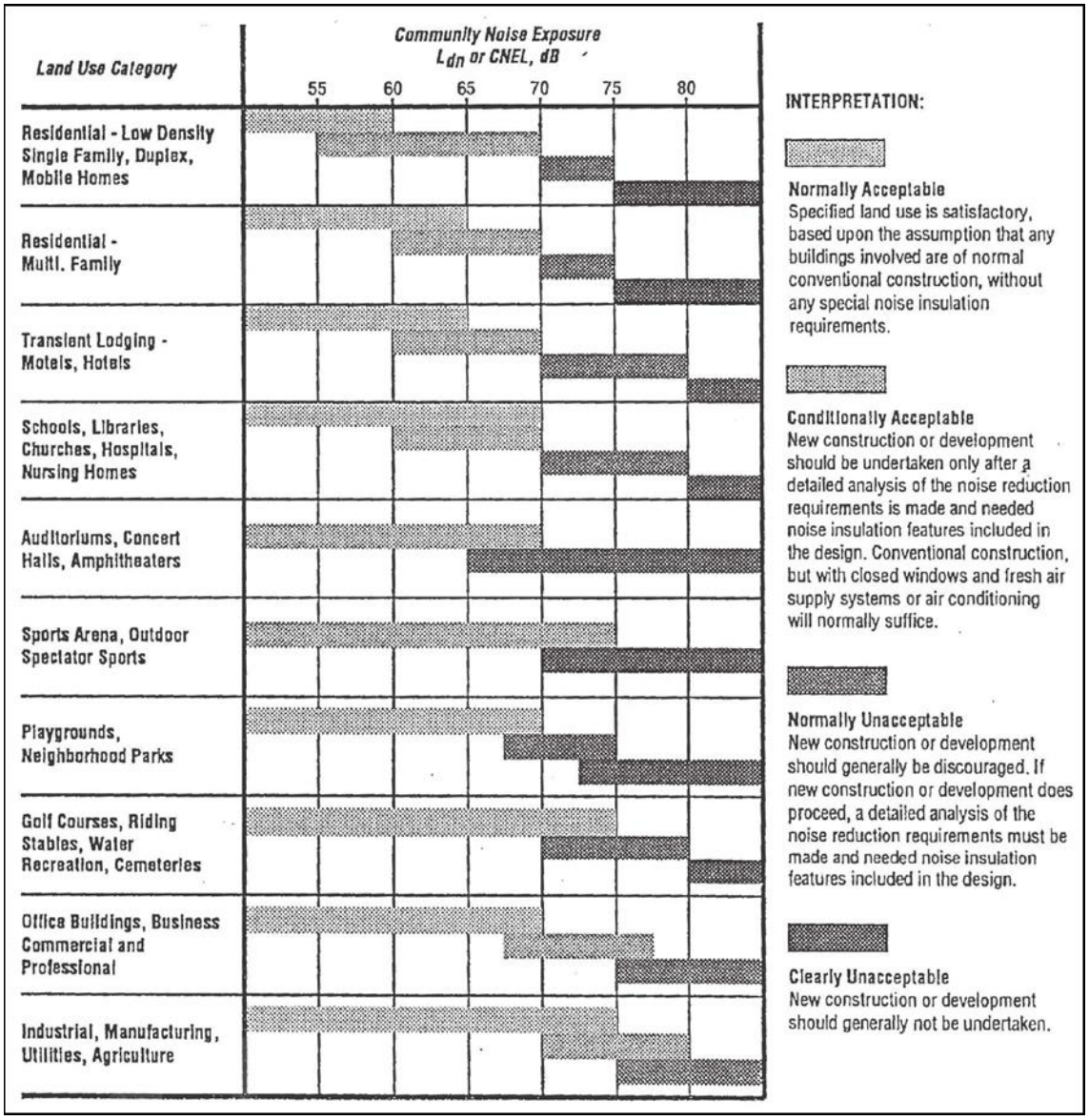

TABLE VI-1: NOISE LEVEL PERFORMANCE STANDARDS (FOR STATIONARY NOISE SOURCES)

Exterior Noise Level Standards*

Receiving Land Use	Nighttime (10 pm – 7 am)			Daytime (7 am – 10 pm)		
	RS	S	U	RS	S	U
One and Two Family Residential	40	45	50	50	55	60
Multi-Family Residential	45	50	55	50	55	60
Public Space	50	55	60	50	55	60
Limited Commercial		55			60	
Commercial		60			65	
Light Industrial		70			70	
Heavy Industrial		75			75	

RS-Rural Suburban, S-Suburban, U-Urban

Nighttime 10 pm – 7 am	Noise Category	Cumulative No. of Minutes in Any 1-Hour Period	Daytime 7am – 10 pm
45 dB	1	30	55
50 dB	2	15	60
55 dB	3	5	65
60 dB	4	1	70
65 dB	5	0	75

**EACH OF THE NOISE LEVEL STANDARDS SPECIFIED IN TABLE VI-1 SHALL BE REDUCED BY FIVE (5) DB FOR PURE TONE NOISES, NOISE CONSISTING PRIMARILY OF SPEECH OR MUSIC, OR FOR RECURRING IMPULSIVE NOISES. THE STANDARDS SHOULD BE APPLIED AT A RESIDENTIAL OR OTHER NOISE-SENSITIVE LAND USE AND NOT ON THE PROPERTY OF A NOISE-GENERATING LAND USE. NIGHTTIME AND DAYTIME STANDARDS ARE MEASURED BY DB.*

a. Noise sources preempted from local control, such as railroad and highway traffic:
   - 60 dB CNEL or less in outdoor activity areas;
   - 45 dB CNEL within interior living spaces or other noise-sensitive interior spaces.
   - Where it is not possible to achieve reductions of exterior noise to 60 dB CNEL or less by using the best available and practical noise reduction technology, an exterior noise level of up to 65 dB CNEL will be allowed.
   - Under no circumstances will interior noise levels be allowed to exceed 45 dB CNEL with windows and doors closed.

b. For noise from other sources, such as local industries:
   - 60 dB CNEL or less in outdoor activity areas;
   - 45 dB CNEL or less within interior living spaces, plus the performance standards contained in Table VI-1.

3. New development of industrial, commercial or other noise generating land uses will not be permitted if resulting noise levels will exceed 60 dB CNEL in areas containing residential or other noise-sensitive land uses. Additionally, new noise generating land uses which are not preempted from local noise regulation by the State of California will not be permitted if resulting noise levels will exceed the performance standards contained in Table VI-1 in areas containing residential or other noise-sensitive land uses.
4. Noise level criteria applied to land uses other than residential or other noise-sensitive uses shall be consistent with the recommendations of the California Office of Noise Control.

City of Lathrop Noise Ordinance

The City of Lathrop Noise Ordinance sets limits for community noise exposure, similar to those outlined above in the General Plan Noise Element. The Noise Ordinance standards are contained in Section 8.20.040 of the Lathrop Municipal Code. Construction activities are exempt from these regulations, when conducted according to Section 8.20.110, as outlined below.

Sound Level A, Decibels
Community Environment Classification

Zone	Time	Very Quiet (rural, suburban)	Slightly Quiet (suburban, urban)	Noisy (urban)
R1 and R2	10 pm to 7 am	40	45	50
	7 pm to 10 pm	45	50	55
	7 am to 7 pm	50	55	60
R3 and R4	10 pm to 7 am	45	50	55
	7 am to 10 pm	50	55	60
Commercial	10 pm to 7 am	50	55	60
	7 am to 10 pm	55	60	65
M1	anytime	70	70	70
M2	anytime	75	75	75

8.20.110 CONSTRUCTION OF BUILDINGS AND PROJECTS.

It shall be unlawful for any person within a residential zone or within a radius of five hundred (500) feet therefrom, to operate equipment or perform any outside construction or repair work on buildings, structures or projects or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction type device between the hours of ten p.m. of one day and seven a.m. of the next day, or eleven p.m. and nine a.m. Fridays, Saturdays and legal holidays, in such a manner that a reasonable person of normal sensitiveness residing in the area is caused discomfort or annoyance unless beforehand a permit therefore has been duly obtained from the office or body of the city having the function to issue permits of this kind. No permit shall be required to perform emergency work as defined in Sections 8.20.010 through 8.20.040. (Prior code § 99.40)

San Joaquin County

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, as outlined below. These standards may apply to the existing Oakwood Lakes Subdivision located in San Joaquin County, immediately south of Plan Area.

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, Part II.

PART II
STATIONARY NOISE SOURCES

	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 (Leq), dB	50	45
Maximum Sound Level (Lmax), dB	70	65

[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: TABLE 9-1025.9, PART II

3.12.3 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:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without project;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels within two miles of a public airport or public use airport; or
- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

The Plan Area is not located within two miles of a public or private airport or airstrip. Therefore, airport and airport noise is not discussed further in this analysis.

NOISE STANDARDS

The noise standards applicable to the SLSP include the relevant portions of the City of Lathrop General Plan and San Joaquin County Development Code, as described in the Regulatory Framework section above, 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 3.12-6 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 Ldn.

TABLE 3.12-6: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

AMBIENT NOISE LEVEL WITHOUT PROJECT, LDN	*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 3.12-6 data, an increase in the traffic noise level of 3.0 dB or more would be significant where the pre-project noise level are within 60-65 dB Ldn. 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 Ldn. The rationale for the Table 3.12-6 criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

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 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.

The City of Lathrop does not have specific policies pertaining to vibration levels. However, vibration levels associated with construction activities and railroad operations are addressed as potential noise impacts associated with project implementation.

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 3.12-7 indicates that the threshold for damage to structures ranges from 2 to 6 peak particle velocity in inches per second (in/sec p.p.v). One-half this minimum threshold or 1 in/sec p.p.v. is considered a safe criterion that would protect against architectural or structural damage. The general threshold at which human annoyance could occur is notes as 0.1 in/sec p.p.v.

TABLE 3.12-7: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

PEAK PARTICLE VELOCITY		*HUMAN REACTION*	*EFFECT ON BUILDINGS*
IN./SEC.	*MM/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
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 EARTHBORNE VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.

IMPACTS AND MITIGATION MEASURES

Impact 3.12-1: The proposed project has the potential to increase traffic noise levels at existing receptors (less than significant)

To describe future noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. Direct inputs to the model included traffic volumes provided by Fehr & Peers. The FHWA 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 Leq values for free-flowing traffic conditions. To predict Ldn/CNEL values, it is necessary to determine the day/night distribution of traffic and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Table 3.12-8 shows the noise levels associated with traffic on the local roadway network under the existing and existing plus project traffic conditions. Table 3.12-9 shows the noise levels associated with traffic on the local roadway network under the future 2030 and future 2030 plus project traffic conditions. Figure 3.12-2 illustrates the noise contours on the project site from SR 120 traffic. As indicated by Table 3.12-8 and Table 3.12-9, the related noise level increases under development of the SLSP are predicted to range between 0.1 to 1.1 dB. The Table 3.12-8 and Table 3.12-9 data indicates that some noise sensitive receptors located along the project-area roadways are currently exposed to exterior traffic noise levels exceeding the City of Lathrop 60 dB Ldn exterior noise level standard for residential uses. These receptors will continue to experience elevated exterior noise levels with implementation of the SLSP.

TABLE 3.12-8: EXISTING TRAFFIC NOISE LEVELS VS. EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (LDN, DB)			DISTANCE TO EXITING + PROJECT TRAFFIC NOISE CONTOURS, FEET[1]		
		EXISTING	EXISTING + PROJECT	CHANGE (DB)	70 DB LDN	65 DB LDN	60 DB LDN
Airport Way	North of Yosemite	63.9	64.0	0.2	30	65	140
Airport Way	Yosemite to Daniels	63.8	64.2	0.4	31	66	142
Airport Way	Daniels to SR 120	63.8	64.1	0.3	40	87	187
Airport Way	South of SR 120	66.9	67.1	0.2	48	104	223
Daniels Street	East of Airport	58.4	58.5	0.1	10	22	47
Lathrop Road	West of McKinley	66.8	66.8	0.0	37	79	171
Lathrop Road	East of McKinley	66.7	66.7	0.0	36	78	168
Louise Avenue	West of McKinley	65.8	65.8	0.0	40	85	183
Louise Avenue	East of McKinley	65.2	65.3	0.0	36	78	169
McKinley Avenue	Lathrop to Louise	61.0	61.2	0.2	13	28	60
McKinley Avenue	Louise to Yosemite	55.1	55.6	0.5	22	47	101
McKinley Avenue	Yosemite to SR 120	59.1	59.5	0.4	10	22	46
McKinley Avenue	South of SR 120	54.9	55.3	0.4	8	18	39
SR 120	I-5 to Guthmiller/Yosemite	71.3	71.6	0.2	382	823	1774
SR 120	Guthmiller/Yosemite to McKinley	71.2	71.7	0.4	387	834	1797
SR 120	McKinley to Airport	63.8	64.2	0.4	113	244	526
SR 120	East of Airport	68.6	68.9	0.3	110	236	509
Yosemite Avenue	SR 120 to D'Arcy Parkway	49.1	50.3	1.1	22	47	101
Yosemite Avenue	D'Arcy Parkway to McKinley	58.6	59.6	1.0	20	44	94
Yosemite Avenue	McKinley to Airport	63.5	63.8	0.2	29	62	134
Yosemite Avenue	East of Airport	65.5	65.8	0.3	39	84	181

[1] *DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. ACTUAL DISTANCES MAY VARY DUE TO SHIELDING FROM EXISTING NOISE BARRIERS OR INTERVENING STRUCTURES. TRAFFIC NOISE LEVELS MAY VARY DEPENDING ON ACTUAL SETBACK DISTANCES AND LOCALIZED SHIELDING.*

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS, CALTRANS AND J.C. BRENNAN & ASSOCIATES, INC. 2013.

TABLE 3.12-9: 2030 TRAFFIC NOISE LEVELS VS. 2030 PLUS PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (LDN, DB)			DISTANCE TO 2030 + PROJECT TRAFFIC NOISE CONTOURS, FEET[1]		
		2030	2030 + PROJECT	CHANGE (DB)	70 DB LDN	65 DB LDN	60 DB LDN
Airport Way	North of Yosemite	67.1	67.3	0.1	49	106	229
Airport Way	Yosemite to Daniels	66.1	66.1	0.0	41	89	192
Airport Way	Daniels to SR 120	67.0	67.1	0.1	64	137	295
Airport Way	South of SR 120	70.7	70.9	0.2	86	184	397
Daniels Street	East of Airport	62.8	62.8	0.0	20	43	92
Lathrop Road	West of McKinley	70.2	70.3	0.1	63	136	292
Lathrop Road	East of McKinley	70.1	70.2	0.1	62	134	289
Louise Avenue	West of McKinley	68.9	68.9	0.0	64	137	295
Louise Avenue	East of McKinley	67.6	67.7	0.1	53	114	245
McKinley Avenue	Lathrop to Louise	62.7	62.7	0.1	16	35	76
McKinley Avenue	Louise to Yosemite	60.3	60.6	0.3	47	101	218
McKinley Avenue	Yosemite to SR 120	70.5	70.7	0.2	56	120	258
McKinley Avenue	South of SR 120	66.3	66.5	0.2	47	100	216
SR 120	I-5 to Guthmiller/Yosemite	73.8	74.0	0.2	554	1194	2573
SR 120	Guthmiller/Yosemite to McKinley	73.7	73.9	0.2	546	1177	2535
SR 120	McKinley to Airport	65.8	66.0	0.2	149	322	693
SR 120	East of Airport	70.8	70.9	0.2	150	324	697
Yosemite Avenue	SR 120 to D'Arcy Parkway	52.4	53.4	1.1	35	76	164
Yosemite Avenue	D'Arcy Parkway to McKinley	62.3	63.3	1.0	36	77	166
Yosemite Avenue	McKinley to Airport	66.5	66.9	0.3	46	100	215
Yosemite Avenue	East of Airport	66.9	67.0	0.2	48	102	221

[1] *DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. ACTUAL DISTANCES MAY VARY DUE TO SHIELDING FROM EXISTING NOISE BARRIERS OR INTERVENING STRUCTURES. TRAFFIC NOISE LEVELS MAY VARY DEPENDING ON ACTUAL SETBACK DISTANCES AND LOCALIZED SHIELDING.*

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS, CALTRANS AND J.C. BRENNAN & ASSOCIATES, INC. 2013.

The project's contribution to existing traffic noise increases is predicted to be 1.1 dB, or less. The SLSP is not predicted to create new exceedances of the City of Lathrop 60 dB Ldn exterior noise level standard at existing noise-sensitive residential receptors. Additionally, these increases do not exceed the Federal Interagency Committee on Noise (FICON) standards shown in Table 3.12-6. Traffic associated with the SLSP is not anticipated to result in exposure of persons to traffic noise levels in excess of the County's standards nor would project traffic result in a substantial increase in ambient noise levels. Implementation of the SLSP would have a **less than significant** impact.

Impact 3.12-2: The proposed project has the potential to increase noise levels associated with construction activities (less than significant)

Construction Activities/Schedule: Construction activities would consist of multiple phases over several years. These construction activities can be described as site improvements (grading, underground infrastructure, and topside improvements) and vertical construction (building construction and architectural coatings).

Site Improvements: The construction of site improvements may be performed as one task, but may be broken into two or more separate phases. The exact construction schedule is largely dependent on the economic conditions of the region and the ability for the market to absorb the proposed uses. For purposes of this analysis it is assumed that site improvements are installed in one phase. This approach will present a more conservative and worst-case scenario.

The site improvement phase of construction would begin with site preparation. This step would include the use of dozers, backhoes, and loaders to strip (clear and grub) all organic materials and the upper half-inch to inch of soil from the project site. This task would generally take a month or less to complete; however, given that the project site lacks significant vegetation, this step would likely be less than the assumed month.

After the site is striped of organic materials grading w begin. This activity would involve the use of excavators, graders, dozers, scrappers, loaders, and backhoes to move soil around the project site to create specific engineered grade elevations and soil compaction levels. Grading the project site would take between three to six months.

The next step involves the installation of infrastructure (on-site and off-site). This step will involve the use of excavators to dig trenches, install detention basins/outfall, place pipe and conduit, bury pipe and conduit, and compact excavated soil. Infrastructure installation would take approximately two to four months.

The last task is to install the topside improvements, which includes pouring concrete curbs, gutters, sidewalks, driveway aprons, and trails, and then paving of all streets, parking lots, and trails. This task will involve the use of pavers, paving equipment, and rollers and will take approximately four months and will include vehicle trips from construction workers.

Building Construction/Architectural Coatings: Building construction involves the vertical construction of structures, landscaping around the structures and any open space areas, and installing signage. This task will involve the use of forklifts, generator sets, welders and small tractors/loaders/backhoes. The exact construction schedule is largely dependent on the economic conditions of the region and the ability of the market to absorb the uses.

The site improvements and building construction/architectural coating phases of construction, as described above, would include the use of heavy equipment and impact tools that can generate noise. Table 3.12-10 provides a list of the types of equipment which may be associated with construction activities and the associated noise levels.

TABLE 3.12-10: CONSTRUCTION EQUIPMENT NOISE

TYPE OF EQUIPMENT	*PREDICTED NOISE LEVELS, LMAX DB*				*DISTANCES TO NOISE CONTOURS (FEET)*	
	NOISE LEVEL AT 50'	*NOISE LEVEL AT 100'*	*NOISE LEVEL AT 200'*	*NOISE LEVEL AT 400'*	*70 DB LMAX CONTOUR*	*65 DB LMAX CONTOUR*
Backhoe	78	72	66	60	126	223
Compactor	83	77	71	65	223	397
Compressor (air)	78	72	66	60	126	223
Concrete Saw	90	84	78	72	500	889
Dozer	82	76	70	64	199	354
Dump Truck	76	70	64	58	100	177
Excavator	81	75	69	63	177	315
Generator	81	75	69	63	177	315
Jackhammer	89	83	77	71	446	792
Pneumatic Tools	85	79	73	67	281	500

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006. J.C. BRENNAN & ASSOCIATES, INC. 2013.

Activities involved in project construction would typically generate maximum noise levels ranging from 85 to 90 dB at a distance of 50 feet. The nearest residential receptors would be located 300 feet or more from construction activities in the Oakwood Lakes Subdivision. The Oak Lakes Subdivision is located to the southeast of the Plan Area across the railroad tracks and San Joaquin River. At this distance, construction related activities are predicted to generate maximum noise levels ranging between 69-74 dB Lmax. Based upon the average daytime maximum noise level of 76 dB Lmax, maximum noise levels due to project construction are predicted to be less than existing average maximum noise levels at the nearest sensitive receptors.

Construction could result in periods of elevated ambient noise levels and the potential for annoyance. However, predicted maximum noise levels associated with project construction are predicted to be less than existing average maximum (Lmax) noise levels, as measured at the nearest sensitive receptors located in the Oakwood Lakes Subdivision. The City of Lathrop General Plan establishes allowable hours of operation and noise limits for construction activities as follows:

> ***8.20.110 Construction of buildings and projects.***
> *It shall be unlawful for any person within a residential zone or within a radius of five hundred (500) feet therefrom, to operate equipment or perform any outside construction or repair work on buildings, structures or projects or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction type device between the hours of ten p.m. of one day and seven a.m. of the next day, or eleven p.m. and nine a.m. Fridays, Saturdays and legal holidays, in such a manner that a reasonable person of normal sensitiveness residing in the area is caused discomfort or annoyance unless beforehand a permit therefore has been duly obtained from the office or body of the city having the function to issue permits of this kind. No permit shall be required to perform emergency work as defined in Sections 8.20.010 through 8.20.040. (Prior code § 99.40)*

Maximum (Lmax) construction related noise levels are predicted to be less than existing maximum noise levels at the nearest sensitive receptors located in the Oakwood Lakes Subdivision. Additionally, all construction activities will be subject to the requirements of the City of Lathrop Noise Ordinance with respect to limits on construction noise. Implementation of the SLSP would have a **less than significant** impact.

Impact 3.12-3: The proposed project has the potential to increase noise vibration association with construction activities (less than significant)

The primary vibration-generating activities associated with the SLSP would occur during construction when activities such as grading, utilities placement, and parking lot construction occur. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located approximately 300 feet or further from the Plan Area in the Oakwood Lakes Subdivision. The Oak Lakes Subdivision is located to the southeast of the Plan Area across the railroad tracks and San Joaquin River. At this distance 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.

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. Table 3.12-11 shows the typical vibration levels produced by construction equipment.

TABLE 3.12-11: VIBRATION LEVELS FOR VARYING CONSTRUCTION EQUIPMENT

TYPE OF EQUIPMENT	*PEAK PARTICLE VELOCITY @ 25 FEET (INCHES/SECOND)*	*PEAK PARTICLE VELOCITY @ 100 FEET (INCHES/SECOND)*
Large Bulldozer	0.089	0.011
Loaded Trucks	0.076	0.010
Small Bulldozer	0.003	0.000
Auger/drill Rigs	0.089	0.011
Jackhammer	0.035	0.004
Vibratory Hammer	0.070	0.009
Vibratory Compactor/roller	0.210	0.026

SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES, MAY 2006

The Table 3.12-11 data indicate that construction vibration levels anticipated for the project are less than the 0.2 in/sec p.p.v. threshold of damage to buildings and less than the 0.1 in/sec threshold of annoyance criteria at distances of 100 feet. Therefore, construction vibrations are not predicted to cause damage to existing buildings or cause annoyance to sensitive receptors. Implementation of the SLSP would have a **less than significant** impact.

Impact 3.12-4: The proposed project has the potential to increase railroad noise at sensitive receptors (less than significant)

Development of the project would result in new industrial and office uses. These uses are not considered to be noise-sensitive. Figure VI-1 of the City of Lathrop General Plan Noise Element indicates that industrial uses are compatible with exterior noise levels up to 75 dB Ldn and 70 dB Ldn for office uses.

Table 3.12-4 identifies the distances to the 60, 65, and 70 dB Ldn railroad noise contours. Figure 3.12-3 shows the predicted railroad noise contours. Based upon review of the noise contours shown on 3.12-3, railroad noise levels would be less than 75 dB Ldn at proposed industrial land uses and less than 70 dB Ldn at proposed office uses. Implementation of the SLSP would have a **less than significant** impact.

Impact 3.12-5: The proposed project has the potential to increase stationary noise at sensitive receptors (less than significant with mitigation)

The project design includes proposed limited industrial and office uses. Office uses are not generally considered to be noise generating. However, the proposed industrial component to the project could include various noise-generating uses. Noise levels from these uses could exceed the applicable San Joaquin County exterior noise level standards at the existing Oakwood Lakes subdivision residential uses located south of the Plan Area. Specific uses have not been assigned to the various Industrial lots. However, the following lists the permitted uses for limited industrial zones, as outlined in Section 17.48.020 of the City of Lathrop Zoning Ordinance:

1. Any use listed as a permitted use in the CS, service commercial district;

2. Light industrial and related uses, including:

    a. Assembly of small electric appliances, such as lighting fixtures, irons, fans, toasters and electric toys, refrigerators, washing machines, dryers, dishwashers and similar home appliances,

    b. Assembly of small electrical equipment, such as home motion picture equipment, stereos, video cameras and radio and television receivers, but not including electrical machinery,

    c. Manufacture of scientific, medical, dental and drafting instruments, orthopedic and medical appliances, cameras and photographic equipment, except film, electronic equipment, musical instruments, precision instruments, optical goods, watches and clocks,

    d. Manufacture of ceramic products, such as pottery, figurines and small glazed tile,

    e. Manufacturing, assembling, compounding, packaging and processing of cosmetics, drugs, pharmaceuticals, toilet soap (not including refining or rendering of fats or oils) and toiletries,

    f. Manufacture and assembly of electrical supplies, such as coils, condensers, crystal holders, insulation, lamps, switches and wire and cable assembly, provided no noxious or offensive fumes or odors are produced,

    g. Manufacture of cutlery, hardware, hand tools and furniture, dye and pattern making, metal stamping and extrusion of small products, such as costume jewelry, pins and needles, razor blades, bottle caps, buttons and kitchen utensils,

    h. Manufacturing, assembling, compounding, packaging and processing of articles or merchandise from the following previously prepared materials: bone, canvas, cellophane, cellulose, cloth, cork, feathers, felt, fiber and synthetic fiber, fur, glass, hair, horn, leather, paint (not employing a boiling process), paper, plastics, precious or semi-precious metals or stones, rubber and synthetic rubber, shell, straw, textiles, tobacco and wood,

    i. Manufacturing, assembling, compounding, processing, packaging or treatment of such products as bakery goods, candy, dairy products, food products, including fruits and vegetables, but not including fish and meat products, pickles, sauerkraut, vinegar or yeast, or refining or rendering of fats and oils,

    j. Blacksmith shops, boat building, electric motor rebuilding, machine shops and paint shops,

    k. Food lockers and accessory sales,

l. Gasoline service stations, including dispensing of diesel and liquid petroleum gas fuels and complete truck service,

m. Lumber yards, including planing mills; mattress manufacture; storage yards for commercial vehicles or feed; flour, feed and grain mills; grain elevators,

n. Manufacture and maintenance of electric and neon signs, billboards and commercial advertising structures,

o. Offices, retail stores and watchpersons' living quarter's incidental to and on the same site with an industrial use,

p. Public utility and public service structures and facilities, such as communications equipment buildings, electric distribution substations, electric transmission substations, gas regulator stations, pumping stations, public utility service yards, corporation yards, railroad rights-of-way and stations, reservoirs and storage tanks,

q. Incidental and accessory structures and uses located on the same site as a permitted use,

r. Other uses which are added to this list according to the procedure in Section 17.16.020.

The noise generation of these uses can vary considerably, with certain types of manufacturing processes generating very high noise levels while professional and administrative office uses generate negligible levels of noise. Furthermore, if a very loud process is housed inside an equipment building, it may not even be audible outside of the building. Due to the myriad of possibilities for noise sources, locations, and operating characteristics, it is infeasible to predict project-specific noise impacts for future uses within the Light Industrial parcels. However, it is possible to identify a range of noise levels that could be expected by some of the potential Permitted and Conditionally Permitted uses outlined above. Table 3.12-12 lists various noise levels associated with several different types of uses that could be approved on the limited industrial parcels.

Additionally, two of the parcels are already developed with business professional type uses and it is unlikely that these uses would be changed to a substantially more intensive noise-generating use.

TABLE 3.12-12: ESTIMATED NOISE LEVELS FOR LIMITED INDUSTRIAL PROPERTIES

USE	*NOISE LEVEL AT 500 FEET, LEQ/L50 1*	*NOISE SOURCES*	*ESTIMATED NOISE LEVELS WITH SHIELDING*
Lumber Yard	49 dB	Idling trucks, forklift movement and lumber packing	44 dB
Cabinet Shop	43 dB	Sawing, binding, and assembly.	38 dB
Maintenance Yard	49 dB	Idling trucks, forklift movement, and vehicle repair.	44 dB
Auto Body Shop	37 dB	Auto repairs, on-site vehicle movement, air-compressor.	32 dB
Auto Repair (Light)	34 dB	Typical service center activities.	29 dB
Paint Booth Exhaust	42 dB	Rooftop-mounted exhaust vent, no muffler or parapet shielding.	37 dB
Loading Dock	35 dB	Typical loading dock activities.	30 dB
Car Wash	44 dB	Car idling, blowers, mechanical equipment.	39 dB
Truck Circulation	33 dB	Heavy truck deliveries, approximately 6 per hour.	28 dB
Busy Parking Lot	35 dB	Typical busy retail type parking lot, vehicle movements, door slamming, people conversing, etc.	30 dB
Vendor Deliveries	21 dB	Typical bread, food, dairy, UPS, FedEx type deliveries, etc.	16 dB

[1] *ANALYSIS ASSUMES A SOURCE-RECEIVED DISTANCE OF APPROXIMATELY 500 FEET. ACTUAL NOISE LEVELS MAY VARY DEPENDING ON SITE DESIGN AND LOCATION OF NOISE SOURCES.*

SOURCE: J.C. BRENNAN & ASSOCIATES, INC. 2013.

The Table 3.12-12 data indicate that exterior noise levels are predicted to comply with the City of Lathrop and San Joaquin County 45 dB L50/Leq nighttime exterior noise level standard, depending on the actual use of the parcel. j.c. brennan & associates, Inc. estimates that the noise level data for a lumber yard or maintenance yard would be representative of the most intensive type uses that could be conditionally permitted (wholesale distribution, fabrication, light manufacturing). It should be noted that this analysis assumes that the noise sources would be shielded from view to the nearest Oakwood Lakes subdivision residential uses to the south. Shielding may be provided by the existing UPRR earthen berm paralleling the southern boundary of the Plan Area, in addition to mechanical rooftop screens and/or noise barriers.

The SLSP is not predicted to generate substantial non-transportation noise levels at the existing residential uses south of the Plan Area. However, proposed industrial uses located within 500 feet of the residential uses to the south, which could include extensive use of heavy trucking, outdoor manufacturing, or large ventilation systems (exhaust, dust collection, etc. other than HVAC systems) will be reviewed once site plans and operational activities are known to ensure that exterior noise levels would not exceed the applicable San Joaquin County and City of Lathrop exterior noise level limits.

The following mitigation measures will minimize noise impacts resulting from on-site noise sources. Implementation of this mitigation measure would ensure consistency with the City's noise standards and would reduce this potentially significant impact to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure 3.12-1: *Proposed industrial uses which include extensive noise generating uses such as heavy trucking, outdoor manufacturing, or large ventilation systems (exhaust, dust collection, etc. other than HVAC systems) shall be reviewed by the City of Lathrop to ensure that exterior noise levels would not exceed the applicable San Joaquin County and City of Lathrop noise standards. The City shall prohibit the approval of a use that would cause an exceedance of the noise standards at a sensitive receptor. The specific development proposals within the Plan Area shall be reviewed by the City of Lathrop when the detailed information is available for the individual development/construction approvals, which may occur during Architectural Design Review and/or Building Permit.*

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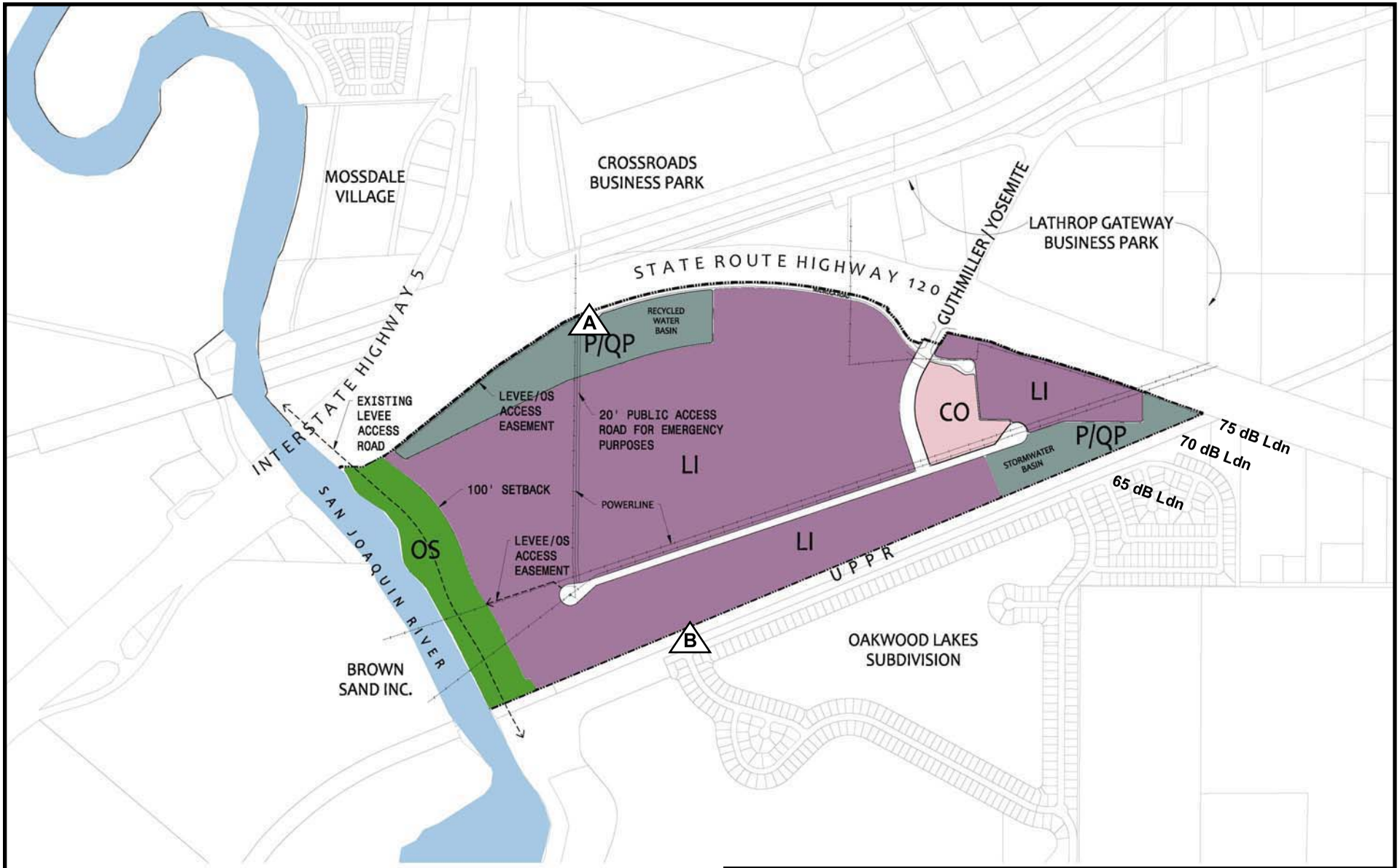

South Lathrop Specific Plan

Figure 3.12-1: Noise Monitoring Sites

j.c. brennan & associates
consultants in acoustics

Legend:

△ : Noise Measurement Site

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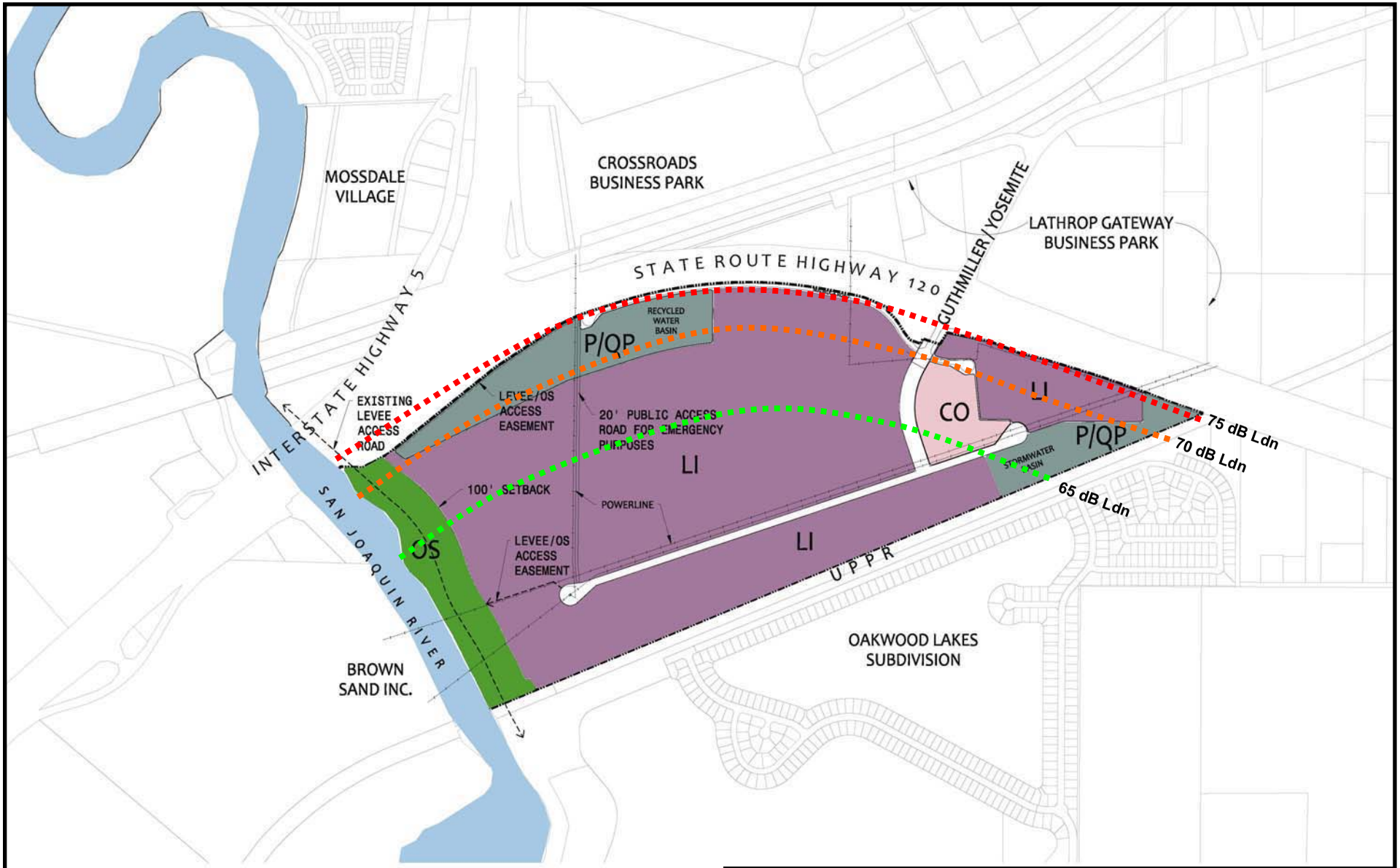

MACKAY & SOMPS
ENGINEERS PLANNERS SURVEYORS

South Lathrop Specific Plan

Figure 3.12-2: Traffic Noise Contours

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consultants in acoustics

Legend:

: 75 dB L_{dn}

: 70 dB L_{dn}

: 65 dB L_{dn}

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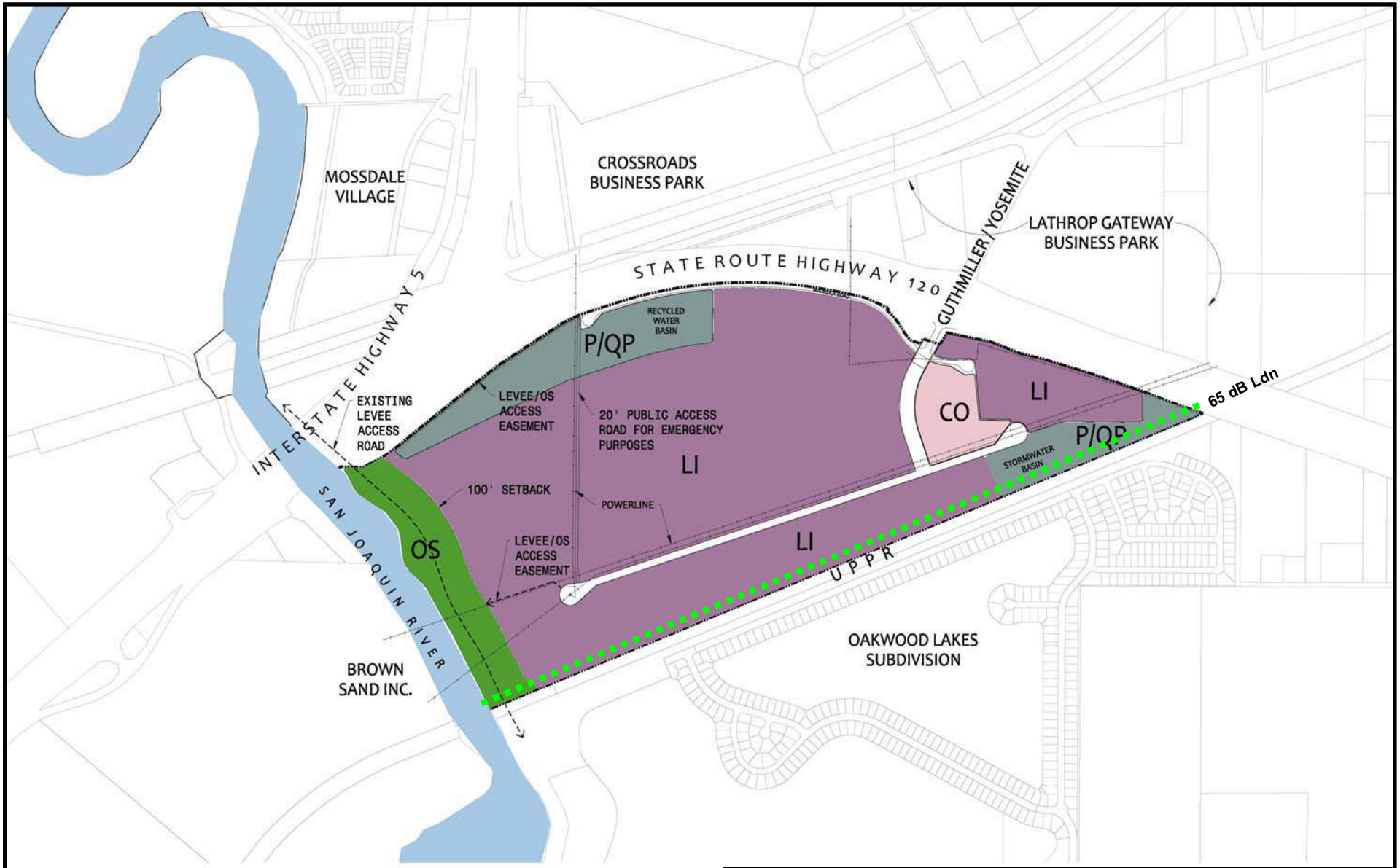

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South Lathrop Specific Plan

Figure 3.12-3: Railroad Noise Contours

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consultants in acoustics

Legend:

: 65 dB L_{dn}

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This section describes and evaluates potential impacts associated with the provision of police protection, fire protection and emergency services, schools, parks and recreation, and other public facilities for the SLSP. The information in this section is derived from the *City of Lathrop General Plan* (Lathrop 2004), *City of Lathrop General Plan Environmental Impact Report (*Lathrop 1991), *Lathrop Municipal Services Review and Sphere of Influence Plan (Lathrop MSR 2009)*, Lathrop Police Department *Staffing* (LPD,2013a), Lathrop Police Department *Activity Report* (LPD 2013b), *Lathrop-Manteca Fire District Master Plan* (LMFPD 2006), Manteca Unified School District *History of Manteca Unified*(MUSD 2013), and the *Manteca Unified School District, 2011/2012 SARC.*

No comments regarding public services and recreation were received during the public review period or scoping meeting for the Notice of Preparation.

3.13.1 EXISTING CONDITIONS

CITY OF LATHROP SERVICES

City of Lathrop Police Department

Police protection services would be provided by the City of Lathrop Police Department (LPD), which contracts with the San Joaquin County Sheriff's Department for police protection services. The Lathrop Police Department acts as a division of the Sheriff's Department, with those deputies assigned to the City only working in the City limits and receiving specialized training reflective of the needs of an incorporated city.

The LPD is located at 15597 South Seventh Street in Lathrop, approximately 2 ½ miles north of the Plan Area. As of March 2013, LPD is staffed by 22 sworn officers and one lieutenant. LPD is staffed 24 hours a day in a series of seven shifts. Based on current staffing levels and City population, the LPD currently maintains a ratio of 1.14 sworn officers per 1,000 residents. The City has adopted a police staffing standard of 1.5 officers per 1,000 residents (Lathrop 2009, pg 3-10). Using this standard and the California Department of Finance 2013 population estimate for the City of 18,908 persons, the City should have 28 sworn officers on staff. When necessary, additional assistance is supplied by a mutual aid agreement with surrounding cities and the County. Current response time in the core area of the City is approximately 2-4 minutes.

Table 3.13-1 shows the recent crime statistics for the City of Lathrop. As is shown, both total violent crime and total property crime has decreased in the City over the last two years.

TABLE 3.13-1: LATHROP POLICE DEPARTMENT CRIME STATISTICS (2010-2012)

CATEGORY/CRIME	2010	2011	2012
Total Violent Crimes	52	55	50
Homicide	1	1	2
Rape	2	2	4
Robbery	25	26	20
Assault	24	25	24
Total Property Crimes	712	684	631
Burglary	312	323	274
Motor Vehicle Theft	71	77	71
Larceny	324	281	281
Arson	5	3	5

SOURCE: LPD 2013B

City of Lathrop Parks and Recreation Department

The City of Lathrop Parks and Recreation Department operates three community parks and nine neighborhood parks within the City. The Parks and Recreation Department also operates a senior center, a community center, a skate park, and a dog park temporarily located at Mossdale Community Park.

On a regional scale, the City is located in the Sacramento-San Joaquin Delta (Delta), which contains several recreational areas and facilities, primarily for water-based recreation. Regional County parks near the City include the 9.85-acre Dos Reis Regional Park and the 3.7-acre Mossdale Crossing Regional Park, both located along the San Joaquin River. Mossdale Crossing Park is located near the Plan Area on the west side of Interstate 5. Each of these parks includes boat launch ramps, picnic/barbeque areas, and children's play areas. Dos Reis Regional Park also has camping facilities. Also in the vicinity is the Haven Acres Marina, a private marina located on the San Joaquin River north of Dos Reis Regional Park. This facility provides river access to the San Joaquin River and includes parking areas, a boat ramp, and 10 boat berths.

TABLE 3.13-3: PARK FACILITIES INVENTORY

PARK	PICNIC SHELTER	PLAY-GROUND/ STRUCTURE	REST-ROOMS	SOFTBALL FIELDS	OPEN FIELD SPACE	BBQ AREA	PICNIC TABLES	INTERACTIVE FOUNTAIN
Manuel Valverde	x	x	x	x	x	x	x	x
Libby							x	
Apolinar Sangalang	x	x	x	x	x	x	x	
Woodfield		x	x		x			
Milestone							x	
The Green		x					x	
Mossdale Commons							x	
Crescent Park		x			x		x	
Mossdale Landing Community Park	x	x	x	x	x	x	x	x
River Park North	x				x	x	x	
River Park South	x				x	x	x	
Dog Park at River Park South						x		
Park West		x	x		x	x		
Skate Park							x	

SOURCE: CITY OF LATHROP PARKS AND RECREATION DEPARTMENT WEBSITE, HTTP://WWW.CI.LATHROP.CA.US/PRD/PARKS.ASPX

The City currently has 68 developed acres of parkland. Based on the Department of Finance estimated 2012 population of 18,908, the City did not meet its General Plan parkland requirement of five acres per 1,000 residents, with a parkland deficit of approximately 26 acres. The City is planning to obtain additional parkland using Quimby Act funds.

OTHER AGENCY SERVICES

Lathrop-Manteca Fire Protection District

The Plan Area is within the service area of the Lathrop-Manteca Fire Protection District (LMFPD). The LMFPD has four fire stations, two of which are located within the City of Lathrop.

LMFPD is organized to maintain staffing on duty, 24 hours a day, year round, to respond to emergencies from four fire stations. The authorized career personnel strength of the LMFPD includes 37 uniformed employees. Current staffing includes a Fire Chief, a Battalion Chief, 12 Fire Captains and 21 Firefighters/Engineers. A reserve firefighter roster of members is maintained to augment the fire suppression force. The District-wide fire suppression force is organized into three shifts consisting of eleven members each. Each of the shifts is on duty for rotating periods of 24 hours. Minimums of two members are on duty in each of the fire stations at all times. The main fire station is located at 800 East J Street in the City of Lathrop. Fire apparatus housed at this fire station consists of (1) 65 foot Tele-squirt pumper, (1) triple combination pumper, (1) quick attack squad, (1) 3000 gallon water-tender/pumper and (1) heavy rescue truck. Other fire apparatus located at the remaining stations consist of (6) pumpers and a rescue boat (LMFPD, 2013).

The LMFPD maintains delivery standards for the provision of emergency services of up to three minutes in urban areas and four to five minutes in rural areas. The LMFPD strives to achieve a ratio of 1.2 firefighters per 1,000 residents in order to maintain current service levels.

An aggressive fire prevention and code enforcement program is utilized, adopted by reference by both the City of Lathrop and the LMFPD with some local additions, deletions and amendments. Companion ordinances establish fees for services, which include charged re-inspections that are required by the California Fire Code and State Fire Marshal's regulations.

The Fire Marshal administers the LMFPD's fire prevention and code enforcement program. Plan checks are done by the Fire Marshal along with the more complex inspections. Fire Company personnel conduct inspections and annual re-inspections, Additional fire safety programs include smoke detector installation for the elderly and disabled, fire safety and awareness in the schools. The LMFPD provides continuous CPR training classes to the community. It is statistically proven that by training the citizen it will enhance the survival rate of a sudden death victim significantly. The LMFPD responds, not only to fires of all types, but also medical emergencies, traffic accident and river rescues.

The LMFPD is an active member of the San Joaquin County hazardous materials response team. The LMFPD is also the nucleus for developing a highly skilled urban search and rescue team. One of

the latest additions to services rendered is the automatic defibrillator program, implemented in May of 1996. The Mission of the LMFPD is to "Protect Life and Property Through Efficient and Dedicated Response to the Emergency Needs of Our Community Delivered with Care, Skill and Compassion to All Who Need Our Aide."

LMFPD Station 34, located northwest within the Mossdale Landing project, will initially be the first responder to serve the Plan Area. In addition, Station 31, located on East J Street in Lathrop, and Station 32, located within Nile Garden in Manteca, will also provide service to the Plan Area. The City's Public Safety Element requires the expansion of fire service to meet identified response times of 3 to 4 minutes for all urban areas. The City of Lathrop's land use map designates a fire station site at the northeast corner of McKinley Boulevard and Yosemite Avenue. It is anticipated that a station will be constructed at this location, or at an alternate site in the immediate vicinity, with the timing and location as determined in coordination with LMFPD. This new station will ultimately provide service to the Plan Area within the LMFPD's response times.

Manteca Unified School District

The Plan Area is located within the service boundaries of the Manteca Unified School District (MUSD). MUSD provides school services for grades K through 12 within the communities of Manteca, Lathrop, Stockton, and French Camp. The MUSD operates 20 elementary schools, five high schools, three alternative schools, and one adult school (MUSD, 2013). Within the City of Lathrop, there are three elementary schools and one high school.

According to the MUSD School Accountability Report Card (SARC), the schools in the City had a total enrollment of 3,919 students in the 2011-2012 school year, of which 1,137 were high school students.

TABLE 3.13-2: CITY OF LATHROP SCHOOL INVENTORY AND 2011/2012 ENROLLMENT

SCHOOL	*2011-2012 ENROLLMENT*
Lathrop Elementary School (k-8)	947
Joseph Widmer Jr. Elementary School (k-8)	917
Mossdale Elementary School (k-8)	918
Lathrop High School (9-12)	1,137
Total Enrollment	3,919

SOURCE: MANTECA UNIFIED SCHOOL DISTRICT, 2011/2012 SARC

Library Services

The Lathrop Branch Library is located at 15461 Seventh Street. The Library is equipped with computers for electronic resources, limited reference books and magazines. The Branch Library also has a Librarian from the Stockton-San Joaquin County Public Library available to assist customers.

3.13.2 REGULATORY SETTING

STATE

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.

FIRE PROTECTION

The California Fire Code contains regulations relating to construction and maintenance of buildings and the use of premises. Topics addressed in the Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to protect and assist first responders, industrial processes, and many other general and specialized fire safety requirements for new existing buildings and premises.

UNIFORM FIRE CODE

The Uniform Fire Code with the State of California Amendments contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the California Fire Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The Fire Code contains specialized technical regulations related to fire and life safety.

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.

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 a number of 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.

THE KINDERGARTEN-UNIVERSITY PUBLIC EDUCATION FACILITIES BOND ACT OF 2002 (PROP 47)

This act was approved by California voters in November 2002 and provides for a bond issue of $13.05 billion to fund necessary education facilities to relieve overcrowding and to repair older schools. Funds will be targeted at areas of greatest need and must be spent according to strict accountability measures. Funds will also be used to upgrade and build new classrooms in the California Community Colleges, the California State University, and the University of California in order to provide adequate higher education facilities to accommodate growing student enrollment.

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.

Parks

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. The City collects fees imposed by the park and recreation districts impact fees. The impact fees are collected at the time of building permit and include both capital impacts and land acquisition.

LOCAL

City of Lathrop General Plan

The City of Lathrop General Plan contains the following goals and policies that are relevant to public services and recreation and the SLSP:

SAFETY GOALS AND POLICIES

Goal No. 8: It is the goal of the General Plan to provide for public safety, including:

- The reduction of loss of life or property due to crime, fire, earthquake, flooding, or other disasters or hazards.
- The provision of adequate medical and emergency services to reduce the effects of natural or man-made disasters.
- The promotion of citizen awareness and preparedness for emergency/disaster situations or potential for the incidence of crime.
- The implementation of adequate inter-agency disaster planning.

Policy 1: The City will continue to give high priority to the support of police protection and to fire suppression and prevention and life safety functions of the Fire Department. Ultimate expansion of the City's fire service is to include additional stations affording response within a maximum of 3-4 minutes to all parts of the urban area.

Policy 2: The City will work to maintain a fire flow standard of 3,000 gpm for all commercial and industrial areas and 1,500 gpm for all residential areas, to assure capability to suppress urban fires.

Policy 3: The City will maintain a street system which is capable of providing access to any fires that may develop within the urban area and which is capable of providing for the adequate evacuation of residents in the event of an emergency conditions of magnitude.

SEISMIC POLICIES

Policy 3: The present building height limit of 50 feet shall be maintained, with a maximum of four stories. This policy shall stay in force until such time that high-rise construction is desired and capability for evacuation and fire fighting in upper stories is possible through the availability of appropriate equipment.

RECREATION GOALS AND POLICIES

Goal 1: To provide recreation which enables individuals to choose from a variety of opportunities, including (but not limited to) music, dance, arts and crafts, sports, drama, nature study, games, special events, trips and educational activities.

Goal 2: To provide recreation opportunities for persons of all age groups, religious and ethnic backgrounds, economic levels, abilities (including the disabled) and for both sexes.

Policy 1: It is the policy of the City and the School Districts, functioning under a joint powers or other appropriate written agreement, to provide the quantity and quality of recreation opportunity necessary for individual enjoyment and to assure the physical, cultural and spiritual benefit of recreation for all people of the community.

Policy 2: The City and School Districts support the creation of a means to achieve a permanent and stable funding for local recreation services.

Policy 7: The City will encourage and, where appropriate, require the provision of recreation areas and facilities within residential areas and the community as a whole to meet the general and specialized needs of existing and future residents. The Recreation component of the Resource Management Element of the General Plan is intended to meet the criteria and standards required by the State Subdivision Map Act and by the Quimby Act for determining financial responsibilities of developers in meeting recreation needs of the community.

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 public services if it would result in:

- Substantial adverse physical impacts associated with the provisions of new or physically altered government facilities, and/or the 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 following public services:

- Fire Protection
- Police Protection
- Schools
- Parks
- Other public facilities

- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.
- Would increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated.

IMPACTS AND MITIGATION MEASURES

Impact 3.13-1: The proposed project has the potential to require the construction of fire department facilities which may cause substantial adverse physical environmental impacts (less than significant)

The proposed SLSP is located approximately 2 ¾ miles to the north of station 31 and 3 miles to the northwest of station 34. LMFPD determines appropriate locations for new fire stations using guidelines for maximum travel distance based on fire flow requirements. These guidelines require that areas with high fire flow requirement be no further than ¾ mile from an engine company and one mile from a ladder company. Areas with low fire flow requirements should be no more than ½ mile from an engine company and two miles from a ladder company. The SLSP includes commercial and industrial areas, which have a high fire flow requirement. Since the SLSP is more than two miles from the nearest fire station, response times could be adversely affected and may not meet the LMFPD's response time standard of three to four minutes in urban areas. This may require the construction of a fire station closer to the Plan Area to ensure adequate response times. The LMFPD Master Plan and the City's General Plan have identified locations just north of the Plan Area for a future fire station, the construction of which would ensure adequate response times to the Plan Area.

The City of Lathrop General Plan Safety Policy 1 requires that "Ultimate expansion of the City's fire service is to include additional stations affording response within a maximum of 3-4 minutes to all parts of the urban area." According to the Lathrop Municipal Services Review (MSR) In order to meet the 3-4 minute standard response time as outlined in the General Plan, LMFPD would have to expand their number of fire stations and personnel. According to the Fire District's most recent Master Plan, response times for fire suppression in both residential and industrial/commercial areas were four to five minutes.

The LMFPD maintains delivery standards for the provision of emergency services of up to three minutes in urban areas, four to five minutes in rural areas for 90 percent of the population, and five minutes for all rural areas. Medical aid and rescue services in residential areas had response times of four minutes for urban areas and five minutes in rural areas. In industrial/commercial areas, medical aid and rescue services response times were four to five minutes. Commercial/Industrial areas located outside City Limits will be served by first due Engine within four to six minutes, with the second due Engine or Ladder due within five to eight minutes. According to the LMFPD Fire Chief, the Plan Area is not within the first due engine standard of four to six minutes but within the second due engine standard of eight minutes[1].

The City's Public Safety Element requires the expansion of fire service to meet identified response times. The City of Lathrop's land use map designates a fire station site at the northeast corner of McKinley Boulevard and Yosemite Avenue. It is anticipated that a station will be constructed at this location, or at an alternate site in the immediate vicinity, with the timing and location as determined in coordination with LMFPD. This new station will provide service to the Plan Area within the City's and LMFPD's response times. The LMFPD Fire Chief has indicated that they will construct and staff new fire stations in Lathrop when it is clear that there will be an immediate need for the station and staffing as opposed to building a station based on a long range development plan and waiting to staff it until development actually occurs.

The City of Lathrop has a number of General Plan policies which assist in the establishment of fire protection. Safety Policy 1 establishes the fire response times and the potential need for additional fire stations. As was discussed previously, a new station may be required to serve the Plan Area. Safety Policy 2 establishes the fire flow standard. The SLSP will be required to meet this standard. Safety Policy 3 requires the City to maintain a street system which is capable of providing access to any fires that may develop within the urban area and which is capable of providing for the adequate evacuation of residents in the event of an emergency conditions of magnitude. The Plan Area includes streets and fire access roadways which would be developed according to City and LMFPD standards. This will include review of all plans by the LMFPD. Seismic Policy 3 sets the present building height limit of 50 feet with a maximum of four stories. This policy will stay in force until such time that high-rise construction is desired in Lathrop and capability for evacuation and fire fighting in upper stories is possible through the availability of appropriate equipment. The building plans within the Plan Area will be required to meet this standard.

The LMFPD, in coordination with the City of Lathrop, collects impact fees from new development based upon projected impacts from each development. The adequacy of impact fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. It should be noted that a new fire station is not solely the responsibility of the SLSP, as a new fire station is planned to

[1] Personal discussion with Chief Gene Neely on March 7, 2013.

serve multiple areas of Lathrop and the SLSP is only required to pay its fair share of the fire impact fee. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the project, would fund capital and labor costs associated with fire protection services.

In accordance with the General Plan and the most recent LMFPD Master Plan, a new fire station is planned to be built near the northeast corner of McKinley Boulevard and Yosemite Avenue to meet future fire protection demand in this portion of the City and SOI. It is noted that the future location is likely within the Gateway Specific Plan area located just north of the Plan Area. The construction of the new fire station could cause a physical impact to the environment; however, it is anticipated that through proper design and siting any physical impact to the environment could be reasonably mitigated to a less than significant level. The approval of a new fire station would be considered a project under CEQA, and would be subject to environmental review. It cannot be determined at this time whether or not the physical impacts caused by the construction of the new fire station can be mitigated to a less than significant level, as a location for a new fire station has not been decided and a design is not available. The SLSP does not propose, nor does this EIR fully evaluate, the construction of this new fire station pursuant to CEQA. Implementation of the proposed project would have a **less than significant** impact relative to this topic.

Impact 3.13-2: The proposed project has the potential to require the construction of police department facilities which may cause substantial adverse physical environmental impacts (less than significant)

The City has adopted a police level of service (LOS) ratio of 1.5 officers per 1,000 residents (Lathrop 2009, pg 3-10) to meet anticipated police demand. Based on current staffing levels and City population, the LPD currently maintains a ratio of 1.14 sworn officers per 1,000 residents; therefore the current staffing level does not meet the City's adopted police LOS ratio. In order to meet the City's adopted level of service, approximately seven additional sworn officers would need to be added. There would continue to be a deficit of 7 sworn officers regardless of the proposed project. This deficit is not a direct or indirect impact of the proposed project, nor does it result in a physical environmental impact. Rather, police protection service is evaluated and addressed annually on a city-wide level by the Lathrop City Council and Lathrop Police Department. The City Council adopts an annual budget allocating resources to police protection services, which effectively establishes the service ratio for that particular year. The annual budget is based on community needs and available resources as determined by the City Council and the Police Department.

The City collects impact fees from new development based upon projected impacts from each development. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other

revenues generated by the project, would fund capital and labor costs associated with police services.

In accordance with the General Plan, a new police station is planned to be built in one of several locations to meet future law enforcement demand throughout the City and SOI. It is anticipated that the new location will be west of I-5, likely adjacent to the new government center at 390 Towne Centre Drive (Lathrop 2009, pg. 3-30). The proposed project does not trigger the need for the police station at this time. Development of a police station will require environmental review when it is proposed. The environmental review will determine if there will be an adverse physical impact associated with its construction. A new police station is not proposed at this time. The proposed project would not result in the need for new police facilities, thus it will have a **less-than-significant** impact relative to this topic.

Impact 3.13-3: The proposed project has the potential to require the construction of school facilities which may cause substantial adverse physical environmental impacts (less than significant)

The Plan Area is located within the service boundaries of the Manteca Unified School District (MUSD). MUSD provides school services for grades K through 12 within the communities of Manteca, Lathrop, Stockton, and French Camp. Within the City of Lathrop, there are three elementary schools and one high school. According to the MUSD School Accountability Report Card (SARC), the schools in the City had a total enrollment of 3,919 students in the 2011-2012 school year, of which 1,137 were high school students.

The SLSP does not include any residential units or any other type of use that would directly increase the student population in the area; however, the project may indirectly increase the number of persons in the area as a result of employment potential. Actual population gain from this employment cannot be determined with any accuracy until actual businesses are developed. For instance, the number of employees that occupy a warehouse is significantly lower than the number of employees that occupy an office building on a square foot comparison. Additionally, it can't be determined at this time whether employment opportunities would be from the existing population with existing students in the schools or if employees would be recruited from outside of the region with new students to Lathrop. Regardless, the MUSD collects impact fees from each new development under the provisions of SB 50. A project's impacts on school facilities are fully mitigated via the payment of the requisite school impact fees established pursuant to Government Code Section 65995. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from taxes, would fund capital and labor costs associated with school services.

The MUSD performs a needs analysis and adopts an annual budget allocating resources for new school facilities as they are warranted. The proposed project does not trigger the need for a new school directly, or indirectly, nor has the MUSD planned to construct a new school in the Plan Area or vicinity. If the MUSD proposes a new school in the future elsewhere in the City to accommodate

new demand in Lathrop, including any indirect demand created from new employment in the SLSP, then the new school will require environmental review when it is proposed. The environmental review will determine if there will be an adverse physical impact associated with its construction. A new school is not proposed at this time. The proposed project would not result in the need for new school facilities, thus it will have a **less-than-significant** impact relative to this topic.

Impact 3.13-4: The proposed project has the potential to have effects on other public facilities (less than significant)

The SLSP may indirectly bring employees to the area which may require the use of other public services such as library services, animal services, code compliance, public works/utilities, etc. The City collects impact fees from new development based upon projected impacts from each development, including impacts on these other public services. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the project, would fund capital and labor costs associated with these other public services.

The proposed project does not trigger the need for new facilities associated with these other public services. New facilities for these other public services are not proposed at this time. The proposed project would not result in the need for new facilities for these other public services, thus it will have a **less-than-significant** impact relative to this topic.

Impact 3.13-5: The proposed project has the potential to require the construction of park and recreational facilities which may cause substantial adverse physical environmental impacts (less than significant)

The City currently has 68 developed acres of parkland. Based on the Department of Finance estimated 2012 population of 18,908, the City did not meet its General Plan parkland requirement of five acres per 1,000 residents, with a parkland deficit of approximately 26 acres. As with police and schools, parkland need is based on population and is dependent on new housing developments, which by their nature, bring new residents to an area. The City has Capital Facility Fees for parks and park facilities; however, these fees are only applicable to residential units.

As part of the SLSP, the Plan Area includes 21 acres of river levee/park. This area is designed to provide an open space corridor in accordance with the City of Lathrop General Plan. The open space corridor along the San Joaquin River is intended as a local community wide facility with the possibility of regional linkage. This Open Space Corridor would also provide the ability to connect the SLSP with the West Lathrop Specific Plan Area and other development to the north. Though not required or mandated, provision is made within SLSP for the construction and use of outdoor recreation facilities such as recreation fields, fitness equipment and courses, or other such uses

intended for the physical recreation and wellbeing of the community and/or the employee users. Recreation and open space amenities will be included as part of the landscape coverage requirement specified in the development standards of the SLSP Zoning Ordinance.

The SLSP would not be subject to the City's park dedication standards as these pertain only to residential developments. The SLSP would increase the amount of parkland/open space in the City with the development of the proposed 21 acres of river levee/parkland. As such, implementation of the SLSP would have a ***less-than-significant*** impact on park and recreational facilities.

Impact 3.13-6: Would increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated (less than significant)

The project may indirectly increase the number of persons in the area as a result of employment potential; however, the SLSP does not include any residential units or any other type of use that would directly increase the population in the area. Regardless, the Plan Area includes 21 acres of river levee/park for the community. This area is designed to provide an open space corridor in accordance with the City of Lathrop General Plan. The open space corridor along the San Joaquin River is intended as a local community wide facility with the possibility of regional linkage. This Open Space Corridor would also provide the ability to connect the SLSP with the West Lathrop Specific Plan Area and other development to the north. Though not required or mandated, provision is made within SLSP for the construction and use of outdoor recreation facilities such as recreation fields, fitness equipment and courses, or other such uses intended for the physical recreation and wellbeing of the community and/or the employee users. Recreation and open space amenities will be included as part of the landscape coverage requirement specified in the development standards of the SLSP Zoning Ordinance. The proposed project would not increase the use of an existing neighborhood or regional park or other recreational facility such that substantial physical deterioration of the facility would occur or be accelerated. As such, implementation of the SLSP would have a ***less-than-significant*** impact on relative to this topic.

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3.14 TRANSPORTATION AND CIRCULATION

This section of the EIR analyzes the potential impacts of the proposed project on the surrounding transportation system including freeways, local roadways, bicycle/pedestrian facilities, and transit facilities/services. This chapter identifies the significant impacts of the proposed project and recommends mitigation measures to reduce their significance. All technical calculations can be found in Appendix H of the Draft EIR.

3.14.1 ENVIRONMENTAL SETTING

PROJECT LOCATION

The project site is located in San Joaquin County, south of State Route (SR) 120, northwest of the Union Pacific Railroad (UPRR) and east of the San Joaquin River. The plan area, located to the southeast of the City of Lathrop, is within the City's Sub-Plan Area 1. The existing access to the plan area is from the SR 120/Yosemite Road interchange. A frontage Road, Madruga Road, currently provides access to both the existing agriculture and industrial land uses. I-5, which is located directly west of the site, is an interstate freeway that is used extensively by commuters and for goods movement. Figure 3.14-1 displays the project location.

STUDY AREA ROADWAYS AND INTERSECTIONS

The SR 120/Yosemite Avenue interchange provides direct access to the project site. Other key roadways in the project vicinity include McKinley Avenue, Airport Way, Louise Avenue, and Lathrop Road. These roadways are described below.

State Route (SR) 120 is an east-west four-lane freeway that connects Interstate 5 to the west and State Route 99 to the east and is located directly north of the project study area. It features interchanges at Guthmiller Road / Yosemite Avenue (referred to as Yosemite Avenue in the remainder of this report), Airport Way, Union Road, and Main Street. It is grade-separated above McKinley Avenue where a new interchange will be constructed before Cumulative (2030) Conditions. SR 120 has a posted speed limit of 65 miles per hour (mph).

Guthmiller Road is a north-south, two-lane roadway that provides direct access to the project site. It extends from Madruga Road south of SR120 to D'Arcy Parkway and is undivided. It has an interchange with SR 120 that provides direct freeway access for the project. The Yosemite Avenue/SR 120 interchange is a tight-diamond configuration with a two-lane undercrossing of SR 120. All on- and off-ramps are single lane and have side-street stop control.

Yosemite Avenue is generally an east-west, two- to four-lane roadway that extends from the SR D'Arcy Parkway east, through the City of Manteca, and has an interchange at SR 99, just north of the SR 99/SR 120 interchange. Yosemite Avenue is a two-lane undivided roadway from D'Arcy Parkway to McKinley Avenue and then transitions from a two-lane roadway (with center turn lane) to a four-lane roadway (with center turn lane) from McKinley Avenue to Airport Way.

Airport Way is a north-south roadway that extends from downtown Stockton into Manteca, and continues south beyond SR 120 into unincorporated San Joaquin County. Between Woodward Avenue and SR 120, Airport Way is two-lanes with a posted speed limit of 40 mph. It widens to four lanes north of the SR 120 westbound ramp-terminal intersection to Daniels Street. North of Daniels Street, Airport Way is two lanes.

McKinley Avenue is a north-south two-lane rural road that extends north from Woodward Avenue under SR 120 to Lathrop Road. Major interactions include Yosemite Avenue, Louise Avenue, and Lathrop Road. McKinley Avenue has a posted speed limit of 50 mph and permits passing in certain sections. An interchange with SR 120 is planned at McKinley Avenue.

Louise Avenue is a two- to four-lane roadway that extends from Golden Valley Parkway (west of I-5) through the City of Lathrop and City of Manteca. It has a full-access tight diamond interchange with I-5. Louise Avenue is four lanes from Golden Valley Parkway to east of McKinley Avenue, where it transitions to two lane prior to Airport Way.

Lathrop Road is generally a two-lane, east-west arterial separated by a two-way left turn lane. It connects the cities of Lathrop and Manteca, north of the Louise Avenue corridor. Lathrop road has a full-access interchange with I-5 on the west and with SR-99 on the east. It has a posted speed limit of 35 mph within the study area.

EXISTING PEDESTRIAN AND BICYCLE FACILITIES

Pedestrian and bicycle facilities are not currently provided in the immediate vicinity of the project site. Since adjacent properties are either undeveloped or consist of industrial-type uses, the demand for pedestrian and bicycle travel in the area is limited. Only three of the existing ten study intersections have crosswalks. In addition, sidewalks have been constructed along the frontage of some new residential, industrial, and commercial developments in the study area. East of the study area is a bicycle facility within the city of Manteca. The Tidewater Bikeway is a Class I (off-street) bike path that extends from Lathrop Road southerly to Spreckels Avenue just north of SR 120.

TRANSIT SERVICE

The public transit includes both bus and rail passenger components. The bus and rail system provides local and regional connectivity to residents of Lathrop and Manteca. Currently, there is no public transit system that serves the project site.

The transit systems operating within the study area includes the following services:

- Fixed Route Intercity Bus Service operated by San Joaquin Regional Transit District (SJRTD) – connects Stockton with Lodi, Tracy, Tracy Depot, Manteca, Ripon, and Lathrop.
- County Hopper Deviated Fixed Route Bus Service operated by SJRTD – a bus service connecting Stockton, Tracy, Lodi, Manteca, Ripon, and Lathrop. Each bus can deviate from

its normal route a distance of up to 1 mile in order to accommodate ADA certified passengers.

- Commuter express bus service operated by SJRTD – operates a number of commuter bus lines that connect cities in San Joaquin County to the Bay Area.
- Regional passenger rail service operated by Altamont Commuter Express (ACE) – operates a commuter rail service between Stockton and San Jose. The Lathrop-Manteca ACE Rail Station is located at the northeast corner of the McKinley Avenue/Yosemite Avenue intersection.
- Modesto Area Max (MAX) – operates fixed-route bus service between Modesto and the Lathrop-Manteca ACE Rail Station.

RAIL

The study area includes a Union Pacific Railroad (UPRR) track that extends southerly from Stockton and forms the western Manteca City limits. The track (i.e., Oakland Subdivision line) features at-grade crossings with Yosemite Avenue and McKinley Avenue. This study focuses on the Yosemite Avenue crossing because it would be used by local project trips to and from the east via Yosemite Avenue. This segment of Yosemite Avenue is currently maintained by San Joaquin County.

In addition, with the SR 120 / Yosemite Avenue interchange located directly north of the project site, regional project trips would access the freeway via this existing interchange. Therefore, the McKinley Avenue crossing was not evaluated as part of this transportation element. The Yosemite Avenue at-grade crossing has advanced warning signs, railroad crossing pavement markings, stop lines, crossing gates, flashing lights, concrete crossing, and warning bells. According to US Department of Transportation Crossing Inventory, an average of 21 trains per day cross this segment of Yosemite Avenue which is located in unincorporated San Joaquin County. No accidents have been reported at the crossing since 2006.

3.14.2 ANALYSIS METHODS

The operational performance of the roadway network is commonly described with the term Level of Service or LOS. LOS is a qualitative description of operating conditions, ranging from LOS A (free-flow traffic conditions with little or no delay) to LOS F (oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). The LOS analysis methods outlined in the *Highway Capacity Manual* (Transportation Research Board, 2010) were used in this study. The HCM methods for calculating LOS for signalized intersections and unsignalized intersections are described below. These methodologies were applied using the Synchro 7 traffic analysis software and the SimTraffic microsimulation software.

Signalized Intersections

Traffic operations at signalized intersections are evaluated using the LOS method described in Chapter 16 of the 2010 *Highway Capacity Manual* (HCM) by the Transportation Research Board. A signalized intersection's LOS is based on the weighted average control delay measured in seconds per vehicle. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration. The average control delay was calculated using the Synchro 7 analysis software and is correlated to a LOS designation. Table 3.14-1 summarizes the relationship between the control delay and LOS for signalized intersections.

Operations at the SR 120/Yosemite Avenue, SR 120/Airport Way, and the future SR 120/McKinley Avenue interchanges and the adjacent intersections were analyzed in SimTraffic to account for potential queues and congestion affecting adjacent intersections.

Table 3.14-1
Signalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay (Seconds)
A	Operations with very low delay occurring with favorable traffic signal progression and/or short cycle lengths.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	> 55.0 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

Unsignalized Intersections

In Chapter 17 of the Transportation Research Board's 2010 *Highway Capacity Manual*, the LOS for unsignalized intersections (side-street or all-way stop controlled intersections) is also defined by

the average control delay per vehicle (measured in seconds). The control delay incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side-street stop-controlled intersections, delay is calculated for each stop-controlled movement and for the uncontrolled left turns, if any, from the main street. The delay and LOS for the intersection as a whole and for the worst movement are reported for side-street stop intersections. The intersection average delay is reported for all-way stop intersections. Table 3.14-2 summarizes the relationship between delay and LOS for unsignalized intersections. The delay ranges for unsignalized intersections are lower than for signalized intersections as drivers expect less delay at unsignalized intersections.

Table 3.14-2
Unsignalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Little or no delays	≤ 10.0
B	Short traffic delays	> 10.0 to 15.0
C	Average traffic delays	> 15.0 to 25.0
D	Long traffic delays	> 25.0 to 35.0
E	Very long traffic delays	> 35.0 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

Source: *Highway Capacity Manual* (Transportation Research Board, 2000).

Roadway Segments

Roadway segments are analyzed using capacity thresholds consistent with those presented in the *Florida Department of Transportation (FDOT) Quality/Level of Service Handbook* (2002), as specified in the Regional Congestion Management Plan (RCMP) implemented by SJCOG. Table 3.14-3 lists the LOS thresholds with respect to both facility type and number of lanes.

Table 3.14-3
Roadway Segment Thresholds

Lanes	Divided	Levels of Service				
		A	B	C	D	E
2	Undivided	**	**	7,000	13,600	14,600
4	Divided	**	**	16,400	29,300	30,900
6	Divided	**	**	25,700	44,100	46,400

Source: *Florida Department of Transportation (FDOT) Table 4-2 "Generalized Annual Average Daily Volumes for Florida's Areas Transitioning into Urbanized Areas or Areas Over 5,000 Not in Urbanized Areas"*

Freeway Facilities

Per Caltrans standards, existing conditions freeway-segment operations are evaluated using the methodology contained in Chapter 21 of the HCM. The LOS for a freeway segment is based on the vehicle density (passenger cars/lane/mile) as shown in Table 3.14-4.

Table 3.14-4
Freeway Mainline Level of Service Definitions

Level of Service[1]	Maximum Density (Passenger Cars/Lane/Mile)
A	11
B	18
C	26
D	35
E	45
F	> 45

Notes:
1. Freeway mainline LOS based on a 65 mph free-flow speed.
Source: *Highway Capacity Manual* (Transportation Research Board, 2010).

The performance LOS for merge and diverge sections is computed in one of two ways. If both the ramp and the adjacent freeway mainline segment are under capacity, then LOS is based on the density of the ramp junction. If either the ramp or the adjacent freeway mainline segment have reached (or exceed) capacity, then the merge/diverge segment is considered to operate at LOS F regardless of the computed ramp junction density.

The performance of freeway ramp weaving segments under future conditions was analyzed using the Leisch methodology as defined in the *2010 Highway Design Manual* (Caltrans). The Leisch method calculates weave section density in passenger cars per mile per lane and assigns a LOS based on appropriate thresholds.

3.14.3 REGULATORY SETTING

Existing transportation polices, laws, and regulations that would apply to the proposed 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 AND STATE REGULATIONS

Caltrans is responsible for planning, designing, constructing, operating, and maintaining all state-owned roadways in San Joaquin County. Federal Highway standards are implemented in California by Caltrans. Any improvements or modifications to the state highway system within the Cities of Lathrop and Manteca need to be approved by Caltrans. The Cities of Lathrop and Manteca do not have the ability to unilaterally make improvements to the state highway system.

The *State Route 120 Transportation Concept Report – TCR* (Caltrans, 2005) identifies a concept LOS of "D" for the segment from I-5 to SR-99. The TCR identifies the need for widening of this facility to six lanes with an ultimate facility being eight lanes to meet projected travel demands. The TCR identifies interchange upgrades at Yosemite Avenue, McKinley Avenue, Airport Way, Union Road, and Main Street.

The *Interstate 5 Transportation Concept Report – TCR* (Caltrans, 2012) identifies a concept LOS of "C" for the segment of I-5 south of SR 120 and a concept LOS of "D" for the segment of I-5 north of SR 120. The segment north of SR 120 does not meet this criterion as it currently operates at LOS F.

LOCAL REGULATIONS

San Joaquin County Regional Transportation Plan

San Joaquin County, through the San Joaquin Council of Governments (SJCOG), periodically updates the Regional Transportation Plan (RTP), which outlines countywide transportation expenditures based on funding from sources like the federal government, the State of California, and locally collected funds. The RTP contains several proposed improvements that would benefit the regional roadway network within the study area. Draft and Final EIRs for the 2011 RTP have been published. The two major RTP Projects located directly north and west of the projects site are:

- Widening of SR 120 from 4 to 6 lanes; and
- Construction of a new SR120 / McKinley interchange.

The widening of SR 120 will have a direct benefit to the project because 86 percent of all project-generated traffic is projected to use the SR 120 / Yosemite interchange to travel eastbound or westbound on SR 120.

The construction of the new SR120 / McKinley interchange will not have a direct benefit to the project. On the other hand, it will provide access to and from SR 120 for the Lathrop Gateway Business Park located on the north side of SR 120.

San Joaquin County Congestion Management Plan

SJCOG operates a Regional Congestion Management Program (RCMP), which monitors cumulative transportation impacts of growth on the regional roadway system, identifies deficient roadways,

and develops plans to mitigate the deficiencies. The RCMP considers LOS E or F operations to be deficient and includes segments of SR 120 and Airport Way (north of SR 120) as CMP facilities.

San Joaquin County Regional Traffic Impact Fee (RTIF)

SJCOG has implemented a regional traffic impact fee that is assessed on new developments throughout San Joaquin County. The RTIF capital project list provides funding for various freeway and local road widening. As of June 2012, the fee schedule for new warehousing development is approximately $590 per thousand square feet of warehousing space, $750 per thousand square feet of manufacturing / light industrial space, and $3,717 per thousand square feet of retail space. These fees are adjusted annually to account for inflation and the funds go toward adding capacity on regional roadways and state highways.

Measure K

Measure K is a San Joaquin County measure that funds transportation projects through a half-cent sales tax. Measure K provides funding for a number of improvements in the study area as described below.

City of Lathrop General Plan

The City of Lathrop General Plan (partial amendment in November 2004) contains various transportation-related goals and policies. Those relevant to this study are listed below.

RELEVANT FREEWAY POLICIES

Freeway interchanges should be improved to carry the demands of traffic generated by development in Lathrop in keeping with the principle that responsibility for improvements must reflect the fair apportionment of traffic to existing and future regional demands vs. local demands.

RELEVANT ARTERIAL POLICIES

The City General Plan includes proposed improvements to existing expressways and arterial streets in Lathrop east of I-5. These improvements would allow east-west traffic to access I-5 by traveling around the existing developed area of Lathrop. This would reduce traffic impacts on the Lathrop Road and Louise Avenue interchanges and on freeway sections between Roth Road on the north and the I-5/SR 120 merge on the south. The following improvements were identified:

- Improve Roth Road to six traffic lanes between I-5 and Airport Way, along with railroad separation structures.
- Improve Airport Way to six traffic lanes from Roth Road to SR 120.
- Improve Yosemite Avenue from two to six lanes from SR 120 to approximately 800 feet north of the westbound SR 120 off-ramp, and from two to four lanes to east of Airport Way.
- Improve Lathrop Road and Louise Avenue to four traffic lanes between I-5 and the Manteca City limits; provide railroad separation structures along Lathrop Road.

- Construct an at-grade crossing of the Southern Pacific Railroad (SPRR) (now Union Pacific Railroad [UPRR]) from the Crossroads Industrial Park along the line of Vierra Avenue and curving south to Yosemite Avenue.

The City's General Plan identifies LOS C operations on City streets (intersections and roadway segments) and LOS D operations at interchange ramps as acceptable levels of service. It should be noted that since Lathrop's LOS C policy is more restrictive than the 1996 CMP policy of LOS D on principal arterials such as Lathrop Road, Louise Avenue, and Airport Way, a LOS D goal is not listed above for intersections on these roads.

According to the City of Lathrop Adopted Budget (Fiscal year 2009 – 2010), funds are being collected for the following Capital Improvement Program projects:

- Lathrop Road westerly railroad grade-separation. Other sources of funding include Section 190 funds from the PUC, and State Transportation Improvement Program (STIP) funds. Completion is expected in 2012.
- I-5/Lathrop Road improvements. The City is pursuing interim improvements as the ultimate improvements are several years away. Funding for ultimate improvements will be through developer fees, Measure K Renewal, and other sources.

TRUCK ROUTES

Truck routes are to be limited to arterial streets, which serve commercial and industrial areas close to freeway interchanges. These routes are intended to carry heavy weight commercial and industrial vehicles through and around the community with minimum disruption to local auto traffic and minimum annoyance to residential areas.

In addition, The Surface Transportation Assistance Act of 1982 (STAA) allows certain longer trucks called STAA trucks to operate on the National Network. After STAA was enacted, the Department evaluated State routes for STAA truck access and created Terminal Access and Service Access routes which, together with the National Network, are called the STAA Network. Terminal Access routes allow STAA access to terminals and facilities. Service Access routes allow STAA trucks one-mile access off the National Network, but only at identified exits and only for designated services. Service Access routes are primarily local roads. The STAA vehicle is a truck tractor-semitrailer with the following dimensions: the maximum length of the semitrailer is 48 feet; the kingpin-to-rear-axle (KPRA) distance is unlimited by law, although the semitrailer length usually limits this distance to about 43 feet; the maximum body and axle width is 8.5 feet.

RELEVANT BICYCLE AND PEDESTRIAN POLICIES

The goal of the City's General Plan is to implement a multi-modal transportation system and to provide a system of bicycle and pedestrian facilities to complement vehicular traffic comprised of automobiles, transit and trucks. The City General Plan includes policies to provide pedestrian and bicycle facilities for arterial and major collector streets. For minor collectors, pedestrian facilities should be included to provide opportunities for non-motorized travel between adjacent land uses.

RELEVANT TRANSIT POLICIES

The goal of the City's General Plan is to implement a transit system to connect residential areas with major activity centers. Planning for an integrated bus system should be a requirement of Specific Plan preparation so as to identify the streets requiring turnouts for bus stops.

City of Manteca General Plan

The following are applicable goals and policies from the City of Manteca General Plan related to transportation and circulation:

Policy C-P-1 The City shall strive to attain the highest possible traffic levels of service (LOS) consistent with the financial resources available and the limits of technical feasibility. The impact of new development and land use proposals on LOS should be considered in the review process.

Policy C-P-2 Manteca's target for transportation LOS is to provide Citywide average LOS of C or better, and a minimum of LOS D at any individual location. This "C average, D minimum" shall be accomplished by attempting to provide LOS C at all locations, but accepting LOS D under the following circumstances:

a. Where constructing facilities with enough capacity to provide LOS C is found to be unreasonably expensive. This applies to facilities, for example, on which it would cost significantly more per dwelling unit equivalent (DUE) to provide LOS C than to provide LOS D.

b. Where it is difficult or impossible to maintain LOS C because surrounding facilities in other jurisdictions operate at LOS D or worse.

c. Where free-flowing roadways or interchange ramps would discourage use of alternate travel modes.

d. Where maintaining LOS C will be a disincentive to use of existing alternative modes or to the implementation of new transportation modes that would reduce vehicle travel.

Policy C-P-3 Streets shall be dedicated, widened, extended, and constructed according to the Street cross-section diagrams established in the City Improvement Standards. Dedication and improvement of full rights-of-way as shown in the Street Standards shall not be required in existing developed areas where the City determines that such improvements are either infeasible or undesirable.

Policy C-P-5 Development that would necessitate roadway improvements prior to the development of lands abutting those roadway improvements shall be required to make such improvements, or participate in such improvements, as a condition of approval.

Policy C-P-6 New development will pay a fair share of the costs of street and other traffic and transportation improvements based on traffic generation and impacts on levels of service in conformance with the standard and policies established in the Public Facilities Implementation Plan.

Policy C-P-18 In accord with PFIP, the City shall assess development fees for traffic signals and highway interchanges sufficient to fund system wide improvements. The development schedule for these traffic improvements shall be periodically reviewed, and revised as necessary.

The City also requires new development to participate in the funding and construction of collector and arterial street improvements identified in the City's Street Master Plan.

BIKEWAYS AND PEDESTRIAN PATHS

Policy C-P-33 The City shall establish a safe and convenient network of identified bicycle routes connecting residential areas with recreation, shopping, and employment areas within the City.

Policy C-P-35 Route sidewalks so that they connect to major public parking areas, transit stops, and intersections within the bikeway system.

Policy C-P-36 Provide adequate bicycle parking facilities at commercial, business/professional, and light industrial uses.

Policy CD-P-31 The pedestrian and bikeway system shall be linked to other pedestrian and bikeways in adjacent neighborhoods and ultimately, to the City-wide Pedestrian and Bikeway trail System to provide a continuous interconnected system.

3.14.4 THRESHOLDS OF SIGNIFICANCE

This section describes the thresholds or criteria that determine whether the project causes a significant impact on the roadway, bicycle, pedestrian, and/or transit systems. These thresholds are based on policies from the General Plans of Lathrop and Manteca, the 1996 CMP, previous input from Caltrans staff regarding state highway LOS goals, and Appendix G of the CEQA Guidelines (2007).

Traffic Impacts

For the purposes of this EIR analysis, significant traffic impacts at intersections and roadway segments are defined when the addition of project traffic is expected to cause any one of the following:

- Worsen the LOS at an intersection in Lathrop from LOS C or better to LOS D or worse;
- Increase the average delay at a signalized intersection in Lathrop currently operating (or projected to operate) at LOS D or worse by five (5) seconds or more;
- Worsen the LOS at an intersection in Manteca or on a Caltrans facility from LOS D or better to LOS E or F;
- Worsen the LOS on a roadway segment in Lathrop, Manteca or on a Caltrans facility from LOS D or better to LOS E or F;
- Increase the average delay at a signalized intersection in Manteca currently operating (or projected to operate) at LOS E or worse by three (3) seconds or more;
- Add traffic by one percent or more at a freeway ramp intersection maintained by Caltrans that currently operates (or is projected to operate) at LOS E or F;
- Worsen operations on a segment or ramp of SR 99, SR 120, or I-5 from LOS D or better to LOS E or worse;
- Add 100 or more vehicles per day to a freeway segment, on-ramp or off-ramp that currently operates (or is projected to operate) at LOS E or F;
- Cause a substantial reduction in safety on a public street due to a design feature (e.g., sharp curve) or incompatible use (e.g., farm equipment).

The City's General Plan identifies LOS C operations on City streets (intersections and roadway segments) and LOS D operations at interchange ramps as acceptable levels of service. It should be noted that since Lathrop's LOS C policy is more restrictive than the 1996 CMP policy of LOS D on principal arterials such as Lathrop Road, Louise Avenue, and Airport Way, a LOS D goal is not listed above for intersections on these roads.

Transit, Bicycle, and Pedestrian Impacts

The proposed project is considered to result in a significant transit, bicycle, and/or pedestrian impact if it:

- Conflicts or precludes transit service and facilities;
- Causes an unmet demand for public transit;

- Conflicts or interferes with existing or planned bicycle or pedestrian facilities;

Rail Impacts

The proposed project is considered to result in a significant rail impact if any of the following conditions occur:

- Cause a substantial increase in potential conflicts between trains and motorists and at an at-grade railroad crossing.

3.14.5 ANALYSIS SCENARIOS

The operations of the study intersections were evaluated for the following five scenarios:

Existing Conditions – establishes the existing setting, which is used to measure the significance of project impacts.

Existing Plus Project Conditions – adds traffic resulting from full buildout of the proposed project to existing conditions traffic.

Cumulative No Project Conditions (Year 2030) – represents cumulative travel conditions based on output from the San Joaquin Council of Governments (SJCOG) Travel Demand Model. This scenario assumes all RTP Tier 1 planned projects are developed.

Cumulative Plus Project Conditions (Year 2030) – incorporates the South Lathrop Specific Plan project to the above scenario.

In addition to these scenarios, analysis of the SR 120 / Yosemite Avenue interchange was completed for *Existing Plus Project and 50% Buildout of Lathrop Gateway Conditions based on a meeting with Caltrans District 10. Under this scenario, the following intersection improvements were identified to assist the City of Lathrop and Caltrans in the preparation of a Project Study Report / Project Development Support (PSR/PDS).*

1. Install traffic signal control at both ramp-terminal intersections and provide coordinated signal operation. An evaluation of all applicable signal warrants should be conducted and additional factors (e.g., congestion, approach conditions, driver confusion) should be considered before the decision to install a signal is made.
2. Widen the eastbound and westbound off-ramps to accommodate one left-turn lane, and one shared left/ right-turn lane.
3. Widen Guthmiller Road (south of SR 120) to four lanes to provide two through and one right turn lane on the northbound approach.
4. Widen the SR 120 undercrossing to accommodate five lanes including two through lanes in each direction, and a left-turn lane on the southbound approach to the eastbound ramp-terminal intersection. Tieback walls will be necessary to accommodate widening under SR 120.

5. Relocate the westbound ramp-terminal intersection approximately 550 feet north of its current location to create an L-7 interchange configuration with a northbound Yosemite Avenue to westbound SR 120 loop on-ramp. The loop on-ramp would replace the slip on-ramp and would increase the westbound SR 120 weave distance between the Yosemite Avenue and the I-5 northbound and southbound ramps.

It should be noted that a separate PSR/PDS document will be prepared to determine the staged implementation of improvements at the SR 120 / Yosemite Avenue interchange

DATA COLLECTION

Study facilities were selected in consultation with City of Lathrop staff and based on the project's expected travel characteristics (i.e., project locations and amount of project trips) as well as facilities susceptible to being impacted by the project.

INTERSECTIONS

A total of twelve intersections were selected for study, two being the future SR 120/McKinley Avenue interchange ramp-terminal intersections. It should be noted that the intersection of Yosemite Avenue / Madruga Road was not included because this intersection would be relocated / reconstructed as the project land uses are developed. Mitigation Measure 3.14-1 identifies that the City of Lathrop in coordination with Caltrans will prepare a Project Study Report – Project Development Support (PSR-PDS) document. As part of this document, the ultimate location and design of the Yosemite Avenue / Madruga Road intersection will be determined.

Counts for the following six study intersections were conducted in December 2011 for the State Route 120/McKinley Avenue Interchange PA&ED. Based on a detailed review of Caltrans California Freeway Performance Measurement System (PeMS), traffic volumes in the vicinity of the project site have remained relatively constant for the past 2 years.

- SR 120 EB Ramps / Yosemite Avenue
- SR 120 WB Ramps / Yosemite Avenue
- Yosemite Avenue / McKinley Avenue
- Airport Way / Daniels Street
- SR 120 WB Ramps / Airport Way
- SR 120 EB Ramps / Airport Way

The remaining four existing intersections counts were conducted on February 2013.

- Yosemite Avenue / D'Arcy Parkway
- Yosemite Avenue / Airport Way
- Lathrop Road / McKinley Avenue
- Louise Avenue / McKinley Avenue

All intersection turning movement counts were collected during the midweek AM peak period (6 – 9 AM) and PM peak period (3:30 – 6:30 PM). Counts included heavy vehicles, bicycles, pedestrians, and maximum queue lengths at interchange ramp-terminal intersections. Weather conditions were dry and schools were in session at the time of all counts.

Figure 3.14-2 displays the existing AM and PM peak hour traffic volumes at the study intersections. This figure also displays the existing traffic controls and lane configurations at each intersection.

ROADWAY SEGMENTS

Daily roadway segments for the two following study locations were conducted the same day as the new intersection counts on February 2013.

- Yosemite Avenue between SR 120 and D'Arcy Parkway
- Yosemite Avenue between McKinley Avenue and Airport Way

SR 120 AND I-5 MAINLINE

Mainline vehicle counts collected for the State Route 120/McKinley Avenue Interchange PA&ED were used to analyze the SR 120 and I-5 mainline for this project.

A fully operational Caltrans PeMS traffic monitoring station is located on SR 120 at the Union Road overcrossing. Traffic data from this count station was obtained for every Tuesday and Thursday for the months of March, April, May, September, October, and November 2011 (excluding holidays). Caltrans Traffic Operations staff stated that the busiest day of traffic volumes observations should be used for the analysis.

Mainline volumes at other locations along SR 120 and I-5 were calculated by subtracting off-ramp volumes and adding on-ramp volumes.

EXISTING INTERSECTION OPERATIONS

Existing operations were analyzed for the weekday AM and PM peak hours at the study intersections. Table 3.14-5 displays the intersection analysis results.

Table 3.14-5
Existing Conditions –Intersection Operations

Intersection	Jurisdiction	Traffic Control[2]	LOS / Delay[1]	
			AM Peak Hour	PM Peak Hour
1. SR 120 EB Ramps / Yosemite Avenue	Caltrans	SSSC	A (A) / 4 (7)	A (A) / 5 (8)
2. SR 120 WB Ramps / Yosemite Avenue	Caltrans	SSSC	A (A) / 2 (8)	A (A) / 2 (8)
3. Yosemite Avenue / D'Arcy Parkway	City of Lathrop	Signal	A / 6	A / 9
4. Yosemite Avenue / McKinley Avenue	City of Manteca	AWS	A / 9	B / 12
5. Yosemite Avenue / Airport Way	City of Manteca	Signal	C / 30	D / 51
6. Lathrop Road / McKinley Avenue	City of Lathrop	SSSC	A (B) / 1 (14)	A (C) / 3 (25)

7. Louise Avenue / McKinley Avenue	City of Lathrop	Signal	C / 23	**F / 89**
8. Airport Way / Daniels Street	City of Manteca	Signal	B / 15	C / 30
9. SR 120 WB Ramps / Airport Way	Caltrans	Signal	B / 10	B / 18
10. SR 120 EB Ramps / Airport Way	Caltrans	Signal	B / 11	C / 31

Notes:

1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
2. SSSC = side-street stop-controlled intersection, AWSC = all-way stop-controlled intersection
3. Level of Service based on Highway Capacity Manual (Transportation Research Board, 2000).
4. Bold and underlined text indicates unacceptable operations.

Source: Fehr & Peers, 2013

The data in this table establishes the baseline to which potential project impacts will be identified. The results of the Existing Conditions analysis indicate that most study intersections currently operate at LOS A through LOS D service levels during the AM and PM peak hours. The one exception is the Louise Avenue/McKinley Avenue intersection which currently operates at unacceptable LOS F during PM peak hour conditions.

EXISTING PEAK HOUR TRAFFIC SIGNAL WARRANTS

To assess consideration for signalization of stop-controlled intersections, the *Manual of Uniform Traffic Control Devices* (MUTCD) (Federal Highway Administration, 2010), presents eight signal warrants. Generally, meeting one of the signal warrants could justify signalization of an intersection. However, an evaluation of all applicable warrants should be conducted and additional factors (e.g., congestion, approach conditions, driver confusion) should be considered before the decision to install a signal is made. The peak hour volume warrant (Warrant 3) for urban conditions was evaluated using the available data. The results of the traffic signal warrant analysis are shown in Table 3.14-6. Detailed signal warrant assessments are provided in Appendix H. As shown in Table 3.14-6, the urban peak hour volume traffic signal warrant is currently satisfied at the Lathrop Road/McKinley Avenue intersection.

Table 3.14-6
Existing Conditions - Peak Hour Signal Warrant Analysis

Intersection	Control[1]	Peak Hour Warrant Met?
1. SR 120 EB Ramps / Yosemite Avenue	SSSC	NO
2. SR 120 WB Ramps / Yosemite Avenue	SSSC	NO
4. Yosemite Avenue/McKinley Avenue	AWS	NO
6. Lathrop Road / McKinley Avenue	SSSC	YES

Note:

1. SSSC = side-street stop-controlled intersection, AWSC = all-way stop-controlled intersection

Source: Fehr & Peers, 2013

EXISTING ROADWAY OPERATIONS

Daily roadway segment level of service results were determine by comparing average daily traffic volumes (ADT) to the level of service thresholds presented in Table3.14-3. The existing roadway level of service results are presented in Table 3.14-7.

Table 3.14-7
Existing Conditions – Roadway Segment Operations

Segment	Roadway Classification	Average Daily Traffic (ADT)[1]	LOS
Yosemite Avenue between SR 120 and D'Arcy Parkway	2 Lanes Undivided	5,800	C
Yosemite Avenue between D'Arcy Parkway and Airport Way	2 Lanes Undivided	7,900	D

Note:
1. Volumes represent both directions of travel and are rounded to the nearest 100.

Source: Fehr & Peers, 2013

As shown in Table 3.14-7, both roadway segments on Yosemite Avenue (Guthmiller Road) currently operate at acceptable service levels.

EXISTING FREEWAY OPERATIONS

Table 3.14-8 displays the AM and PM peak hour operations of freeway segments within the study area.

Table 3.14-8:
Existing Conditions – Freeway Analysis

Freeway	Location	Type	LOS / Average Density	
			AM Peak Hour	PM Peak Hour
Eastbound SR 120	SB I-5 Off-ramp	Merge	B / 18	D / 31
	NB I-5 to Yosemite Avenue	Basic	C / 18	D / 34
	Yosemite Avenue Off-Ramp	Diverge	C / 24	E / 38
	Yosemite Avenue On-Ramp	Merge	B / 19	D / 32
	Yosemite Avenue to Airport Way	Basic	B / 18	D / 33
	Airport Way Off-Ramp	Diverge	C / 22	E / 36
	Airport Way On-Ramp	Merge	C / 20	D / 31
Westbound SR 120	Airport Way Off-Ramp	Diverge	D / 33	D / 32
	Airport Way On-Ramp	Merge	D / 30	C / 26
	Airport Way to Yosemite Avenue	Basic	D / 31	C / 25

	Yosemite Avenue Off-Ramp	Diverge	D / 35	D / 31
	Yosemite Avenue On-Ramp	Merge	D / 30	C / 27
	Yosemite Avenue to NB I-5	Basic	D / 31	D / 26
	NB I-5 On-Ramp	Diverge	D / 34	D / 31
Northbound I-5	South of SR 120	Basic	B / 13	C / 23
	WB SR 120 Off-Ramp	Merge	B / 15	C / 24
	North of SR 120	Basic	B / 18	D / 26
Southbound I-5	North of SR 120	Basic	C / 22	C / 21
	EB SR 120 On-Ramp	Diverge	C / 27	C / 24
	WB SR 120 Off-Ramp	Merge	B / 15	B / 11
	South of SR 120	Basic	C / 21	B / 15

Notes:

1. Average density is reported in passenger cars per lane per mile (pcplpm).
2. Level of Service based on Highway Capacity Manual (Transportation Research Board, 2000).
3. Density is not reported for LOS F conditions.

Source: Fehr & Peers, 2013

Table 3.14-8 yields the following key conclusions regarding operations on SR 120:

- AM Peak Hour: The westbound SR 120 ramp merge/diverge movements and mainline segments between Airport Way and I-5 currently operates at LOS D conditions.
- PM Peak Hour: The eastbound SR 120 ramp diverge movements at Yosemite Avenue and Airport Way currently operates at LOS E conditions. All other eastbound SR 120 study segments operate at LOS D. In the westbound direction, all study segments operate at an acceptable LOS.

3.14.6 PROJECT TRAVEL CHARACTERISTICS

PROJECT DESCRIPTION

Project Description

For analysis purposes, the proposed project was assumed to consist of the following trip generating land uses (based on the building area from the Conceptual Mater Plan, the land use stated in the NOP, and discussions with the project team).

- 3,134,159 square feet of high cube warehouse space
- 1,079,759 square feet of general light industrial space
- 75,000 square feet of shopping center space
- Total of 4,288,918 square feet of development

TRIP GENERATION

The trip generation of the proposed project was estimated for daily, AM peak hour, and PM peak hour conditions using trip rates published in the *Trip Generation 9th Edition* (ITE, 2012). Table 3.14-9 summarizes the estimated trip generation of the project. According to the sample land use plan, the shopping center space would provide complimentary land uses to serve the employees working at the over 4 million square feet of high cube warehousing and general light industrial space.

It should be noted that an internal trip reductions of 10% was applied to the 75,000 square feet of shopping center space for AM, PM, and Daily trip generation. Based on the location of the proposed project and similar mixed use developments in the City of Lathrop (i.e. Crossroads Commerce Center), the trip making characteristics used in the Transportation Section analysis is conservative.

TABLE 3.14-9:
PROJECT TRIP GENERATION

Land Use	Quantity [1,000 sf]	ITE Land Use Code	Peak Hour Trip Rate[1]			Trips								
			AM	PM	Daily	AM Peak Hour			PM Peak Hour			Daily		
						In	Out	Total	In	Out	Total	In	Out	Total
High Cube Warehouse	3,134.159	152	0.09	0.10	1.44	238	107	345	117	260	377	2,633	2,633	5,266
General Light Industrial	1,079.759	110	0.92	0.97	6.97	874	119	993	126	922	1,048	3,763	3,763	7,526
Shopping Center	75	820	1.00	3.73	42.94	45	27	72	134	145	279	1,601	1,601	3,202
Internalization of Project Trips (10% AM, PM, and Daily Retail Trips)						-5	-3	-8	-13	-15	-28	-160	-160	-320
Total	**4,288.918**	Gross Trips				**1,152**	**250**	**1,402**	**364**	**1,312**	**1,676**	**7,837**	**7,837**	**15,674**

Notes:

1. Trip rates from Trip Generation (ITE, 9th Edition - 2012)

Source: Fehr & Peers, 2013

The project is expected to generate approximately 1,402 AM peak hour (with 1,152 inbound and 250 outbound), 1,676 PM peak hour (with 364 inbound and 1,312 outbound), and 15,674 new daily vehicle trips.

TRIP DISTRIBUTION/ASSIGNMENT

The expected distribution of project trips onto the adjacent roadway network was determined based on the following analytical techniques:

- Project-only traffic assignment using the Base Year SJCOG travel demand model. This process consists of adding the proposed project to the traffic model, rerunning the model,

and tracking the number/directionality of project trips assigned to the surrounding roadway network.

- Location of complementary land uses (e.g., employment, shopping, schools, etc.).
- Review of existing travel patterns for nearby residential and commercial developments.

Figure 3.14-3 shows the projected distribution of project trips under existing plus project conditions. Forty-five percent (45%) of project trips will be distributed to/from the east on SR 120. An additional 14 percent of project trips are projected to travel northerly on Yosemite Avenue. And the remaining 41 percent of project trips are inter-regional trips projected to travel to/from the west on SR 120 to either I-205 (Tracy and the San Francisco Bay Area) or I-5 North (Stockton and the Sacramento Valley).

Figure 3.14-4 shows the expected distribution of project trips under cumulative conditions. The cumulative distribution is similar to that of existing, but considers planned roadway improvements and new land use developments that may attract project trips. This figure shows that 45 percent of project trips are expected to travel to/from the east on SR 120, 41 percent to/from the west on SR 120, and 14 percent to/from the north on Yosemite Avenue.

3.14.7 IMPACTS AND MITIGATION MEASURES

EXISTING PLUS PROJECT TRAFFIC IMPACT ANALYSIS

An Existing Plus Project analysis was performed to identify potential impacts under existing conditions.

Traffic Forecasts

Project trips were assigned to the study intersections in accordance with the trip generation estimates and distribution percentages described in Section 3.14.3. Figure 3.14-5 shows the project trips for AM and PM peak hours. Those trips were then added to the existing volumes to yield "existing plus project" conditions. Refer to Figure 3.14-6 for the existing plus project volumes.

Intersection Operations

The study intersections were re-analyzed under existing plus project conditions. The results are shown in Table 3.14-10.

Table 3.4-10
Existing Plus Project Conditions – Intersection Operations

Intersection	Jurisdiction	Traffic Control[2]	LOS / Delay[1]			
			Existing		Existing Plus Project	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1. SR 120 EB Ramps / Yosemite Avenue	Caltrans	SSSC	A (A) / 4 (7)	A (A) / 5 (8)	**F (F) / 60 (164)**	**F (F) / 180 (>180)**
2. SR 120 WB Ramps / Yosemite Avenue	Caltrans	SSSC	A (A) / 2 (8)	A (A) / 2 (8)	**F (F) / >180 (>180)**	**F (F) / >180 (>180)**
3. Yosemite Avenue / D'Arcy Parkway	City of Lathrop	Signal	A / 6	A / 9	A / 6	A / 10
4. Yosemite Avenue / McKinley Avenue	City of Manteca	AWS	A / 9	B / 12	B / 11	C / 17
5. Yosemite Avenue / Airport Way	City of Manteca	Signal	C / 30	D / 51	C / 32	**D / 54**
6. Lathrop Road / McKinley Avenue	City of Lathrop	SSSC	A (B) / 1 (14)	A (C) / 3 (25)	A (B) / 1 (14)	A **(D)** / 3 **(27)**
7. Louise Avenue / McKinley Avenue	City of Lathrop	Signal	C / 23	**F / 89**	C / 23	**F / 90**
8. Airport Way / Daniels Street	City of Manteca	Signal	B / 15	C / 30	B / 16	C / 30
9. SR 120 WB Ramps / Airport Way	Caltrans	Signal	B / 10	B / 18	B / 11	B / 18
10. SR 120 EB Ramps / Airport Way	Caltrans	Signal	B / 11	C / 31	B / 11	C / 29

Notes:

1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
2. SSSC = Side-Street-Stop Controlled intersection; AWS = All-Way Stop Controlled intersection
3. Level of Service based on Highway Capacity Manual (Transportation Research Board, 2000).
4. Bold and underlined text indicates unacceptable operations. Shaded cells indicate a significant impact.

Source: Fehr & Peers, 2013

The data in this table indicates that with the addition of project trips, most study intersections are projected to operate at acceptable service levels during the AM and PM peak hours under Existing Plus Project conditions, except for the following intersections:

- SR 120 EB Ramps / Yosemite Avenue side-street movement would operate at LOS F during both AM and PM peak hours
- SR 120 WB Ramps / Yosemite Avenue side-street movement would operate at LOS F during both AM and PM peak hours
- Lathrop Road/McKinley Avenue side-street movement would operate at LOS D in the PM peak hour
- Louise Avenue / McKinley Avenue operates at LOS F in the PM peak hour

The Lathrop Road/McKinley Avenue intersection and Louise Avenue/McKinley intersection are not identified as an impact because the average delay does not increase greater than five seconds.

Peak Hour Traffic Signal Warrant Analysis

The four unsignalized study intersections were re-evaluated to determine if they satisfy the Peak Hour warrant for consideration of a traffic signal with the addition of project trips.

As shown in Table 3.14-11, with the addition of project traffic, three of the four unsignalized intersections satisfy the warrant during one or both peak hours under existing plus project conditions.

Table 3.14-11
Existing Plus Project Conditions – Peak Hour Signal Warrant Analysis

Intersection	Control[1]	Peak Hour Warrant Met?
1. SR 120 EB Ramps / Yosemite Avenue	SSSC	YES
2. SR 120 WB Ramps / Yosemite Avenue	SSSC	YES
4. Yosemite Avenue/McKinley Avenue	AWS	NO
6. Lathrop Road / McKinley Avenue	SSSC	YES

Note:
1. SSSC = side-street stop-controlled intersection, AWSC = all-way stop-controlled intersection
Source: Fehr & Peers, 2013

An evaluation of all applicable warrants should be conducted and additional factors (e.g., congestion, approach conditions, driver confusion) should be considered before the decision to install a signal is made. Detailed signal warrant calculations are provided in Appendix H.

Impact 3.14-1: Under Existing Plus Project Conditions, project implementation would result in a significant impact at the SR 120/Yosemite Avenue unsignalized ramp-terminal intersections (#1 & 2) (Significant and Unavoidable).

These two ramp-terminal intersections currently operate at LOS A during both the AM and PM peak hours for the side-street approach (i.e., the SR 120 off-ramps) and do not satisfy the peak hour volume signal warrant. The addition of project traffic would impact the ramp-terminal intersection operations from acceptable LOS A to unacceptable LOS F during both peak hours, as well as cause the intersection to meet the peak hour signal warrant. This is a **significant impact.**

MITIGATION MEASURES

Mitigation Measure 3.14-1: *At the SR 120 / Yosemite Avenue interchange, the City of Lathrop in coordination with Caltrans will prepare a Project Study Report – Project Development Support (PSR-PDS) document. Implementation of the following mitigation measures would improve operations at the SR 120/Yosemite Avenue Interchange ramp-terminal intersections to an acceptable level of service.*

Improvements needed to accommodate 50% Build-out of South Lathrop Specific Plan

1. *Install traffic signal control at both ramp-terminal intersections and provide coordinated signal operation. An evaluation of all applicable signal warrants should be conducted and additional factors (e.g., congestion, approach conditions, driver confusion) should be considered before the decision to install a signal is made.*

2. *Widen the eastbound and westbound off-ramps to accommodate one shared through/left-turn lane and a separate right-turn lane.*

3. *Widen Guthmiller Road (south of SR 120) to four lanes to provide one through and one right turn lane on the northbound approach.*

Improvements needed to accommodate 100% Build-out of South Lathrop Specific Plan are presented on Figure 3.14, and include the following

1. *Widen the SR 120 undercrossing to four lanes with two through lanes and one left-turn lane on the northbound approach to the westbound ramp-terminal intersection and on the southbound approach to the eastbound ramp-terminal intersection. Tieback walls will be necessary to accommodate widening under SR 120 and will be identified as part of a PSR/PDS.*

2. *Install traffic signal control at both ramp-terminal intersections and provide coordinated signal operation. An evaluation of all applicable signal warrants should be conducted and additional factors (e.g., congestion, approach conditions, driver confusion) should be considered before the decision to install a signal is made.*

3. *Widen the eastbound and westbound off-ramps to accommodate one shared through/left-turn lane and a separate right-turn lane.*

In addition to the improvements identified above, the PSR/PDS will also include Intelligent Transportation System (ITS) alternatives that will provide emergency vehicle access in the event of an emergency or natural disaster. Alternatives may include either infra-red / GPS enabled traffic signal pre-emption and/or emergency vehicle access via locked gates.

These two study intersections are under Caltrans jurisdiction. The City of Lathrop would be responsible for the intersection improvement, acquisition of right-of-way, and construction. However, Caltrans would serve as the approval agency for the design and construction of proposed interchange / intersection improvements.

SIGNIFICANCE AFTER MITIGATION

Implementation of the improvements outlined above (Mitigation Measure 3.14-1), would reduce the impact to a less than significant level. As shown in Table 3.14-12, the SR 120 EB Ramps

intersection would operate at LOS A with 9 seconds of delay in the AM peak hour and LOS C with 22 seconds of delay in the PM peak hour. The SR 120 WB ramp intersection would operate at LOS B with 17 seconds of delay in the AM peak hour and LOS C with 21 seconds of delay in the PM peak hour. However, these measures are within the jurisdiction of Caltrans and beyond the control of the City of Lathrop to implement without Caltrans approval. Furthermore, funding for these has not been secured. If Caltrans does not approve the proposed improvements and/or full funding is not secured, then the intersections would continue to operate at an unacceptable level of service. Due to the fact that the implementation of these measures is beyond the control of the City of Lathrop and that full improvement funding has not been secured, the impact is considered to be **significant and unavoidable.**

Impact 3.14-2: Under Existing Plus Project Conditions, project implementation would add traffic to the Yosemite Avenue/Airport Way intersection and result in unacceptable levels of service in the PM peak hour (Significant and Unavoidable).

The Yosemite Avenue/Airport Way intersection currently operates at LOS D with 51 seconds of delay in the PM peak hour. The addition of project traffic would result in unacceptable LOS E operations with 56 seconds of delay. This is a **significant impact.**

MITIGATION MEASURES

Mitigation Measure 3.14-2: *The following mitigation measure would be required with completion and occupancy of 25% (1,072,000 square feet) of the proposed project's total development to improve operations at the Yosemite Avenue/Airport Way intersection to an acceptable level of service:*

- *Add an eastbound right turn lane with a storage pocket of 200 feet.*

This study intersection is in the City of Manteca. The City of Manteca would be responsible for the intersection improvement, acquisition of right-of-way, and the construction of proposed intersection improvements.

SIGNIFICANCE AFTER MITIGATION

Implementation of the improvements outlined above (Mitigation Measure 3.14-2), would reduce the impact to a less than significant level. As shown in Table 3.14-12, the Yosemite Avenue/Airport Way intersection would operate at LOS C with 32 seconds of delay in the AM peak hour and LOS D with 50 seconds of delay in the PM peak hour with mitigation. However, as implementation of these measures is beyond the control of the City of Lathrop, this impact is considered to be **significant and unavoidable.**

Impact 3.14-3: Under Existing Plus Project Conditions, project implementation would add traffic to the Louise Avenue/McKinley Avenue intersection which currently operates at unacceptable levels of service (Less than significant).

The Louise Avenue/McKinley Avenue intersection currently operates at LOS F with 89 seconds of delay in the PM peak hour. The addition of project traffic would exacerbate the intersection's operations to LOS F with 91 seconds of delay. However, the added project traffic would not increase the intersection's overall average delay by more than 5 seconds; therefore, based on the significance criteria, the project impacts at this study intersection would be **less than significant.**

Table 3.14-12
Existing Plus Project with Mitigations – Intersection Operations

Intersection	Jurisdiction	LOS / Delay[1]					
		Existing		Existing Plus Project		Existing Plus Project with Mitigation	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1. SR 120 EB Ramps / Yosemite Avenue	Caltrans	A (A) / 4 (7)	A (A) / 5 (8)	**B (40) / B (E)**	**F (F) / 173 (>180)**	A / 9	C / 22
2. SR 120 WB Ramps / Yosemite Avenue	Caltrans	A (A) / 2 (8)	A (A) / 2 (8)	**F (F) / 95 (>180)**	**F (F) / >180 (>180)**	17 / B	C / 21
5. Yosemite Avenue / Airport Way	City of Manteca	C / 30	D / 51	C / 33	**E / 56**	C / 32	D / 50

Notes:

1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
2. SSSC = Side-Street-Stop Controlled intersection; AWS = All-Way Stop Controlled intersection
3. Level of Service based on Highway Capacity Manual (Transportation Research Board, 2000).
4. Bold and underlined text indicates unacceptable operations. Shaded cells indicate a significant impact.
5. Refer to previous page(s) for description of mitigations.

Source: Fehr & Peers, 2013

Roadway Segments Analysis

Table 3.14-13 compares the change in AM and PM peak hour traffic volumes on key roadway and freeway segments under existing and existing plus project conditions. This data shows the following:

- The project adds the largest amount of traffic to Yosemite Avenue north of SR 120. This represents a 7 percent (AM Peak Hour) to 28 percent (PM Peak Hour) increase in traffic over the existing volume.

- The project adds the largest amount of traffic to WB SR 120 east of Yosemite Avenue (about 456 peak hour trips) in the AM peak hour, and on EB SR 120 east of Yosemite Avenue about 530 peak hour trips) in the PM peak hour.

Table 3.14-13
Existing Plus Project Conditions – Roadway/Freeway Segment Peak Hour Volumes

Roadway/Freeway Segment	Existing Conditions		Project-Added Trips		Existing Plus Project Conditions	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
EB SR 120 west of Yosemite Avenue	2,081	3,847	416	142	2,497 (20.0%)	3,989 (3.7%)
EB SR 120 east of Yosemite Avenue	2,005	3,778	103	530	2,108 (5.1%)	4,308 (14.0%)
WB SR 120 east of Yosemite Avenue	3,308	2,490	456	156	3,764 (13.8%)	2,645 (6.2%)
WB SR 120 west of Yosemite Avenue	3,321	2,577	93	483	3,414 (2.8%)	3,060 (18.7%)
Yosemite Avenue north of SR 120	415	588	32	165	447 (7.7%)	753 (28.1%)

Note:
1. Volume on Yosemite Avenue includes both directions of travel.
2. (x.x%) = Percent increase in traffic due to project.

Source: Fehr & Peers, 2013

The two roadway segments on Yosemite Rd/Yosemite Avenue were reanalyzed under Existing Plus Project conditions. As shown in Table 3.14-14, the project would add a 34 percent increase over the existing volume on Yosemite Avenue north of SR 120 and a 16 percent increase on Yosemite Avenue west of Airport Way. The addition of project traffic on the two roadway segments are not great enough to cause an impact as both segments continue to operate at an acceptable LOS D.

Table 3.14-14
Existing Plus Project Condition – Roadway Segment Operations

Segment	Roadway Classification	Average Daily Traffic (ADT)[1]			Existing Plus Project LOS
		Existing	Project Trips	Existing Plus Project Trips	
Yosemite Avenue between SR 120 and D'Arcy Parkway	2 Lanes Undivided	5,800	1,990	7,790 (34%)	D
Yosemite Avenue between D'Arcy Parkway and Airport Way	2 Lanes Undivided	7,900	1,280	9,180 (16%)	D

Note:
2. Volumes represent both directions of travel and are rounded to the nearest 10.
3. (x%) = Percentage increase in traffic between existing and existing plus project conditions.

Source: Fehr & Peers, 2013

Freeway Operations

Existing Plus Project freeway operations were evaluated for AM and PM peak hours. Freeway segment LOS is summarized in Table 3.14-15. As shown, the project would exacerbate the following freeway segments in the PM peak hour on eastbound SR 120 between Yosemite Avenue and Airport Way:

- Freeway segment between NB I-5 and Yosemite Avenue degrades to LOS E
- Diverge at Yosemite Avenue exacerbates LOS E operations
- Merge at Yosemite Avenue degrades to LOS F
- Freeway segment between Yosemite Avenue and Airport Way degrades to LOS E
- Diverge at Airport Way exacerbates LOS E operations
- Merge at Airport Way degrades to LOS E

Table 3.14-15
Existing Plus Project Conditions – Freeway Analysis

Freeway	Location	Type	LOS / Average Density			
			Existing		Existing Plus Project	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Eastbound SR 120	SB I-5 Off-ramp	Merge	B / 18	D / 31	C / 22	D / 32
	NB I-5 to Yosemite Avenue	Basic	C / 18	D / 34	C / 22	**E / 36**
	Yosemite Avenue Off-Ramp	Diverge	C / 24	**E / 38**	C / 28	**E / 39**
	Yosemite Avenue On-Ramp	Merge	B / 19	D / 32	C / 20	**F / --**
	Yosemite Avenue to Airport Way	Basic	B / 18	D / 33	C / 19	**E / 42**
	Airport Way Off-Ramp	Diverge	C / 22	**E / 36**	C / 23	**E / 41**
	Airport Way On-Ramp	Merge	C / 20	D / 31	C / 21	**E / 35**
Westbound SR 120	Airport Way Off-Ramp	Diverge	D / 33	D / 32	**E / 37**	D / 34
	Airport Way On-Ramp	Merge	D / 30	C / 26	D / 34	C / 27
	Airport Way to Yosemite Avenue	Basic	D / 31	C / 25	**E / 38**	D / 27
	Yosemite Avenue Off-Ramp	Diverge	D / 35	D / 31	**E / 39**	D / 32
	Yosemite Avenue On-Ramp	Merge	D / 30	C / 27	D / 31	D / 32
	Yosemite Avenue to NB I-5	Basic	D / 31	D / 26	D / 32	D / 33
	NB I-5 On-Ramp	Diverge	D / 34	D / 31	**E / 35**	**E / 36**
Northbound I-5	South of SR 120	Basic	B / 13	C / 23	B / 13	C / 23
	WB SR 120 Off-Ramp	Merge	B / 15	C / 24	B / 16	C / 27
	North of SR 120	Basic	B / 18	D / 26	C / 18	D / 29
Southbound I-5	North of SR 120	Basic	C / 22	B / 18	C / 24	C / 21
	EB SR 120 On-Ramp	Diverge	C / 27	C / 24	D / 29	C / 28
	WB SR 120 Off-Ramp	Merge	B / 15	B / 11	B / 15	B / 21
	South of SR 120	Basic	C / 21	B / 15	C / 21	B / 13

Notes:
1. Density estimates are rounded to nearest second. Corresponding LOS is based on first significant digit using HCM thresholds.
2. Weave sections were analyzed using the Leisch Method. Density is not reported.
3. Bold and underlined text indicates unacceptable operations. Shaded cells indicate a significant impact.

Source: Fehr & Peers, 2013

Impact 3.14-4: Under Existing Plus Project Conditions, project implementation would result in a significant impact to freeway facilities (Significant and Unavoidable).

As shown in Table 3.14-15, the addition of project traffic would exacerbate unacceptable operations (LOS E or F) on the following freeway facilities. This is a **significant impact.**

- Eastbound SR 120 between I-5 and Yosemite Avenue
- Eastbound SR 120 diverge at Yosemite Avenue
- Eastbound SR 120 merge at Yosemite Avenue
- Eastbound SR 120 mainline between Yosemite Avenue and Airport
- Eastbound SR 120 diverge at Airport Way
- Eastbound SR 120 merge at Airport Way
- Westbound SR 120 diverge at Airport Way
- Westbound SR 120 mainline between Airport Way and Yosemite Avenue
- Westbound SR 120 diverge at Yosemite Avenue
- Westbound SR 120 mainline between Yosemite Avenue and I-5
- Westbound SR 120 diverge at the I-5 NB on-ramp

MITIGATION MEASURES

Mitigation Measure 3.14-4: *The following mitigation measures would potentially improve SR 120 operations to an acceptable level of service:*

- *The project applicant shall pay the appropriate San Joaquin Regional Traffic Impact Fee (RTIF), which is collecting fees from new developments to help fund widening of SR 120 to six lanes.*

SIGNIFICANCE AFTER MITIGATION

The widening of SR 120 to six lanes would potentially improve operations at each impacted location to an acceptable level. Implementation of this mitigation measure would reduce the significance of the impact. However, the impact would remain **significant and unavoidable** because this improvement is within the jurisdiction of Caltrans and is not scheduled to be completed by the time demand is anticipated to be under Existing Plus Project conditions.

Impact 3.14-5: The proposed project provides pedestrian and bicycle facilities. (Less than Significant)

The Plan Area roadways will provide wide sidewalks to serve as multi-use facilities for pedestrian and bicycle circulation. In addition, pedestrian access to the San Joaquin River Trail will be provided through the industrial land use along the power line corridor. The project will not disrupt or conflict with any existing or planned bicycle or pedestrian facility. Therefore, this impact is considered **less than significant.**

MITIGATION MEASURES

No mitigation required.

Impact 3.14-6: The proposed project does not identify specific transit facilities (such as sheltered transit stops or pullouts). (Less than Significant)

The project description does not describe specific transit facilities or amenities planned within the project site. The project would not disrupt existing or planned transit services or facilities or create an inconsistency with a General Plan policy relating to transit. However, because the project does not include provisions to accommodate future transit service, this impact is considered **significant**.

MITIGATION MEASURES

Mitigation Measure 3.14-5: *The project applicant shall incorporate bus turnouts and shelters into the preparation of the South Lathrop Specific Plan as required by the City's General Plan.*

SIGNIFICANCE AFTER MITIGATION

Implementation of this mitigation measure would reduce the above transit impact to a **less than significant** level.

Impact 3.14-7: The proposed project could add STAA truck traffic to the SR 120/Yosemite Avenue Interchange, which is not STAA approved. This is considered a potentially significant impact. (Significant and Unavoidable)

SR 120 is designated as a Terminal Access Route for Surface Transportation Assistance Act (STAA) Trucks. Terminal Access Routes allow STAA trucks traveling on the National Network access to distribution terminals. As outlined in the project description, the project would allow warehousing and distribution land uses. Therefore the project would add STAA trucks traffic to the SR 120/Yosemite Avenue Interchange, which is not STAA approved, due to existing intersection geometrics that would cause STAA design vehicles to encroach (off-track) onto oncoming travel lanes. This is considered a **significant impact**.

MITIGATION MEASURES

Implement Mitigation Measure 3.14-1 (SR 120/Yosemite Avenue Interchange Improvements).

SIGNIFICANCE AFTER MITIGATION

Implementation of the improvements outlined above (Mitigation Measure 3.14-7), would reduce the impact to a less than significant level. However, these measures are within the jurisdiction of Caltrans and beyond the control of the City of Lathrop to implement without Caltrans approval. Furthermore, funding for these has not been secured. If Caltrans does not approve the proposed improvements and/or full funding is not secured, then the intersections would continue to operate

at an unacceptable level of service. Due to the fact that the implementation of these measures is beyond the control of the City of Lathrop and that full improvement funding has not been secured, the impact is considered to be **significant and unavoidable.**

Impact 3.14-8: The proposed project could cause potentially significant impacts to at-grade rail crossings. (Less than Significant)

Yosemite Avenue features an at-grade crossing of a UP railroad track between McKinley Avenue and Airport Way. The project would results in the volume of traffic crossing this track to increase from 7,900 to 8,830 vehicles per day. This crossing has advanced warning signs, railroad crossing pavement markings, stop lines, crossing gates, flashing lights, a concrete crossing, and warning bells. The project would not cause an increase in delay during train crossings that would correspond to LOS D or worse conditions. Furthermore, the project would not add traffic to an at-grade crossing with a known safety problem. Therefore, this impact is considered less than significant.

MITIGATION MEASURES

No mitigation required.

Impact 3.14-9: The proposed project could result in inadequate emergency vehicle access. (Significant and Unavoidable)

As proposed, all emergency vehicles would need to use Yosemite Avenue to access the project site. If Yosemite Avenue were to become impassable due to an incident (i.e., fire, flooding, auto accident), emergency responders could not reach the project site nor could the site be evacuated. This is considered a **significant impact.**

MITIGATION MEASURES

Mitigation Measure 3.14-6: The project applicant has evaluated the ability to provide a secondary access point and has determined that the feasibility and cost are prohibitive. As part of Mitigation Measure 3.14-1, the PSR/PDS will *also include Intelligent Transportation System (ITS) alternatives that will provide emergency vehicle access in the event of an emergency or natural disaster. Alternatives may include either infra-red / GPS enabled traffic signal pre-emption and/or emergency vehicle access via locked gates.*

SIGNIFICANCE AFTER MITIGATION

The SR 120 / Yosemite Avenue interchange is within the jurisdiction of Caltrans and beyond the control of the City of Lathrop. Therefore, this impact is considered to be **significant and unavoidable.**

CUMULATIVE (2030) CONDITIONS TRAFFIC IMPACT ANALYSIS

A Cumulative Conditions analysis was performed to identify potential impacts in year 2030. Roadway assumptions and associated traffic forecasts plus the results of the intersection and

freeway segment operations analysis, both with and without the project, are presented in this chapter.

Cumulative Roadway Assumptions

The future cumulative roadway network includes certain roadway improvements, consistent with the SJCCOG's Regional Transportation Plan (RTP) and the list of Tier I projects. Tier 1 Projects are defined as funded regional transportation improvements that support the level of development anticipated to be in place in San Joaquin County by the Year 2030. Major improvements included under Cumulative Conditions are summarized below:

- SR 120 – widened to six-lanes from I-5 to SR 99.
- I-5 – widened to 12 lanes south of SR 120.
- I-5 – widened to four lanes with one HOV lane.
- SR 120/McKinley Avenue interchange – partial cloverleaf design with lane configurations similar to those in the State Route 120/McKinley Avenue Interchange Project Approval and Environmental Document (PA/ED).
- Lathrop Road – widened to four lanes from I-5 to east of the UPPR.
- Louise Avenue – widened to four lanes from Lathrop SPRR to east side of UPRR.
- Airport Way Widening – widened to four lanes between Yosemite Avenue and Woodward Avenue (with exception of SR 120 overcrossing).
- Yosemite Avenue Widening – from two to six lanes from SR 120 to approximately 800 feet north of the westbound SR 120 off-ramp, and from two to four lanes to east of Airport Way.

In addition to the above, a number of locally funded projects in the City of Lathrop and the City of Manteca, including the widening of Yosemite Avenue between D'Arcy Guthmiller Road and McKinley Avenue, extensions of Atherton Drive and Daniels Street, and widening of Union Road. Improvements were not assumed at the SR 120/Airport Way interchange because they are shown as a Tier II (unfunded) improvement in the 2011 Final RTP. Planned roadway improvements in the study area are shown on Figure 3.14-8.

Cumulative Intersection Improvements

Selected intersection improvements were assumed to occur by 2030 as summarized in Table 3.14-16 and presented in Figure 3.14-9. The intersection of Yosemite Avenue/McKinley Avenue was assumed to be widened to provide separate eastbound and westbound left-turn, right-turn, and two through lanes to be consistent with the planned widening of Yosemite Avenue. Cumulative intersection operating conditions were assessed with improvements at the intersections listed in Table 3.14-16 and the existing lane configurations for the remaining study intersections.

Table 3.14-16
Cumulative Intersection Improvements

Study Intersection	Added Signal?	Lane Geometry Changes[1]
4. Yosemite Avenue / McKinley Avenue	Yes	• Widen NB approach to add 1 left-turn lane, 1 through lane, and 1 right turn-lane • Widen SB approach to add 1 left-turn lane, 1 through lane, and 1 right turn-lane • Widen EB approach to add 1 left-turn lane, 2 through lanes, and 1 right turn-lane • Widen WB approach to add 1 left-turn lane, 2 through lanes, and 1 right turn-lane
5. Yosemite Avenue / Airport Way	No (Already Signalized)	• Widen NB approach to add 1 left-turn lane Widen SB approach to add 1 left-turn lane
6. Lathrop Road / McKinley Avenue	No	• Widen EB approach to add 1 through lane • Widen WB approach to add 1 through lane
11. SR 120 WB Ramps / McKinley Avenue	Yes	• Add WB off-ramp to include 1 left-turn lane, 1 shared through/right-turn lane, 2 right-turn lanes • Add two-lane WB on-ramp • Widen NB approach to add 2 through lanes and 2 right-turn lanes • Widen SB approach to add 2 through lanes and 2 right-turn lanes
12. SR 120 EB Ramps / McKinley Avenue	Yes	• Add EB off-ramp to include 1 left-turn lane, 1 shared through/left-turn lane, 3 right-turn lanes • Add two-lane EB on-ramp • Widen NB approach to add 3 through lanes and 1 right-turn lane • Widen SB approach to add 2 through lanes and 1 right-turn lane

Notes:
1. EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound
Source: Fehr & Peers, 2013

Cumulative Planned Projects

The San Joaquin Council of Governments (SJCOG) Travel Demand Model was modified to reflect the following reasonable and foreseeable land uses in the study area:

- Lathrop Gateway Business Park – situated north of SR 120 between Yosemite Avenue and McKinley Avenue, which could yield a maximum of 5.43 million square feet of non-residential according to that project's EIR.
- Machado Estates – 575 dwelling units located south of Woodward Avenue and west of Airport Way.
- Terra Ranch – 409 dwelling units located directly west of Machado Estates.
- Oakwood shores – a partially developed residential project (475 dwelling units at build-out) located south of the project site on Oakwood Lane that has two access locations on Woodward Avenue west of McKinley Avenue.

- Manteca Trails – 1,651 dwelling units located south of Woodward Avenue and west of McKinley Avenue.

- Central Lathrop Specific Plan: The Central Lathrop Specific Plan proposes approximately 6,790 low-, medium- and high-density residential units and 11.5 acres of office/commercial land uses. The project also includes two schools and 200 acres of recreational land use and open space.

- Crossroads Commerce Center and Industrial Park: This project is located on a site south of Louise Avenue between Howland and Harlan Roads in East Lathrop and comprises 450 acres of Industrial and 48 acres of Highway Commercial-designated land. Although over 75% build-out, there are remaining parcels that are currently vacant or undeveloped.

- Historic Lathrop Infill and Other Developments East of I-5: The portion of the City east of Interstate (I-5) is anticipated to expand and add density in the future. Future residential growth of this area is expected on undeveloped/underutilized and redeveloped parcels consolidated from large lots where low density residential units would be demolished. All new residential projects are projected to consist of medium density residential units (i.e., small lot sizes).

- Mossdale Landing: Mossdale Landing is a mixed-use master planned community that is anticipated to be completed by 2015. An additional 1,236 low density and 409 medium density units are anticipated by project completion. In addition, the development is allocating approximately thirty-five acres of land for two schools, 40 acres for parks, and 25 acres for commercial development.

- Mossdale Landing East: Mossdale Landing East (formerly referred to as Lathrop Station) is proposed to be completed by 2015. The proposed development includes 100 existing low density residential units and will add 151 low-density, 293 medium density and 82 high density units. The development will include 6.5 acres of village commercial, 13.2 acres of service commercial and 27.5 acres of highway commercial land uses.

- Mossdale Landing South: Mossdale Landing South is a proposed 104-acre development that was to be completed by 2030. The development will consist of 297 medium density residential units. In addition, the project proposes 28 acres of commercial, 25 acres of open space and 9.5 acres of parks.

- River Islands: The 4,995-acre River Islands development would be located west of the San Joaquin River on Stewart Tract and Paradise Cut. River Islands would consist of 11,000 homes. The development also proposes a 260-acre employment center, a 47-acre town center, 265 acres of parks and two schools. The completion date for this project is 2030.

Cumulative Traffic Forecasts

Cumulative project traffic forecasts were developed using the SJCOG travel demand model. The process of developing forecasts followed a series of commonly-used quantitative steps in which

the amount of growth projected by the model is added to the existing counts in order to estimate future year traffic volumes. The specific steps used to develop traffic forecasts from the SJCOG model are presented below.

CUMULATIVE PROJECT TRAFFIC

Traffic forecasts for the Cumulative (2030) Year analysis were developed for the following project scenarios:

- The **Cumulative No Build** scenario presented in Figure 3.14-10 includes the 2030 planned roadways and developments, but only assumes the existing land use development in the South Lathrop Specific Plan Area.
- The **Cumulative Plus Project** scenario includes the 2030 planned roadways and developments, along with full build-out of the South Lathrop Specific Plan Area. Figure 3.14-11 presents project trips only and Figure 3.14-12 presents Cumulative Plus Project traffic volumes and lane configurations.

Traffic forecasts for the Cumulative No Project and Cumulative Plus Project scenarios were developed using the SJCOG travel demand model. A forecasting procedure known as the "difference method" was utilized to develop year 2030 forecasts from the SJCOG future year model. This method accounts for potential differences between the base year model and existing traffic counts that could otherwise transfer to the future year traffic forecast. This forecasting procedure is calculated as follows:

Year 2030 Forecast = Existing Volume + (Year 2030 SJCOG TDM – Base Year SJCOG TDM)

Figure 3.14-4 shows the distribution of proposed project trips, which would be slightly different under cumulative conditions (versus existing conditions) due to additional development adjacent to the SLSP project.

Intersection Operations

The study intersections, including the two future SR 120/McKinley interchange ramp-terminal intersections, were analyzed under Cumulative No Project and Cumulative Plus Project conditions. As shown in Table 3.14-17, most study intersections are projected to operate at acceptable service levels under Cumulative No project except the following:

- SR 120 EB Ramps/Yosemite Avenue side-street movement operates at LOS F in the AM and PM peak hours
- Lathrop Road/McKinley Avenue side-street movement operates at LOS F in the PM peak hour

- Louise Avenue/McKinley Avenue operates at LOS E in the AM peak hour and LOS F in the PM peak hour
- Airport Way/Daniels Street operates at LOS F in the AM and PM peak hours
- SR 120 WB Ramps/Airport Way operates at LOS F in the AM and PM peak hours
- SR 120 EB Ramps/Airport Way operates at LOS F in the AM and PM peak hours

Under Cumulative Plus Project conditions, the intersection of SR 120 WB Ramps/Yosemite Avenue would operate unacceptably in addition to the six intersections mentioned above. This intersection would operate at a LOS F during the AM and PM peak hours.

Table 3.14-17
Cumulative (2030) Conditions – Intersection Operations

Intersection	Jurisdiction	Traffic Control	LOS / Delay			
			No Project		Plus Project	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1. SR 120 EB Ramps / Yosemite Avenue	Caltrans	Side-Street Stop	**E (F) / 43 (54)**	**E (F) / 38 (81)**	**F (F) / 95 (>180)**	**F (F) / >180 (>180)**
2. SR 120 WB Ramps / Yosemite Avenue	Caltrans	Side-Street Stop	A (C) / 5 (18)	A (B) / 4 (16)	**F (F) / 118 (>180)**	**F (F) / 168 (>180)**
3. Yosemite Avenue / D'Arcy Parkway	City of Lathrop	Signal	A / 7	A / 8	A / 6	A / 8
4. Yosemite Avenue / McKinley Avenue	City of Manteca	Signal	D / 48	D / 36	D / 46	D / 39
5. Yosemite Avenue / Airport Way	City of Manteca	Signal	C / 21	C / 33	C / 22	C / 35
6. Lathrop Road / McKinley Avenue	City of Lathrop	Side-Street Stop	A **(D)**/ 2 **(31)**	A **(F)** / 7 **(96)**	A **(D)**/ 2 **(32)**	A **(F)** / 10 **(119)**
7. Louise Avenue / McKinley Avenue	City of Lathrop	Signal	**D / 54**	**F / >180**	**E / 58**	**F / >180**
8. Airport Way / Daniels Street	City of Manteca	Signal	**F / 124**	**F / >180**	**F / 131**	**F / >180**
9. SR 120 WB Ramps / Airport Way	Caltrans	Signal	**F / 142**	**F / 174**	**F / 143**	**F / 177**
10. SR 120 EB Ramps / Airport Way	Caltrans	Signal	**F / 75**	**F / >180**	**F / 174**	**F / >180**
11. SR 120 WB Ramps / McKinley Avenue	Caltrans	Signal	B / 13	B / 13	B / 15	B / 13
12. SR 120 EB Ramps / McKinley Avenue	Caltrans	Signal	B / 13	B / 14	B / 14	B / 15

Notes:

1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
2. Level of Service based on Highway Capacity Manual (Transportation Research Board, 2000).
3. Bold and underlined text indicates unacceptable operations. Shaded cells indicate a significant impact.

Source: Fehr & Peers, 2013

Peak Hour Traffic Signal Warrant Analysis

The three unsignalized study intersections were re-evaluated under cumulative conditions to determine if they would satisfy the Peak Hour warrant for consideration of a traffic signal. As shown in Table 3.14-18, all unsignalized intersections satisfy the warrant during one or both peak hours under cumulative no project and plus project conditions.

Table 3.14-18
Cumulative (2030) Conditions – Peak Hour Signal Warrant Analysis

Intersection	Traffic Control[1]	No Project	Plus Project
		Peak Hour Warrant Met?	Peak Hour Warrant Met?
1. SR 120 EB Ramps / Yosemite Avenue	SSSC	YES	YES
2. SR 120 WB Ramps / Yosemite Avenue	SSSC	YES	YES
6. SR 120 EB Ramps / Yosemite Avenue	SSSC	YES	YES

Note:
1. SSSC = side-street stop-controlled intersection, AWSC = all-way stop-controlled intersection
Source: Fehr & Peers, 2013

Impact 3.14-10: Under cumulative conditions, project implementation would exacerbate levels of service at the SR 120/Yosemite Avenue ramp-terminal intersections (Intersections 1&2) (Significant and Unavoidable).

The SR 120 EB Ramps/Yosemite Avenue intersection would operate at an unacceptable LOS F during the AM and PM peak hours under both Cumulative No Project and Cumulative Plus Project conditions. The addition of project traffic would exacerbate unacceptable operations and would increase average control delay for the critical turn movement at the intersection by more than five seconds. The SR 120 WB Ramps/Yosemite Avenue intersection would operate at an acceptable LOS C and B in the AM and PM peak hours, respectively under Cumulative No Project conditions. The addition of project traffic would result in unacceptable LOS F operations during both peak hours. Both intersections would satisfy the peak hour signal warrant of installation of traffic signal control. This is a **significant impact.**

MITIGATION MEASURES

Mitigation Measure 3.14-7: *At the SR 120 / Yosemite Avenue interchange, the City of Lathrop in coordination with Caltrans will prepare a Project Study Report – Project Development Support (PSR-PDS) document. The project* applicant *shall pay its fair share toward improvements to the SR 120/Yosemite Avenue Interchange to the City of Lathrop, who will be the lead agency for the interchange improvement project. The project's fair share traffic contribution to these improvements is estimated to be 28 percent[1]. The following mitigation measures as shown in*

[1] Fair share calculation is based on the project's cumulative traffic contribution (total AM and PM peak hour volumes on the four freeway on- and off-ramps using the following formula:

Figure 3.14-13 would be necessary to provide acceptable operations under cumulative conditions:

1. *Install traffic signal control at both ramp-terminal intersections and provide coordinated signal operation. An evaluation of all applicable signal warrants should be conducted and additional factors (e.g., congestion, approach conditions, driver confusion) should be considered before the decision to install a signal is made.*
2. *Widen the eastbound and westbound off-ramps to accommodate one left-turn lane, one shared through/left-turn lane and a separate right-turn lane.*
3. *Widen the eastbound and westbound on-ramps to provide two receiving lane that transition to one entrance lane at SR 120.*
4. *Widen Yosemite Avenue (south of SR 120) to four lanes to provide two through and one right turn lane on the northbound approach.*
5. *Widen the SR 120 undercrossing to accommodate six lanes including two through lanes in each direction, two left-turn lanes on the northbound approach to the westbound ramp-terminal intersection and on the southbound approach to the eastbound ramp-terminal intersection. Tieback walls will be necessary to accommodate widening under SR 120.*

   Relocate the westbound ramp-terminal intersection approximately 550 feet north of its current location to create an L-7 interchange configuration with a northbound Yosemite Avenue to westbound SR 120 loop on-ramp. The loop on-ramp would replace the slip on-ramp and would increase the westbound SR 120 weave distance between the Yosemite Avenue and the I-5 northbound and southbound ramps.

The study intersections are under Caltrans jurisdiction. The City of Lathrop would be responsible for the intersection improvement, acquisition of right-of-way, and the construction. However, Caltrans would need to approve the design and construction of the proposed improvements.

SIGNIFICANCE AFTER MITIGATION

Implementation of the improvements outlined above (Mitigation Measure 3.14-7), would reduce the impact to a less than significant level. As shown on Table 3.14-19, the SR 120 Eastbound Ramps/Yosemite Avenue intersection would operate at LOS B with 12 seconds of delay in the AM peak hour and LOS C with 24 seconds of delay in the PM peak hour. The SR 120 Westbound Ramps/Yosemite Avenue intersection would operate at LOS A with 8 seconds of delay in the AM peak hour and LOS B with 17 seconds of delay in the PM peak hour. However, these measures are within the jurisdiction of Caltrans and beyond the control of the City of Lathrop to implement without Caltrans approval. Furthermore, funding for the remaining share of the cost has not been

Fair Share Percentage = [Project Only Total Volume / (Cumulative Plus Project Total Volume – Existing County Volume)]

Fair Share Percentage = [1,923 / (8,490 – 1,672)] = 28 %

secured. If Caltrans does not approve the proposed improvements and/or full funding is not secured, then the intersections would continue to operate at an unacceptable level of service, and the projects contribution to this impact would be considered a significant impact. Due to the fact that the implementation of these measures is beyond the control of the City of Lathrop and that full improvement funding has not been secured, the impact is considered to be **significant and unavoidable.**

Impact 3.14-11: Under cumulative conditions, project implementation would exacerbate cumulatively unacceptable levels of service at the Lathrop Road/McKinley Avenue intersection (Significant and Unavoidable)

The Lathrop Road/McKinley Avenue intersection operates at LOS F during the PM peak period under Cumulative No Project conditions. The addition of project traffic would exacerbate unacceptable LOS F conditions at this intersection and increase control delay during the PM peak hour by more than five seconds. This intersection satisfies the Peak Hour Signal Warrant for installation of traffic signal control under both cumulative scenarios. This is a **significant impact.**

MITIGATION MEASURES

Mitigation Measure 3.14-8: *The project applicant shall pay its fair share toward improvements to the City of Lathrop for the Lathrop Road/McKinley Avenue intersection. The project's fair share traffic contribution to these improvements is estimated to be 0.8%[2]. The following mitigation measure as shown in Figure 3.14-13 would be necessary to provide acceptable operations under cumulative conditions:*

- *Install traffic signal control and provide for protected eastbound to southbound left-turn signal phasing. An evaluation of all applicable signal warrants should be conducted and additional factors (e.g., congestion, approach conditions, driver confusion) should be considered before the decision to install a signal is made.*

SIGNIFICANCE AFTER MITIGATION

If the City of Lathrop constructs the proposed improvements described above (Mitigation Measure 3.14-8) and full funding is secured, the intersection would operate at an acceptable LOS A with 10 seconds of delay in the AM peak hour and LOS B with 12 seconds of delay in the PM peak hour, as

[2] Fair share calculation is based on the project's cumulative traffic contribution (total AM and PM peak hour volumes on the four freeway on- and off-ramps using the following formula:

Fair Share Percentage = [Project Only Total Volume / (Cumulative Plus Project Total Volume – Existing Count Volume)]

Fair Share Percentage = [22 / (5,250 – 2,401)] = 0.8 %

shown in Table 3.14-21. However, the impact is considered **significant and unavoidable** because funding the remaining share of the cost of this improvement has not secured.

Impact 3.14-12: Under cumulative conditions, project implementation would exacerbate cumulatively unacceptable levels of service at the Louise Avenue/McKinley Avenue intersection (Significant and Unavoidable)

The intersection of Louise Avenue/McKinley Avenue would operate unacceptably at LOS D and LOS F in the AM and PM peak hour, respectively, under Cumulative No Project conditions. The addition of project traffic would exacerbate unacceptable operations and result in LOS E and LOS F conditions in the AM and PM peak hours, respectively. This is a **significant impact.**

MITIGATION MEASURES

Mitigation Measure 3.14-9: *The project applicant shall pay its fair share toward improvements to the Louise Avenue/McKinley Avenue intersection. The project's fair share traffic contribution to this intersection is estimated to be 2.1 %[3]. The following mitigation measures as shown in Figure 3.14-13 would be necessary to provide acceptable operations under cumulative conditions:*

- *Widen the eastbound approach to add one EB left-turn lane and one EB right-turn lane. Restripe the shared left/through lane and shared through/right lane to two eastbound through lanes.*
- *Widen the westbound approach to add one WB left-turn lane and one WB right-turn lane. Restripe the shared left/through lane and shared through/right lane to two westbound through lanes.*
- *Widen the northbound approach to add an additional NB left-turn lane.*
- *Optimize signals with protected left-turns signal phasing.*

SIGNIFICANCE AFTER MITIGATION

If the City of Lathrop constructs the proposed improvements described above (Mitigation Measure 3.14-9) and full funding is secured, the intersection operations would improve to acceptable service levels. Table 3.14-21 shows that the Louise Avenue/McKinley Avenue intersection would operate at LOS C with 23 seconds of delay in the AM peak hour and LOS D with 54 seconds of delay in the PM peak hour. However, the impact is considered **significant and unavoidable** because funding the remaining share of the cost of this improvement has not secured.

[3] Fair share calculation is based on the project's cumulative traffic contribution (total AM and PM peak hour volumes on the four freeway on- and off-ramps using the following formula:

Fair Share Percentage = [Project Only Total Volume / (Cumulative Plus Project Total Volume – Existing Count Volume)]

Fair Share Percentage = [66 / (6,020 – 2,803)] = 2.1 %

Impact 3.14-13: Under cumulative conditions, project implementation would exacerbate cumulatively unacceptable levels of service at the SR 120/Airport Way ramp-terminals intersections and the Airport Way/Daniels Street intersection. (Significant and Unavoidable)

The SR 120/Airport Way ramp-terminal intersections and Airport Way/Daniels Street intersections are projected to operate at unacceptable LOS F conditions during both peak hours under Cumulative No Project. The addition of project traffic would exacerbate unacceptable operations at these intersections. This is considered a **significant impact.**

MITIGATION MEASURES

Mitigation Measure 3.14-10: *The project applicant shall pay its fair share toward improvements to the SR 120/Airport Way interchange and Airport Way/Daniels Street intersection. The project's fair share traffic contribution to these intersections is estimated to be 1.6 % and 1.1 %[4], respectively. The following mitigation measures as shown in Figure 3.14-13 would be necessary to provide acceptable operations under cumulative conditions:*

SR 120/Airport Way Interchange

- *Relocate the westbound ramp-terminal intersection approximately 180 feet south of its current location to create a tight interchange configuration, which will increase the spacing to the Airport Way/Daniels Street intersection.*
- *Construct loop on-ramps.*
- *Widen overcrossing to include two northbound and three southbound lanes.*
- *Widen SR 120 eastbound and westbound off-ramps to include two left-turn lanes and two right-turn lanes.*

Airport Way/Daniels Street

- *Restripe the southbound approach to add a third through lane and restripe the northbound approach to add an exclusive right-turn lane.*
- *Restripe the eastbound Daniels Street approach to include one left-turn, one shared left/through lane, and two right-turn lanes with right-turn overlap phasing.*

The SR 120/Airport Way ramp-terminal intersections are under Caltrans jurisdiction and the Airport Way/Daniels Street intersection is under City of Manteca jurisdiction.

[4] Fair share calculation is based on the project's cumulative traffic contribution (total AM and PM peak hour volumes on the four freeway on- and off-ramps using the following formula:

Fair Share Percentage = [Project Only Total Volume / (Cumulative Plus Project Total Volume – Existing Count Volume)]

Fair Share Percentage = [134 / (14,770 – 6,452)] = 1.6 %, Fair Share Percentage = [44 / (7,980 – 4,022)] = 1.1 %

SIGNIFICANCE AFTER MITIGATION

Implementation of the improvements described above (Mitigation Measure 3.14-10) would reduce the impact to a less than significant level. As shown on Table 3.14-19, the Airport Way/Daniels Street intersection would operate at LOS C with 31 seconds of delay in the AM peak hour and LOS D with 53 seconds of delay in the PM peak hour. The SR 120 WB Ramps/Airport Way intersection would operate at LOS B with 13 seconds of delay in the AM peak hour and LOS D with 36 seconds of delay in the PM peak hour. The SR 120 EB Ramps/Airport Way intersection would operate at LOS B with 12 seconds of delay in the AM peak hour and LOS D with 42 seconds of delay in the PM peak hour. However, these measures are within the jurisdiction of Caltrans and City of Manteca and beyond the control of the City of Lathrop to implement without Caltrans and City of Manteca approval. Furthermore, funding for the remaining share of the cost has not been secured. If Caltrans and the City of Manteca do not approve the proposed improvements and/or full funding is not secured, then the intersections would continue to operate at an unacceptable level of service, and the project's contribution to this impact would be considered a significant impact. Due to the fact that the implementation of these measures is beyond the control of the City of Lathrop and that full improvement funding has not been secured, the impact is considered to be **significant and unavoidable.**

Table 3.14-19
Cumulative Plus project with Mitigations – Intersection Operations

Intersection	Jurisdiction	LOS / Delay[1]					
		Cumulative No Project		Cumulative Plus Project		Cumulative Plus Project with Mitigation	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1. SR 120 EB Ramps / Yosemite Avenue	Caltrans	**F (F) / 74 (93)**	D **(F)** / 41 **(90)**	**F (F) / 98 (>180)**	**F (F) / >180 (>180)**	B / 12	C / 24
2. SR 120 WB Ramps / Yosemite Avenue	Caltrans	A (C) / 5 (19)	A (B) / 4 (15)	**F (F) / 107 (>180)**	**F (F) / 179 (>180)**	A / 8	B / 17
6. Lathrop Road / McKinley Avenue	City of Lathrop	A **(D)**/ 2 **(31)**	A **(F)** / 7 **(96)**	A **(D)** / 2 **(32)**	A **(F)** / 9 **(113)**	A / 10	B / 12
7. Louise Avenue / McKinley Avenue	City of Lathrop	**D / 54**	**F / >180**	**E / 66**	**F / >180**	C / 23	D / 54
8. Airport Way / Daniels Street	City of Manteca	**F / 122**	**F / >180**	**F / 133**	**F / >180**	C / 31	D / 53
9. SR 120 WB Ramps / Airport Way	Caltrans	**F / 142**	**F / 178**	**F / 147**	**F / 170**	B / 13	D / 36
10. SR 120 EB Ramps / Airport Way	Caltrans	**F / >180**	**F / >180**	**F / >180**	**F / >180**	B / 12	D / 42

Notes:
1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
2. SSSC = Side-Street-Stop Controlled intersection; AWS = All-Way Stop Controlled intersection
3. Level of Service based on Highway Capacity Manual (Transportation Research Board, 2000).
4. Bold and underlined text indicates unacceptable operations. Shaded cells indicate a significant impact.
5. Refer to previous page(s) for description of mitigations.

Source: Fehr & Peers, 2013

Roadway Analysis

The Cumulative No Project and Cumulative Plus Project analysis of the roadway facilities assumed that the two roadway segments on Yosemite Avenue would be widened to six lanes. As shown in Table 3.14-20, both segments are projected to operate under capacity at an acceptable LOS A.

Table 3.14-20
Cumulative (2030) Conditions – Roadway Segment Analysis

Segment	Roadway Classification	Cumulative No Project		Cumulative Plus Project	
		Average Daily Traffic (ADT)[1]	LOS	Average Daily Traffic (ADT)[1]	LOS
Yosemite Avenue between SR 120 and D'Arcy Parkway	6 Lanes Divided	9,900	A	12,040	A
Yosemite Avenue between D'Arcy Parkway and Airport Way	6 Lanes Divided	14,900	A	16,180	A

Note:
1. Volumes represent both directions of travel and are rounded to the nearest 100.
Source: Fehr & Peers, 2013

Freeway Analysis

Cumulative No Project and Cumulative Plus Project freeway operations were evaluated for the AM and PM peak hours. SR 120 is planned to be widen to six lanes, I-5 (north of SR 120) is planned to be widened to four lanes with one HOV lane, and I-5 (south of SR 120) is planned to be widened to 12 lanes.

Table 3.14-21
Cumulative (2030) Conditions – Freeway Analysis

Freeway	Location	Type	LOS / Average Density			
			No Project		Plus Project	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Eastbound SR 120	SB I-5 Off-ramp	Merge	D / 29	D / 29	**F / --**	D / 31
	NB I-5 to Yosemite Avenue	Basic	D / 27	D / 35	D / 30	**E / 36**
	Yosemite Avenue Off-Ramp	Diverge	**E / 42**	**E / 40**	**E / 46**	**E / 42**
	Yosemite Avenue On-Ramp	Merge	C / 23	**E / 35**	C / 24	**E / 40**
	McKinley Avenue Off-Ramp	Diverge	B / 15	C / 25	B / 12	B / 16
	McKinley Avenue Loop On-Ramp	Merge	B / 20	D / 29	C / 20	D / 31
	McKinley Avenue Slip On-Ramp	Merge	C / 22	D / 30	C / 23	C / 32
	Airport Way Off-Ramp	Diverge	C /27	D / 34	C / 27	**E / 35**
	Airport Way On-Ramp	Merge	C / 26	D / 33	C / 27	D / 35
Westbound SR 120	Airport Way Off-Ramp	Diverge	**E / 42**	**E / 38**	**E / 44**	D / 33
	Airport Way to McKinley Avenue	Weave	D	C	D	C
	McKinley Avenue Loop On-Ramp	Merge	**E / 38**	D / 33	**E / 41**	D / 35
	McKinley Avenue Slip On-Ramp	Merge	D / 29	D / 30	D / 32	D / 31
	Yosemite Avenue Off-Ramp	Diverge	D / 34	D / 35	**E / 37**	**E / 36**

	Yosemite Avenue On-Ramp	Merge	D / 32	**E / 43**	D / 33	**E / 49**
	Yosemite Avenue to NB I-5	Basic	D / 31	**E / 36**	D / 31	**E / 41**
	NB I-5 On-Ramp	Diverge	C / 22	**F / --**	C / 24	**F / --**
Northbound I-5	South of SR 120	Basic	B / 17	**E / 35**	B / 17	**E / 36**
	WB SR 120 Off-Ramp	Merge	B / 14	**F / --**	B / 14	**F / --**
	North of SR 120	Basic	B / 17	**E / 39**	B / 17	**F / --**
Southbound I-5	North of SR 120	Basic	**E / 39**	C / 21	**E / 41**	C / 21
	EB SR 120 On-Ramp	Diverge	**F / --**	**D / 30**	**F / --**	**D / 31**
	WB SR 120 Off-Ramp	Merge	**F / --**	C / 23	**F / --**	D / 30
	South of SR 120	Basic	D / 31	C / 22	D / 31	C / 22

Notes:

1. Density estimates are rounded to nearest second. Corresponding LOS is based on first significant digit using HCM thresholds.
2. Weave sections were analyzed using the Leisch Method. Density is not reported.
3. Shaded cells indicate significant impact

Source: Fehr & Peers, 2013

As shown in Table 3.14-21, the following 13 freeway segments are projected to operate unacceptably under Cumulative No Project conditions:

- Eastbound SR 120 diverge at Yosemite Avenue would operate at an unacceptable LOS E during both AM and PM peak hours.
- Eastbound SR 120 merge at Yosemite Avenue would operate at an unacceptable E during the PM peak hour. Westbound SR 120 diverge at Airport Way would operate at an unacceptable LOS E during the AM and peak hour.
- Westbound SR 120 merge at McKinley Avenue loop on-ramp would operate at an unacceptable E in the AM peak hour.
- Westbound SR 120 merge at Yosemite Avenue would operate at an unacceptable LOS E in the PM peak hour.
- Westbound SR 120 basic freeway segment between the merge at Yosemite Avenue and diverge at I-5 would operate at an unacceptable LOS E in the PM peak hour.
- Westbound SR 120 diverge at I-5 NB on-ramp would operate at an unacceptable LOS F in the PM peak hour.
- Northbound I-5 south of SR 120 would operate at an unacceptable LOS E in the PM peak hour.
- Northbound I-5 merge at the WB SR 120 off-ramp operates at an unacceptable LOS F in the PM peak hour.

- Northbound I-5 north of SR 120 would operate at an unacceptable LOS E in the PM peak hour.
- Southbound I-5 north of SR 120 would operate at an unacceptable LOS E in the AM peak hour.
- Southbound I-5 diverge at EB SR 120 on-ramp would operate at an unacceptable LOS F in the AM peak hour and LOS D in the PM peak hour.
- Southbound I-5 merge at WB SR 120 off-ramp would operate at an unacceptable LOS F in the AM peak hour.

Under cumulative plus project conditions, the addition of project traffic would cause unacceptable operations at the four following freeway segments in addition to exacerbating unacceptable operations at the 12 segments mentioned above under Cumulative No Project conditions.

- Eastbound SR 120 merge at SB I-5 off-ramp would operate at an unacceptable LOS F in the AM peak hour.
- Eastbound SR 120 basic mainline segment between the I-5 on-ramp and Yosemite Avenue off-ramp would operate at an unacceptable LOS E during the PM peak hour.
- Eastbound SR 120 diverge at Airport Way would operate at an unacceptable LOS E during the PM peak hour.

Westbound SR 120 diverge at Yosemite Avenue would operate at an unacceptable LOS E during both AM and PM peak hours.

Impact 3.14-14: Under cumulative conditions, project implementation would exacerbate cumulatively unacceptable levels of service on SR 120 and I-5. (Significant and Unavoidable)

The addition of project traffic would exacerbate unacceptable LOS in the AM and PM peak hours at 17 of the 23 study freeway facilities on SR 120 and I-5. This is considered a **significant impact.**

MITIGATION MEASURES

Mitigation Measure 3.14-11: *The project applicant shall pay appropriate San Joaquin County Regional Traffic Impact Fee (RTIF), which is collecting fees from new development to help fund improvements to SR 120.*

The cumulative conditions analysis assumed the programmed widening of SR 120 from four to six lanes. These improvements are partially paid for with the RTIF, which the development will be subject to. Without these assumed improvements, freeway operations would be worse than described. In addition, the commercial components of the project will generate additional revenues through the Measure K sales, which helps fund SR 120 improvements.

Additional improvements, beyond widening the SR 120 mainline to six lanes, are not currently planned or fully funded. However, implementation of planned parallel arterial roadway improvements and system-wide operational improvements such as ramp metering and auxiliary lane improvements, will benefit SR 120 mainline operation during peak travel periods. Operational improvements will be developed through coordination with Caltrans during the Encroachment Permit process associated with implementation of Mitigation Measure like 3.14-1. However, the impact is considered ***significant and unavoidable*** *because the improvements on SR 120 are within the jurisdiction of Caltrans and because implementation of operational improvements, while beneficial, would not reduce the impact to a less than significant level.*

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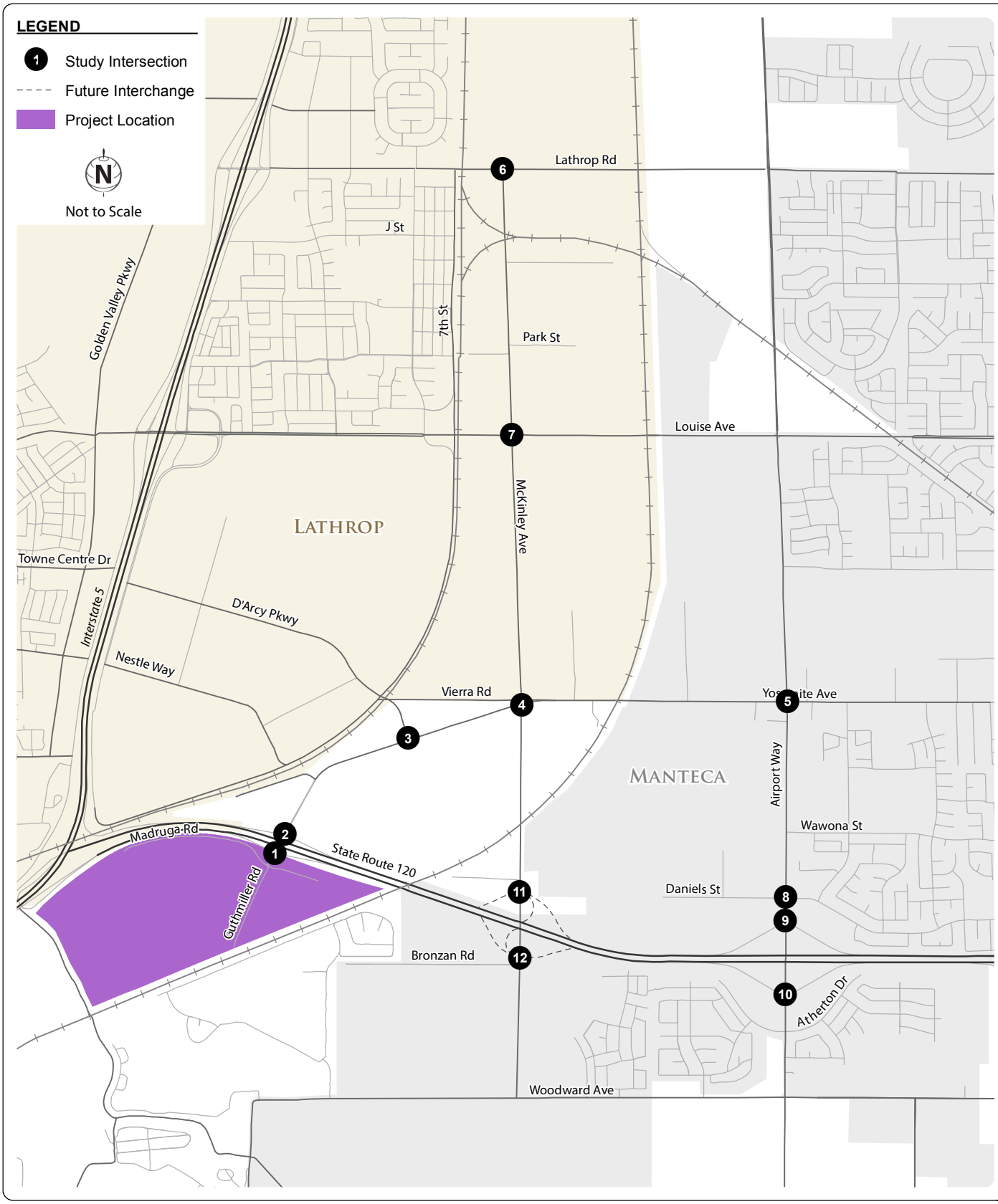

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STUDY AREA

FIGURE 3.14-1

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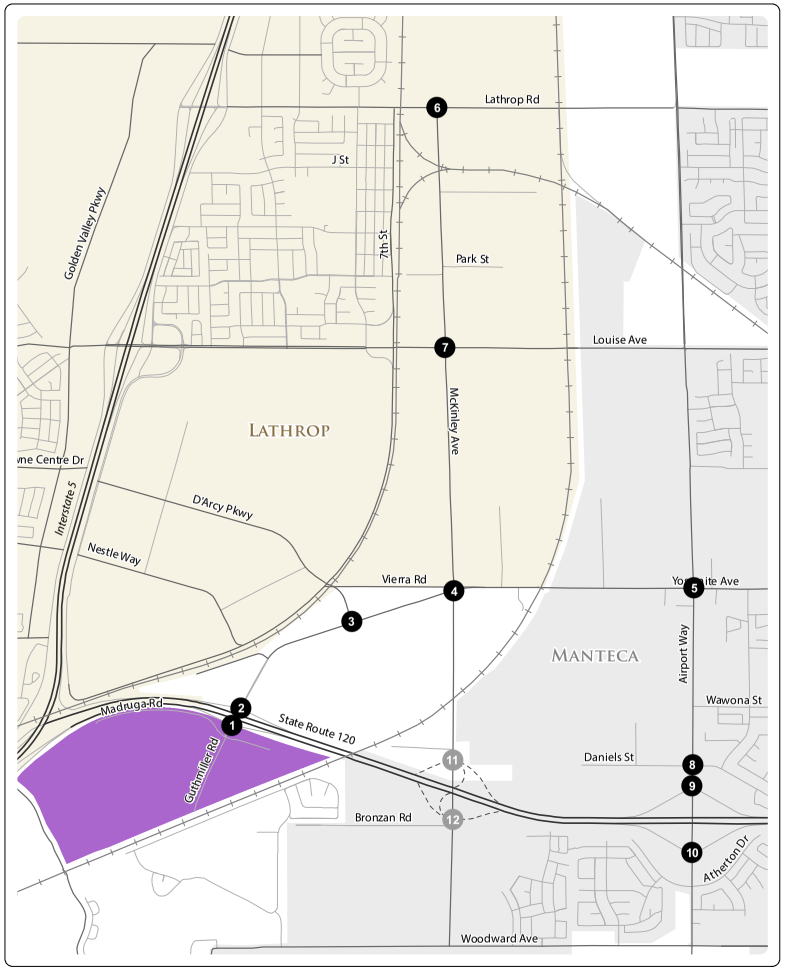

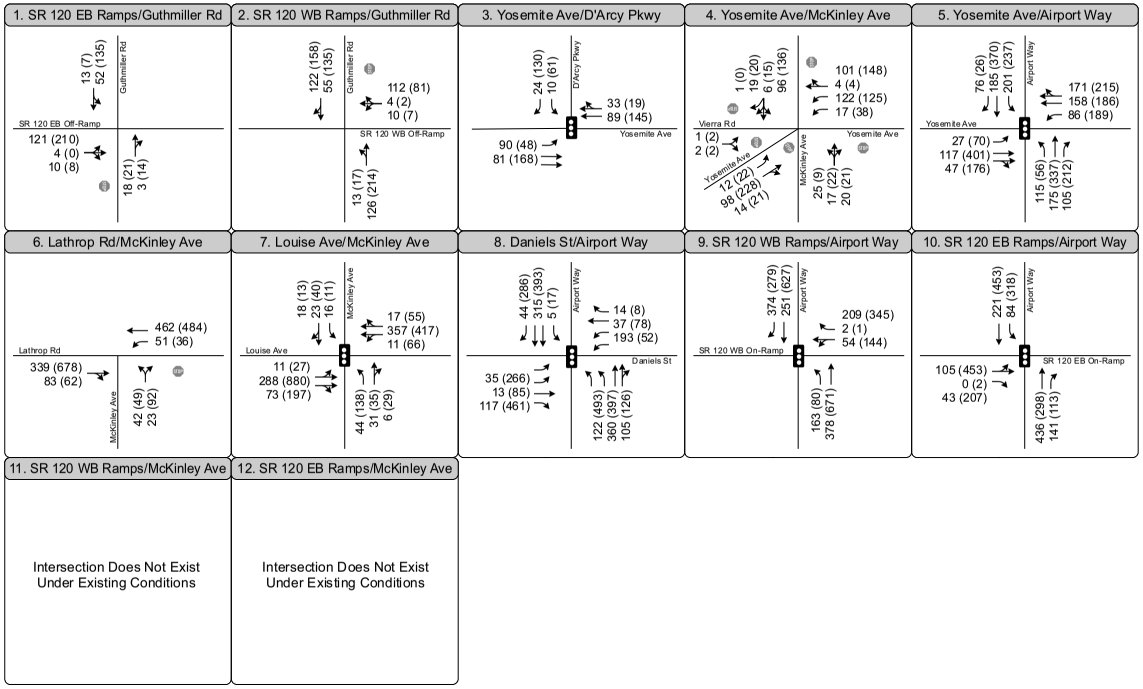

LEGEND

- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- 1 Existing Study Intersection
- 1 Future Intersection
- Traffic Signal
- Stop Sign
- Future Interchange
- Project Location

N

Not to Scale

FEHR PEERS

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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - EXISTING CONDITIONS

FIGURE 3.14-2

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PROJECT TRIP DISTRIBUTION - EXISTING CONDITIONS

FIGURE 3.14-3

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PROJECT TRIP DISTRIBUTION - CUMULATIVE CONDITIONS

FIGURE 3.14-4

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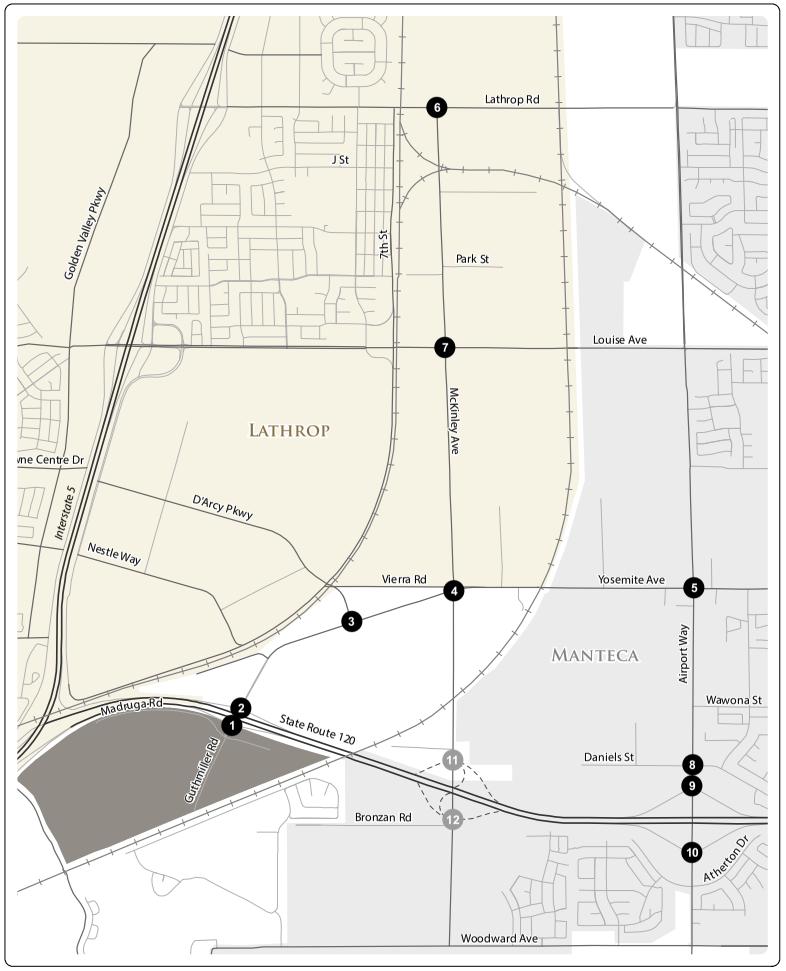

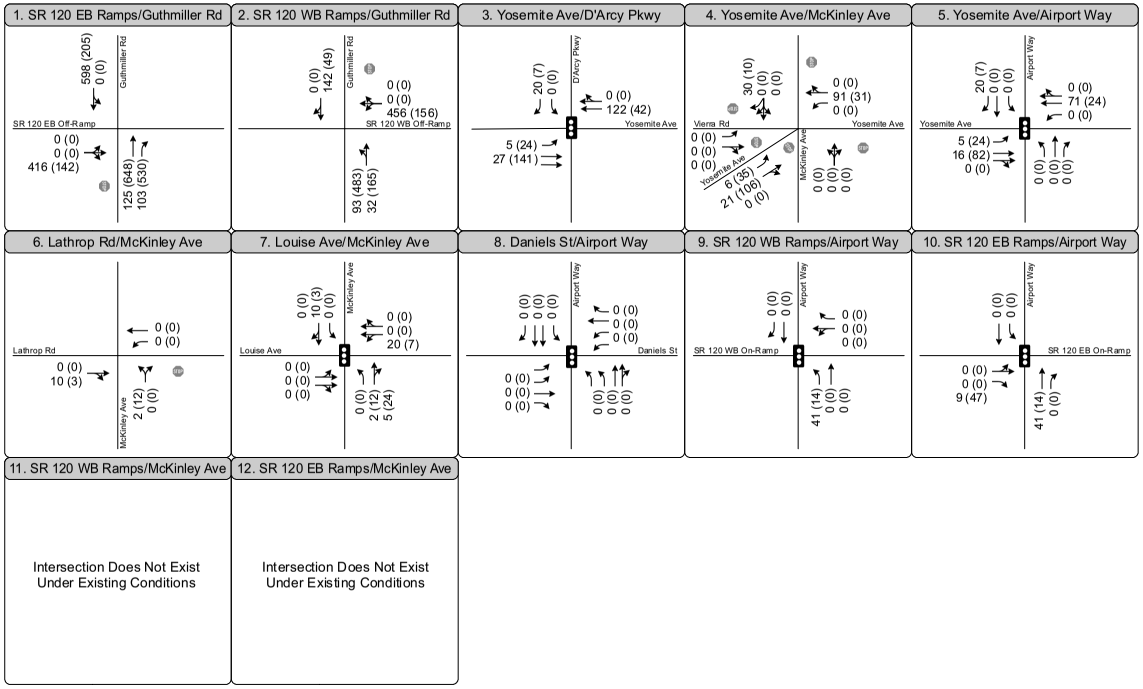

LEGEND

- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- 1 Existing Study Intersection
- 1 Future Intersection
- Traffic Signal
- Stop Sign
- Future Interchange
- Project Location

N

Not to Scale

FEHR PEERS

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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - EXISTING PROJECT TRIPS ONLY

FIGURE 3.14-5

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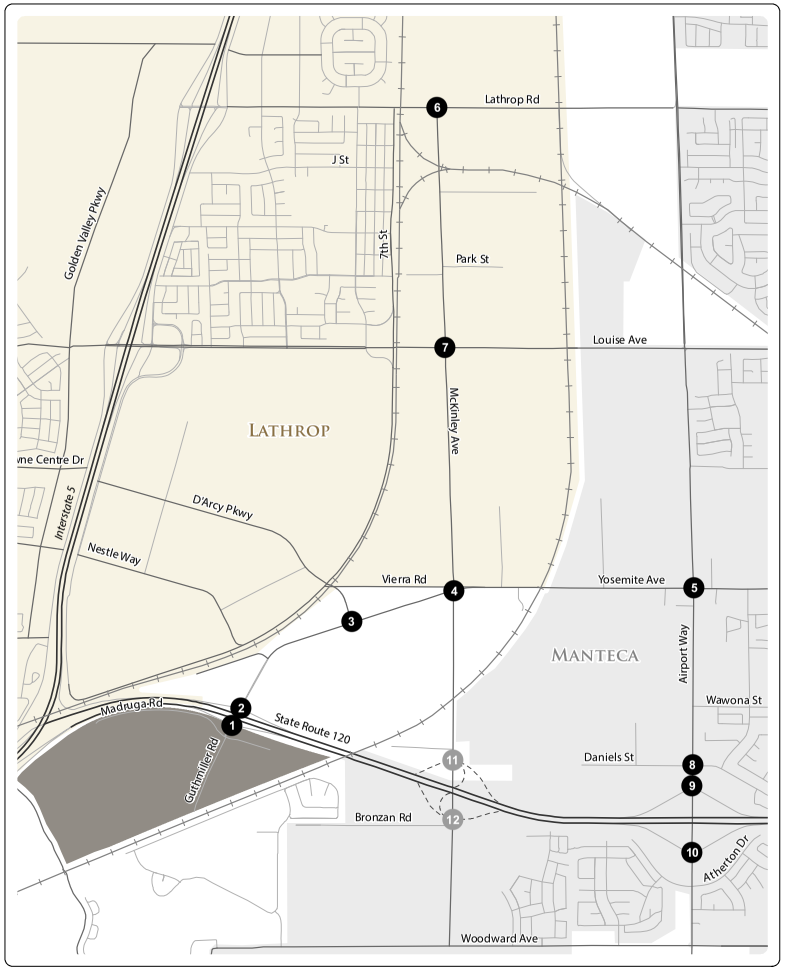
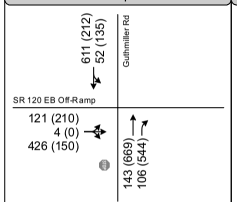
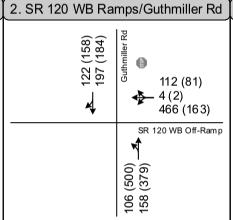


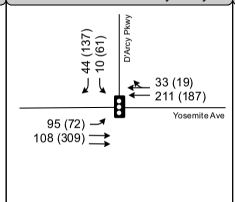
1. SR 120 EB Ramps/Guthmiller Rd



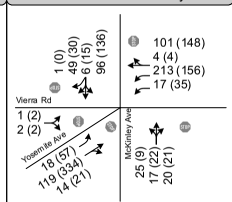
2. SR 120 WB Ramps/Guthmiller Rd



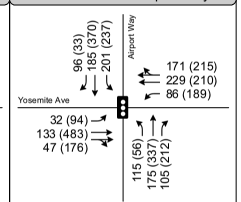
3. Yosemite Ave/D'Arcy Pkwy



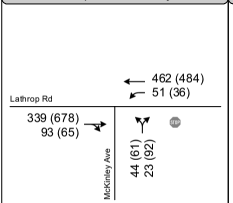
4. Yosemite Ave/McKinley Ave



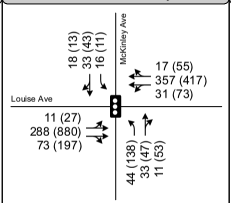
5. Yosemite Ave/Airport Way



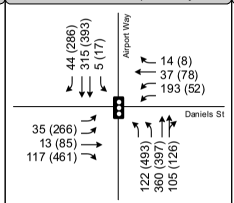
6. Lathrop Rd/McKinley Ave



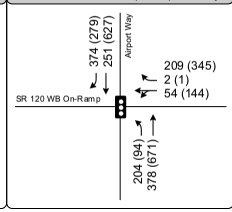
7. Louise Ave/McKinley Ave



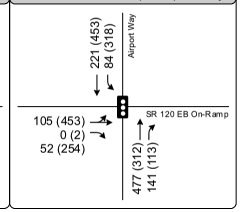
8. Daniels St/Airport Way



9. SR 120 WB Ramps/Airport Way



10. SR 120 EB Ramps/Airport Way



11. SR 120 WB Ramps/McKinley Ave

Intersection Does Not Exist Under Existing Plus Project Conditions

12. SR 120 EB Ramps/McKinley Ave

Intersection Does Not Exist Under Existing Plus Project Conditions

LEGEND

- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- 1 Existing Study Intersection
- 1 Intersection Not Currently Analyzed
- Traffic Signal
- Stop Sign
- Future Interchange
- Project Location

N
Not to Scale

FEHR PEERS

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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - EXISTING PLUS PROJECT CONDITIONS

FIGURE 3.14-6

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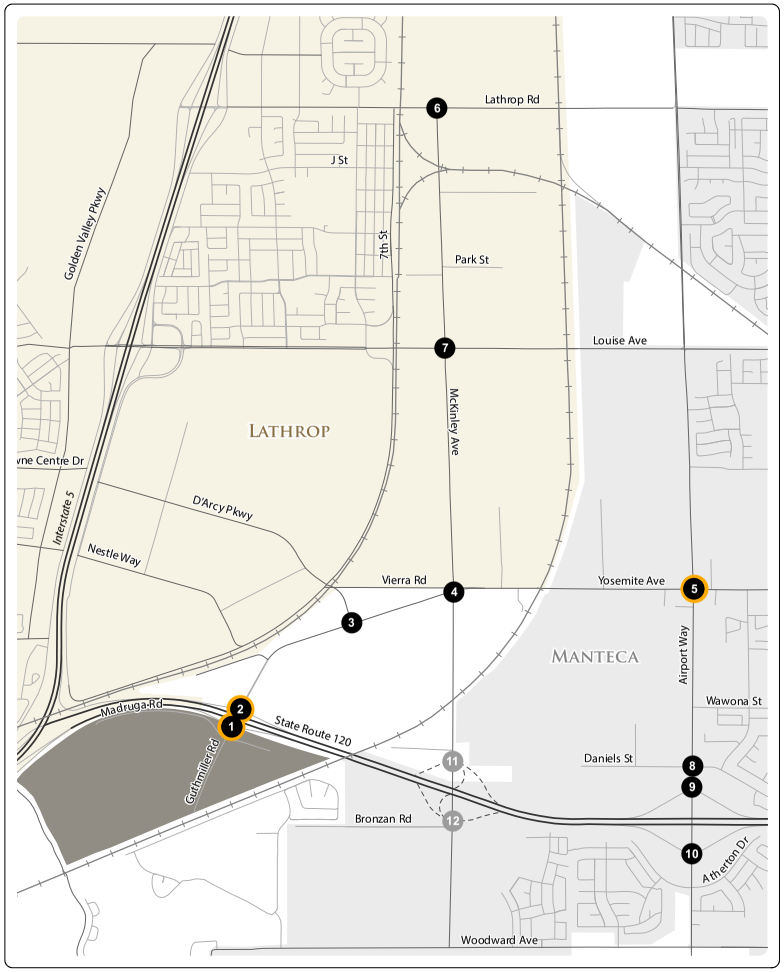

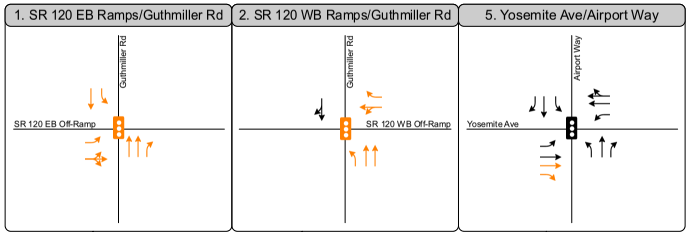

LEGEND

- Turn Lane
- Mitigated Intersection
- Mitigation Measures
- Study Intersection - No Mitigation Needed
- Future Study Intersection
- Traffic Signal
- Stop Sign
- Future Interchange
- Project Location

Not to Scale

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EXISTING PLUS PROJECT CONDITIONS
INTERSECTION MITIGATIONS
FIGURE 3.14-7

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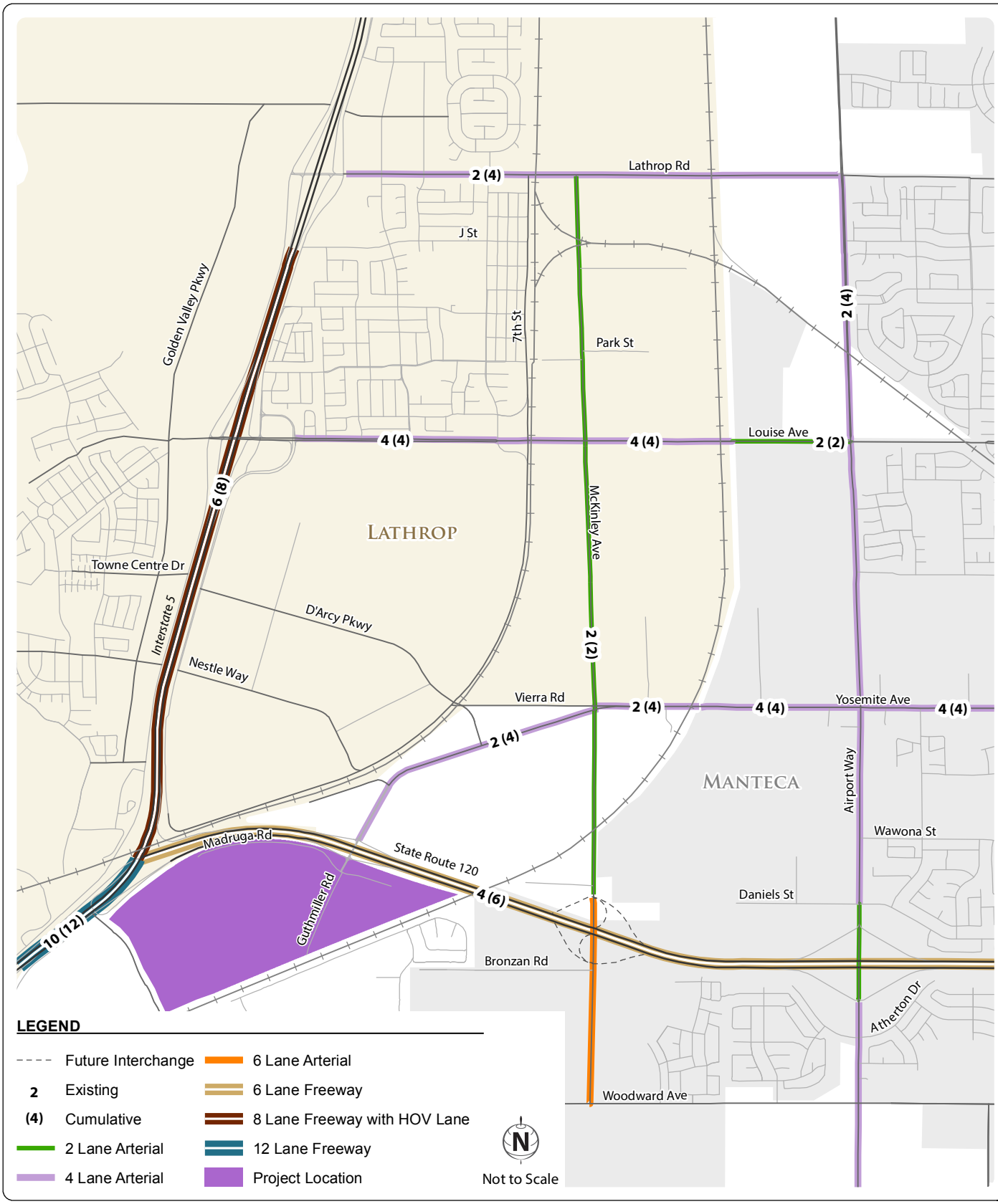

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CUMULATIVE (2030) ROADWAY SYSTEM

FIGURE 3.14-8

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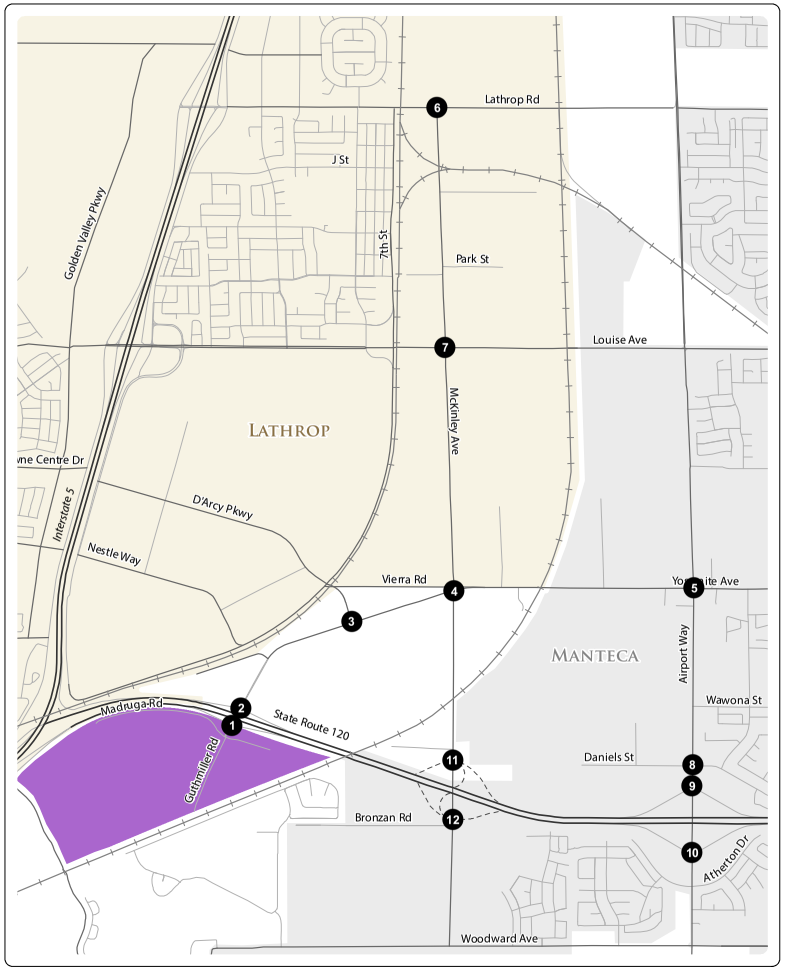

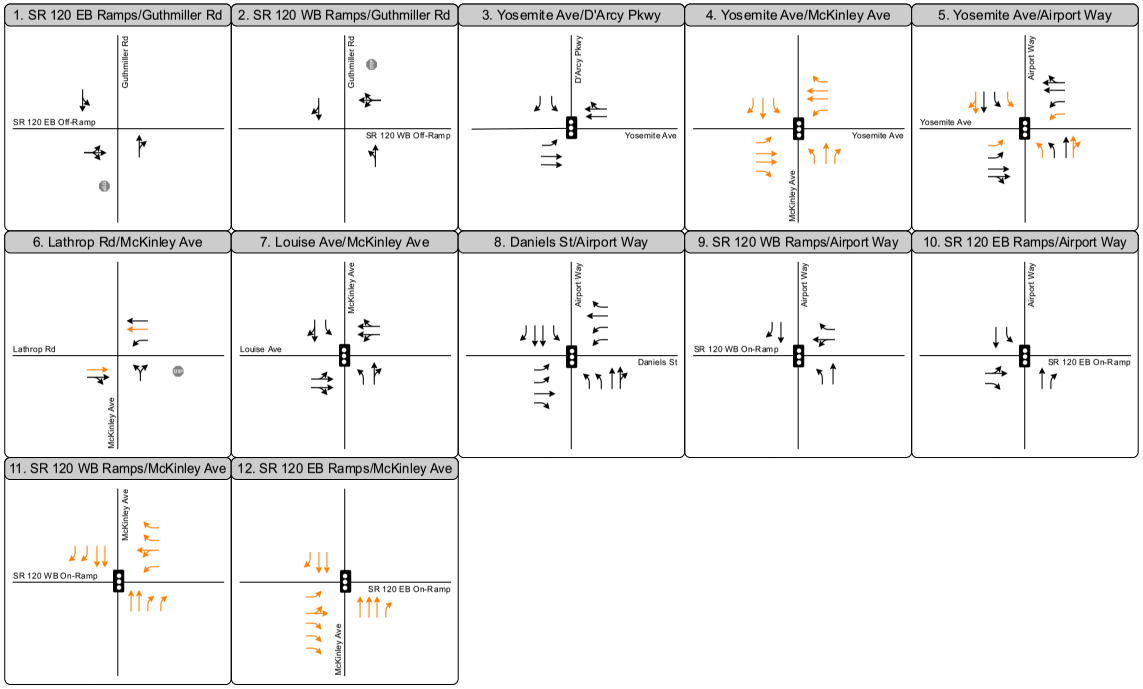

LEGEND

- Turn Lane
- New Lane Configuration
- AM (PM) Peak Hour Traffic Volume
- 1 Study Intersection
- Traffic Signal
- Stop Sign
- Future Interchange
- Project Location

N

Not to Scale

FEHR PEERS

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CUMULATIVE (2030) INTERSECTION LANE CONFIGURATIONS AND TRAFFIC CONTROLS

FIGURE 3.14-9

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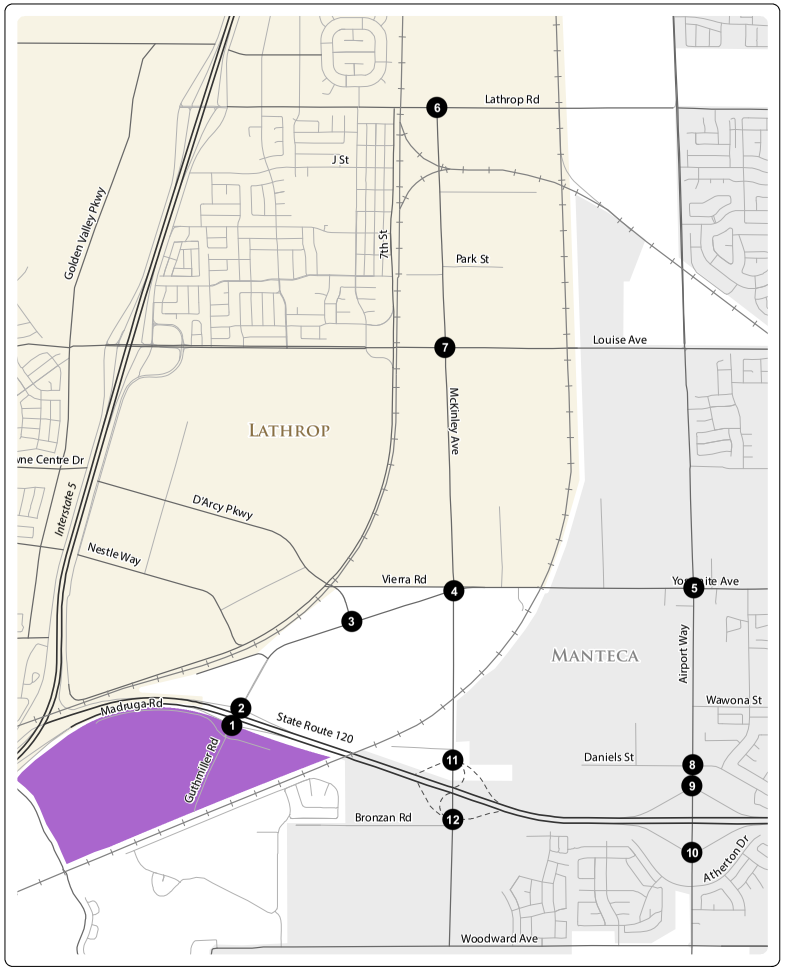

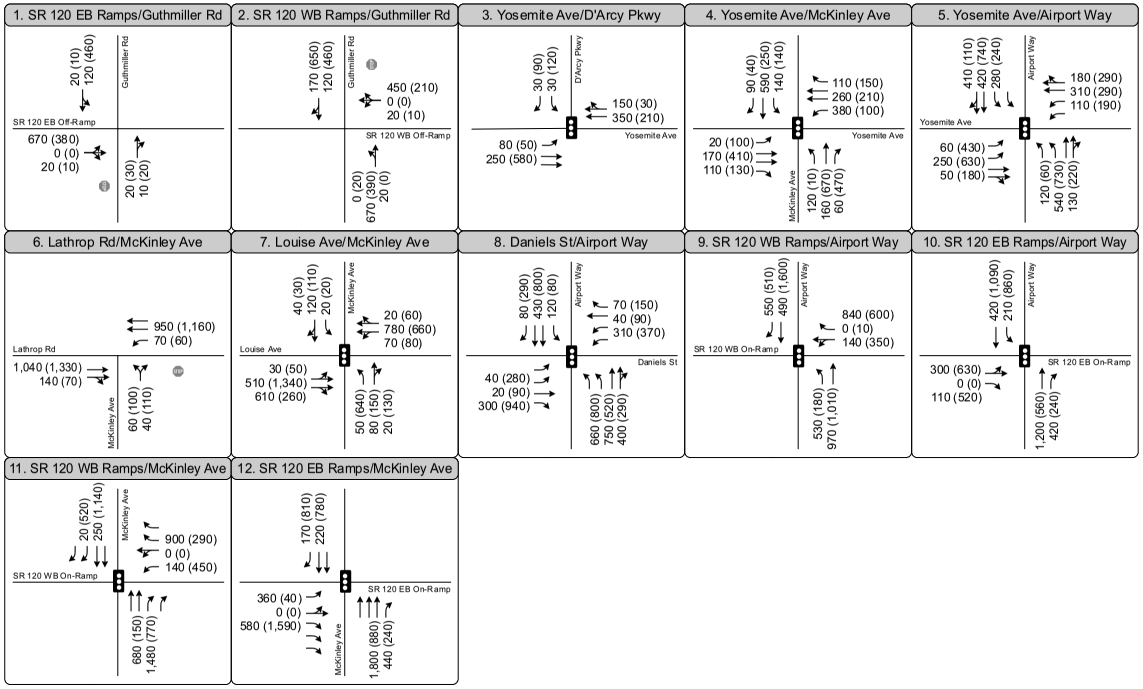

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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - CUMULATIVE NO PROJECT CONDITIONS

FIGURE 3.14-10

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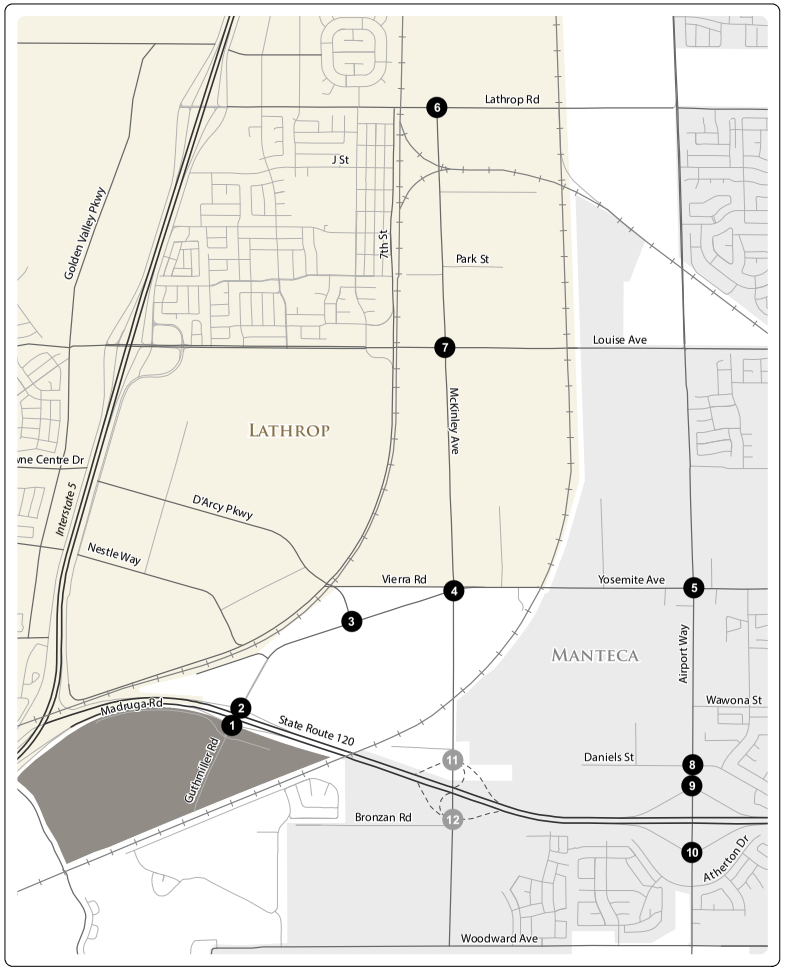

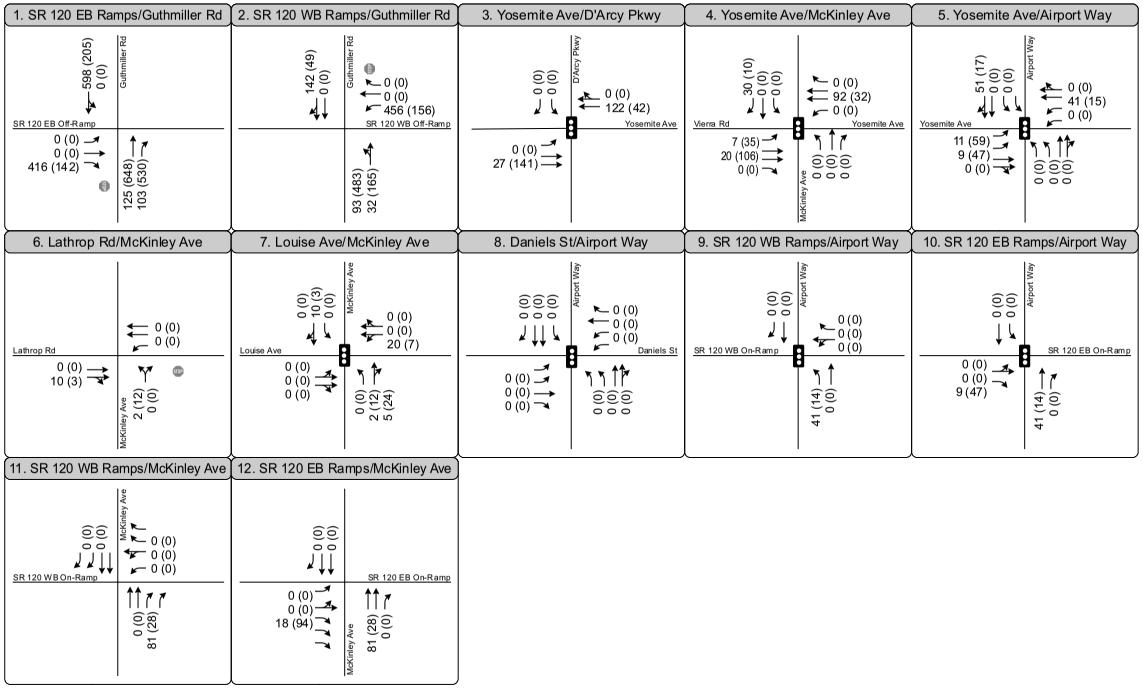

LEGEND

- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- 1 Existing Study Intersection
- 1 Future Intersection
- Traffic Signal
- Stop Sign
- Future Interchange
- Project Location

N

Not to Scale

FEHR PEERS

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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - CUMULATIVE PROJECT TRIPS ONLY

FIGURE 3.14-11

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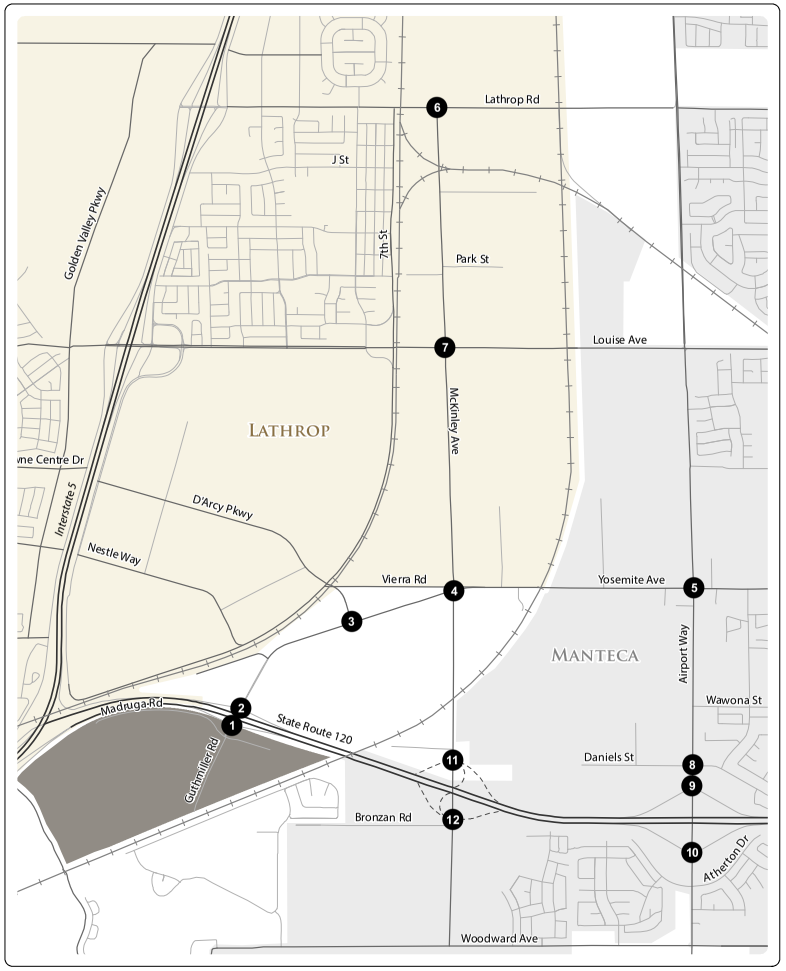

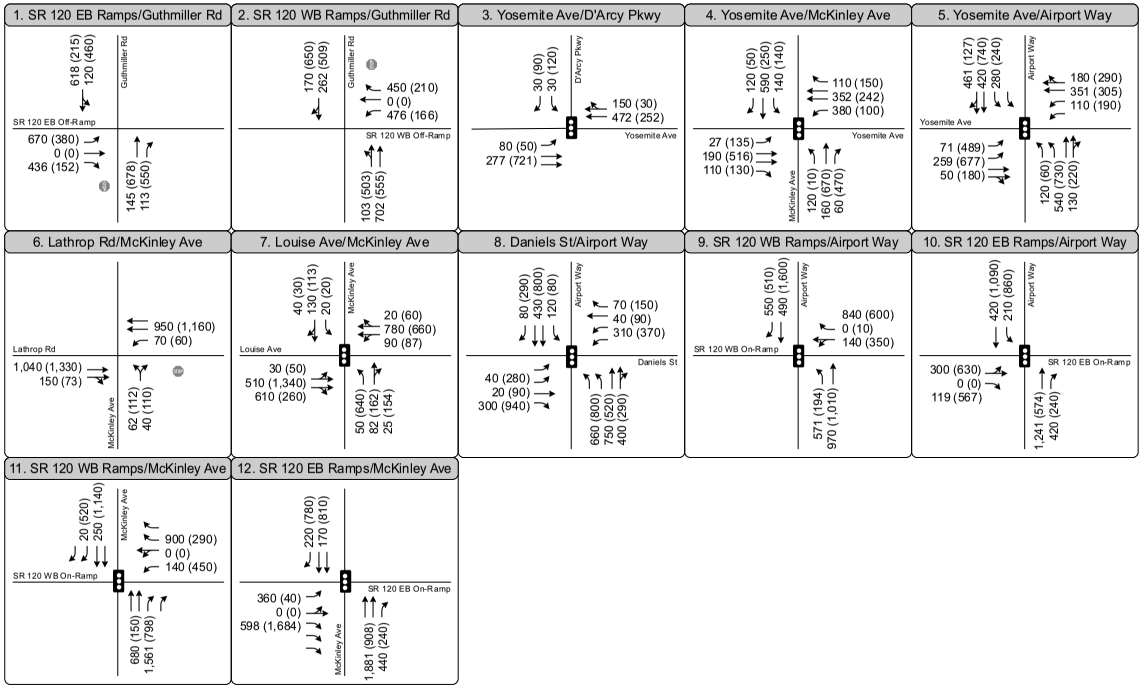

LEGEND

- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- 1 Study Intersection
- Traffic Signal
- Stop Sign
- Future Interchange
- Project Location

N

Not to Scale

FEHR PEERS

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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - CUMULATIVE PLUS PROJECT CONDITIONS

FIGURE 3.14-12

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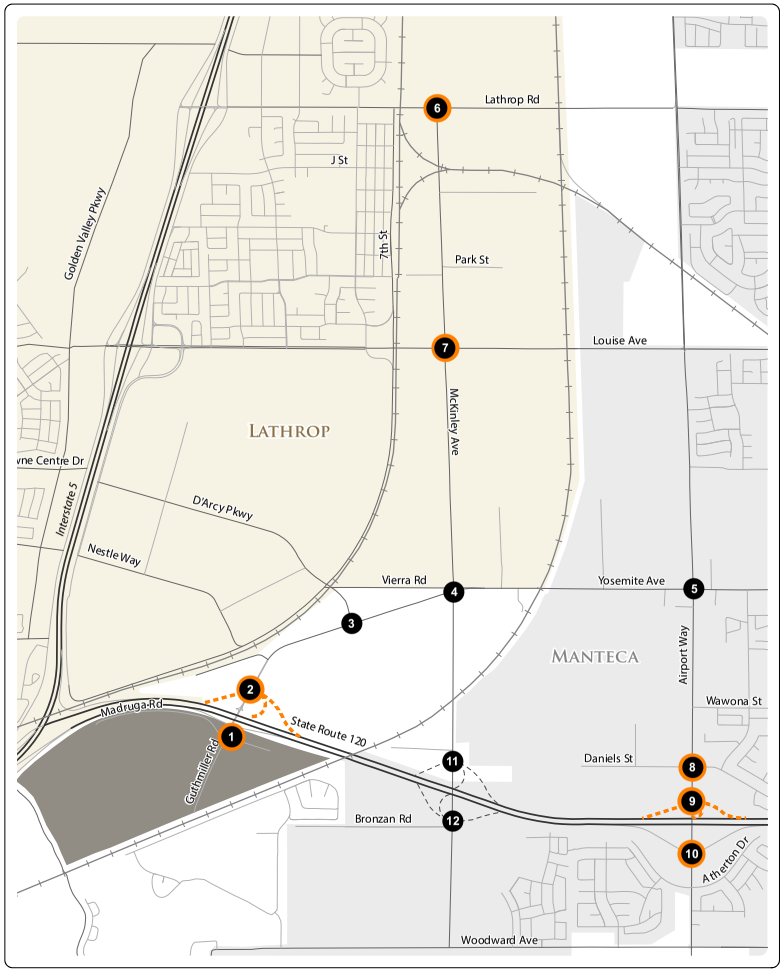

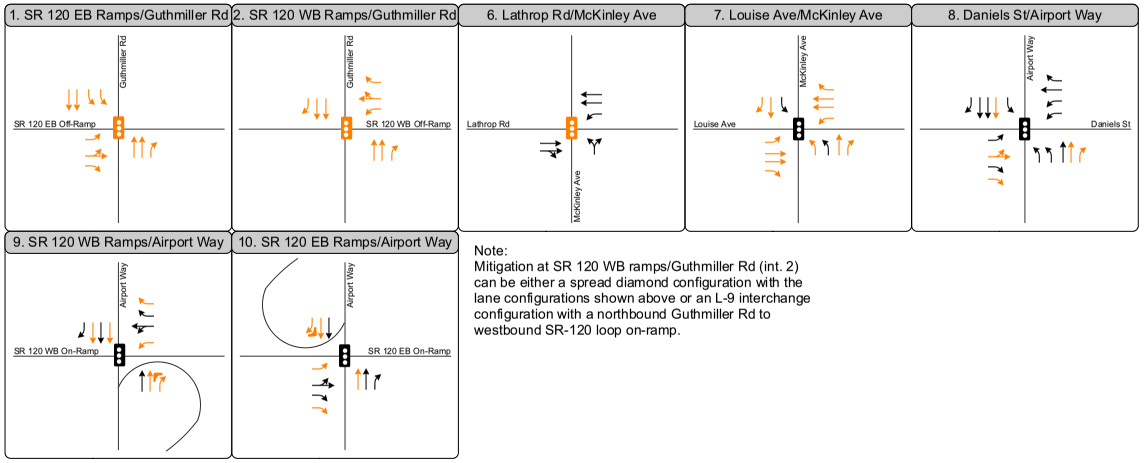

Note:
Mitigation at SR 120 WB ramps/Guthmiller Rd (int. 2) can be either a spread diamond configuration with the lane configurations shown above or an L-9 interchange configuration with a northbound Guthmiller Rd to westbound SR-120 loop on-ramp.

LEGEND

- Turn Lane
- Mitigated Intersection
- Mitigation Measure
- Mitigated Interchange Configuration
- Study Intersection - No Mitigation Needed
- Traffic Signal
- Project Location

Not to Scale

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CUMULATIVE PLUS PROJECT CONDITIONS
INTERSECTION MITIGATIONS
FIGURE 3.14-13

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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: *California's Groundwater,* CalRecycle *Solid Waste Information System,* CalRecycle *Jurisdiction Diversion/Disposal Rate Summary, Municipal Services Review and Sphere of Influence Plan* (City of Lathrop. 2009), *Manteca Municipal Services Review* (Manteca 2008), *City of Lathrop 2005 Urban Water Management Plan* (Nolte Associates 2009), the *San Joaquin Groundwater Basin Groundwater Management Plan, City of Lathrop Water Supply Study* (RBF 2009), *South County Surface Water Supply Project EIR* (SSJID 1999), *Employment Density Study Summary Report* (SCAG 2001), *Water Supply Assessment for South Lathrop Specific Plan EIR* (WYA 20130), and discussions with Gregory Gibson, Senior Engineer for the City of Lathrop.

Comments were received during the public review period for the Notice of Preparation regarding storm water from the Central Valley Regional Water Quality Control Board and from the San Joaquin County Environmental Health Department regarding the existing septic systems and their proposed removal.

3.15.1 WASTEWATER SERVICES

EXISTING SETTING

Currently, there is not a public sewer system within the Plan Area. Existing developments dispose of their wastewater though private septic systems and/or leech fields. The City of Lathrop provides wastewater collection to areas within the city limits.

Wastewater Conveyance

The existing wastewater collection system is owned and operated by the City of Lathrop. The current collection system is comprised of sewer pipes, manholes, sewer mains, sewer pump stations, and/or other conveyance system elements and directs the raw sewage to the treatment facilities.

The wastewater collection system for historic Lathrop includes gravity sewers, lift stations, and a regional pump station. Lift stations are located at Easy Court and J Street. The Easy Court lift station contains two 5-horsepower (hp) pumps and has a capacity of 350 gallons per minute (gpm). The J Street life station has a capacity of 550 gpm with two 5-hp pumps. The regional facility contains two 47-hp pumps and one 20-hp pump located on O Street west of Halmar Lane. The regional pump station conveys wastewater to a 12-inch force main, which discharges to the Manteca-Lathrop Wastewater Quality Control Facility (WQCF).

The wastewater collection system for Mossdale Landing includes a sewer pumping station designed for a peak wet weather flow rate of 3.4 mgd. This pump station conveys wastewater to

WRP-1-MBR via 8-inch and 12-inch diameter force mains located within the right-of-way of existing or planned roadways and under I-5.

The wastewater collection system for the Central Lathrop Specific Plan area will include a sewer pumping station designed for a peak wet weather flow rate of 7.8 mgd. This pump station will convey wastewater to WRP-2, which has not been built, via 16-inch and 12-inch diameter force mains located within the right-of-way of existing or planned roadways and under I-5.

The wastewater collection system for River Islands will include a sewer pump station designed for a peak wet weather flow rate of 4.9 mgd. This pump station will convey wastewater to WRP-1-MBR via a 12-inch diameter force main located within the right-of-way of existing or planned roadways and under I-5.

The wastewater collection system for the Crossroads Publicly Owned Treatment Works (POTW) includes a network of pipes and a pump station within the Crossroad Commerce Business Park area. The pump station conveys wastewater to the Crossroads POTW.

Wastewater Treatment

Wastewater from the City is currently treated at the City's Water Recycling Plant (WRP-1-MBR[1]), the Crossroads Publicly Owned Treatment Works (POTW), and the Manteca-Lathrop Wastewater Quality Control Facility (WQCF). The City owns WRP-1-MBR and the Crossroads POTW, and 14.7 percent of the WQCF by contract. The City's Wastewater Collection Master Plan and Wastewater Treatment and Disposal Master Plan (prepared in 2000 and updated in 2004) and the 2006 Lathrop 5-year Plan 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.

CROSSROADS POTW

The City's original treatment facility (Crossroads POTW) was constructed in 1996 and is limited by the land application area to a capacity 0.20 MGD. The City's treatment plant was constructed by the developers of the Crossroads Commerce Center.

LATHROP WRP-1-MRB

The existing WRP-1-MBR has a current capacity of 0.75 MGD. The City has plans to increase the treatment capacity, upgrade the treatment technology, and improve operational flexibility of WRP-1-MBR and increase the treatment capacity to 3.12 MGD. The Waste Discharge Requirements (WDRs) Order No. R5-2006-0094 allows the WRP-1 to expand capacity up to 3.12 mgd. WRP-1 serves portions of River Islands, Mossdale Landing, West Central Lathrop, and Stewart Tract developments.

[1] MBR = Membrane Bioreactor

MANTECA-LATHROP WQCF

The City conveys most of its wastewater to a regional plant in Manteca for treatment and disposal. The City has a contractual relationship with Manteca whereby 14.7 percent of the Manteca-Lathrop WQCF capacity is allocated for Lathrop flows. The Waste Discharge Requirements (WDRs) Order No. R5-2009-0095 NPDES NO. CA0081558 allows the Manteca-Lathrop WQCF to expand capacity up to 17.5 mgd.

WASTEWATER QUALITY

The WRP-1-MBR's Waste Discharge Requirement (WDR) specifies that effluent from the WRP-1-MBR must not exceed the limits presented in Table 3.15-1 (WDR Recycled Effluent Discharge Limitations). Recycled water from the WRP is delivered to land application areas or storage ponds until it is used. The storage ponds are lined to minimize percolation.

TABLE 3.15-1: WDR RECYCLED EFFLUENT DISCHARGE LIMITATIONS

CONSTITUENT	*UNITS*	*MONTHLY AVERAGE*	*DAILY MAXIMUM*
BOD5	mg/L	10	20
TSS	mg/L	10	n/a
Total N	mg/L	10	<20
TDS	mg/L	600	n/a
Total Coliform	Median Concentration < 2.2 per 100 mL		
	Max once per month MPN > 23 per 100 mL		
	MPN < 240 per 100 mL at all times		
Turbidity	Not exceed 0.2 NTU > 5% time w/in 24 hr		
	Not exceed 0.5 NTU at any time		
pH	Average Daily: 6.5< pH < 10		

SOURCE: LATHROP 2009, PG 3-25

The Central Valley RWQCB regulates the WRP-1-MBR and use of recycled water through Board Order Number R5-2006-0094. The order allows land application only to those areas subject to review in a final document adopted pursuant to the California Environmental Quality Act (CEQA) and prior to the date of adoption of the order. The board order limits the application of recycled water to lands where shallow groundwater TDS average concentrations exceed 1,000 mg/L to minimize groundwater quality degradation. Recycled water TDS is a function of the TDS in the source water supply and mineral pickup through daily use and wastewater treatment (Lathrop 2009, pg 3-25).

The WDR specifies that recycled water application from the WRP-1-MBR must not cause groundwater to contain constituents in concentrations greater than presented in Table 3.15-2 (Interim WDR Groundwater Water Constituent Limits) or greater than the natural background concentrations, whichever is greater until a background groundwater quality report, which was completed in March 2009, is accepted by the Central Valley RWQCB. Recycled water application must not impart taste, odor, toxicity, or color that creates nuisance or impairs any of the beneficial uses of the groundwater basin identified by the Central Valley RWQCB.

TABLE 3.15-2: INTERIM WDR GROUNDWATER CONSTITUENT LIMITS

CONSTITUENT	*UNITS*	*LIMITATION*
Boron	mg/L	0.7
Chloride	mg/L	106
Iron	mg/L	0.3
Manganese	mg/L	0.05
Sodium	mg/	69
Total Coliform Organisms	MPN/100mL	<2.2
TDS	mg/L	450
Total Nitrogen mg/L	mg/L	10
Nitrite (as N) mg/L 1	mg/L	1
Nitrate (as N) mg/L 10	mg/L	10
Ammonia (as NH4) mg/L 1.5	mg/L	1.5
Bromoform ug/L 4	ug/L	4
Bromodichloromethane ug/L 0.27	ug/L	0.27
Chloroform ug/L 1.1	ug/L	1.1
Dibromochloromethane ug/L 0.37	ug/L	0.37
pH must be 6.5 or greater and 8.4 or less		

SOURCE: LATHROP 2009, PG 3-25

Future Demand

The Wastewater Treatment and Disposal Master Plan projects new development would increase the total wastewater discharge to an average dry weather flow of approximately 11.9 million gallons per day (mgd) at build-out. The City has plans for upgrading the existing WRP-1-MBR to increase the treatment capacity, upgrade the treatment technology, and improve operational flexibility of the plant. With these improvements the WRP-1-MBR would have a treatment capacity of 3.12 mgd. The City also plans to construct a second water recycling plant (WRP-2) with a capacity of 3.12 mgd to accommodate anticipated growth. A total combined treatment capacity is planned by the City at buildout of 11.9 MGD through a combination of expansions at the WRP-1-MBR, WRP-2, WQCF and Crossroads POTW. The 11.9 mgd of capacity would be able to adequately serve the major planned development within the City and SOI. The City's current Wastewater Discharge Requirement (WDR) from the Central Valley RWQCB limits the treatment capacity of the City to 6.24 mgd. The City's wastewater planning documents have been continually updated to identify the collection and treatment requirements anticipated at buildout within the City and SOI.

The Wastewater Treatment and Disposal Master Plan projects new developments will increase the total wastewater flow to an average dry weather flow of approximately 11.9 mgd at buildout (City of Lathrop 2009, pg. 3-26). These projected wastewater flows were based on land use designations for the various development areas in 2004. The projected flows have not been updated to current land use assumptions. All wastewater flows will be treated at the WRP-1-MBR, WRP-2, Crossroads POTW, or Lathrop-Manteca WQCF, however it is not clearly defined how much would be allocated to each treatment plant. The 2004 wastewater flows (per the 2004 Master Plan) and projected future wastewater flows of the three major City areas are presented in Table 3.15-3.

TABLE 3.15-3: PROJECTED WASTEWATER FLOW (MGD)

DATE	*AREA 1 (EAST LATHROP)*	*AREA 2 (WEST CENTRAL LATHROP)*	*AREA 3 (STEWART TRACT)*	*TOTAL*
2004	0.76	**0.0**	**0.0**	**0.76**
Build-out	3.8	3.7	4.4	11.9

NOTE: THE PLAN AREA IS INCLUDED IN AREA 1 EAST LATHROP

SOURCE: CITY OF LATHROP 2009, PG. 3-26

The City's Wastewater Treatment and Disposal Master Plan outlined a phased plan to provide treatment capacity for the anticipated 11.9 mgd at build-out, whenever it may occur. This plan accounts for the phasing and location of each planned future development area within the City.

The City's Wastewater Collection Master Plan, Wastewater Treatment and Disposal Master Plan (prepared in 2000 and updated in 2004), and the 2006 Lathrop 5-year Plan have identified the requirements anticipated to be necessary for the conveyance and treatment of wastewater at buildout, whenever it may occur. Furthermore, the Master Plan outlines a phasing plan for the implementation and anticipated cost for construction. To ensure that appropriate funding is available when the wastewater related infrastructure is needed, the developers are required through development agreements to cover all the costs of the infrastructure upfront even if they are only responsible for their portion of costs. Developers are then reimbursed at a later point (e.g. when additional development fees are collected) for any payments in excess of what they are responsible (City of Lathrop 2009, pg. 3-26).

REGULATORY SETTING - WASTEWATER

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 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 and is Order R5-2006-0094 and Order 5-01-251.

City of Lathrop General Plan

The Lathrop General Plan establishes the following policies and requirements relative to wastewater in the General Plan:

COMMUNITY DEVELOPMENT ELEMENT (SECTION D)

Water, Sewerage, Drainage, and Flood Control:

The following policies seek to provide guidance related to sewerage.

> **Policy 1**. The City of Lathrop is the most logical governmental entity to assume management responsibility for water service to the developing urban pattern. However, this preference allows for the creation of other special districts, including Irrigation Districts, especially if these districts can provide utility improvement financing that protects the City's existing rate payers. Development within the City's three sub-plan areas is to be served by the City under development agreements between the City and project developers.
>
> **Policy 3**. Any Water, Wastewater and Recycled Water Master Plan update should provide for the eventual integration of the water well and distribution system serving the existing community with the system(s) needed to serve areas of urban expansion to avoid potential future problems of groundwater quality associated with the existing system.

Wastewater Management Requirements

As used here, "wastewater management" involves the collection, treatment and disposal of domestic and commercial/industrial sanitary sewage, with a level of treatment that will allow reuse of the effluent for the irrigation of residential, commercial, and public uses; schools; public parks; and recreation and open space areas. The Water, Wastewater and Recycled Water Master Plan anticipated that some treated wastewater would be discharged to land under a Regional

Water Quality Control Board Waste Discharge Requirement, with the balance disposed of as seasonal discharge of treated effluent to the San Joaquin River. In this way, the treated effluent would be used as a resource to reduce the amount of potable water needed to serve new development.

COLLECTION, TREATMENT AND DISPOSAL CONCEPTS

A First Stage System to Serve the Three Sub-Plan Areas: One of the alternatives in the approved Master Plan allows for separate sewerage systems to be developed to manage wastewater generated by urban expansion east and west of the San Joaquin River. However, the Master Plan also allows an expansion of the City's existing treatment facility located within the Crossroads Industrial Park to serve residential and commercial expansion in the southern portion of S-P Area #2 and in S-P Area #3. For Area #3, this approach would satisfy demand unless and until a point when a separate treatment plant on the Stewart Tract becomes justified or desirable. If a separate treatment plant is constructed on the Stewart Tract that serves the entire Stewart Tract, the capacity in the treatment plant east of the San Joaquin River that had been funded by Stewart Tract development could be purchased by development east of the San Joaquin River.

Since the City incorporated, the Manteca Water Quality Control Facility has been expanded. By contract, the City of Lathrop continues to be provided some capacity of all expansions of this facility, so long as Lathrop pays its share of these expansion costs.

Recycling and Reuse: The recycling of treated wastewater occurs after treatment and filtration is complete and beneficial reuse is possible. Reuse of treated wastewater for recreation area irrigation (e.g., golf courses, parks, open space corridors and ornamental ponds or lakes), urban development area irrigation (e.g., variable density residential front and rear yards, multi-family common landscape areas, and commercial and public uses common, buffering, and screening areas), for wash down of commercial areas, and to enhance wildlife habitat is a major policy of the General Plan both from the standpoint of water conservation, and as a means to achieve a net reduction in the total amount of water needed for urban use as compared to continued agricultural use.

For reuse as public contact irrigation water, the effluent will have to meet local, regional, state and federal requirements of water quality, including filtration, maintenance of specified levels of suspended solids, and disinfection. The effluent could be applied by above ground or below ground irrigation systems. Areas of application may in some cases require fencing. Another type of reuse could occur through the application of partially treated effluent. Settled effluent would be applied to fenced areas that are away from the general public and which produce commercial animal feed crops (e.g., alfalfa, native hay, milo, corn), or to productive open space managed as wildlife habitat.

A third alternative would involve seasonal discharge of effluent to the San Joaquin River under permit authorization of the Environmental Protection Agency and Regional Water Quality Control Board. This method would help eliminate the need for large-scale water storage during the wet season. It was the conclusion of the Master Plan and EIR that year round discharge of tertiary treated effluent to the San Joaquin River would not constitute a significant impact upon the river.

It is therefore safe to conclude that seasonal discharge (when the river flows are higher) would have even less impact upon the environment and is a reasonable path to pursue. It is to be noted that full seasonal storage will be required for the amount of effluent generated at any given time in the development process until such time that a permit for seasonal discharge is obtained.

Industrial Pre-treatment of Liquid Waste: As a general principal, the pretreatment of industrial waste streams will be required for any industries that could otherwise contribute excessive levels of BOD or contaminants to the sewage treatment and disposal process. Policies governing pre-treatment were developed during preparation of the Master Plan.

Utility Master Plans

The City of Lathrop maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: Wastewater Collection Master Plan Amendments (2004), Recycled Water Master Plan Amendment (2004), Urban Water Management Plan (2006), Water Supply Study (2008), Draft Historic Lathrop Storm Drainage Maser Plan (2006), and Storm Water Management Plan (2003).

THRESHOLDS OF SIGNIFICANCE - WASTEWATER

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 3.15-1: The proposed project has the potential to exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. (less than significant)

WASTE DISCHARGE REQUIREMENTS (WDRS) ORDER NO. R5-2006-0094

The City of Lathrop owns and operates a wastewater treatment system including WRP-1, a wastewater collection/conveyance system, recycled water basins/disposal fields, and a recycled water conveyance/irrigation system. The wastewater treatment system treats domestic wastewater from residential and commercial sources. After treatment, wastewater is recycled as irrigation water for land application areas.

Waste Discharge Requirements (WDRs) Order No. R5-2006-0094 is Master Reclamation Permit that allows treatment and application of up to 0.75 mgd, and would allow, but does not guarantee, the City of Lathrop to increase the flow limit based on the treatment equipment, storage capacity, and land application area expansions. WRP-2 is a planned future treatment plant that has not yet been constructed, but is permitted under this Order.

The wastewater system consists of the collection system, mechanical treatment equipment, recycled water distribution piping, six HDPE-lined wastewater storage ponds providing a storage capacity of 150.7 Mgal, and 182.9 acres of land application areas. Approximately 102.2 acres of the total land application acreage described in the Order are owned by private corporations that are developing the land served by the wastewater system. The treatment system produces disinfected tertiary recycled water that is consistent with the definition in Title 22.

The Order was prepared to allow flexibility in changing the size and use of land areas for recycled water storage or land application. Changes to the approved configuration will be requested by the City of Lathrop through Recycled Water Expansion Reports (RWERs) that will be approved, as appropriate, by the Executive Officer of the RWQCB Central Valley Region. The ultimate flow rate available under the Order is 6.24 MGD but the Order does not guarantee any flow rate increase over the presently permitted 0.75 MGD.

The City of Lathrop expects land use to changes with continuing development, and that may result in land that is presently used for land application or wastewater storage to be developed for other uses later. The Order would allow such changes as long as adequate treatment, wastewater storage, and land application areas are maintained.

On February 14, 2006 the City of Lathrop submitted a Report of Waste Discharge (RWD) and a Title 22 Engineering Report for a wastewater treatment facility to treat and dispose of domestic wastewater generated in existing and planned residential and commercial developments within the City of Lathrop. The City provided additional information to the RWQCB on May 10, 2006. These Waste Discharge Requirements (WDRs) provided in the Waste Discharge Requirements (WDRs) Order No. R5-2006-0094 were prepared by the RWQCB as part of a Master Reclamation Permit described by California Water Code Section 13523.1(b)(1).

The Waste Discharge Requirements (WDRs) Order No. R5-2006-0094 includes: Discharge Prohibitions, Discharge Specifications, Effluent Limitations, General Solids Disposal Specifications, Water Recycling Specifications, Groundwater Limitations, and Provisions. This Order was approved on September 22, 2006. Also approved with the Order was a Monitoring and Reporting Program No R5-2006-0094, which includes monitoring and reporting for: Influent, Effluent, Effluent Storage Ponds, Recycled Water Land Application Areas, Groundwater, Sludge, and Water Supply.

The City of Lathrop's wastewater treatment system is currently incompliance with the WDR requirements of Order No. R5-2006-0094. The SLSP wastewater treatment system options covered under this Order include: WRP-1 (including an expansion up to 1.62 mgd), the existing collection system, the existing and expanded basin/disposal fields, the recycling conveyance and irrigation system, and WRP-2. Implementation of SLSP under any of these permitted options would not

exceed the wastewater discharge requirements in this Order. Implementation of SLSP would have a ***less than significant*** impact relative to this topic. The allocation of wastewater service capacity is discussed in the following impact topic.

WASTE DISCHARGE REQUIREMENTS (WDRS) ORDER NO. R5-2009-0095 NPDES NO. CA0081558

The City of Manteca owns and operates a wastewater collection, treatment, and disposal system, and provides sewerage service to the City of Manteca and the City of Lathrop. On October 8, 2009, the RWQCB adopted Waste Discharge Requirements Order No. R5-2009-0095 NPDES NO. CA0081558, prescribing waste discharge requirements for the City of Manteca Wastewater Quality Control Facility (WQCF) and allowing expansion of the plant up to up to 17.5 mgd.

The City of Manteca owns and operates a Publicly-Owned Domestic Wastewater Treatment Works, which serves a portion of the City of Lathrop. The Facility is divided into two parallel treatment systems, the north and south treatment systems. Primary treatment, which is identical in both systems, consists of mechanical screening, aerated grit removal, and primary sedimentation. At the north plant, the primary effluent undergoes additional treatment through two biotowers with high-rate plastic media. The secondary treatment systems for both treatment systems are the same, which consists of conventional activated sludge, including nitrification-denitrification, followed by secondary sedimentation.

Grit and screenings are hauled offsite to a landfill for disposal. Sludge removed from primary and secondary sedimentation is thickened by dissolved air floatation, and then pumped to anaerobic digesters. After digestion, the treated sludge is dewatered by centrifuge, and then removed offsite for disposal in a privately-owned solid waste landfill.

Undisinfected secondary effluent is mixed with food processing waste and applied to approximately 190 acres of the Discharger-owned agricultural fields and 70 acres of Dutra Farms Inc. owned agricultural fields. Dutra Farms Inc. is named as a discharger in this Order and is responsible for the proper application and management of the wastewater on its land, APN 241-320-47. All the agricultural fields grow fodder and feed crops for dairy feed. Both Dischargers are jointly responsible for maintaining the pipeline from the Facility to the Dutra Farms property.

Excess secondary effluent undergoes tertiary treatment through coagulation and flocculation, cloth media filtration, and ultraviolet light pathogen deactivation (UV Disinfection). Disinfected tertiary level treated effluent is discharged from Discharge Point No. 001 (see table on cover page) to the San Joaquin River. The San Joaquin River is a water of the United States, within the Sacramento-San Joaquin Delta. The Discharger also provides disinfected tertiary-level treated effluent for reuse for construction purposes (e.g. dust control).

The Waste Discharge Requirements (WDRs) Order No. R5-2009-0095 NPDES NO. CA0081558 includes: Discharge Prohibitions, Effluent Limitations and Discharge Specifications, Receiving Water Limitations, Provisions, Compliance Determination, and Monitoring Requirements. This Order was approved on October 8, 2009.

The City of Manteca's wastewater treatment system is currently incompliance with the WDR requirements of Order No. R5-2009-0095 NPDES NO. CA0081558. The SLSP wastewater treatment system options covered under this Order include: City of Manteca Wastewater Quality Control Facility (WQCF) including the collection system, basin/disposal fields, discharge to the San Joaquin River, and recycling conveyance and irrigation system. Implementation of SLSP under this permitted option would not exceed the wastewater discharge requirements in this Order. Implementation of SLSP would have a ***less than significant*** impact relative to this topic. The allocation of wastewater service capacity is discussed in the following impact topic.

Impact 3.15-2: The proposed project has the potential to 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 SLSP would require wastewater collection and treatment services. The provision of the wastewater collection services would be provided by the City of Lathrop wastewater system which currently includes WRP-1-MBR, the Crossroads POTW, and the Manteca-Lathrop WQCF. Current capacity at WRP-1 is 750,000 gpd. The WRP-1 has a projected wastewater flow of 5.53 mgd at buildout of development projects west of I-5. The Waste Discharge Requirements (WDRs) Order No. R5-2009-0095 NPDES NO. CA0081558 allows the Manteca-Lathrop WQCF to have a capacity of 17.5 mgd of which 14.7% is allocated for the City of Lathrop.

Project Wastewater Generation

The estimated wastewater generation from the SLSP at buildout is approximately 211,800 gallons per day average dry weather flow (ADWF). Table 3.15-4 summarizes the estimated wastewater generation by phase.

TABLE 3.15-4: WASTEWATER GENERATION BY PHASE ESTIMATE

LAND USE DESCRIPTION	*AVERAGE DEMAND FACTOR (GPD/AC)*	*PHASE AND OVERALL TOTAL*	*PHASE 1*		*PHASE 2*		*PHASE 3*	
			ACRES	*AVERAGE DEMAND (GPD)*	*ACRES*	*AVERAGE DEMAND (GPD)*	*ACRES*	*AVERAGE DEMAND (GPD)*
Commercial Office	1200	Phase Total	0.0	0	0.0	0	10.0	12,000
		Total	0.0	0	0.0	0	10.0	12,000
Limited Industrial	900	Phase Total	106.9	96,210	55.7	50,130	59.4	5.3,460
		Total	106.9	96,210	162.6	146,340	222.0	199,800
Public/Quasi-Public	0	Phase Total	36.0	0	0.0	0	0.0	0
		Total	36.0	0	36.0	0	36.0	0
Open Space	0	Phase Total	31.5	0	0.0	0	0.0	0
		Total	31.5	0	31.5	0	31.5	0
Major Roads (ROW)	0	Phase Total	15.5	0	0.0	0	0.0	0
		Total	15.5	0	15.5	0	15.5	0
Total by Phase			189.9	96,210	55.7	50,130	69.4	65,460
Total			189.9	96,210	245.6	146,340	315.0	211,800

SOURCE: SOUTH LATHROP SPECIFIC PLAN

The planned collection system for the SLSP employs a gravity wastewater collection infrastructure system as shown on Figure 3.15-1. Due to the flat topography of the Plan Area, pumping systems are needed to convey collected wastewater to the treatment facilities. Force main systems convey wastewater from the pump station to the treatment plants. Offsite improvements, as shown on Figure 3.15-1, include connections to the City existing wastewater facilities. Wastewater connection facilities would run under Yosemite Avenue, cross under S. Howland Rd and connect to the City treatment facilities at Nestle Road or the Manteca-Lathrop WQCF at McKinley Avenue. All wastewater improvements would be designed according to City standards and installed in the existing roadways in order to limit environmental impacts.

Recycled Water Storage Basins and Disposal Fields

Recycled water not utilized for on-site irrigation will be piped off-site to be held in storage basins and/or used for land application disposal. Storage basins are required to provide both daily and seasonal storage of the recycled water.

Based on general information about the depth to groundwater in the area and a preliminary estimate of the required storage volume at full build-out of the SLSP, it is anticipated that the storage basins will be constructed partially below and partially above the elevation of the existing ground. The portion above grade is likely to be constructed with earthen berms not to exceed 15 feet high. It is expected that the storage basins will include a synthetic liner in order to prevent seepage into the ground to the maximum extent possible to avoid adverse impacts to groundwater. The required area of the basin is dependent on the depth as well as the amount of recycled water to be stored. The storage volume depends in turn on the amount of recycled water that can be disposed of through irrigation.

It is estimated that approximately 15.7 acres of land may be irrigated with recycled water within the developed portion of the SLSP as listed in Table 3.15-5, if approved by the RWQCB. A preliminary estimate indicates that the minimum overall off-site basin area to serve full build-out of the SLSP is approximately 14.0 acres, assuming an average basin depth of 14 feet with an additional two feet of freeboard (berms 12 feet above ground and basin bottom four feet below ground) and assuming 61.0 acres of off-site irrigated disposal fields. See Figure 3.15-2.

An existing recycled water pipeline located in Yosemite Avenue was constructed with the Mossdale Landing project. A new pipeline will be constructed in Yosemite / Guthmiller Avenue, which will connect the Plan Area to the existing pipe. The recycled water pipes will enable public landscaping to be irrigated with recycled water. The internal roadways within the Plan Area will not contain public landscaping and therefore recycled water pipes are not required in these streets.

TABLE 3.15-5: IRRIGATED AREA

LAND USE DESCRIPTION	ASSUMED LANDSCAPE FACTOR	TOTAL ACRES	ESTIMATED LANDSCAPE AREA
Major Road Landscape	90%	1.1	1.0
Open Space	70%	21.0	14.7
Total		22.1	15.7

SOURCE: SOUTH LATHROP SPECIFIC PLAN

Recycled Water Off-site Improvements

Basins and disposal fields located in the North Lathrop area were approved with previous CEQA documents, the City's "5-year plan for wastewater capacity," and ultimately by the RWQCB in the City's Report of Waste Discharge (RWD) and Waste Discharge Requirements (WDR's). An annual water balance analysis will be prepared to determine the actual recycled water storage volume and irrigation area required. The water balance will be prepared with future planning efforts such as during tentative map processing. Verification that the disposal sites are available for the SLSP will be included with the water balance analysis. In addition, it will be determined what is needed to "perfect" the disposal sites as required by the City discharge permit and in the Waste Discharge Requirements (i.e. groundwater monitoring work plan, design plans, etc.).

As wastewater is treated off-site, it must be returned to the Plan Area or sent to the off-site disposal areas. Figures 3.15-2 and 3.15-3 include the potential routing of offsite recycled water pipelines that would either return the water to the Plan Area or deliver it to the off-site disposal areas.

Two separate recycled water systems have been constructed in the City of Lathrop that may potentially be utilized to deliver recycled water to the North Lathrop disposal fields and basins. The first system was constructed with the Mossdale Landing project and is connected to the existing WRP #1 treatment plant. The second system was partially constructed with the Central Lathrop Specific Plan project and was intended to be connected to the future WRP #2 treatment plant. Some of the pipelines to the North Lathrop disposal fields were previously approved and partially designed and constructed with the Central Lathrop Specific Plan project. The two systems may need to be connected to provide for the most flexible, efficient and economical system. Three potential interconnection points are shown on Figure 3.15-3. A recycled water model will be prepared with future planning efforts such as during tentative map processing. Sites that are under consideration to be used for basins and/or disposal fields are listed in Table 3.15-6 and are shown on Figure 3.15-3.

TABLE 3.15-6: POSSIBLE RECYCLED WATER BASINS AND DISPOSAL FIELD SITES

APN	*OWNER*	*(ACRES)*	*APPROVED IN RWD*	*RWD AREA I.D.*
191-28-09	Rio Blanco Ranch	49.5	Yes	A1
191-28-10	Rio Blanco Ranch	101.2	Yes	A2
191-27-24	Roseville Investments	58.6	Yes	A3
191-27-31	Roseville Investments	85.0	Yes	A9

SOURCE: SOUTH LATHROP SPECIFIC PLAN

Conclusion

The SLSP would increase the amount of wastewater requiring treatment. The wastewater would be treated at the Manteca-Lathrop WQCF, WRP-1, and or Crossroads POTW facilities. It is also possible that WRP-2 could become an option in the future if constructed. As shown in Table 3.15-4, the SLSP would generate an average flow of approximately 211,800 gpd or approximately 0.21 mgd at buildout.

The City currently has 1.85 mgd of available wastewater capacity, of which it currently uses 0.9 mgd ADWF. The City's Wastewater Collection Master Plan, Wastewater Treatment and Disposal Master Plan (prepared in 2000 and updated in 2004) and the 2006 Lathrop 5-Year Plan have identified the requirements anticipated to be necessary for the conveyance and treatment of wastewater.

At the time this document was prepared; all wastewater flows in the City of Lathrop at buildout of the General Plan would be treated at WRP-1, WRP-2 (once constructed), or the Lathrop-Manteca WQCF. However, it is not clearly defined how much wastewater would be allocated to each treatment plant. The City's Wastewater Treatment and Disposal Master Plan outlines a phased plan to provide treatment capacity for the anticipated buildout condition of the City of Lathrop, whenever it may occur.

Although several disposal options exist, the timing of improvements associated with these facilities is unknown at this time. Construction of WRP-2, which was analyzed under the Central Lathrop Specific Plan EIR, would provide sufficient wastewater treatment capacity to serve the SLSP. However, WRP-2 does not currently exist, and it cannot be assured that treatment capacity at WRP-2 would be brought into service concurrently with demand generated by the SLSP. The City of Lathrop currently has adequate capacity at the existing Manteca-Lathrop WQCF, WRP-1, and Crossroads POTW to service their existing commitments; however, an allocation for wastewater treatment from the existing capacity has not been provided to the SLSP. While there are a variety of options available to secure wastewater treatment sufficient wastewater treatment capacity has not been allocated to support the SLSP. This impact is considered potentially significant. Occupancy of any buildings within the Plan Area would be prohibited without sewer allocation. An issuance of sewer allocation from the City's available capacity 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 SLSP's projected demand in addition to the provider's existing commitments. Additionally, any planned expansion to the Manteca-Lathrop WQCF, WRP-1, and/or Crossroads POTW with a subsequent allocation of capacity to the SLSP 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 SLSP's projected demand in addition to the provider's existing commitments. Implementation of Mitigation Measure 3.15-1 would reduce this potential impact to a ***less than significant*** level.

MITIGATION MEASURE

Mitigation Measure 3.15-1: *Prior to occupancy of the any building that would require wastewater treatment services, the project proponent shall secure adequate wastewater treatment capacity. The wastewater treatment capacity may come from a variety of existing facilities including the WRP-1, Crossroads POTW, and/or Lathrop-Manteca WQCF. These existing plants are permitted facilities that have undergone the appropriate environmental review. Alternatively, the wastewater treatment capacity may come from a variety of future facilities or expansions to existing facilities including a newly constructed WRP-2, or a capacity expansion at WRP-1, Crossroads POTW, and or Lathrop-Manteca WQCF. The WRP-2 has undergone environmental review and is permitted under the City's waste discharge permit. The expansion of an existing facility would require the*

appropriate environmental review and waste discharge permits (Note: the expansion of WRP-1 to 1.56 mgd is permitted by the State under the existing waste discharge permit). Additionally, the project proponent would be required to install/connect the necessary collection/transmission infrastructure to ensure the appropriate treatment of all wastewater.

Impact 3.15-3: The proposed project has the potential to 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 (significant and unavoidable)

With development of the Plan Area, new and/or expanded wastewater system improvements will be constructed to meet these needs.

Planned Wastewater System

Wastewater Collection and Conveyance: The collection and conveyance system will consist of gravity pipes, a pump station and a force main. The pump station will be sized for the build-out condition of the SLSP and will be located within the Plan Area. The forcemain will connect the pump station to one of the selected treatment plants options. Figure 3.15-1 illustrates the wastewater collection and conveyance system.

Wastewater Treatment: Wastewater generated by the SLSP may be treated through a variety of options including existing facilities, new facilities, or expansion of existing facilities. Full buildout of the SLSP would require either a new facility or an expansion of an existing facility. The available options include: existing (Manteca-Lathrop WQCF, WRP-1, and/or Crossroads POTW), new (WRP-2), and expansion (Manteca-Lathrop WQCF, WRP-1, and/or Crossroads POTW). The existing facilities have undergone environmental review and have waste discharge permits from the State. The future WRP-2 facility has undergone environmental review in association with the Central Lathrop Specific Plan EIR and is permitted under the City's waste discharge permit from the State. An expansion to Manteca-Lathrop WQCF, WRP-1, and/or Crossroads POTW would require environmental review and an amendment to the City's waste discharge permit from the State.

Recycled Water Storage Basins and Disposal: Recycled water not utilized for on-site irrigation will be piped off-site to be held in storage basins and/or used for land application disposal. Storage basins are required to provide both daily and seasonal storage of the recycled water. If treatment occurs at WRP-1, disposal land will be required. Disposal land consists of lined seasonal storage basins and irrigated land application areas. Potential sites exist within the Plan Area and within the northern area of the City of Lathrop. The disposal sites will be subject to approval from the State. Disposal land would not be required if treatment occurs at the Manteca-Lathrop WQCF. Figure 3.15-2 and 3.15-3 illustrates the possible locations for these facilities.

It is anticipated that the storage basins will be constructed partially below and partially above the elevation of the existing ground. The portion above grade is likely to be constructed with earthen berms not to exceed 15 feet high. It is expected that the storage basins will include a synthetic liner in order to prevent seepage into the ground to the maximum extent possible to avoid adverse impacts to groundwater. The required area of the basin is dependent on the depth as well as the

amount of recycled water to be stored. The storage volume depends in turn on the amount of recycled water that can be disposed of through irrigation.

It is estimated that approximately 15.7 acres of land may be irrigated with recycled water within the developed portion of the Plan Area, if approved by the RWQCB. A preliminary estimate indicates that the minimum overall off-site basin area to serve full build-out of the SLSP is approximately 14.0 acres, assuming an average basin depth of 14 feet with an additional two feet of freeboard (berms 12 feet above ground and basin bottom four feet below ground) and assuming 61.0 acres of off-site irrigated disposal fields.

Basins and disposal fields located in the North Lathrop area were approved with previous CEQA documents, the City's "5-year plan for wastewater capacity" and ultimately by the RWQCB in the City's Report of Waste Discharge (RWD) and Waste Discharge Requirements (WDR's). An annual water balance analysis will be prepared during tentative map approval to determine the actual recycled water storage volume and irrigation area required. In addition, it will be determined what is needed to "perfect" the disposal sites as required by the City discharge permit and in the Waste Discharge Requirements (i.e. groundwater monitoring work plan, design plans, etc.).

Recycled Water Conveyance: As wastewater is treated off-site, it must be returned to the Plan Area or sent to the off-site disposal areas. Figures 3.15-3 include the potential routing of offsite recycled water pipelines that would either return the water to the Plan Area or deliver it to the off-site basin and disposal areas.

Two separate recycled water systems have been constructed in the City of Lathrop that may potentially be utilized to deliver recycled water to the North Lathrop disposal fields and basins. The first system was constructed with the Mossdale Landing project and is connected to the existing WRP-1 treatment plant. The second system was partially constructed with the Central Lathrop Specific Plan project and was intended to be connected to the future WRP-2 treatment plant, which has not yet been constructed. Some of the pipelines to the North Lathrop disposal fields were previously approved and partially designed and constructed with the Central Lathrop Specific Plan project. The two systems may need to be connected to provide for the most flexible, efficient and economical system. Three potential interconnection points are shown on Figure 3.15-3. All offsite improvements described above are anticipated to occur within the public rights-of-way and are not expected to result in a significant adverse impact.

Potential Impacts to Agricultural Resources

Development of the wastewater system within the Plan Area and Offsite would contribute to the conversion of designated Important Farmland to nonagricultural use. The loss of Important Farmland is considered a potentially significant environmental impact. Mitigation Measure 3.2-1 contained in Section 3.2 Agricultural Resources requires payment of fees to SJMSCP in order to fund the purchase of conservation easements on agricultural and habitat lands in the project vicinity. The conservation easements ensure protection of land for agricultural uses in perpetuity, although it does not result in the creation of new farmland. As such, the development of infrastructure within the Plan Area would contribute to the loss of Important Farmland which would be a **significant and unavoidable** impact.

Potential Impacts to Special Status Birds

The construction of the wastewater system would require the removal of foraging and nesting habitat for a variety of special status colonial nesters, nesting raptors, and nesting songbirds. Construction activities would create temporary sources of noise and light that could affect special status birds if they located adjacent to the Plan Area or Offsite Infrastructure in the future. These special status birds are covered by the SJMSCP, which serves as a special-purpose permit for the incidental take of species that are protected under the MBTA. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of open space 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. Coverage under the SJMSCP would fully mitigate all habitat impacts on these special status birds. Incidental take avoidance and minimization measures are designed to fully mitigate direct and indirect impacts to the individuals and their activities. Mitigation Measure 3.4-1 and 3.4-2 contained in Section 3.4 Biological Resources requires participation in the SJMSCP and a preconstruction survey of the Plan Area and Offsite Infrastructure Corridor prior to construction. If special status birds are found, an appropriate buffer would be developed around active nests as deemed appropriate in coordination with the CDFW to ensure that the special status birds are not disrupted during the breeding season. Implementation of these mitigation measures would ensure that potential impacts to special status colonial nesters are reduced to a ***less than significant*** level.

Potential Impacts to Storm Water

The construction of the wastewater system could cause significant environmental effects related to stormwater pollution. Stormwater pollution can cause a variety of significant environmental effects including: destruction of fish, wildlife, and aquatic life habitats; a loss in aesthetic value; and threats to public health due to contaminated food, drinking water supplies, and recreational waterways. In accordance with the NPDES Stormwater Program, Mitigation Measure 3.6-1 contained in Section 3.6 Geology and Soils ensures compliance with existing regulatory requirements to prepare a SWPPP designed to control erosion to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. 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. The SWPPP, once approved, is 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. 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 the review and approval by the RWQCB and are an existing regulatory requirement. Implementation of the SLSP would have a ***less than significant*** impact relative to this topic.

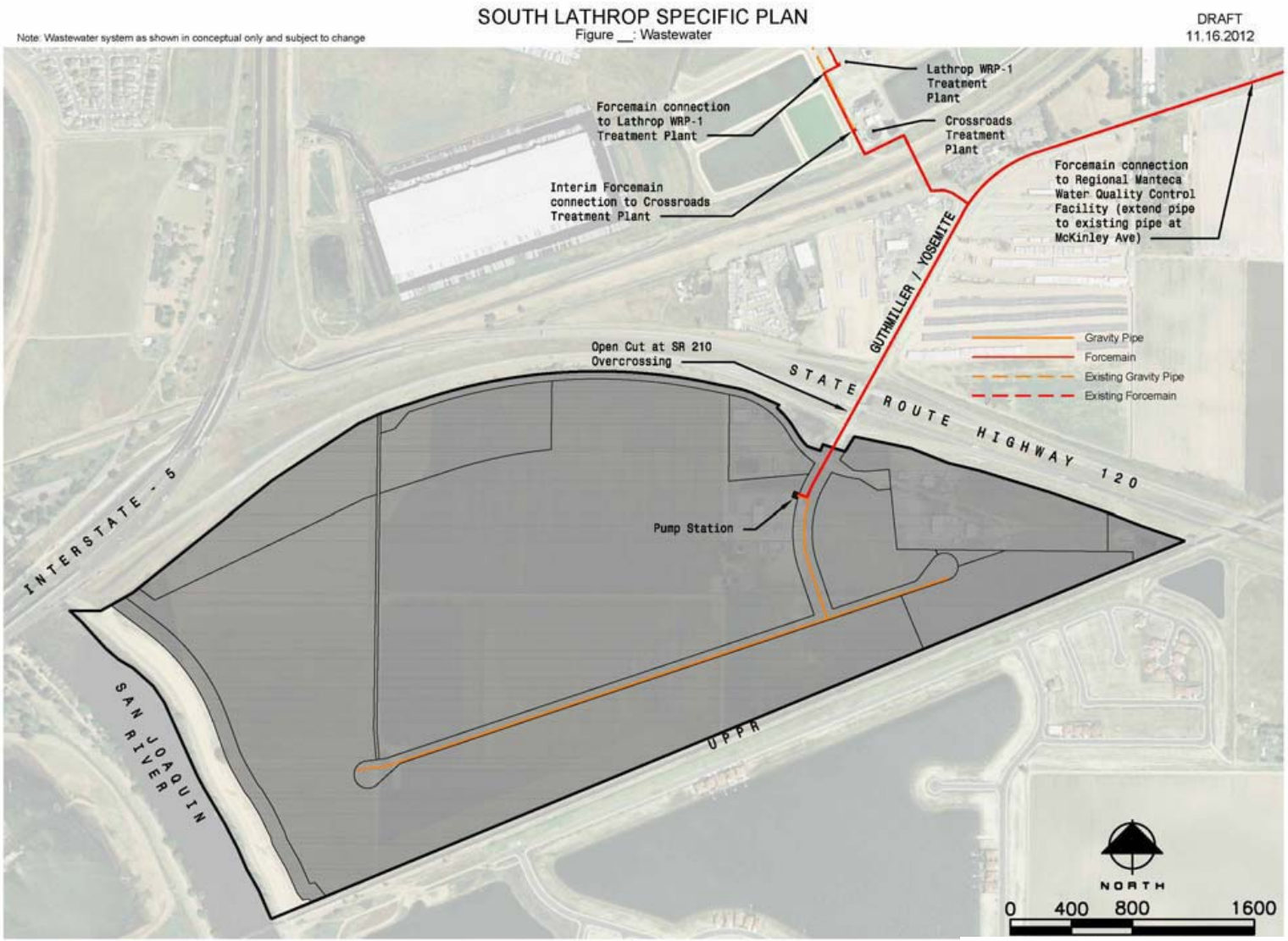
Potential Impacts From Soils That is Unstable, or That Could Become Unstable

Landslide, lateral spreading, subsidence, liquefaction, and collapse are not significant concerns in most areas of the City of Lathrop, including the Plan Area and Offsite Infrastructure Corridor. The installation of the wastewater system will involve compaction and soils testing. With proper compaction, including soils and compaction testing, the wastewater system infrastructure is not anticipated to create the potential for soils to become unstable. The wastewater system construction effort is anticipated to be monitored for appropriate compaction and soil engineering and will ensure that impacts to potential landslide, lateral spreading, subsidence, liquefaction, and collapse would be **less than significant**.

The *Preliminary Geotechnical Report* (Engeo 2004) identifies that the southern portion of the Plan Area has a high shrink-swell potential (Engeo, pg. 6). Mitigation Measure 3.6-3 contained in Section 3.6 Geology and Soils provides the requirement for a final geotechnical evaluation 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 wastewater system plans are required to be designed in accordance with the recommendations provided in the final geotechnical evaluation. With the implementation of Mitigation Measure 3.6-3 the SLSP would have a ***less than significant*** impact relative to this topic.

Potential Impacts from Offsite Improvement Extension

Extension of off-site improvements to or from the Plan Area within the existing rights-of-way or on developed lands would not result in significant adverse impacts. Development of the Recycled Water Storage Basins and Disposal fields located in the North Lathrop area were approved with previous CEQA documents, the City's "5-year plan for wastewater capacity" and ultimately by the RWQCB in the City's Report of Waste Discharge (RWD) and Waste Discharge Requirements (WDR's). Implementation of the SLSP would have a ***less than significant*** impact relative to this topic.



SOUTH LATHROP SPECIFIC PLAN

Figure 3.15-1: Project Wastewater System

Data source: MacKay & Somps. Map date: March 18, 2013.

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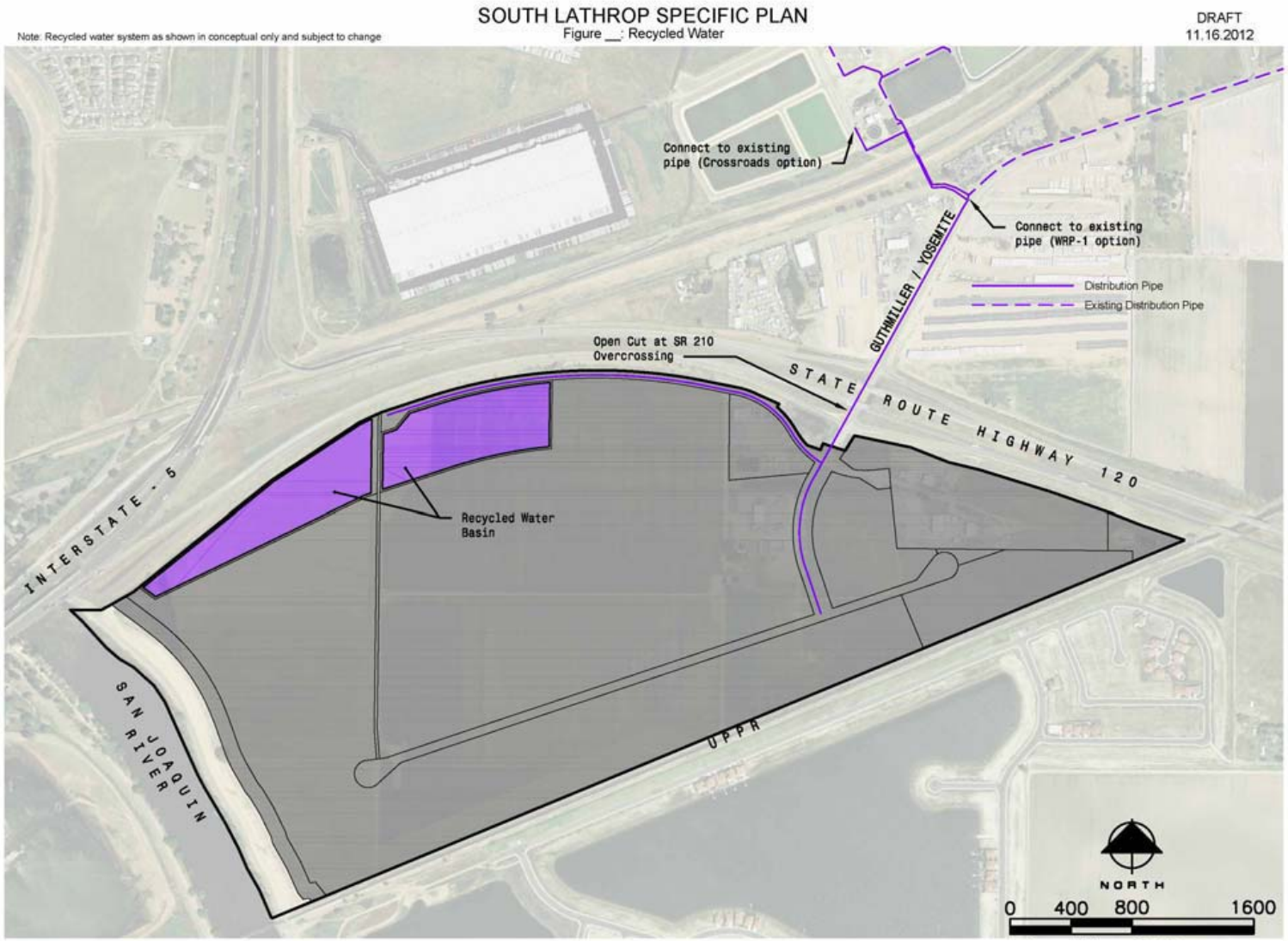

SOUTH LATHROP SPECIFIC PLAN

Figure 3.15-2: Potential Site Recycled Water Disposal

Data source: MacKay & Somps. Map date: March 19, 2013.

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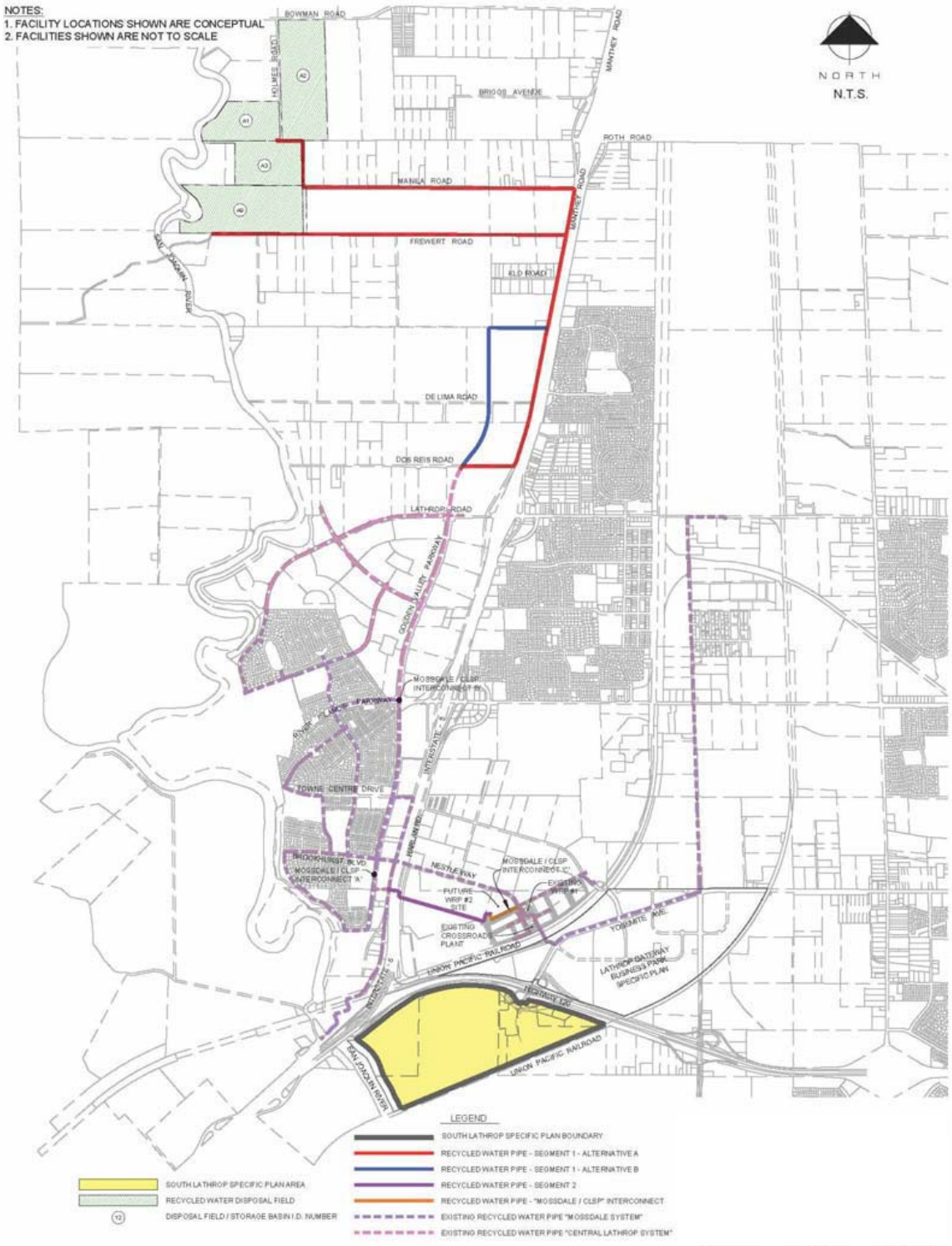

SOUTH LATHROP SPECIFIC PLAN

Figure 3.15-3: Potential Recycled Water Disposal

Data source: MacKay & Somps. Map date: March 19, 2013.

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3.15.2 WATER SUPPLIES
EXISTING SETTING

Currently, the Plan Area is located outside the existing city limits, but will be annexed into the city as part of the SLSP. The City of Lathrop would be the water purveyor for the SLSP. The City's water system service area includes all areas within the city limits. Funding for water infrastructure would be provided by the SLSP. The City is expected to provide potable groundwater from an expansion of the City's well field and potable surface water from Phase 1 and/or the Phase 2 expansion of the South County Surface Water Supply Program (SCSWSP) by the South San Joaquin Irrigation District (SSJID). It is anticipated that ultimately approximately two-thirds of the water needed for the Plan Area will come from the SCSWSP, with the remainder coming from the expansion of City wells.

Water Service Area

The water service area includes all acres within the city limits currently encompassing about 22 square miles or 14,080 acres. While the existing community is developed primarily east of I-5, major new developments are under construction west of I-5. The water supply for the City consists of treated surface water delivered through the South County Water Supply Program (SCWSP) and groundwater extracted within the City. The water utility system is a self-supporting City enterprise. The water utility is responsible for operation, maintenance, and repair of the City's water treatment and distribution system, as well as water quality monitoring, meter installation, and meter reading.

In accordance with the requirements of the State of California, the City has prepared a citywide Urban Water Management Plan (UWMP) and a project-specific Water Supply Assessment Report (WSAR). These studies evaluate the City's current and future water demands (including those of the Plan Area) against water supplies to ensure that adequate water is, or will be, available to accommodate the SLSP. The studies conclude that with the combined groundwater and SCSWSP surface water sources there are adequate water supplies available to serve the SLSP.

Historical and Future Water Demand

The following information was provided by the *Water Supply Assessment for South Lathrop Specific Plan EIR (*West Yost Associates. 2013). The City's 2005 UWMP describes the projected City water demand through 2030. The City's 2005 UWMP quantifies, to the extent records are available, past, current, and projected water use based on City water meter readings and findings of the City's Water Supply Study completed in January 2009. The population of the City in 2009 was approximately 17,671. Based on the anticipated rate of development described in the City's Master Plan, population projections for the City are shown in Table 3.10-6. Population projections for the River Islands at Lathrop and Mossdale Landing projects have been updated to reflect information presented in their respective CEQA documents. The City incorporated in 1989 and has a population of approximately 17,429 (Department of Finance, 2008). The City is anticipating growth in response of several new developments. The completion of these proposed developments is being defined as the City's build-out condition. The City is projecting a population of 71,080 by 2030.

Several steps, including demand reduction, are being taken to help ensure an adequate water supply for the City. The City's 2005 UWMP provides a discussion of how the City is evaluating and implementing the 14 Demand Management Measures (DMM) required by the Urban Water Management Planning Act. These DMMs include programs such as water surveys for single-family and multi-family residences, residential plumbing retrofits, and school education. In addition, the City's water conservation ordinance describes four stages of action to be undertaken to achieve a water use reduction of up to 50 percent. Severity of drought or water emergency determines the conservation phase implemented.

As water demands increase and sources of production capacity are expanded in the future, the utilization of each source of production will shift. Table 3.15-7 presents the total projected water demand accounting for distribution system losses through the year 2030. Additional water demands associated with proposed developments include commercial, industrial, and community uses. Water demand factors suggested for commercial and industrial uses are 1,500 gpd per acre and 2,000 gpd per acre, respectively. Community water demands for parks, schools, golf courses, and other landscaped areas were developed in the Water Supply Study (WSS) for each development using a formula for estimated total water use (WSA, pg.5-3).

Unaccounted losses in the distribution system can result from leaks, pipeline bursts, inaccurately calibrated or old meters, illegal water use, firefighting, sewer and storm drain flushing, pipeline testing, and road work. By comparing metered water supply versus metered water use from 2005 to 2007, the average unaccounted water loss is estimated at seven percent (WSA, pg.5-3). The total projected water demand at build-out accounting for losses in the distribution system and feasible conservation practices is 20,867 AFY as shown in Table 3.15-7. The SLSP and the neighboring Lathrop Gateway Business Park project, are identified as South Lathrop in the City's 2005 UWMP water demand projections.

TABLE 3.15-7: TOTAL 2030 PROJECTED WATER DEMAND ACCOUNTING FOR DISTRIBUTION SYSTEM LOSSES

DEVELOPMENT	*WATER DEMAND, AFY**
Central Lathrop	4,208
Mossdale Landing	1,141
Mossdale Landing East	326
Mossdale Landing South	178
River Islands	5,114
South Lathrop[c]	1,293
Historic Lathrop	7,409
Stonebridge	128
Development Demand	19,797
System Unaccounted Losses (7%)	1,386
Total Demand	*21,183*
Total Demand, with Conservation[a]	*20,867*
Total Demand, with Conservation and Non-Potable Irrigation[b]	*17,251*

*NOTES: * AFY = ACRE FEET PER YEAR. (A) CONSERVATION SAVINGS REFLECT SAVINGS FROM MEASURES THAT MUST BE INCLUDED IN ALL NEW DEVELOPMENTS BY REGULATION OR BY CONTRACT (LATHROP, 2009). (B) NON-POTABLE WATER SUPPLIES USED FOR LANDSCAPE IRRIGATION IN NON-RESIDENTIAL AREAS AS RECOMMENDED IN THE WSS (LATHROP, 2009). (C) INCLUDES THE PROJECT AND LGBP.*

SOURCE: WYA 2013, PG, 5-3

Water Supplies

The City's 2005 UWMP describes the available water supplies. The City's water supplies include local groundwater and surface water from the SCWSP. Past, current, and projected supplies of groundwater and surface water are summarized in Table 3.15-8.

TABLE 3.15-8: PAST, CURRENT, AND PROJECTED WATER SUPPLY (1990-2030)

YEAR	GROUNDWATER PUMPING, AFY	SURFACE WATER DELIVERIES[A], AFY	TOTAL AFY
1990	1,638	—	1,638
2000	2,538	—	2,518
2005 (current)	2,527	640	3,167
2010	6,048	8,007	14,055
2015	8,064	8,007	16,071
2020	12,096	8,007	20,103
2025	12,096	11,791	23,887
2030	12,096	11,791	23,887
2035	12,096	11,791	23,887

NOTES: (A) VALUES FOR 2010 AND BEYOND ARE PROJECTED SCWSP DELIVERIES TO THE CITY OF LATHROP AND REFLECT ASSUMPTIONS REGARDING CONSTRUCTION OF NEW FACILITIES, EXPANSION OF EXISTING FACILITIES, AND MANAGEMENT DECISIONS BY CITY STAFF. THE PROJECTED DELIVERIES ARE LESS THAN OR EQUAL TO THE ALLOTMENTS PRESENTED IN APPENDIX D OF THE CITY'S 2005 UWMP.

SOURCE WYA 2013, PG 6-3

SURFACE WATER

The principal component of future water supply for Lathrop is deliveries from the SCWSP. The SCWSP is a joint effort of the South San Joaquin Irrigation District (SSJID) and the cities of Escalon, Manteca, Lathrop, and Tracy to supply treated potable water to the participating cities. The City has entered into a Water Supply Development Agreement with SSJID for its share of the SCWSP. SCWSP water allotments are presented in Table 3.15-9. The Phase I and Phase II SCWSP water allotments for the City are 8,007 AFY and 11,791 AFY, respectively. According to the Water Supply Development Agreement, Phase I allotments apply "up to year 2010" and Phase II allotments apply "up to year 2025." The water supply projections discussed below take this allotment into account.

TABLE 3.15-9: SOUTH COUNTY WATER SUPPLY PROGRAM WATER ALLOTMENTS FOR PARTICIPATING CITIES

PARTICIPATING CITIES	ALLOTMENT, AFY	
	PHASE I	PHASE II
Escalon	2,015	2,799
Lathrop	8,007	11,791
Manteca	11,500	18,500
Tracy	10,000	10,000
Total	*31,522*	*43,090*

SOURCE: WYA 2013, PG. 6-3

The projection includes a new water treatment plant (WTP) located near Woodward Reservoir and 36.5 miles of pipeline ranging in diameter from 20-inches to 54-inches to transport treated water

to various turnouts for each of the four cities. The WTP has an initial capacity of 36 million gallons per day (mgd) and a planned ultimate capacity of 60 mgd.

GROUNDWATER

The local groundwater basin and City groundwater use are described in the City's 2005 UWMP. A brief description of the groundwater basin and a discussion of historic and projected groundwater pumping are provided below.

Basin Boundaries, Soils, and Storage Capacity

City wells are located in the Eastern San Joaquin County Groundwater Basin. The basin is not adjudicated; however, a basin management plan has been created. The Eastern San Joaquin Groundwater Basin Groundwater Management Plan (ESJGB-GMP) (NSJCGB, 2004) was prepared in September 2004. The purpose of the ESJGB-GMP is "to review, enhance, assess, and coordinate existing groundwater management policies and programs in Eastern San Joaquin County and to develop new policies and programs to ensure the long-term sustainability of groundwater resources in Eastern San Joaquin County." According to Department of Water Resources (DWR) Bulletin 118 (DWR, 2003), the ESJGB is in a critical condition of overdraft. The estimated safe yield of the groundwater basin is approximately 618,000 AF/YR (0.87 AFY per acre, average) and the estimated overdraft is 113,000 AF/YR. The available groundwater supply for the City is projected to increase to 12,096 AFY by 2020. Groundwater levels have declined in the basin since the 1960s with the lowest groundwater levels found in eastern San Joaquin County. Groundwater levels at City wells, however, have remained stable for the past two decades when taking into account seasonal variations and droughts (City of Lathrop, 2009). Specific siting studies and hydrogeological assessments are recommended for new wells to minimize potential impacts (such as saltwater intrusion) while optimizing groundwater extraction.

Most of the fresh groundwater is encountered at depths of less than 1,000 feet, and most of this shallow groundwater is unconfined. A discussion of basin hydrogeology is provided in the ESJGB-GMP. 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 Lathrop area penetrate through the Victor formation into the Laguna formation.

Underlying Lathrop, the groundwater surface generally slopes from south to north, with the highest groundwater elevations occurring near Yosemite Avenue east of McKinley Avenue and the lowest groundwater elevations occurring along Roth Road. There are some localized depressions due to industrial and municipal groundwater pumping operations. Groundwater elevations in the

fall, after the high-use summer months, average about 3 feet lower than groundwater elevations in the spring.

Past and Projected Future Groundwater Pumping

As described in the City's 2005 UWMP, groundwater pumping in Lathrop increased from 1,545 AFY in 1988 to a maximum of 3,471 AFY in 2004. In addition to the City potable water supply wells, there are water wells in the service area that serve private industrial facilities, and agriculture. There are also 83 private agricultural wells within or near the City. The municipal, industrial, and private (agricultural) demands combined results in an annual groundwater pumping range of approximately 4,430 to 4,530 AFY.

According to the City's 2005 UWMP, groundwater pumping is projected to increase to 9,076 AFY by the year 2030 and remain at that level unless the City alters its groundwater/surface water balance. Projected groundwater extractions are summarized in Table 3.15-10. These projections are based upon the following: 1) findings of the WSS (City of Lathrop, 2009) for normal hydrologic years; and, 2) commissioning of Phase II SCWSP facilities at the end of 2020.

TABLE 3.15-10: PROJECTED GROUNDWATER PUMPING FOR THE CITY OF LATHROP

YEAR	*PROJECTED GROUNDWATER PUMPING[A], AFY*	*YEAR*	*PROJECTED GROUNDWATER PUMPING[A], AFY*
2015	6,105	2026	8,791
2016	6,891	2027	8,862
2017	7,677	2028	8,933
2018	8,463	2029	9,004
2019	9,249	2030	9,076
2020	10,036	2031	9,076
2021	6,709	2032	9,076
2022	7,212	2033	9,076
2023	7,715	2034	9,076
2024	8,218	2035	9,076
2025	8,720		

NOTE: (A) FUTURE GROUNDWATER PUMPING RATES WILL DEPEND UPON THE RATE OF ABSORPTION FOR FUTURE DEVELOPMENT, WATER DEMANDS ASSOCIATED WITH FUTURE DEVELOPMENT, THE SCHEDULE FOR CONSTRUCTION AND COMMISSIONING OF PHASE II SCWSP FACILITIES, AND OPERATIONAL DECISIONS MADE BY CITY STAFF REGARDING THE UTILIZATION OF GROUNDWATER AND SURFACE WATER SUPPLIES.
SOURCE: WYA. 2013, PG. 6-5

IMPACT OF PROJECTED PUMPING

The impacts of the projected groundwater extractions listed above are described in the City's 2005 UWMP. A localized groundwater model was developed as part of the Master Plan development process completed in 2004.

Additional groundwater modeling results and groundwater quality data were gathered and reviewed for the WSS (City of Lathrop 2009). The WSS findings indicate that total dissolved solids (TDS) concentrations at City wells will increase with increasing extractions in the City and in Manteca. The City wells are apparently located immediately east of groundwater with TDS concentrations exceeding the recommended secondary maximum contaminant level (MCL) of 500

milligrams per liter (mg/L). TDS concentrations measured at City wells range from 270 mg/L at Well No. 10 to 440 mg/L at Well No. 6. Modeling results were used to estimate the rate and direction of TDS migration. The TDS migration is expected to increase concentrations in the City groundwater to levels above the recommended secondary MCL of 500 mg/L within approximately 10 years. The southern portion of the City's well field was found to be most vulnerable to degradation.

With groundwater pumping projected to increase in the City and in Manteca, absolute preservation of groundwater quality does not appear possible (City of Lathrop, 2009). The impact, however, will be mitigated through: 1) the implementation of the SCWSP and the subsequent blending of groundwater with low-TDS surface water; 2) water treatment; and, 3) pursuit of alternative water supplies in accordance with WSS findings. In addition, regional implementation of the integrated conjunctive use program presented in the ESJGB-GMP (including groundwater recharge, increased surface water use, and reduced rates of groundwater pumping) could slow or reverse the migration of the groundwater salinity front.

Dry Year Water Supply Availability and Reliability

SURFACE WATER RELIABILITY

SSJID has agreements to provide surface water to agricultural interests, federal and state agencies, and cities in the south San Joaquin area. Some agreements are long-term, while others are as short as one week for agricultural water deliveries. As illustrated in Table 3.15-11, these delivery commitments and contracts vary from year to year.

TABLE 3.15-11: PROJECTED ANNUAL SSJID DELIVERIES FOR NORMAL HYDROLOGIC YEAR[(A)]

	TOTAL SSJID DELIVERIES BY YEAR, AFY		
	2003	*2011*	*2030[(A)]*
Agricultural Demand[(b)]	241,000	232,000	220,000
Stockton East Water District Transfers	4,000 to 15,000	4,000 to 15,000	0
Vemalis Adaptive Management Plan	0 to 11,000	0 to 11,000	0 to 11,000
Ripon	0	0	0 to 6,000
SCWSP[(c)]	20,284	31,000	44,000
Minimal Total	*265,284*	*267,000*	*264,000*
Maximum Total	*287,284*	*289,000*	*281,000*

NOTE: (A) REFERENCE (SSJID, 1999) DOES NOT INCLUDE SSJID DELIVERY PROJECTIONS BEYOND 2025. DELIVERIES FOR 2030 WERE PROJECTED ASSUMING THAT EXISTING FACILITIES WILL NOT BE EXPANDED, NEW FACILITIES WILL NOT BE CONSTRUCTED, AND DELIVERIES WILL NOT INCREASE FROM 2025 TO 2030. (B) DOES NOT REFLECT SYSTEM LOSSES. (C) INCLUDES THE CITY OF LATHROP.
SOURCE WYA 2013, PG. 6-7

GROUNDWATER RELIABILITY

As presented in Table 3.15-12, the surface water supply may decrease by 2,181 ac-ft/yr in 2025 under single-year and multi-year dry period conditions. This shortfall would be made up through increased groundwater pumping and city-wide conservation measures. Groundwater extractions will be maintained within the safe yield of the groundwater basin. Projected total available water supplies during hydrologic normal years, single-year dry periods, and multi-year dry periods are summarized in Table 3.15-12.

TABLE 3.15-12: SUMMARY OF PROJECTED WATER SUPPLY DURING HYDROLOGIC NORMAL, SINGLE-DRY, AND MULTI-DRY YEARS FOR CITY OF LATHROP

YEAR	AVAILABLE WATER SUPPLY								
	NORMAL YEAR, AFY			SINGLE-DRY YEAR DROUGHT, AFY			MULTI-DRY YEAR DROUGHT, AFY		
	GROUND WATER	SURFACE WATER[A]	TOTAL	GROUND WATER	SURFACE WATER[A]	TOTAL	GROUND WATER	SURFACE WATER[A]	TOTAL
2010	6,048	8,007	14,055	6,048	6,574	12,622	6,048	6,574	12,622
2015	8,064	8,007	16,071	8,064	6,574	14,638	8,064	6,574	14,638
2020	12,096	8,007	20,103	12,096	6,574	18,670	12,096	6,574	18,670
2025	12,096	11,791	23,887	12,096	9,610	21,706	12,096	9,610	21,706
2030	12,096	11,791	23,887	12,096	9,610	21,706	12,096	9,610	21,706
2035	12,096	11,791	23,887	12,096	9,610	21,706	12,096	9,610	21,706

NOTE : (A)SCWSP DELIVERIES TO CITY OF LATHROP.
SOURCE: WYA 2013, PG. 6-10

SURFACE WATER ENTITLEMENTS

Both the SSJID and the Oakdale Irrigation District (OID) were formed in 1909 following the acquisition of the old Tulloch Ditch Company water rights. SSJID receives a major portion of its water supply from the Stanislaus River, pursuant to a number of pre-1914 water rights, beginning with 1853 diversion rights. Based on these pre-1914 water rights, SSJID and OID are entitled to a combined 1,816.6 cubic feet per second (cfs) of direct surface water diversions from the Stanislaus River annually.

These pre-1914 water rights are equally shared with OID and are adjudicated (SSJID, 1999). A 1988 agreement between SSJID, OID, and the United States Bureau of Reclamation (USBR) recognized and protected the OID and SSJID senior water rights that would be affected by the New Melones Reservoir. The agreement entitles SSJID and OID to 600,000 AFY in years when inflow to New Melones Reservoir is equal to or exceeds 600,000 ac-ft. In years when inflow to New Melones Reservoir is less than 600,000 ac-ft, the entitlement is reduced based on a predetermined formula. During periods of normal flow, SSJID's entitlement is 300,000 AFY.

RELIABILITY OF SCWSP DELIVERIES

Surface water for agricultural irrigation dominates SSJID deliveries. A summary of projected SCWSP deliveries to the participating agencies is presented in Table 3.15-13. When complete, the SCWSP will represent approximately 16 percent of the total SSJID entitlement with the USBR.

TABLE 3.15-13: PROJECTED ANNUAL SCWSP DELIVERIES FOR NORMAL HYDROLOGIC YEAR[(A)]

YEAR	SCWSP DELIVERIES, AFY				
	MANTECA	ESCALON	LATHROP	TRACY	TOTAL
2010	9,704	0	8,000	10,000	27,704
2015	11,470	2,520	8,000	10,000	31,990
2020	13,557	2,799	10,780	10,000	37,136
2025	16,444	2,799	11,791	10,000	41,034
2030[(a)]	18,500	2,799	11,791	10,000	43,090
2035[(a)]	18,500	2,799	11,791	10,000	43,090

NOTE: (A)PHASE II SCWSP WATER ALLOTMENTS ARE VALID UNTIL 2025. SCWSP DELIVERIES FOR 2030 AND 2035 WERE PROJECTED ASSUMING THAT EXISTING FACILITIES WILL NOT BE EXPANDED, NEW FACILITIES WILL NOT BE CONSTRUCTED, AND ALLOTMENTS WILL NOT CHANGE FROM 2025 TO 2030 (SSJID, 1999).
SOURCE WYA 2013, PG. 6-8

As noted earlier, SSJID's entitlement to surface water is 300,000 AFY in normal hydrologic years. Drought conditions reduce this entitlement. A drought impact analysis was performed for the SCWSP as part of the EIR process, and an additional drought impact analysis was conducted under the WSS (City of Lathrop, 2009). According to WSS findings, total SCWSP deliveries could be reduced by approximately 50,000 ac-ft/yr (18.5 percent of normal year entitlement) during single-year and multi-year dry periods in 2035, which would also be the case for 2035. The potential reductions are shown in Table 3.15-14.

TABLE 3.15-14: MAXIMUM POSSIBLE REDUCTIONS IN TOTAL SSJID SURFACE WATER DELIVERIES FOR HYDROLOGIC SINGLE- AND MULTI-DRY YEARS[A, B, C]

HYDROLOGIC CONDITION	MAXIMUM POSSIBLE REDUCTION IN SURFACE WATER SUPPLIES/DELIVERIES	
	AC-FT/YR	PERCENT REDUCTION[D]
Year – 2010		
Single-dry year drought[e]	47,000	17.9%
Multi-dry year drought[f]	47,000	17.9%
Year – 2035[g]		
Single-dry year drought[e]	50,000	18.5%
Multi-dry year drought[f]	50,000	18.5%

NOTE: (A)CITY OF LATHROP WATER SUPPLY STUDY, PREPARED BY RBF CONSULTING, JANUARY 2009. (B) SOUTH SAN JOAQUIN IRRIGATION DISTRICT, SOUTH COUNTY SURFACE WATER SUPPLY PROJECT EIR, PREPARED BY ENVIRONMENTAL SCIENCE ASSOCIATES, JULY 1999. (C) UNITED BUREAU OF RECLAMATION (USBR), 1988 STIPULATION AND AGREEMENT, SIGNED BY SSJID AND OID ON AUGUST 30, 1988. (D) SINGLE-YEAR DROUGHT BASED ON A ONE YEAR SHORTAGE DURING A ONE YEAR DROUGHT DURATION. (E) MULTI-YEAR DROUGHT BASED ON FIVE YEARS OF SHORTAGE DURING A THREE YEAR DROUGHT DURATION. (F) PERCENT REDUCTION BASED ON THE SCWSP RECEIVING 263,000 AC/FT/YR IN PHASE I AND 270,000 AC-FT/YR IN PHASE II. (G) REFERENCE (B) DOES NOT INCLUDE DELIVERY REDUCTION PROJECTIONS BEYOND 2025. MAXIMUM POSSIBLE SSJID SURFACE WATER DELIVERY REDUCTIONS ARE NOT EXPECTED TO CHANGE FROM 2025 TO 2035.

SOURCE: WYA 2013, PG. 6-8

Assuming that a reduction in available, surface water would result in an equivalent change in deliveries from the SCWSP and no supplemental groundwater is provided by SSJID, possible reductions in surface water supply for Lathrop from the SCWSP are presented in Table 3.15-15.

Under single-year and multi-year dry period scenarios, deliveries to Lathrop by SSJID could be reduced by up to 2,181 AFY in 2025 and beyond. The City could compensate for this reduction in deliveries through increased groundwater pumping, implementation of water conservation measures, and the use of recycled water.

TABLE 3.15-15: POSSIBLE REDUCTIONS IN SCWSP SURFACE WATER DELIVERIES TO THE CITY OF LATHROP DURING HYDROLOGIC SINGLE- AND MULTI-DRY YEARS[A, B, C]

DELIVERY TYPE	SCWSP DELIVERIES TO LATHROP BY YEAR, AFY					
	2010	2015	2020	2025	2030	2035
Normal year	8,007	8,007	8,007	11,791	11,791	11,791
Single-year dry period	6,574	6,574	6,574	9,610	9,610	9,610
Multi-year dry period[d]	6,574	6,574	6,574	9,610	9,610	9,610

NOTE: (A)CITY OF LATHROP WATER SUPPLY STUDY, PREPARED BY RBF CONSULTING, JANUARY 2009. (B) SOUTH SAN JOAQUIN IRRIGATION DISTRICT, SOUTH COUNTY SURFACE WATER SUPPLY PROJECT EIR, PREPARED BY ENVIRONMENTAL SCIENCE ASSOCIATES, JULY 1999. (C) UNITED BUREAU OF RECLAMATION (USBR), 1988 STIPULATION AND AGREEMENT, SIGNED BY SSJID AND OID ON AUGUST 30, 1988. (D) MULTI-YEAR DROUGHT BASED ON THREE-YEAR DRY PERIOD. ACCORDING TO WSS FINDINGS, SCWSP DELIVERY REDUCTIONS DURING SINGLE-YEAR DRY PERIODS AND MULTI-YEAR DRY PERIODS WILL BE EQUIVALENT.

SOURCE: WYA 2013, PG. 6-9

REGULATORY SETTING – WATER SUPPLIES

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 (WSA) 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. The City of Lathrop has been identified in the WSA as the public water supplier to the SLSP.

In addition, SB 610 requires the preparation of a WSA 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. The proposed project includes more than 650,000 square feet of floor area as part of a proposed industrial uses, and therefore, qualifies as a "Project" under Section 10912 (a) of the Water Code. Thus, the City has prepared a Water Supply Assessment (WSA) as required by these criteria under SB 610. The WSA is included in this EIR as Appendix I.

City of Lathrop General Plan

The Lathrop General Plan contains the following policies that are relevant to water supply for the proposed Project:

COMMUNITY DEVELOPMENT ELEMENT

Section D Policies

Policy 1: The City of Lathrop is the most logical governmental entity to assume management responsibility for water service to the developing urban pattern. Development within the City's three sub-plan areas is to be served by the City under development agreements between the City and project developers.

Policy 2: Urban development outside the existing city limits shall not be allowed to occur until reasonable certainty is established that additional firm supplies of potable water will be available to meet the needs of urban expansion into perpetuity.

HAZARD MANAGEMENT ELEMENT

Seismic Policies

Policy 12: All lines which are part of the domestic water distribution system should be looped to assure adequate pressure in the event of major fire, earthquake or explosion. Emergency standby power generation capability should be available at all water wells to assure water availability in the event of a major power failure.

Utility Master Plans

The City of Lathrop maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: Wastewater Collection Master Plan Amendments (2004), Recycled Water Master Plan Amendment (2004), Urban Water Management Plan (2006), Water Supply Study (2008), Draft Historic Lathrop Storm Drainage Maser Plan (2006), and Storm Water Management Plan (2003).

THRESHOLDS OF SIGNIFICANCE - WATER SUPPLY

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 3.15-4: The proposed project has the potential to 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 and offsite infrastructure improvements will be required to accommodate development proposed by the SLSP. It is an objective of the SLSP to provide services and infrastructure that meet City standards, integrate with existing and planned facilities and connections, and not to diminish services to existing residents or businesses within the City. The SLSP would require extension of offsite water infrastructure to the Plan Area for potable water and irrigation water. Offsite improvements include connection to the existing water piping at on Harlan Road and D'Arcy Parkway. See Figure 3.15-4 for offsite improvements to the water system. All offsite water piping improvements will be in or adjacent to existing roadways, thereby limiting any potential impact. All improvements will be developed according to City standards.

Each of the major roadways in the Plan Area includes a water main as shown on Figure 3.15-4. These proposed mains form a looped infrastructure water system into which individual industrial and commercial parcels will subsequently be connected. It is estimated that the water mains will be 12" diameter pipes. The exact size of the mains will be determined through a water model analysis that considers the rest of the City's water system and pressures necessary to meet fire flow requirements. The water model will be prepared with future planning efforts such as during tentative map processing.

The SLSP would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for potable water. The SLSP would require the construction of new potable water conveyance lines. Construction of the offsite potable water infrastructure would not have the potential to induce growth as the surrounding area has existing urban uses (to the north and south), has a City approved development plan (Lathrop Gateway Business Park to the east) or is limited by environmental constraints (San Joaquin River to the west). The proposed offsite potable water infrastructure will be sized consistent with the City approved standards.

All offsite improvements are to be placed in or adjacent to existing streets to minimize potential impacts. The SLSP would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for potable water. Offsite improvements would not induce substantial growth. Implementation of the SLSP would have a ***less than significant*** impact relative to this topic.

Impact 3.15-5: The proposed project has the potential to have insufficient water supplies available to serve the project from existing entitlements and resources (less than significant)

Project Water Demand

The projected water demand for the SLSP is based on the City's standard water demand factors, which were applied in the City's 2005 UWMP to calculate projected water demands summarized in Table 9 of the UWMP (Nolte, 2009). The projected water demand for the SLSP is shown in Table 3.15-16.

As indicated, the total projected annual water demand for the SLSP is 565 AFY. This value includes seven percent unaccounted for water. Because the SLSP intends to use low water use fixtures, drip irrigation, and other water efficient features, the actual water demand will likely be less than the City standard water demand factors.

TABLE 3.15-16: PROJECTED WATER DEMAND FOR SOUTH LATHROP SPECIFIC PLAN

LAND USE TYPE	*UNITS*	*QUANTITY*	*WATER DEMAND FACTOR[A]*	*AVERAGE DAY DEMAND, GPD*	*ANNUAL WATER DEMAND, AFY[B]*
Commercial Office	Acres	10	1,500 gpd/AC[c]	15,000	17
Limited Industrial	Acres	222	2,000 gpd/AC[c]	444,000	497
Open Space	Acres	31.5	311 gpd/AC[c]	9,797	11
			Sub-Total Water Demand	468,797	525
			Unaccounted-for Water[e]	35,286	40
			Total Water Demand	*504,083*	*565*

NOTE: (A)SAME UNIT WATER DEMANDS USED TO CALCULATE DEMANDS FOR TABLE 9 FROM THE CITY OF LATHROP 2005 URBAN WATER MANAGEMENT PLAN, OCTOBER 2009. SOURCE DOCUMENTS FOR THESE UNIT WATER DEMANDS ARE 2001 MASTER PLAN DOCUMENTS (SEE TABLES 3-11), AND WATER SUPPLY STUDY (SEE TABLE 20). (B) AFY = ACRE-FEET PER YEAR. (C) GPD/AC = GALLONS PER DAY PER ACRE. (D) BASED ON 7 PERCENT OF TOTAL WATER PRODUCTION (SEE 2010 UWMP SECTION 4.0, LAST PARAGRAPH).

SOURCE: WYA 2013. PG. 5-2

Table 3.15-17 identifies water demand by phase for the SLSP. The availability of potable water is a primary factor regulating the level of development provided for in the Plan Area. At full buildout, the SLSP is estimated to use 474,800 gpd.

In addition to the potable supply, the SLSP makes maximum use of recycled wastewater for the irrigation of public rights of way and open space. Further, the potential exists for the irrigation of private open space areas and other landscaping with the use of recycled wastewater.

TABLE 3.15-17: WATER DEMAND BY PHASE ESTIMATE

LAND USE DESCRIPTION	AVERAGE DEMAND FACTOR (GPD/AC)	PHASE AND OVERALL TOTAL	PHASE 1		PHASE 2		PHASE 3	
			ACRES	AVERAGE DEMAND (GPD)	ACRES	AVERAGE DEMAND (GPD)	ACRES	AVERAGE DEMAND (GPD)
Commercial Office	2000	Phase Total	0.0	0	0.0	0	10.0	20,000
		Total	0.0	0	0.0	0	10.0	20,000
Limited Industrial	2000	Phase Total	106.9	213,800	55.7	111,400	59.4	118,800
		Total	213,800	162.6	325,200	222.0	444,000	213,800
Public/Quasi-Public	300	Phase Total	36.0	10,800	0.0	0	0.0	0
		Total	36.0	10,800	36.0	10,800	36.0	10,800
Open Space	0	Phase Total	31.5	0	0.0	0	0.0	0
		Total	31.5	0	31.5	0	31.5	0
Major Roads (ROW)	0	Phase Total	15.5	0	0.0	0	0.0	0
		Total	15.5	0	15.5	0	15.5	0
Total by Phase			189.9	224,600	55.7	111,400	69.4	138,800
Total			189.9	224,600	245.6	336,000	315.0	474,800

SOURCE: SO. LATHROP SPECIFIC PLAN TABLE 6.1

The Water Supply Assessment completed for the SLSP demonstrates that the City's existing and additional 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 SLSP, to the year 2035 under all hydrologic conditions. As described in the City's 2005 UWMP, the City continues to examine supply enhancement options, including water recycling, use of non-potable supply wells for irrigation, storm water harvesting, and additional supplies from SSJID.

A comparison of the City's projected water supplies and demands is shown in Table 3.15-18 for Normal, Single Dry, and Multiple Dry Years. The surface water supply and demand projections are based on the City's projected drought supply conditions as described in the City's WSS (City of Lathrop, 2009). The supply-demand difference in Table 3.15-18 indicates that, in average precipitation years, the City will have sufficient water to meet its customers' needs through 2035. The City is currently in the process of preparing an update to their Water Supply Master Plan as well as their 2010 UWMP. The mix of projected groundwater and surface water supplies available to meet future demand is expected to change, with a higher fraction of surface water use than is documented in the 2005 UWMP.

TABLE 3.15-18 SUMMARY OF WATER DEMAND VERSUS SUPPLY

YEAR	PROJECTED DEMAND AFY	AVAILABLE WATER SUPPLY			DIFFERENCE		
		NORMAL YEAR AFY	SINGLE-DRY YEAR DROUGHT, AFY	MULTI-DRY YEAR DROUGHT, AFY	NORMAL YEAR, AFY	SINGLE-DRY YEAR AFY	MULTI-DRY YEAR AFY
2010	9,884	14,055	12,622	12,622	4,171	2,738	2,738
2015	14,112	16,071	14,638	14,638	1,959	526	526
2020	18,043	20,103	18,670	18,670	2,060	627	627
2025	20,511	23,887	21,706	21,706	3,376	1,195	1,195
2030	20,867	23,877	21,706	21,706	3,020	839	839
2035	20,867	23,877	21,706	21,706	3,202	839	839

SOURCE: WYA 2013, PG. 7-2

Recycled Water

The SLSP will maximize reuse opportunities for recycled water. The term "recycled water" refers to wastewater that has been treated and disinfected to tertiary levels. Water treated to this level has been determined by governmental regulations to be acceptable for human contact without cause for concern and is commonly used for irrigation. The use of recycled water is regulated by the RWQCB and the Department of Health Services, which apply stringent water quality, treatment and disinfection standards.

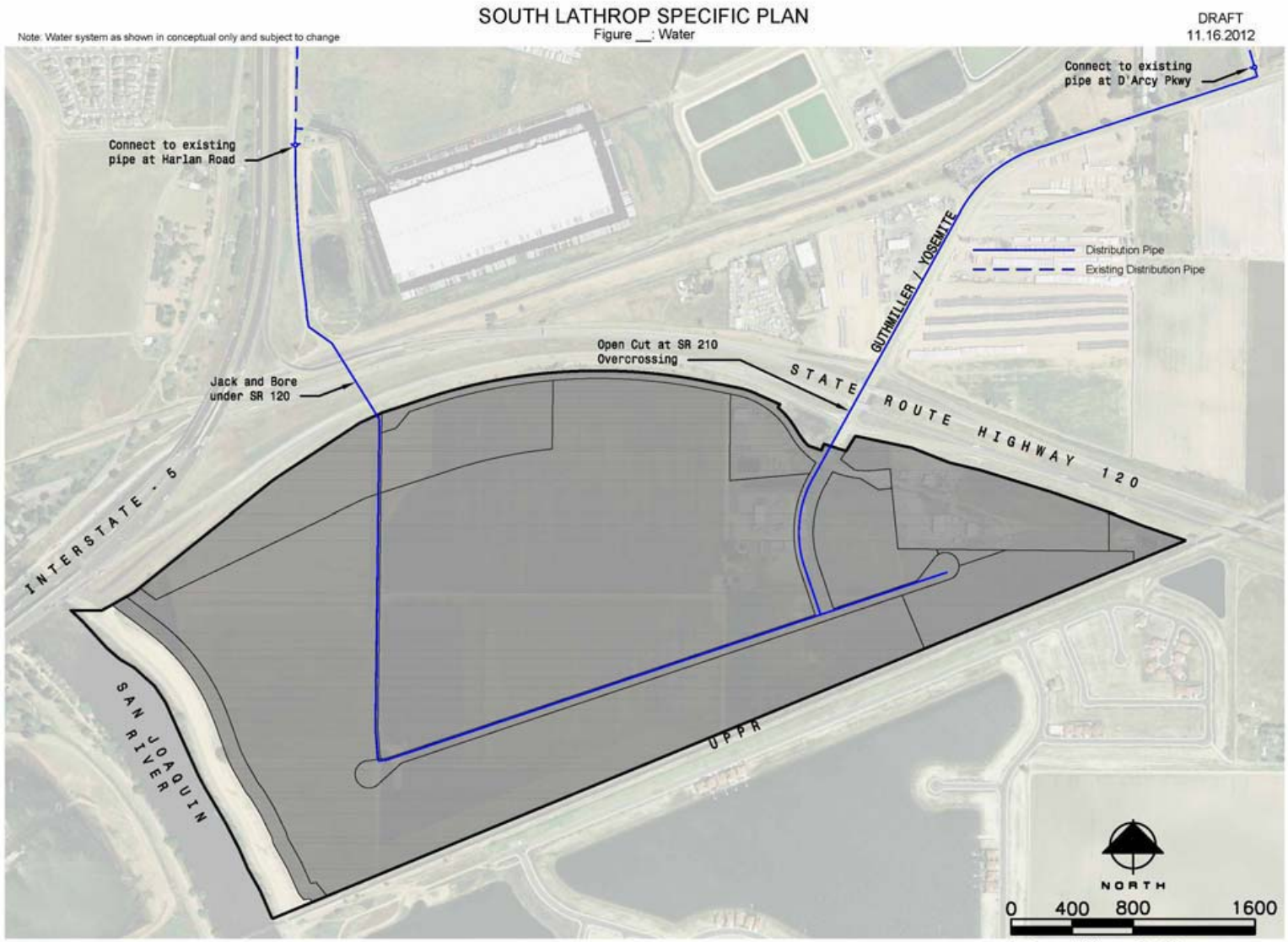
The use of recycled water for irrigation serves to conserve potable water for other uses. In addition, in the event the potable water supply is limited at any time, such as a "dry year" situation, the use of recycled water ensures a supply for landscaped areas and reduces the likelihood that potable water would be needed for this purpose. The SLSP proposes to make recycled water available for public irrigation uses. This includes irrigation of landscaped areas within street rights-of-way and open space. In addition, there may be potential for the use of recycled water for private irrigation uses as well, such as common open space areas and landscaping around buildings. Criteria for management of the recycled water system and public education about it will be established in future reports (or other documents) and will be subject to City approval.

Conclusion

General Plan Community Development Element Policy 1 requires that development within the City's three sub-plan areas is to be served by the City under development agreements between the City and project developers. The SLSP is subject to this policy and agreements between the City and developers must be formulated. Policy 2 requires that urban development outside the existing city limits shall not be allowed to occur until reasonable certainty is established that additional firm supplies of potable water will be available to meet the needs of urban expansion into perpetuity. The SLSP is planned to be consistent with the City Master Utility Plan by funding its share of SSJID surface water, groundwater wells, treatment facilities and storage/pressure facilities.

According to the WSA completed for the SLSP, City's existing and additional 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 SLSP, to the year 2035 under all hydrologic conditions. In addition, the SLSP anticipates the use of recycled water to provide irrigation for landscaped areas in order to reduce the demand for potable water.

As identified above, the SLSP would not result in insufficient water supplies available to serve the project from existing entitlements and resources. Therefore, the SLSP would result in a **less than significant** impact to water supplies.



SOUTH LATHROP SPECIFIC PLAN

Figure 3.15-4: Project Water System

Data source: MacKay & Somps. Map date: March 19, 2013.

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3.15.3 STORM WATER

A detailed discussion of the SLSP's storm drainage impacts to water quality and flood control is included in Section 3.9, Hydrology and Water Quality.

EXISTING SETTING

Currently, runoff from within the Plan Area is collected in a system of shallow agricultural ditches, roadside ditches and percolation basins. Public storm drain facilities are not available.

Existing City Facilities

The following information was provided in the City of Lathrop Municipal Services Report.

Lathrop's storm water drainage system is managed by the City's Public Works Department. The gravity based system consists of collection and trunk pipelines, detention basins, pump stations, and surface infrastructure such as gutters, alleys, and storm ditches. Most of the storm water detention basins are dedicated for storm water detention and generally not used during non rainfall periods. Storm water is disposed by routing it through various interconnected detention basins and discharging it to the San Joaquin River.

The 1992 Storm Drain Master Plan served as a basis for providing storm water infrastructure at that time. It concluded that subsequent master plans for specific areas throughout the City would be required to update the 1992 plan. As such, both 2003 Drainage Master Plans updated the 1992 plan for their respective study areas.

Under the requirements of the Clean Water Act of 1972, the City of Lathrop was required to apply for coverage under the National Pollution Discharge Elimination System (NPDES) Phase II permit, and developed and implemented a Storm water Management Plan (SWMP) and Storm water Development Standards to control and prohibit the discharge of pollutants into the Municipal Storm Sewer System. The SWMP consists of six elements that, when implemented together, are expected to reduce pollutants discharged into receiving water bodies to the Maximum Extent Possible.

The City has developed Best Management Practices (BMPs) to address storm water quality within the City. The BMPs are intended to maintain surface water quality due to storm water discharged from the City. New developments within the City are required to comply with the requirements of the SWMP. The City is also responsible for monitoring and reporting on BMPs as a method to fulfill minimum SWMP control measures. The Storm water Development Standards specify design requirements to be used during development design that, in turn, meets the NPDES requirements for the City.

The City's existing storm drain infrastructure includes approximately 916 inlets, 691 manholes, four outfalls, 13 detention basins totaling 23 acres, and 36 miles of storm water collection and conveyance piping.

Storm drain infrastructure has primarily been studied and developed by the City for the areas of historic Lathrop, Mossdale Landing and Stonebridge. The storm drainage systems within these areas consist of pipe networks connected to detention basins and pump stations. The operation of the system relies on detention basins to prevent flooding because the peak capacities of the pumps are far lower than peak runoff rates into the system. In some locations, pumps fill the detention basins; in other locations pumps drain the detention basins. Other pumps boost flows along the storm drains that lead and discharge to the San Joaquin River. The existing system requires some simple manual operations to drain some of the detention basins after storm events. Actual system functions, however, considering the interconnections, pump curves and set points, reversing flow directions in some pipes, and overland releases, can be quite complex.

Existing Flood Protection Facilities

Levees within the City are owned and maintained by Reclamation Districts 17 (RD-17) and Reclamation 2062 (RD-2062). RD-17 levees include for the levees east of the San Joaquin River, and RD-2062 levees include the Stewart Tract. These levees are designated as "project levees" by the US Army Corps of Engineers (Corps). Approximately five miles of levees located within the City are designated as "non-project levees". The non-project levees are also maintained by local reclamation and levee maintenance districts. Non-project levees were not built to a common standard and have different heights and cross sections.

According to the Lathrop General Plan, "the potential for flooding within the Plan Area, which is located within Sub-Plan Area #1, under conditions of a 100 year intensity storm was eliminated with the reconstruction and enlargement of the levee along the east side of the San Joaquin River in the late 1980's" (City of Lathrop 2004, pg. 4-D-6). The Plan Area is located in Zone X, protected by levee, which by definition indicates an area protected by levees from the 1% annual chance flood.

The RD-17 levee system was improved circa 2009/10 with seepage berms and/or other improvements to increase the resistance of RD-17's levee system to under-seepage and through-seepage and bring the levee system into compliance with applicable Federal and State standards. Land within the Plan Area along the levee frontage was acquired by RD-17 to construct a seepage berm. RD-17 has been working with the Department of Water Resources (DWR) and the Central Valley Flood Protection Board (CVFPB) to analyze 200-year protection. The land RD-17 acquired within the Plan Area to construct the 100-year improvements is anticipated to provide sufficient space for any additional incremental improvements to provide 200-year protection in the future.

Future Storm water Drainage Demand and System Improvements

Any significant urban expansion will require additions to the existing collection system. The General Plan requires that new development projects must address storm water issues and mitigate increased storm water runoff. Additionally, the developments are required to construct storm water infrastructure such as curbs, gutters, and detention basins and provide a storm drainage master plan update for that area. These requirements ensure that adequate infrastructure will be in place at buildout within the city limits and SOI.

Currently, runoff from within the Plan Area is collected in a system of shallow agricultural ditches, roadside ditches and percolation basins. Public storm drain facilities are not available. The Plan Area is lower than the top of the San Joaquin River levee; therefore, development within the Plan Area would require stormwater runoff to be pumped over/through the levee. To avoid adverse impacts to the levee system, peak discharge rates from development projects in the City of Lathrop have been limited to a maximum of 30 percent of the 100-year flow rate. Runoff from the Plan Area is anticipated to discharge to the river through a new proposed storm drainage outfall located near the southwest corner of the Plan Area. The storm drainage outfall is regional facility consistent with the City's Master Drainage Plan, which will also serve the Lathrop Gateway Business Park Specific Plan (LGBPSP) area and development area along the McKinley Corridor. The storm drainage outfall was identified in the LGBPSP and EIR. As shown on Figure 3.15-5, the Plan Area will consist of a system having the following three integrated components.

- Gravity lines that collect and deliver surface runoff;
- "Watershed" detention facilities that hold the runoff; and
- A pump station and force main that conveys water to a proposed San Joaquin River outfall structure.

The Plan Area consists of one major drainage shed with a detention basin to reduce the peak discharge from the Plan Area to the San Joaquin River. The basin size and location as illustrated on Figure 3.15-5 is conceptual and subject to change based on future planning and engineering efforts.

The proposed stormwater collection system functions by discharging all runoff directly into the river up to the point where the runoff rate exceeds the capacity of the pump station. When the rate of runoff exceeds the pump station capacity, water "backs up" into the detention basin until the runoff rate declines and once again equals the capacity of the pump station. The water level in the detention basin then decreases, emptying completely within a City mandated 24-hour period unless an extended period is approved by the City Engineer.

Based on preliminary information available at the time of Specific Plan approval, the approximate size of the detention basin is 10 acres allowing for a basin storage of 50 acre-feet of water.

Initial development phases may utilize interim retention (percolation) basins until the pump station, force main and outfall are constructed. An alternative temporary drainage solution may include pumping runoff from the Plan Area into the Crossroads Business Park existing drainage system.

A storm drain pipeline corridor through the Plan Area, located in Yosemite/Guthmiller Avenue and the local industrial street, is included as part of the drainage plan for future offsite development along the McKinley Avenue corridor. A storm drain pipeline corridor through the Plan Area, along the southern boundary adjacent to the UPRR tracks, is included as part of the drainage plan for the future offsite development within the LGBPSP. Pipelines from both of the offsite projects are anticipated to be shallow forcemains, which can be constructed at a future time following build-

out of the SLSP and therefore not required to be constructed with development of the SLSP. Easements will be provided for portions of the offsite pipelines that are not located within the public right-of-way.

REGULATORY SETTING - STORM WATER

Federal

CLEAN WATER ACT

The Clean Water Act (CWA) regulates the water quality of all discharges into waters of the United States including wetlands, perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for "any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." Section 404, Title 33, Section 1344 of the CWA in part authorizes the U.S. Army Corps of Engineers to:

- Set requirements and standards pertaining to such discharges: subparagraph (e); Issue permits "for the discharge of dredged or fill material into the navigable waters at specified disposal sites": subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas": subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual State or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such State or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain Federal or State projects from regulation under this Section: subparagraph (r); and,
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).
- Section 401 certification is required prior to final issuance of Section 404 permits from the U.S. Army Corps of Engineers.

The California State Water Resources Control Board and RWQCBs enforce State of California statutes that are equivalent to or more stringent than the Federal statutes. RWQCBs are responsible for establishing water quality standards and objectives that protect the beneficial uses

of various waters including the San Joaquin River, and other waters in the Lathrop Planning Area. In the Lathrop Planning Area the RWQCB is responsible for protecting surface and groundwater from both point and non-point sources of pollution. Water quality objectives for all of the water bodies within the Lathrop Planning Area were established by the RWQCB and are listed in its Basin Plan.

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 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 CWA.

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 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 SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and 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.

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.

State

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

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 State Water Resource Control Board (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 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 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 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 CENTRAL VALLEY

Both State policy and recently enacted State legislation (Senate Bill 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. Senate Bill 5 (SB5) 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 2015 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.

The RD-17 levee system is designed to a 100-year protection standard. Land within the Plan Area along the levee frontage was acquired by RD-17 to construct levee improvements approximately in 2009/10. RD-17 has been working with the Department of Water Resources (DWR) and the Central Valley Flood Protection Board (CVFPB) to analyze 200-year protection. The land RD-17 acquired within the Plan Area to construct the 100-year improvements is anticipated to provide sufficient space for any additional incremental improvements to provide 200-year protection in the future.

Local

CITY OF LATHROP GENERAL PLAN

The Lathrop General Plan establishes the following goals and policies relative to hydrology and water quality in the General Plan:

Community Development Element (Section D -Water, Sewerage, Drainage, and Flood Control): The following policies seek to provide guidance related to water supply, sewerage and drainage/flood control.

> **Policy 1**. The City of Lathrop is the most logical governmental entity to assume management responsibility for water service to the developing urban pattern. However, this preference allows for the creation of other special districts, including Irrigation Districts, especially if these districts can provide utility improvement financing that protects the City's existing rate payers. Development within the City's three sub-plan areas is to be served by the City under development agreements between the City and project developers.
>
> **Policy 2**. Urban development outside the existing city limits shall not be allowed to occur until reasonable certainty is established that additional firm supplies of potable water will be available to meet the needs of urban expansion into perpetuity.
>
> **Policy 3**. Any Water, Wastewater and Recycled Water Master Plan update should provide for the eventual integration of the water well and distribution system serving the existing community with the system(s) needed to serve areas of urban expansion to avoid potential future problems of groundwater quality associated with the existing system.
>
> **Policy 4**. In developing additional groundwater sources to meet requirements for firm water supply, the City will be required to meet State and Federal standards of water quality, including concern for such factors as taste, odor control, color, removal of any unique compounds of minerals identified through water testing, and need for disinfection and/or residual chlorination.
>
> **Policy 5**. Pressurized water for fire suppression should be available at flows in the range of 1000 gpm (for all residential areas) to 3000 gpm (for commercial, industrial and institutional areas) for a period of 60 to 120 minutes over and above normal community water uses. The City Fire Chief is to be consulted in establishing specific fire suppression plans for new development, including the need for automatic sprinkling systems in non-

residential and multi-family residential developments and the need for above-ground storage to assure capacity for required periods of fire flow.

Lathrop Municipal Code

CHAPTER 12.28 PROTECTION OF WATER COURSES

12.28.020 Rules and regulations.

A. It shall be unlawful for any person to interfere with, destroy or use in any manner whatsoever any levee, embankment, channel, dam, reservoir, rain or stream gauges, telephone line, piling; or other stream protection work constructed by the city or by any drainage district organized under the laws of the state, without having received a written permit therefor from the public works director, which permit shall be revocable whenever, in the opinion of the public works director the public interest and welfare require the revocation thereof. Application for the use of any levee, embankment, channel, dam or reservoir shall be made to the public works director, setting forth the particular use desired, and the purpose and duration thereof. The public works director shall investigate such applications and may impose such terms and conditions as may be necessary to insure the proper maintenance of the property for flood control and drainage purposes.

B. It shall be unlawful for any person to place on or cause to be placed in any drainage ditch, water course, channel or conduit, or upon any property over which the city or any drainage district has an easement for flood control or drainage purposes duly recorded in the office of the city clerk, any wires, fence, building or other structure, or any refuse, rubbish, tin cans or other matter that may impede, retard or change the direction of the flow of water in such drainage ditch, water course, channel or conduit, or that will catch or collect debris carried by such water, or is placed where the natural flow of the storm and flood waters would carry the same downstream to the damage and detriment of either private or public property adjacent to said drainage ditch, water course, channel or conduit.

C. It shall be unlawful for any person to change the drainage on his or her property so as to divert the drainage to the nearest public road, without first obtaining a permit to do so from the public works director.

D. It shall be unlawful for any person to fill or obstruct or maintain any fill or obstruction in any drainage ditch, water course, channel or conduit carrying storm or drainage water unless a permit to do so has been obtained from the public works director.

E. It shall be unlawful for any person to do anything to any drainage ditch, water course, channel or conduit carrying storm or drainage water that will in any manner obstruct or interfere with the flow of water through such ditches, water courses, channels or conduits unless a permit to do so has been obtained from the public works director.

F. It shall be unlawful for any person to level land in a manner which would flood adjacent properties or public roadways.

G. Every property owner, whether it be a person or his lessee or tenant, through whose property a drainage ditch, water course, channel or conduit carrying storm or drainage water passes, shall keep and maintain the same free from obstacles that will prevent or retard the flow of water through such ditch, water course, channel or conduit except that same may be filled or altered if a permit to do so has been first obtained pursuant to this chapter. (Prior code § 158.02)

CHAPTER 13.28 - STORMWATER MANAGEMENT AND DISCHARGE CONTROL

13.28.020 Purpose and intent.

The purpose of this chapter is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within the city of Lathrop, pursuant to and consistent with the Federal Clean Water Act (33 U.S.C. Section 1251 et seq.) and the Porter-Cologne Water Quality Act (California Water Code Section 13000 et seq.). This chapter seeks to meet that purpose through the following objectives:

A. To comply with all federal and state laws, lawful standards and orders applicable to stormwater and urban runoff pollution control;

B. To prohibit any discharge which may interfere with the operation of, or cause any damage to the storm drain system or impair the beneficial use of the receiving waters;

C. To prohibit illicit discharges into the storm drain system;

D. To reduce non-stormwater discharge to the storm drain system to the maximum extent practicable;

E. Minimize increases in stormwater and runoff from any development in order to reduce flooding, siltation, and streambank erosion and maintain the integrity of drainage channels;

F. Minimize nonpoint source pollution caused by stormwater runoff from development that would otherwise degrade local water quality; and

G. Minimize the total annual volume of surface water runoff that flows from any specific site during and following development. (Ord. 07-265 § 1)

13.28.130 Requirement to prevent, control and reduce stormwater pollutants.

A. Authorization to Adopt and Impose Best Management Practices (BMPs). The city may adopt requirements identifying best management practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of stormwater, the storm drain system, or waters of the United States. Where best management practice requirements are promulgated by the city or any federal, state of California, or regional agency for any activity, operation, or facility which would otherwise cause the discharge of pollutants to the storm drain system or a waters of the United States, every person

undertaking such activity or operation, or owning or operating such facility shall comply with such requirements.

B. New Development and Redevelopment. The city may adopt requirements identifying appropriate design standards and best management practices to control the volume, rate, and potential pollutant load of stormwater runoff from new development and redevelopment projects as may be appropriate to minimize the generation, transport and discharge of pollutants. The city shall incorporate such requirements in any land use entitlement and construction or building-related permit to be issued relative to such development or redevelopment. The owner and developer shall comply with the terms, provisions, and conditions of such land use entitlements and building permits as required in this chapter.

C. Responsibility to Implement Best Management Practices. Notwithstanding the presence or absence of requirements promulgated pursuant to subsections A and B of this section, any person engaged in activities or operations, or owning facilities or property which will or may result in pollutants entering stormwater, the storm drain system, or waters of the United States shall implement best management practices to the extent they are technologically achievable to prevent and reduce such pollutants. The owner or operator of a commercial or industrial establishment shall provide reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses. Facilities to prevent accidental discharge of prohibited materials or other wastes shall be provided and maintained at the owner or operator's expense.

D. Maintenance Agreements. All structural and nonstructural permanent stormwater BMPs not in the control of the city of Lathrop shall have an enforceable maintenance agreement to ensure the system functions as designed. The agreement shall include any and all maintenance easements required to access and inspect the stormwater BMPs, and to perform routine maintenance as required. Such agreements shall specify the parties responsible for the proper maintenance of all stormwater BMPs.

CITY OF LATHROP STORMWATER MANAGEMENT PROGRAM

The City has an adopted a stormwater management program (SWMP) for compliance with requirements of the Phase 2 NPDES municipal stormwater permit (City of Lathrop 2003). The SWMP is composed of six program elements developed to reduce contaminants discharged into receiving water bodies. The six Minimum Control Measure (MCM) elements of the SWMP are public education and outreach, public involvement/participation, illicit discharge detection and elimination, construction site runoff control, post construction runoff control in new development and redevelopment, and pollution prevention/good housekeeping for municipal operations. For each MCM, the City has selected a suite of BMPs and measurable goals to address the specific stormwater problems identified within the city limits.

In association with the SWMP, the City adopted a Storm Water Ordinance, construction standards, and design review guidelines to reduce contaminants in stormwater runoff. Of particular relevance to the proposed project is the City's coordination of BMP review and implementation under the construction site runoff control program. New development and redevelopment control measures

include development of structural controls, development of nonstructural controls, development of ordinances or regulatory mechanisms, and development of long-term operation and maintenance (O&M) practices.

Pollution prevention/good housekeeping for municipal operations addresses routine O&M activities for drainage systems, roadways, parks and open spaces, and other municipal operations to help ensure a reduction in pollutants entering the storm sewer system. The pollution prevention/good housekeeping program also includes a training component to prevent and reduce stormwater pollution from municipal operations. The pollution prevention/good housekeeping BMPs can be separated into two broad categories: source controls and materials management. Source controls are BMPs designed to prevent or reduce pollutants at the source and include BMPs such as storm drainage system maintenance, structural floatable controls, street maintenance staff training, flood control projects, and litter ordinances. Materials management BMPs are designed to reduce pollutants with nonstructural controls such as pesticide education and spill prevention control.

Utility Master Plans

The City of Lathrop maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: Wastewater Collection Master Plan Amendments (2004), Recycled Water Master Plan Amendment (2004), Urban Water Management Plan (2006), Water Supply Study (2008), Draft Historic Lathrop Storm Drainage Maser Plan (2006), and Storm Water Management Plan (2003).

THRESHOLDS OF SIGNIFICANCE - STORM WATER

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 - STORM WATER

Impact 3.15-5: The proposed project has the potential to 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 (significant and unavoidable)

With development of the Plan Area, both the total volume of runoff and the peak discharge rate into the San Joaquin River will increase. New drainage infrastructure improvements will be constructed to meet these needs.

Planned Storm Collection System

The Plan Area is lower than the top of the San Joaquin River levee. Therefore, runoff must be pumped over/through the levee. To avoid adverse impacts to the levee system near the Plan Area, peak discharge rates from development projects in the City of Lathrop have been limited to a

maximum of 30 percent of the 100-year flow rate. Runoff from the Plan Area is anticipated to discharge to the river through a new proposed outfall located near the southwest corner of the Plan Area. The outfall is a regional facility consistent with the City's Master Drainage Plan, which will also serve the Lathrop Gateway Business Park Specific Plan (LGBPSP) area and development area along the McKinley Corridor. As shown on Figure3.15-5, the SLSP will consist of a system having the following three integrated components.

- Gravity lines that collect and deliver surface runoff;
- "Watershed" detention facilities that hold the runoff; and
- A pump station and force main that conveys water to a proposed San Joaquin River outfall structure.

The entire Plan Area consists of one major drainage shed with a detention basin to reduce the peak discharge from the Plan Area to the San Joaquin River. The basin size and location as illustrated on Figure 3.15-5 is conceptual and subject to change based on future planning and engineering efforts. The SLSP does not include details regarding alternative basin scenarios (i.e. alternative locations, sizes, etc.); however, the analysis of the physical impacts relative to the storm drainage system assumes that the detention basin location could be changed to alternative locations within the Plan Area, and such changes would not affect this analysis of the storm drainage system because the footprint of the Plan Area would not change. Additionally, the physical impacts relative to the basin size would not affect this analysis because the footprint of the Plan Area would not change.

The proposed storm water collection system functions by discharging all runoff directly into the river up to the point where the runoff rate exceeds the capacity of the pump station. When the rate of runoff exceeds the pump station capacity, water "backs up" into the detention basin until the runoff rate declines and once again equals the capacity of the pump station. The water level in the detention basin then decreases, emptying completely within a City mandated 24-hour period unless an extended period is approved by the City Engineer.

The South Lathrop Specific Plan provides the approximate size of the detention basin as summarized in Table 3.15-19. The SLSP also states that to avoid adverse impacts to the levee system near the Plan Area, peak discharge rates from development projects in the City of Lathrop have been limited to a maximum of 30 percent of the 100-year flow rate.

Table 3.15-19: Watershed Detention Basins and Discharge Rates

Watershed	*Maximum Discharge Rate (CFS)*	*Approximate Basin Area (acres)*	*Basin Storage (acre-feet)*
A	30% of 100-year flow rate	10	50

Source: Mackay and Somps 2012.

Relatively shallow groundwater exists throughout the Plan Area and would be influenced by the water level in the river, sub-surface flow from areas of higher elevation to the east, and local

irrigation practices. Even though the groundwater level may decline with a reduction in farming activities, it is possible that this high ground water condition may generally persist after development, impacting both the construction and future operation of the storm drain system. Infiltration into the storm pipes through joints and underground structures can result in excessive pumping demands throughout the life of the SLSP. This impact will be reduced by proper installation of pipes having rubber gasket sealed joints.

High groundwater can also impact the effectiveness of detention basins. To the extent that groundwater enters the basins, the storage available for the runoff is diminished. The bottom of the basins will be designed to maintain a minimum of two feet of separation from groundwater or other design measures will be implemented such as impervious liners with sub drain systems.

Initial development phases may utilize interim retention (percolation) basins until the pump station, force main and outfall are constructed. An alternative temporary drainage solution may include pumping runoff from the Plan Area into the Crossroads Business Park existing drainage system. The construction of temporary drainage solutions are expected to occur within the same footprint analyzed under this EIR (Plan Area and offsite infrastructure corridors). Construction of temporary drainage solutions within this footprint would not result in a significant adverse impact.

A storm drain pipeline corridor through the Plan Area, located in Yosemite/Guthmiller Avenue and the local industrial street, is included as part of the drainage plan for future offsite development along the McKinley Avenue corridor. A storm drain pipeline corridor through the Plan Area, along the southern boundary adjacent to the UPRR tracks, is included as part of the drainage plan for the future offsite development within the LGBPSP. Pipelines from both of the offsite projects are anticipated to be shallow force mains, which can be constructed at a future time following build-out of the SLSP and therefore not required to be constructed with development of the SLSP. Easements will be provided for portions of the offsite pipelines that are not located within the public right-of-way.

Potential Impacts to Agricultural Resources

Development of the storm drainage infrastructure within the Plan Area would contribute to the conversion of designated Important Farmland within the Plan Area to nonagricultural use. The loss of Important Farmland is considered a potentially significant environmental impact. Mitigation Measure 3.2-1 contained in Section 3.2 Agricultural Resources requires payment of fees to SJMSCP in order to fund the purchase of conservation easements on agricultural and habitat lands in the project vicinity. The conservation easements ensure protection of land for agricultural uses in perpetuity, although it does not result in the creation of new farmland. As such, the development of storm drainage infrastructure within the Plan Area would contribute to the loss of Important Farmland which would be a **significant and unavoidable** impact.

Potential Impacts to Special Status Birds

The construction of the storm drainage outfall would require disturbance to riparian habitat located along the San Joaquin River, which is potential nesting habitat for a variety of special status colonial nesters, nesting raptors, and nesting songbirds. Construction activities would create temporary sources of noise and light that could affect special status birds if they located adjacent

to the Plan Area in the future. These special status birds are covered by the SJMSCP, which serves as a special-purpose permit for the incidental take of species that are protected under the MBTA. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of open space 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. Coverage under the SJMSCP would fully mitigate all habitat impacts on these special status birds. Incidental take avoidance and minimization measures are designed to fully mitigate direct and indirect impacts to the individuals and their activities. Mitigation Measure 3.4-1 and 3.4-2 contained in Section 3.4 Biological Resources requires participation in the SJMSCP and a preconstruction survey of the Plan Area and Offsite Infrastructure Corridor prior to construction. If special status birds are found, an appropriate buffer would be developed around active nests as deemed appropriate in coordination with the CDFW to ensure that the special status birds are not disrupted during the breeding season. Implementation of these mitigation measures would ensure that potential impacts to special status colonial nesters are reduced to a ***less than significant*** level.

Potential Impacts to Jurisdictional Areas

The runoff from the Plan Area is anticipated to discharge to the San Joaquin River through a storm drainage outfall located near the southwest corner of the Plan Area. The storm drain outfall would be constructed along the east bank of the San Joaquin River, which is a navigable Water of the U.S. The section of the San Joaquin River at the outfall is bounded by levees on both sides, providing a clear separation between jurisdictional waters and adjacent farmlands. The jurisdictional limit of the river is defined by an ordinary high water mark, and the water side of the levees is vegetated with riparian trees and shrubs. The San Joaquin River falls under the jurisdiction of several agencies, including the USACE, CDFW, the State Reclamation Board, and the Regional Water Quality Control Board.

The impact acreages for the San Joaquin River are based upon outfall design and drawings provided by the applicant's engineer. A typical outfall detail is included in Appendix C Wetland Delineation: Attachment B. It is not clear at this time whether the storm drainage outfall would be installed by the City, developers within the LGBP, developers along the McKinley Corridor, or the project applicant, all of which benefit from the storm drainage outfall. Regardless of the entity that constructs the storm drainage outfall, the impact acreage is anticipated to be 0.140 acres. This is a potentially significant impact that was identified in Section 3.4 Biological Resources. Mitigation Measure 3.4-3 contained in Section 3.4 Biological Resources would reduce the impact to a ***less than significant*** level.

Potential Impacts to Riparian Habitat

The storm drainage outfall located near the southwest corner of the Plan Area is located within riparian habitat. The storm drain outfall would be constructed along the east bank of the San Joaquin River. The section of the San Joaquin River at the outfall is bounded by levees on both sides, providing a clear separation between the riparian area and adjacent farmlands. The water side of the levees is vegetated with a discontinuous band of riparian trees and shrubs. There are

areas were the outfall could be placed that would minimize the impact on riparian habitat because the riparian vegetation is more sparse in some areas. The exact design and placement of the storm drain outfall has not been identified in the SLSP; therefore the impact acreage on riparian habitat cannot be precisely quantified. The storm drainage outfall should be located in an area with low vegetation density and sparse tree coverage to minimize impacts on riparian habitat. Implementation of the following Mitigation Measures 3.4-5 and 3.4-6 contained in Section 3.4 Biological Resources would ensure that the potential impact to riparian habitat is reduced to a ***less than significant*** level.

Potential Impacts to Storm Water

According to the United States Environmental Protection Agency, polluted stormwater runoff is a leading cause of impairment to the nearly 40 percent of surveyed U.S. water bodies which do not meet water quality standards. The main reason is that polluted runoff is discharged, often untreated, directly into local water bodies.

During construction activities, soil erosion is one of the most common sources of polluted stormwater runoff. When left uncontrolled, storm water runoff can erode soil and cause sedimentation in waterways, which collectively result in the destruction of fish, wildlife, and aquatic life habitats; a loss in aesthetic value; and threats to public health due to contaminated food, drinking water supplies, and recreational waterways.

Mandated by Congress under the Clean Water Act, the NPDES Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges which adversely affect the quality of our nation's waters. The program uses the National Pollutant Discharge Elimination System (NPDES) permitting mechanism to require the implementation of controls designed to prevent harmful pollutants, including soil erosion, from being washed by stormwater runoff into local water bodies. The construction activities for the proposed project would be governed by the General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), which states:

> *"…Particular attention must be paid to large, mass graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great and where there is potential for significant sediment discharge from the site to surface waters. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single most important factor in reducing erosion at construction sites. The discharger is required to consider measures such as: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. 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. Erosion control BMPs should be the primary means of preventing storm water contamination, and sediment control techniques should be used to capture any soil that becomes eroded…"*

General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ) further states that:

> *"Sediment control BMPs should be the secondary means of preventing storm water contamination. When erosion control techniques are ineffective, sediment control techniques should be used to capture any soil that becomes eroded. The discharger is required to consider perimeter control measures such as: installing silt fences or placing straw wattles below slopes. These sediment control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed…Inappropriate management of run-on and runoff can result in excessive physical impacts to receiving waters from sediment and increased flows. The discharger is required to manage all run-on and runoff from a project site. Examples include: installing berms and other temporary run-on and runoff diversions…All measures must be periodically inspected, maintained and repaired to ensure that receiving water quality is protected. Frequent inspections coupled with thorough documentation and timely repair is necessary to ensure that all measures are functioning as intended…"*

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. To ensure that construction activities are covered under General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), projects in California must prepare a Stormwater Pollution Prevention Plan (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. The SWPPP, once approved, is 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.

The SLSP will require the construction of new storm water drainage facilities, the construction of which could cause significant environmental effects related to stormwater pollution. Stormwater pollution can cause a variety of significant environmental effects including: destruction of fish, wildlife, and aquatic life habitats; a loss in aesthetic value; and threats to public health due to contaminated food, drinking water supplies, and recreational waterways. In accordance with the NPDES Stormwater Program, Mitigation Measure 3.6-1 contained in Section 3.6 Geology and Soils ensures compliance with existing regulatory requirements to prepare a SWPPP designed to control erosion to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. 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. The SWPPP, once approved, is 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. 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 the review and approval by the RWQCB and are an existing regulatory requirement. Implementation of the SLSP would have a ***less than significant*** impact relative to this topic.

Potential Impacts From Soils That is Unstable, or That Could Become Unstable

The majority of the Plan Area is not prone to landslide, lateral spreading, subsidence, liquefaction or collapse. There is limited potential for lateral spreading associated with the engineered levee slopes located in the southern and eastern portion of the Plan Area where the storm drainage outfall would be installed through the levee. The installation process will involve compaction and soils testing in accordance with the RD-17 requirements for the levee. With proper compaction, including soils and compaction testing, the storm drainage outfall is not anticipated to create the potential for the levee to become unstable resulting in lateral spreading. The storm drainage outfall construction effort is anticipated to be monitored for appropriate compaction and soil engineering and will ensure that impacts to potential lateral spreading would be **less than significant**.

The *Preliminary Geotechnical Report* (Engeo 2004) identifies that the southern portion of the Plan Area has a high shrink-swell potential (Engeo, pg. 6). The *Preliminary Geotechnical Report* (Engeo 2004) recommended that a design-level evaluation of soils be performed to address expansive soils. The California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 requires specific geotechnical evaluation when a preliminary geotechnical evaluation determines that expansive or other special soil conditions are present, which, if not corrected, would lead to structural defects. The City of Lathrop also requires a final geotechnical evaluation to be performed at a design-level to ensure that all improvements can accommodate the specific soils, including expansive soils, at those locations.

Mitigation Measure 3.6-3 contained in Section 3.6 Geology and Soils provides the requirement for a final geotechnical evaluation 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 storm drainage outfall plans are required to be designed in accordance with the recommendations provided in the final geotechnical evaluation. With the implementation of Mitigation Measure 3.6-3 the SLSP would have a ***less than significant*** impact relative to this topic.

Potential Impacts to the Visual Character and Qualities

A portion of the Plan Area includes the San Joaquin River, riparian habitat, and a levee. The SLSP includes provisions to leave this portion of the Plan Area in tact as Open Space with the exception of a storm drainage outfall and trail system. The storm drainage outfall located near the southwest

corner of the Plan Area is located within riparian habitat. The storm drain outfall would be constructed along the east bank of the San Joaquin River. The section of the San Joaquin River at the outfall is bounded by levees on both sides, providing a clear separation between the riparian area and adjacent farmlands. The water side of the levees is vegetated with a discontinuous band of riparian trees and shrubs. The exact design and placement of the storm drain outfall has not been identified in the SLSP; therefore the impact acreage cannot be precisely quantified. There are areas were the outfall could be placed that would minimize the impact on the visual character of the San Joaquin River frontage. The storm drainage outfall should be located in an area with low vegetation density and sparse tree coverage to minimize impacts on vegetation, which would minimize the impact on the visual character and quality of the area. The impact relative to reducing the impact on vegetation/habitat is discussed in more depth in Section 3.4 Biological Resources. Mitigation Measure 3.4-5 provided in Section 3.4 Biological Resources requires the storm drainage outfall to be designed and located such that it avoids and minimizes impacts to riparian vegetation to the extent feasible (i.e. identify areas where vegetation density is lower and trees are sparse). There is also a mitigation measure (Mitigation Measure 3.4-6) that requires compensation/replacement for any disturbance to riparian habitat along the San Joaquin River in association with the storm drainage outfall. The compensation/replacement ratios are established at a minimum ratio of 1 acre restored, created, and/or preserved for every 1 acre of riparian disturbed. These two mitigation measures, while specifically aimed at reducing impacts to biological resources, collectively serve as mitigation for impacts to the visual character and quality of this area because the biological resources that are affected function as the most notable and important visual quality of the area.

Although the visual character of the San Joaquin River and its associated riparian habitat would be slightly altered as a result of the storm drainage outfall, Mitigation Measure 3.4-5 and 3.4-6 contained in Section 3.4 Biological Resources would reduce the impact by requiring the storm drainage outfall to be designed and located such that it avoids and minimizes impacts to riparian vegetation to the extent feasible (i.e. identify areas where vegetation density is lower and trees are sparse), and compensate/replace riparian vegetation at a one to one ratio for impacts to this important visual resource. Implementation of the mitigation measures would ensure that impacts to visual resources would be **less than significant**.

Potential Impacts from Offsite Improvement Extension within Existing Rights-of-Way

Extension of off-site improvements to the Plan Area within the existing rights-of-way or on developed lands would not result in significant adverse impacts. Implementation of the SLSP would have a ***less than significant*** impact relative to this topic.

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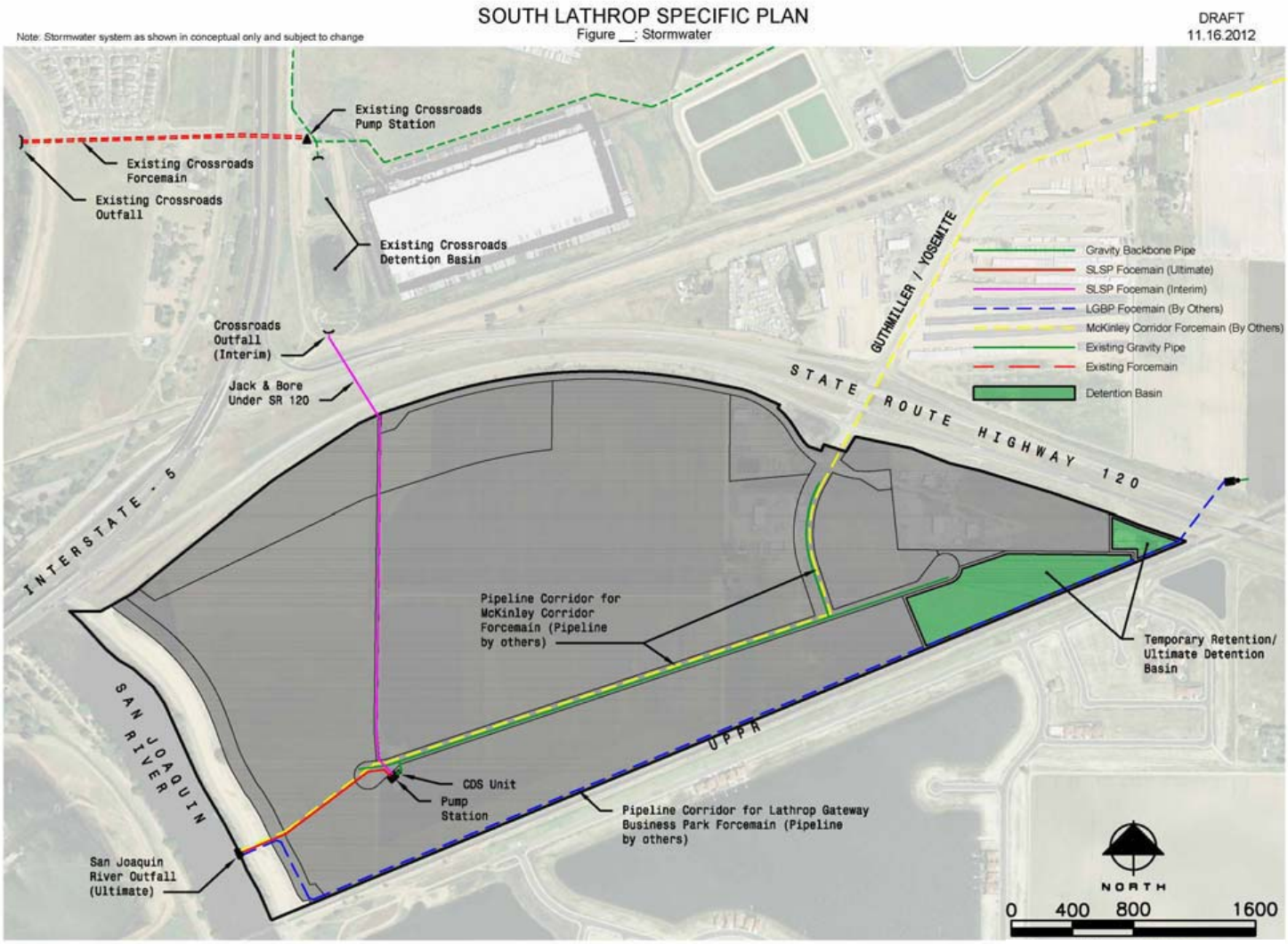

SOUTH LATHROP SPECIFIC PLAN

Figure 3.15-5: Project Stormwater System

Data source: MacKay & Somps. Map date: March 19, 2013.

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3.15.4 SOLID WASTE

EXISTING SETTING

Lathrop Environmental Services is the franchise waste hauler for residential and commercial uses in the City. San Joaquin County provides solid waste disposal facilities, including transfer stations and landfills. The City utilizes designated containers for the storage and collection of garbage; green (yard) waste; and paper, plastic, aluminum, and glass recycling. Both residential and nonresidential waste are hauled to the County's Lovelace Transfer Station, approximately one mile northeast of the City, and then to the County's Class III Foothill Sanitary Landfill in Linden.

The Foothill Landfill is permitted to accept up to 1,500 tons of waste per day and has a permitted capacity of 138 million cubic yards and a remaining estimated capacity of 125 million cubic yards (as of 6/10/2010). The cease operation date for the facility is December 31, 2082 (CalRecycle. 2013). The average daily volume for the landfill is 620 tons. In 2011, 218,190 tons of solid wastes were delivered to the landfill. The landfill diverted 3,392 tons of material from disposal in 2011.

The City of Lathrop disposed of 18,656 tons of household solid waste and 14,617 tons of business solid waste in 2011, for a total of approximately 33,273 tons. The City achieved a diversion rate of 80 percent in 2004, exceeding the State-mandated requirement of 50 percent. The latest information available from Cal Recycle shows that the City of Lathrop has a solid waste disposal rate of 9.8 pounds per resident per day for household waste and 29.8 pounds per employee for business waste in 2011 (CalRecycle 2011).

The Foothill Sanitary Landfill is permitted to accept commercial and household solid waste, agricultural waste, construction and demolition materials, white good, tires camper shells, campers and camper trailers. The landfill is not permitted to accept hazardous wastes, including friable asbestos, are not accepted at the Foothill Sanitary Landfill, and must be transported to a Class I landfill permitted to receive untreated hazardous waste, septic tank waste, toxic waste, large dead animals, infectious waste, liquid waste, cannery waste large load of soil or gravel, mobile homes and burned waste.

REGULATORY SETTING – SOLID WASTE

State

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.

AB 341 (75 PERCENT SOLID WASTE DIVERSION)

AB 341 requires CalRecycle to issue a report to the Legislature that includes strategies and recommendations that would enable the state to divert 75 percent of the solid waste generated in the state from disposal by January 1, 2020, requires businesses that meet specified thresholds in the bill to arrange for recycling services by January 1, 2012, and also streamlines various regulatory processes.

SB 1374 (CONSTRUCTION AND DEMOLITION WASTE MATERIALS DIVERSION)

Senate Bill 1374 (SB 1374), Construction and Demolition Waste Materials Diversion Requirements, 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.

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.

Local

CITY OF LATHROP GENERAL PLAN

The City of Lathrop General Plan contains the following solid waste disposal and recycling goals and policies that are relevant to the proposed project:

Resource Management Element - Waste Management Policies

> **Policy 7**: Environmental assessments for the development projects proposed consistent with the General Plan shall provide all of the information required under the "Waste Plan Format for Development Projects" that is employed by the San Joaquin County Department of Public Works.

CITY OF LATHROP MUNICIPAL CODE, CHAPTER 8.16

Chapter 8.16 of the Municipal Code regulates the management of garbage, recyclables, and other wastes. Chapter 8.16 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 - SOLID WASTE

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. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

2. Comply with federal, State, and local statutes and regulations related to solid waste.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-7: The proposed project has the potential to 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)

As previously described, permitted maximum disposal at the Foothill Sanitary Landfill is 1,500 tons per day. The total permitted capacity of the landfill is 138 million cubic yards, which is expected to accommodate an operational life until December 31, 2082. The addition of the volume of solid waste associated with the SLSP to the landfill would not exceed the landfill's remaining capacity. Based on the *Employment Density Study Summary Report* provided by the Southern California Association of Governments (SCAG), an estimate of the number of future employees for the SLSP can be determined based on projected square footage. According to this report the average square footage per employee for low rise office is 415 SF. Light industrial equates to approximately 2,230 SF/employee[2]. Shown in Table 3.15-20 is the estimated potential solid waste generated by the businesses in the Plan Area at buildout.

TABLE 3.15-20 SOLID WASTE PROJECTION

LAND USE	*SQUARE FOOTAGE*	*MEDIAN EMPLOYEE/SF**	*TOTAL EMPLOYEES*	*SOLID WASTE/EMPLOYEE (LBS/DAY)*	*TOTAL SOLID WASTE/DAY (TONS/DAY)*	*TONS/YR*
Low Rise Office	130,680	1 emp/415 sf	1,315	29.8	4.7	1,713
Light Industrial	4,158,238	1 emp/2230 sf	1,865	29.8	27.8	10,141
		TOTAL	2,180	29.8	32.5	11,854

NOTE: EMPLOYEES PER SQUARE FOOT IS BASED ON INFORMATION PROVIDED IN EMPLOYMENT DENSITY STUDY SUMMARY REPORT, TABLE 13 (SCAG 2001).

SOURCE: CALRECYCLE 2011 AND SCAG 2001

[2] The study included six counties in the SCAG area. Imperial County statistics were used as this county most resembled San Joaquin County of the six counties.

The SLSP would be required to comply with applicable state and local requirements including those pertaining to solid waste, construction waste diversion, and recycling.

As previously described, solid waste generated in the City is disposed at the Foothill Landfill. This landfill is projected to close in the year 2082. The City's solid waste generation has decreased since 2007 due to the waste diversion efforts of the City. The permitted maximum disposal at the Foothill Landfill is 1,500 tons per day. Currently, the average daily disposal is 620 tons per day. The total permitted capacity of the landfill is 138 million cubic yards. The addition of the volume of solid waste associated with the SLSP, approximately 32.5 tons per day at total buildout, to the Foothill Landfill would not exceed the landfill's remaining capacity. This is a **less than significant** impact.

CEQA requires an 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 SLSP. Growth Inducement is discussed in Section 3.10, Land Use and Population.

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

INTRODUCTION

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) contain an assessment of the cumulative impacts that could be associated with the SLSP. 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 as a result 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 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

The cumulative setting uses growth projections listed in the City Of Lathrop Municipal Service Review and Sphere Of Influence Plan (MSR), the Manteca General Plan Draft EIR, the Tracy General Plan Draft Supplemental EIR and the San Joaquin General Plan as a basis for cumulative growth in the area. Table 4.0-1 shows growth projections identified in these General Plan EIRs.

TABLE 4.0-1: GROWTH PROJECTIONS

JURISDICTION	*POPULATION*	*HOUSING UNITS*	*SOURCE*
Lathrop[1]	65,434[1] (year 2038)	21,370[1] (year 2038)	MSR pg 3-4
Manteca	86,370 to 132,721 (year 2025)	31,733 (year 2023)	GP EIR page 13-6 and 2-14
San Joaquin County	821,851 (year 2020)	288,400 (year 2020)	GP 2004 pg 1.B-3 and 1.C-2
Tracy	124,000 to 151,500 (year 2025)	38,700 to 46,800 (year 2915)	GP Draft Supplemental EIR pg. 4.2-13

NOTE: [1]THE LATHROP GENERAL PLAN EIR ONLY PRESENTS POPULATION AND HOUSING PROJECTIONS THROUGH THE YEAR 2010, THEREFORE, THE LATHROP MSP WAS USED TO IDENTIFY POTENTIAL FUTURE POPULATIONS AND HOUSING UNITS IN THE CITY.

In addition to those cumulative growth projections listed above, this EIR uses a list of past, present, and probable future projects within the City of Lathrop to determine cumulative growth in the area. The list of past, present, and probable future projects used for this cumulative analysis is restricted to those projects that are planned to occur within the City of Lathrop, the City of Manteca, and unincorporated San Joaquin County. In general, these areas have large areas of undeveloped land previously used for agriculture but that have been rezoned for future residential, commercial and industrial uses. There are several large development projects planned in the regional vicinity. For the purposes of this discussion, the projects that may have a cumulative effect on the resources in the Plan Area will often be referred to as the "related projects." The related projects are described below. The approved and/or pending projects include:

1. Central Lathrop Specific Plan: The Central Lathrop Specific Plan proposes development of 1,520 acres located west of Interstate 5. Project completion was anticipated by 2025. The Specific Plan proposes approximately 6,790 low-, medium- and high-density residential units and 11.5 acres of office/commercial land uses. The project also includes two schools and 200 acres of recreational land use and open space.

2. Crossroads Commerce Center and Industrial Park: This project is located on a site south of Louise Avenue between Howland and Harlan Roads in East Lathrop and comprises 450 acres of Industrial and 48 acres of Highway Commercial-designated land. The industrial

area includes an existing 750,000-square-foot Del Monte distribution warehouse, a 430,770-square-foot Daimler Chrysler facility, three 250,000-square foot warehouses, a 435,000-square-foot Longs Drugs warehouse, a plastic extrusion plant for Fuel Total Systems, a sausage-making company (Swiss American), a cross dock and warehouse for Home Depot, and a trucking terminal for Swift Trucking. The Freeway Commercial area contains the existing 138,000-square-foot Lathrop Business Park, four fast-food restaurants, a sit-down restaurant, and a 31,886-square-foot hotel.

3. Historic Lathrop Infill and Other Developments East of I-5: The portion of the City east of Interstate (I-5) is anticipated to expand and add density in the future. Currently, this area consists of approximately 2,886 low density and 78 medium density units, commercial and industrial areas, and a few public parks. Future residential growth of this area is expected on undeveloped/underutilized and redeveloped parcels consolidated from large lots where low density residential units would be demolished. All new residential projects are projected to consist of medium density residential units (i.e., small lot sizes). By General Plan buildout, the area will consist of 2,746 low-density and 894 medium-density residential units increasing the total existing residential unit count by 1,112 total units.

4. Mossdale Landing: Mossdale Landing is a mixed-use master planned community that is anticipated to be completed by 2015. Construction at Mossdale Landing began in 2003 and approximately 1,300 residential units have been constructed thus far. An additional 1,236 low density and 409 medium density units are anticipated by project completion. In addition, the development is allocating approximately thirty-five acres of land for two schools, 40 acres for parks, and 25 acres for commercial development.

5. Mossdale Landing East: Mossdale Landing East (formerly referred to as Lathrop Station) is proposed to be completed by 2015. The proposed development includes 100 existing low density residential units and will add 151 low-density, 293 medium density and 82 high density units. The development will include 6.5 acres of village commercial, 13.2 acres of service commercial and 27.5 acres of highway commercial land uses.

6. Mossdale Landing South: Mossdale Landing South is a proposed 104-acre development that was to be completed by 2030. The development will consist of 297 medium density residential units. In addition, the project proposes 28 acres of commercial, 25 acres of open space and 9.5 acres of parks.

7. River Islands: The 4,995-acre River Islands development would be located west of the San Joaquin River on Stewart Tract and Paradise Cut. The development proposes a mixture of low-, medium- and high-density residential units. In total, River Islands would consist of 11,000 homes. The development also proposes a 260-acre employment center, a 47-acre town center, 265 acres of parks and two schools. The completion date for this project is 2030.

8. Lathrop Gateway Business Park – situated north of SR 120 between Yosemite Avenue and McKinley Avenue, which could yield a maximum of 5.43 million square feet of non-residential according to that project's EIR.

9. Machado Estates – 575 dwelling units located south of Woodward Avenue and west of Airport Way.

10. Terra Ranch – 409 dwelling units located directly west of Machado Estates.

11. Oakwood shores – a partially developed residential project (475 dwelling units at build-out) located south of the Plan Area on Oakwood Lane that has two access locations on Woodward Avenue west of McKinley Avenue.

12. Manteca Trails – 1,651 dwelling units located south of Woodward Avenue and west of McKinley Avenue.

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 travel 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 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 reasonable 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 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 in order 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 a combination of the list approach and the projection approach for the cumulative analysis and considers the development anticipated to occur upon buildout of the various General Plans in the area in addition to the pending and proposed projects in the area.

Project Assumptions

The SLSP's contribution to environmental impacts under cumulative conditions is based on full buildout of the Plan Area. See Chapter 2, Project Description, for a complete description of the SLSP.

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 and air quality (the latter two of which are associated with traffic volumes), 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 SLSP may result in the following cumulative impacts.

AESTHETICS

The cumulative setting for aesthetics is the City of Lathrop and surrounding areas of Manteca and San Joaquin County. The City of Lathrop General Plan identifies the following scenic resources in the Lathrop area; a) views of agricultural lands to the west and south; and b) views of the Coast Ranges to the west. The City of Lathrop General Plan recognizes that views of the San Joaquin River as a scenic resource.

Impact 4.1: project implementation may substantially damage scenic resources within a State Scenic Highway (Less than Significant and Less than Cumulatively Considerable)

There are no designated State Scenic Highways in the vicinity of the Plan Area. Only one highway section in San Joaquin County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of State Route 580 from Interstate 5 to State Route 205. This route traverses the edge of the Coast Range to the west and Central Valley to the east. The City of Lathrop and the Plan Area are not visible from this roadway segment. Additionally, there are no "eligible" highway segments in the vicinity of the Plan Area that may be included in the State Scenic Highway system. Cumulative development in the city would not impact a Designated 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)

As described in Section 3.1- Aesthetics, implementation of the SLSP would convert the Plan Area from its existing agricultural character to a developed industrial and commercial complex with various buildings, landscaping, and parking areas. SLSP implementation would alter the existing visual character of the Plan Area; however, the guidelines and standards within the SLSP would ensure consistent development that is in line with the City's vision for the community's identity.

Under cumulative conditions, buildout of the Lathrop General Plan and Manteca General Plan and surrounding areas of San Joaquin County could result in changes to the visual character and quality of the City of Lathrop through development of undeveloped areas and/or changes to the character of existing communities. Development of this SLSP, in addition to other future projects in the area, would change the existing visual and scenic qualities of the City. There are no mitigation measures that could reduce this impact except a ceasing of all future development, which is not a feasible option. As such, this is a **cumulatively considerable contribution** and **a significant and unavoidable** impact.

Impact 4.3: project implementation may result in light and glare impacts (Less than Significant and Less than Cumulatively Considerable)

Implementation of the lighting and design standards in the SLSP 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 design requirements in the SLSP and the subsequent design review of future projects within the Plan Area would ensure that excessively reflective building materials are not used, and that the SLSP would not result in significant impacts related to daytime glare. Future projects within Lathrop, Manteca, 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.

AGRICULTURE AND FOREST RESOURCES

The cumulative setting for agriculture and forest resources is all of San Joaquin County. According to the Department of Conservation, the County had 754,229 acres of farmland in 2010, the majority of which is identified as prime farmland. Of the total farmland, prime farmland represents 42 percent (385,337 acres), farmland of statewide importance represents nine percent (83,307 acres), and unique farmland represents eight percent (69,481 acres).

Impact 4.4: Cumulative Impact on Agricultural and Forest Resources (Cumulatively Considerable and Significant and Unavoidable)

As described in Section 3.2, development of the SLSP would result in a conversion of 161 acres of Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance, as shown on the map prepared under the Farmland Mapping and Monitoring Program (FMMP), to nonagricultural industrial and office use. Section 2.6.5.1 and Section 8.3 of the SLSP includes provisions for payment of fees to SJMSCP and adherence to right-to-farm measures, which collectively would lessen impacts associated with the conversion of Important Farmland. The easements are purchased for land exhibiting benefits to wildlife, including a combination of habitat, open space, and agricultural lands, so the compensation provided by the fee contribution for the SLSP would not be applied exclusively to agricultural lands. The fees contributed to the SJMSCP would partially offset conversions of Important Farmland associated with project impacts;

however, no new farmland would be made available, and the productivity of existing farmland would not be improved as a result of these measures. Therefore, full compensation for losses of Important Farmland would not be achieved resulting in a significant and unavoidable impact.

According to the Department of Conservation, Division of Land Protection, San Joaquin County lost 3,921 acres of farmland to urban uses between 2008 and 2010 (see Table 3.2-4). This loss of agricultural lands throughout history cannot be replaced once this land is converted to urban uses. A shown in Table 4.0-2, San Joaquin County lost 41,789 acres of farmland, 28,152 acres of which were converted to urban uses between 1990 and 2010.

TABLE 4.0-2: AGRICULTURAL LAND CONVERSION

LAND USE CATEGORY	*ACREAGE BY CATEGORY*					*1990-2010 NET ACREAGE CHANGED*	*AVERAGE ANNUAL ACREAGE CHANGE*
	1990	*1996*	*2000*	*2006*	*2010*		
Prime Farmland	437,859	433,134	419,227	407,609	385,337	-52,522	-2,626
Farmland of Statewide Importance	100,277	98,163	93,739	89,274	83,307	-16,970	-849
Unique Farmland	46,863	48,759	59,118	63,232	69,481	22,618	1,131
Farmland of Local Importance	53,145	53,479	58,906	59,965	76,869	23,724	1,186
Important Farmland Subtotal	638,144	633,535	630,990	620,080	614,994	-23,150	-1,158
Grazing Land	157,874	156,185	150,341	144,933	139,235	-18,639	-932
Agricultural Land Subtotal	796,018	789,720	781,331	765,013	754,229	-41,789	-2,089
Urban and Built-Up Land	63,777	69,739	74,149	87,832	91,929	28,152	1,408
Other Land	42,618	42,905	45,473	47,982	54,662	12,044	602
Water Area	10,187	10,236	11,648	11,773	11,773	1,586	79
Total Area Inventoried	912,600	912,600	912,601	912,600	912,593	-7	0

SOURCE: CA DEPARTMENT OF CONSERVATION, DIVISION OF LAND RESOURCE PROTECTION, SAN JOAQUIN 1990 – 2010 LAND USE SUMMARY TABLE.

Although San Joaquin County has programs in place, the Right-to- Farm Ordinance and the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (see description in Section 3.2), these programs cannot assure that converted agricultural land can be replaced on a one to one ratio. Urban development in the county is inevitable and the potential for the conversion of agricultural land to urban uses will remain in the future. The SLSP will result in a loss of agricultural resources that is 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 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 $PM_{2.5}$ and is either unclassified or attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone 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, the SLSP would result in increased emissions primarily from vehicle miles travelled associated with project implementation. The SJVAPCD has established operations related emissions thresholds of significance and it was determined that annual emissions of ROG, NOx, and PM_{10} exceed the SJVAPCD thresholds of significance.

The main source of pollution can be contributed to mobile source emissions for ROG and NOx. Area source emissions or ROG are also a major source of pollution causing the exceedance. Fugitive dust is the primary cause of the PM_{10} exceedance.

There are limited mitigation inputs available within the California Emission Estimator Model (CalEEMod)^{TM} (v.2011.1.14) to quantify emission reductions for commercial and industrial projects. As shown in Table 3.3-8, even with basic mitigation incorporated into the model, the SLSP would exceed the SJVAPCD thresholds of significance for operations.

The SLSP is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NOx and PM emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through project mitigation commitments. The current fees are $9,350 per ton of NOx and $9,011 per ton per of PM. The actual calculations will be accomplished by the SJVAPCD and project applicants as individual projects (i.e. portions of the Specific Plan) are brought forward for approval under Rule 9510.

The substantial reductions in NOx and PM - and associated ROG – emissions accomplished by the application of the ISR probably represent the best achievable mitigation for indirect sources. However, even with the application of these measures, emissions levels would remain above the defined thresholds of significance. As such, implementation of the SLSP would have a **cumulatively considerable contribution** and **significant and unavoidable** impact from air emissions.

BIOLOGICAL RESOURCES

The cumulative setting for biological resources includes the Plan Area 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 Plan Area. 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 SJMSCP, which is a habitat conservation plan and natural community conservation plan for San Joaquin County that is 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 in the cumulative area through new and existing 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 Plan Area has the potential to result in impacts to special-status species in the region. There are no known special-status species that have been observed in the Plan Area although there is sensitive habitat in the riparian area along the San Joaquin River. The riparian habitat has been set aside as open space to preserve the biological functions that they provide for the region. 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 SLSP 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. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts to biological resources would be a ***less than cumulatively considerable contribution***.

CULTURAL RESOURCES

The geography of cultural resources impact 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. Generally, these sites are related to Native Americans which lived in the area; however, there are also numerous historical resources such as the Eldon H. Gordon House in Lathrop.

Impact 4.7: Cumulative Impacts on Known and Undiscovered Cultural Resources (Less than Significant and Less than Cumulatively Considerable)
Cumulative development anticipated in the City of Lathrop, 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 Resources, there are two known cultural or historic resources present in the Plan Area. However, these resources are not eligible for listing based on the National Register of Historic Places and California Register of Historical Resources criteria. Any

unknown cultural resources which are discovered during development of the SLSP 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 SLSP is not anticipated to considerably contribute to a significant reduction in cultural resources.

All future projects in the regional vicinity would be subject to their respective General Plans (i.e. City of Lathrop, City of Manteca, and San Joaquin County), each of which have policies and measures that are designed to ensure protection of undiscovered cultural resources. In addition, all discretionary projects in these jurisdictions would require environmental review per regulations established in CEQA.

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 be 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 this reasons, the potential for cumulative geology and soils impacts are considered in the context of the City of Lathrop and vicinity.

Impact 4.8: Cumulative Impact on Geologic and Soils Resources (Less than Significant and Less than Cumulatively Considerable)

As discussed in Section 3.6 Geology and Soils, implementation of the SLSP has limited potential for liquefaction, expansive soils and lateral spreading. However, mitigation measures provided in Section 3.6 ensure this impact will be less than significant. While the 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 Plan Area. Seismic activity could come from a known active fault such as the Greenville 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 California Building Code. Additionally, the City of Lathrop has incorporated numerous policies relative to seismicity to ensure the health and safety of all people. 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. Implementation of the SLSP 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. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to geologic and soil resources would be a l**ess 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 regional greenhouse gas emissions reduction targets.

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.

In California, there has been extensive legislation passed with the goal of reducing greenhouse gas emissions. The legislative goals are as follows: 1) 2000 levels by 2010, 2) 1990 levels by 2020 and 3) 80% below the 1990 levels by the year 2050. To achieve these goals the California Air Resources Board has developed regional greenhouse gas emission reduction targets for the automobile and light truck sectors (the largest single source of greenhouse gas emissions) for 2020 and 2035. The regional greenhouse gas emission reduction targets established for San Joaquin County by the California Air Resources Board require a 5 percent decrease in per capita CO^2 emissions in 2020 and 10 percent decrease in 2035 when compared to 2005 levels.

To demonstrate the ability for the region (San Joaquin County) to attain the regional reduction targets, a Sustainable Communities Strategy is currently being prepared by the San Joaquin Council of Governments, serving as the Metropolitan Planning Organization and Regional Transportation Planning Agency in San Joaquin County. The San Joaquin Council of Governments will calculate the levels of greenhouse gas (GHG) emissions using the regions travel demand model and the California Emissions Factor (EMFAC) model for a variety of growth scenarios in an effort to find an acceptable scenario that would reduce greenhouse gas emissions to the regional targets.

In August 2008, the SJVAPCD adopted its Climate Change Action Plan. The Climate Change Action Plan directed the SJVAPCD's Air Pollution Control Officer to develop guidance to assist APCD staff, Valley businesses, land use agencies and other permitting agencies in addressing GHG emissions as part of the CEQA process. Regarding CEQA guidance, some of the goals of the Climate Change Action Plan are to assist local land use agencies, developers and the public by identifying and quantifying GHG emission reduction measures for development projects and by providing tools to streamline evaluation of project-specific GHG effects, and to assist Valley businesses in complying with State law related to GHG emissions. A product of this direction to provide CEQA guidance is the Final Staff Report – Climate Change Action Plan: Addressing GHG Emissions Impacts, presented to the APCD Board in December 2009. A central component of the Final Staff Report is the establishment of Best Performance Standards, which are specifications or project design elements that identify effective, feasible GHG emission reduction measures. Emission reductions achieved through Best Performance Standards implementation would be pre-quantified, thus negating the need for project-specific quantification of GHG emissions. For projects not implementing Best

Performance Standards, demonstration of a 29% reduction in GHG emissions from business-as-usual conditions is required to determine that a project would have a less than cumulatively significant impact.

With the implementation of Mitigation Measure 3.5-1, the overall annual GHG emissions associated with the SLSP would be reduced by over 36.3 percent by the year 2020 when compared to the business as usual scenario. This is consistent with applicable standards and thresholds of a 29 percent reduction established by the SJVAPCD. Because the SLSP would meet the 29 percent minimum reduction threshold, the SLSP would not hinder the State's ability to reach the GHG reduction target. The percentage reduction is consistent with the GHG reduction percentage sought by the state's Scoping Plan. The SLSP would be consistent with the reduction target set in the Climate Change Action Plan and consistent with the Scoping Plan. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to climate change and greenhouse gas emissions would be a **less than cumulatively considerable contribution**.

HAZARDS AND HAZARDOUS MATERIALS

The cumulative context for the analysis of cumulative hazards and human health impacts is San Joaquin County, including all cumulative growth therein, as represented by full implementation of each respective General Plan (i.e. Lathrop, Manteca, and San Joaquin County). As discussed in Section 3.8 Hazards and Hazardous Materials, implementation of the SLSP 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 SLSP, in conjunction with cumulative development in the region, would include 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 facilities as allowed under each land use designation. New development would inevitably increase the use of hazardous materials within the region, resulting in potential health and safety effects related to hazardous materials use. 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). Hazard-related impacts tend to be site-specific and project-specific. The Plan Area is not associated with any existing hazardous materials spills; however, there are numerous areas throughout the County where hazardous conditions are present.

Implementation of the SLSP 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 be a l**ess 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 SLSP, would impact the water quality and hydrological features of the San Joaquin River Hydrologic Region. With respect to surface waters, the Plan Area is located adjacent to a leveed section of the San Joaquin River, at the downstream end of its relatively large watershed. The City of Lathrop and much of the surrounding area is located in the Eastern San Joaquin River Groundwater Basin. This groundwater basin covers approximately 1,105 square miles. The Plan Area is located in the Oakwood Lake - San Joaquin River watershed. Any matter that may affect water quality draining from the Plan Area will eventually end up in the San Joaquin River.

Impact 4.11: Cumulative Increases in Peak Stormwater Runoff from the Plan Area (Less than Significant and Less than Cumulatively Considerable)

Implementation of the SLSP would increase the amount of impervious surfaces in the Plan Area, which could increase peak stormwater runoff rates and volumes on and downstream on the Plan Area. However, the SLSP includes an extensive system of on-site stormwater collection, treatment and retention facilities to accommodate the increased stormwater flows that would originate in the Plan Area.

The Plan Area is lower than the top of the San Joaquin River levee. Therefore, stormwater runoff must be pumped over/through the levee. To avoid adverse impacts to the levee system near the Plan Area, peak discharge rates from development projects in the City of Lathrop have been limited to a maximum of 30 percent of the 100-year flow rate. The proposed stormwater collection system functions by discharging all runoff directly into the river up to the point where the runoff rate exceeds the capacity of the pump station. When the rate of runoff exceeds the pump station capacity, water "backs up" into the detention basin until the runoff rate declines and once again equals the capacity of the pump station. The water level in the detention basin then decreases, emptying completely within a City mandated 24-hour period unless an extended period is approved by the City Engineer.

With the design and construction of flood control improvements, the SLSP would not increase peak stormwater runoff. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to stormwater runoff would be a l**ess than cumulatively considerable contribution**.

Impact 4.12: Cumulative Impacts Related to Degradation of Water Quality (Less than Significant and Less than Cumulatively Considerable)

The SLSP, along with several of the related projects within the City of Lathrop (e.g., Gateway Business Park, River Islands, Mossdale Landing, Mossdale Landing East, and Central Lathrop) would discharge stormwater runoff to the nearby Delta waterways and would potentially degrade water quality of the system.

Construction of the SLSP would contribute to a cumulative increase in urban pollutant loading, which could adversely affect water quality. Cumulative development in the Lathrop area, including the SLSP, 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 SLSP will be required to comply with Mitigation Measure 3.9.1 which requires the development and approval of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will include Best Management Practices (BMPs) to regulate stormwater quality for the Plan Area which will be designed in accordance with the City of Lathrop's Phase II National Pollutant Discharge Elimination System Permit (NPDES) issued by the RWQCB.

While there are no assurances that other projects in the County would incorporate the same degree or methods of treatment as the SLSP, several of the projects within the City of Lathrop would phase out existing agricultural runoff discharges from their respective sites and, similar to the SLSP, could provide some level of water quality improvement. Also, each related project that would discharge stormwater runoff would be required to comply with National Pollutant Discharge Elimination System (NPDES) discharge permits from the RWQCB, which adjusts requirements on a case-by-case basis to avoid significant degradation of water quality. 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 city and county water quality protection regulations, approval from the RWQCB and Mitigation Measure 3.9-1 would ensure that the SLSP 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 be a l**ess than cumulatively considerable contribution**.

Impact 4.13: Cumulative Impacts Related to Degradation of Groundwater Supply or Recharge (Cumulatively Considerable and Significant And Unavoidable)

The SLSP 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 potentials; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff.

The SLSP is not anticipated to require more groundwater than those already identified by the City of Lathrop. Additionally, 90.6 percent of the Plan Area's soils have an infiltration rate of moderate to slow making for a less than optimal groundwater recharge area. For these reasons, the SLSP would not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge.

According to the City of Lathrop *Municipal Services Review and Sphere of Influence Plan*, with groundwater pumping projected to increase in the City and in Manteca, absolute preservation of groundwater supply does not appear possible (City of Lathrop, 2009). The impact, however, will be mitigated through: 1) the implementation of the SCWSP and the subsequent blending of groundwater with low-TDS surface water; 2) water treatment; and, 3) pursuit of alternative water supplies in accordance with WSS findings. In addition, regional implementation of the integrated conjunctive use program presented in the ESJGB-GMP (including groundwater recharge, increased surface water use, and reduced rates of groundwater pumping) could slow or reverse the migration of the groundwater salinity front.

While the impact of groundwater use by the Cities of Lathrop and Manteca may be lessened by the mitigation discussed previously, the use of groundwater has been determined by the Department of Water Resources (DWR) Bulletin 118 (DWR, 2003), that the Eastern San Joaquin River Groundwater Basin (ESJGB) is in a critical condition of overdraft. The estimated safe yield of the groundwater basin is approximately 618,000 AF/YR (0.87 AFY per acre, average) and the estimated overdraft is 113,000 AF/YR. The available groundwater supply for the City is projected to increase to 12,096 AFY by 2020. Groundwater levels have declined in the basin since the 1960s with the lowest groundwater levels found in eastern San Joaquin County.

The demand of groundwater cannot, at this time, keep up with the supply. While the SLSP would not increase the demand of groundwater above the City of Lathrop allocation, future development projects or those outside of the City's jurisdiction may increase the demand for groundwater. Because of projected future growth in the ESJGB, the likelihood of a continued groundwater overdraft is present. Until other sources of water or the implementation of water reduction techniques that will lessen the dependence on groundwater can occur, the cumulative effect of groundwater will continue to be in an overdraft state. While many jurisdictions within the ESJGB area require the use of water saving appliances and facilities for new construction, existing structures are not held to this standard. One mitigation measure would be to require all water users to incorporate water saving features into their structures. However, this is beyond the control of the City of Lathrop and is considered an infeasible mitigation as the City has no

jurisdiction over other cities or counties. As such, this is a **cumulatively considerable contribution** and a **significant and unavoidable** impact.

Impact 4.14: Cumulative Impacts Related to Flooding
(Less than Significant and Less than Cumulatively Considerable)

As shown on Figure 3.9-2, the Plan Area is currently identified by FEMA to be in Zone X under Flood Insurance Rate Map (FIRM) panel number 06077C0620F. Zone X indicates an area outside the 0.2 percent chance floodplain. Therefore, the SLSP is not at risk of the 100-year flood. However, several related projects would result in additional discharges of stormwater into the San Joaquin River during storm events (e.g., Lathrop Gateway Business Park, Mossdale Landing, Mossdale Landing East, and Central Lathrop). In theory, this could lead to an incremental increase in peak stormwater runoff to the San Joaquin River and potential increases in downstream flood elevations. However, the City requires that the maximum allowable discharge into the San Joaquin River must not exceed 30% of the estimated 100-year peak developed-condition runoff rate. In addition, when water levels in the San Joaquin River exceed a design elevation of 21.0 feet, discharges must be restricted to predevelopment rates. To meet this requirement, new development must be designed to accommodate excess runoff from a 48-hour, 100-year storm while river discharges are limited to predevelopment rates. Therefore, the SLSP would not create any incremental addition of stormwater to the San Joaquin River during flood events. In other words, the SLSP would not contribute at all to any significant cumulative impacts that might be caused by related projects outside the City that are not subject to the same regulatory limitations. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to flooding would be a l**ess than cumulatively considerable contribution**.

LAND USE AND POPULATION

The cumulative setting for land use and population impacts is the City of Lathrop.

Impact 4.15: Cumulative Impact on Communities and Local Land Uses
(Less than Significant and Less than Cumulatively Considerable)

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. Prior to project authorization, City adoption of the SLSP would include amendments to the land use designations and the Lathrop General Plan Map. The City's general plan designates the entire SLSP area as LI Limited Industrial. The General Plan Map would be amended to include the CO Commercial Office, OS Open Space, and Public/Quasi-Public designations within the Plan Area and the General Plan land use designations would be amended to include CO, OS, and P/QP within the SLSP. The Plan Area is located within Sub-Plan Area #1 of the Lathrop GP. The city has a major policy of overriding significance calling for annexation of lands to the outer boundaries of urbanization be pursued through development phasing that avoids disjointed patterns of urbanization, avoids conflict with continuing agricultural operations and provides for adequate urban services (Lathrop GP, p. 2-13). The SLSP is consistent with this overriding policy in that the

SLSP includes a detailed phasing and financing plan for the orderly progressive development of the Plan Area and provision of urban utilities and services.

The SLSP has been designed to be consistent with applicable aspects of the City's General Plan, and as described in this EIR, the SLSP would not be incompatible with any of the surrounding land uses. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to communities and land uses would be a l**ess than cumulatively considerable contribution**.

Impact 4.16: Cumulative Impacts on Population and Housing (Less than Significant and Less than Cumulatively Considerable)

As described in Section 3.10, there are no existing homes or other types of residential structures in the Plan Area. Therefore, the SLSP would not displace any persons or existing housing. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to population and housing would be a l**ess than cumulatively considerable contribution**.

MINERAL RESOURCES

The cumulative setting for mineral resources is San Joaquin County. The primary mineral resources in San Joaquin County are sand, gravel, and natural gas, with limited mining of peat, gold, and silver. In 2012, the California Geological Survey assessed the Stockton-Lodi Production-Consumption (P-C) Region mineral resources, with a focus on aggregate resources. The Stockton-Lodi P-C Region contains about 969 million tons PCC-grade aggregate resources and 67 million tons PCC-grade sand resources.

Impact 4.17: Cumulative Impacts Resulting in the Loss of a Known Mineral Resource (Cumulatively Considerable and Significant And Unavoidable)

The majority of the Plan Area is classified MRZ-2 (PCC grade) and a portion of the northern area of the Plan Area is designated MRZ-3. The MRZ-2 designation indicates areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists and the MRZ-3 designation indicates areas containing mineral deposits, the significance of which cannot be evaluated from available data.

The PCC grade aggregate that is within the MRZ-2 zone is considered the scarcest and most valuable aggregate resource, according to the CGS (CGS, 2012). Implementation of the SLSP would permanently convert the Plan Area to urban uses and would preclude the recovery of mineral resources from the Plan Area. This was determined to be a significant and unavoidable impact with no mitigation feasible. Loss of this mineral resource would result in a **cumulatively considerable contribution** and a **significant and unavoidable** impact.

NOISE

The cumulative setting for noise impacts consists of the existing and future noise sources that could affect the Plan Area or surrounding uses.

Impact 4.18: 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)

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. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to construction noise would be a l**ess than cumulatively considerable contribution**.

Traffic Noise: Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the SLSP and other projects within the area. Table 4.0-3 shows cumulative traffic noise levels with and without the SLSP.

Under cumulative conditions, there would not be significant increases in noise levels compared to the no project conditions. The 60, 65 and 70 dB Ldn contours would extend farther under cumulative conditions; however, as shown, the SLSP would contribute no more than 1.1 dB Ldn to noise levels on roadways fronting residential uses along the study area roadways. Additionally, the project would not cause new exceedances of the City of Lathrop 60 dB Ldn exterior noise level standard. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to traffic noise would be a l**ess than cumulatively considerable contribution**.

TABLE 4.0-3: 2030 TRAFFIC NOISE LEVELS VS. 2030 PLUS PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (LDN, DB)			DISTANCE TO 2030 + PROJECT TRAFFIC NOISE CONTOURS, FEET[1]		
		2030	2030 + PROJECT	CHANGE (DB)	70 DB LDN	65 DB LDN	60 DB LDN
Airport Way	North of Yosemite	67.1	67.3	0.1	49	106	229
Airport Way	Yosemite to Daniels	66.1	66.1	0.0	41	89	192
Airport Way	Daniels to SR 120	67.0	67.1	0.1	64	137	295
Airport Way	South of SR 120	70.7	70.9	0.2	86	184	397
Daniels St.	East of Airport	62.8	62.8	0.0	20	43	92
Lathrop Rd.	West of McKinley	70.2	70.3	0.1	63	136	292
Lathrop Rd.	East of McKinley	70.1	70.2	0.1	62	134	289
Louise Ave.	West of McKinley	68.9	68.9	0.0	64	137	295
Louise Ave.	East of McKinley	67.6	67.7	0.1	53	114	245
McKinley Ave.	Lathrop to Louise	62.7	62.7	0.1	16	35	76
McKinley Ave.	Louise to Yosemite	60.3	60.6	0.3	47	101	218
McKinley Ave.	Yosemite to SR 120	70.5	70.7	0.2	56	120	258
McKinley Ave.	South of SR 120	66.3	66.5	0.2	47	100	216
SR 120	I-5 to Guthmiller/Yosemite	73.8	74.0	0.2	554	1194	2573

SR 120	Guthmiller/Yosemite to McKinley	73.7	73.9	0.2	546	1177	2535
SR 120	McKinley to Airport	65.8	66.0	0.2	149	322	693
SR 120	East of Airport	70.8	70.9	0.2	150	324	697
Yosemite Ave.	SR 120 to D'Arcy Parkway	52.4	53.4	1.1	35	76	164
Yosemite Ave.	D'Arcy Parkway to McKinley	62.3	63.3	1.0	36	77	166
Yosemite Ave.	McKinley to Airport	66.5	66.9	0.3	46	100	215
Yosemite Ave.	East of Airport	66.9	67.0	0.2	48	102	221

SOURCE: J.C. BRENNAN & ASSOCIATES, INC., 2013

[1] Distances to traffic noise contours are measured in feet from the centerlines of the roadways. Actual distances may vary due to shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.

Non-Traffic Noise: The SLSP includes industrial uses located within 500 feet of the residential uses to the south, which could include extensive use of outdoor manufacturing, or large ventilation systems (exhaust, dust collection, etc. other than HVAC systems). Mitigation Measure 3.12-1 requires a review of the individual site plans and operational activities in this area once they are known to ensure that exterior noise levels are not excessive and would not exceed the applicable San Joaquin County exterior noise level limits. Overall, the SLSP is not predicted to generate substantial non-transportation noise levels at the nearest 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 non-traffic noise would be a l**ess than cumulatively considerable contribution**.

Railroad Noise: Railroad noise levels would be less than 75 dB Ldn at proposed industrial land uses and less than 70 dB Ldn at proposed office uses. The industrial and commercial uses are not considered 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 railroad noise would be a l**ess than cumulatively considerable contribution**.

PUBLIC SERVICES

Cumulative setting would include all areas covered in the service areas of the City of Lathrop Police Department, Lathrop-Manteca Fire Protection District, City of Lathrop Parks and Recreation Department, and the Manteca Unified School District.

Impact 4.19: Cumulative Impact on Fire Services (Cumulatively Considerable and Significant and Unavoidable)

Implementation of the SLSP would contribute toward an increased demand for public services and facilities within the Lathrop-Manteca Fire Protection District. The City's Public Safety Element requires the expansion of fire service to meet identified response times. The City of Lathrop's land use map designates a fire station site at the northeast corner of McKinley Boulevard and Yosemite Avenue. It is anticipated that a station will be constructed at this location, or at an alternate site in

the immediate vicinity, with the timing and location as determined in coordination with LMFPD. This new station will provide service to the project within the City's and LMFPD's response times. Until the future fire station site is constructed, development within the Plan Area will exceed City and LMFPD guidelines for response times requiring a new fire facility, this will remain a potentially significant impact.

The City's Capital Facilities Fee, in part, assists in the development of a new fire station. Development in the SLSP will pay all applicable fire service fees and assessments required to fund its fair share of LMFPD facilities and services. This funding would assist in the development of fire facilities in order to meet the City's and LMFPD response time standards.

While the funding for a new fire station may be provided with the development of future projects in the City, the actual construction and operation of this facility has not been determined at this time. Thus, fire protection will continue to operate under sub-standard conditions for some areas of the City under future conditions. Until this fire station is constructed and is fully operational, the cumulative impact on fire protection would be a **cumulatively considerable contribution** and a **significant and unavoidable** impact.

Impact 4.20: Cumulative Impact on Other Public Services (Less than Significant and Less than Cumulatively Considerable)

Implementation of the SLSP would contribute toward an increased demand for public services and facilities within the City of Lathrop Police Department, City of Lathrop Parks and Recreation Department. It has been determined that the impacts to the Police Department as a result of the SLSP would be less-than-significant and would not result in the need for additional police facilities. The SLSP would be subject to the City of Lathrop Capital Facilities Fee for police services. This would assist in offsetting any fiscal impact to the LPD as a result of project development.

Impacts to schools and parks are not applicable as the demand for these services is based on population and housing projections. The employment generated by the SLSP could indirectly result in increased demand for housing in Lathrop, and thus, it could indirectly increase the population in Lathrop. However, the demand for schools and parks is accounted for and mitigated by the residential housing projects in the region, which is directly responsible for increased demands on schools and parks. The mitigation for school and park facilities as a result of cumulative residential housing is paid for by the developer of the residential housing. The SLSP would increase the amount of parkland/open space in the City with the development of the proposed 21 acres of river levee/parkland. This is a beneficial cumulative impact.

The City collects Capital Facilities Fee from new development. These fees include an impact fee for fire, police, schools, and parks. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the SLSP, would assist in maintaining existing fire, police, schools, 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 other public services would be a l**ess than cumulatively considerable contribution**.

TRANSPORTATION AND CIRCULATION

The cumulative discussion for transportation and circulation is analyzed in depth in Section 3.14. The future cumulative roadway network includes certain roadway improvements consistent with the SJCOG RTP Tier I projects, which support the level of development anticipated to be in place in the 2030 planning horizon. Major improvements included under Cumulative Conditions are summarized below:

- SR 120 – widened to six-lanes from I-5 to SR 99.
- I-5 – widened to 12 lanes south of SR 120.
- I-5 – widened to four lanes with one HOV lane.
- SR 120/McKinley Avenue interchange – partial cloverleaf design with lane configurations similar to those in the State Route 120/McKinley Avenue Interchange project Approval and Environmental Document (PA/ED).
- Lathrop Road – widened to four lanes from I-5 to east of the UPPR.
- Louise Avenue – widened to four lanes from Lathrop SPRR to east side of UPRR.
- Airport Way Widening – widened to four lanes between Yosemite Avenue and Woodward Avenue (with exception of SR 120 overcrossing).
- Yosemite Avenue Widening – widened to four lanes from SR 120 to east of Airport Way.

In addition to the above, a number of other improvements are assumed including the extensions of Atherton Drive and Daniels Street, and widening of Union Road. Improvements were not assumed at the SR 120/Airport Way interchange because they are shown as a Tier II (unfunded) improvement in the 2011 Final RTP. Planned roadway improvements in the study area are shown on Figure 3.14-9 in Section 3.14.

Selected intersection improvements were assumed to occur by 2030 as summarized in Table 3.14-16. The intersection of Yosemite Avenue/McKinley Avenue was assumed to be widened to provide separate eastbound and westbound left-turn, right-turn, and two through lanes to be consistent with the planned widening of Yosemite Avenue. Cumulative intersection operating conditions were assessed with improvements at the intersections listed in Table 3.14-16 and the existing lane configurations for the remaining study intersections.

Impact 4.21: Under cumulative conditions, project implementation would exacerbate levels of service at various traffic facilities within the study area (*Cumulatively Considerable and Significant And Unavoidable*).

SR 120/Guthmiller Road ramp-terminal intersections: The SR 120 EB Ramps/Guthmiller Road intersection would operate at an unacceptable LOS F during the AM and PM peak hours under both Cumulative No project and Cumulative Plus project conditions. The addition of project traffic would exacerbate unacceptable operations and would increase average control delay for the critical turn movement at the intersection by more than five seconds. The SR 120 WB Ramps/Guthmiller Road intersection would operate at an acceptable LOS C and B in the AM and PM peak hours, respectively under Cumulative No project conditions. The addition of project

traffic would result in unacceptable LOS F operations during both peak hours. Both intersections would satisfy the peak hour signal warrant of installation of traffic signal control.

Implementation of the improvements outlined in Mitigation Measure 3.14-10 would make the SR 120 Eastbound Ramps/Guthmiller Road intersection operate at LOS B with 12 seconds of delay in the AM peak hour and LOS C with 24 seconds of delay in the PM peak hour. The SR 120 Westbound Ramps/Guthmiller Road intersection would operate at LOS A with 8 seconds of delay in the AM peak hour and LOS B with 17 seconds of delay in the PM peak hour. However, these measures are within the jurisdiction of Caltrans and beyond the control of the City of Lathrop to implement without Caltrans approval. Furthermore, funding for the remaining share of the cost has not been secured. If Caltrans does not approve the proposed improvements and/or full funding is not secured, then the intersections would continue to operate at an unacceptable level of service, and the projects contribution to this impact would be **cumulatively considerable**. Due to the fact that the implementation of these measures is beyond the control of the City of Lathrop and that full improvement funding has not been secured, the impact is considered to be **significant and unavoidable.**

Lathrop Road/McKinley Avenue intersection: The Lathrop Road/McKinley Avenue intersection operates at LOS F during the PM peak period under Cumulative No project conditions. The addition of project traffic would exacerbate unacceptable LOS F conditions at this intersection and increase control delay during the PM peak hour by more than five seconds. This intersection satisfies the Peak Hour Signal Warrant for installation of traffic signal control under both cumulative scenarios.

Implementation of the improvements outlined in Mitigation Measure 3.14-11 would make the intersection operate at an acceptable LOS A with 10 seconds of delay in the AM peak hour and LOS B with 12 seconds of delay in the PM peak hour. However, the impact would remain **significant and unavoidable** and would be a **cumulatively considerable contribution** because funding the remaining share of the cost of this improvement has not secured.

Louise Avenue/McKinley Avenue intersection: The intersection of Louise Avenue/McKinley Avenue would operate unacceptably at LOS D and LOS F in the AM and PM peak hour, respectively, under Cumulative No project conditions. The addition of project traffic would exacerbate unacceptable operations and result in LOS E and LOS F conditions in the AM and PM peak hours, respectively.

Implementation of the improvements outlined in Mitigation Measure 3.14-12 would make the intersection operate at LOS C with 23 seconds of delay in the AM peak hour and LOS D with 54 seconds of delay in the PM peak hour. However, the impact would remain **significant and unavoidable** and would be a **cumulatively considerable contribution** because funding the remaining share of the cost of this improvement has not secured.

SR 120/Airport Way ramp-terminals intersections and Airport Way/Daniels Street intersection: The SR 120/Airport Way ramp-terminal intersections and Airport Way/Daniels Street intersections are projected to operate at unacceptable LOS F conditions during both peak hours under

Cumulative No project. The addition of project traffic would exacerbate unacceptable operations at these intersections.

Implementation of the improvements outlined in Mitigation Measure 3.14-13 would make the Airport Way/Daniels Street intersection operate at LOS C with 31 seconds of delay in the AM peak hour and LOS D with 53 seconds of delay in the PM peak hour. The SR 120 WB Ramps/Airport Way intersection would operate at LOS B with 13 seconds of delay in the AM peak hour and LOS D with 36 seconds of delay in the PM peak hour. The SR 120 EB Ramps/Airport Way intersection would operate at LOS B with 12 seconds of delay in the AM peak hour and LOS D with 42 seconds of delay in the PM peak hour. However, these measures are within the jurisdiction of Caltrans and City of Manteca and beyond the control of the City of Lathrop to implement without Caltrans and City of Manteca approval. Furthermore, funding for the remaining share of the cost has not been secured. If Caltrans and the City of Manteca do not approve the proposed improvements and/or full funding is not secured, then the intersections would continue to operate at an unacceptable level of service, and the project's contribution to this impact would be **cumulatively considerable**. Due to the fact that the implementation of these measures is beyond the control of the City of Lathrop and that full improvement funding has not been secured, the impact is considered to be **significant and unavoidable.**

SR 120 and I-5: The addition of project traffic would exacerbate unacceptable LOS in the AM and PM peak hours at 15 of the 23 study freeway facilities on SR 120.

Mitigation Measure 3.14-14 requires the payment of a Regional Traffic Impact Fee (RTIF), which will fund a portion of the improvements necessary to improve SR 120 to an acceptable LOS. The cumulative conditions analysis assumed the programmed widening of SR 120 from four to six lanes. These improvements are partially paid for with the RTIF. Without these assumed improvements, freeway operations would be worse than described. In addition, the commercial components of the SLSP will generate additional revenues through the Measure K sales, which helps fund SR 120 improvements.

Additional improvements, beyond widening the SR 120 mainline to six lanes, are not currently programmed. However, implementation of planned parallel arterial roadway improvements and system-wide operational improvements such as ramp metering and auxiliary lane improvements will benefit SR 120 mainline operation during peak travel periods. Operational improvements will be developed through coordination with Caltrans, SJCOG, and the local jurisdiction where the improvement is located. If the improvements and/or full funding is not secured, then SR 120 would continue to operate at an unacceptable level of service, and the project's contribution to this impact would be **cumulatively considerable**. Due to the fact that the implementation of these measures is beyond the control of the City of Lathrop and that full improvement funding has not been secured, the impact is considered to be **significant and unavoidable.**

UTILITIES

The cumulative setting would include all areas covered in the service areas of the City's wastewater system, water system, and stormwater system, as well as, the Lathrop Environmental Services, who is the provider of solid waste services in the City. 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 4.22: Cumulative Impact on Wastewater Utilities (Cumulatively Considerable and Significant and Unavoidable)

As described under Impact 3.15-1, although several wastewater disposal options exist, the timing of improvements associated with these facilities is unknown at this time. Construction of WRP-2 would provide sufficient wastewater treatment capacity to serve the SLSP project. However, WRP-2 does not currently exist, and it cannot be assured that treatment capacity at WRP-2 would be brought into service concurrently with demand generated by the SLSP. In addition, until further phases are constructed at WRP-1, treatment capacity at WRP-1 may not be sufficient to serve the SLSP and other development in the City. Because sufficient wastewater treatment capacity is not currently available to support the SLSP, this impact is considered significant. Mitigation Measure 3.15-1 requires that adequate treatment capacity be available prior to occupancy.

The Wastewater Treatment and Disposal Master Plan (WTDMP) projects new development would increase the total wastewater discharge to an average dry weather flow of approximately 11.9 million gallons per day (mgd) at build-out. The City has plans for upgrading the existing WRP-1-MBR to increase the treatment capacity, upgrade the treatment technology, and improve operational flexibility of the plant. With these improvements the WRP-1-MBR would have a treatment capacity of 3.12 mgd. The City also plans to construct a second water recycling plant (WRP-2) with a capacity of 3.12 mgd to accommodate anticipated growth. A total combined treatment capacity is planned by the City at buildout of 11.9 mgd through a combination of expansions at the WRP-1-MBR, WRP-2, WQCF and Crossroads POTW. The 11.9 mgd of capacity would be able to adequately serve the major planned development within the City and SOI. The City's current Wastewater Discharge Requirement (WDR) from the Central Valley RWQCB limits the treatment capacity of the City to 6.24 mgd.

The WTDMP identifies the steps needed to treat the City's wastewater under cumulative conditions; however WRP-2 of the wastewater treatment process has not been constructed at this time. While the project by itself does not exceed the existing capacity of the wastewater treatment plant, the SLSP in combination with future projects under buildout conditions would likely result in a deficit of capacity warranting improvements to increase treatment capacity. Each project that receives wastewater collection and treatment services is required to pay a connection fee, which serves as a project share of service expansion. However, it cannot be assumed that all potential environmental impacts associated with the development of the additional wastewater capacity and infrastructure required to serve these related projects would necessarily be mitigated to less than significant levels. For instance, development of the wastewater system within the Plan Area and Offsite, would contribute to the conversion of designated Important Farmland to

nonagricultural use. The loss of Important Farmland is considered a potentially significant environmental impact. Mitigation Measure 3.2-1 contained in Section 3.2 Agricultural Resources requires payment of fees to SJMSCP in order to fund the purchase of conservation easements on agricultural and habitat lands in the project vicinity. The conservation easements ensure protection of land for agricultural uses in perpetuity, although it does not result in the creation of new farmland. As such, the development of infrastructure within the Plan Area would contribute to the loss of Important Farmland which would be a significant and unavoidable impact.

While the payment of fees would reduce the fiscal impacts to wastewater services, this fee does not remove the potential environmental impact caused by the construction and operation of new wastewater facilities. Further, no feasible mitigation for these impacts can be determined at this time as the future treatment facilities have not been designed. Therefore, this would result in a **cumulatively considerable contribution** and a **significant and unavoidable** impact.

Impact 4.23: Cumulative Impact on Water Utilities (Cumulatively Considerable and Significant and Unavoidable

As described under Impact 3.15-4 in Section 3.15, the total projected water demand for the SLSP at buildout is estimated to be approximately 565 acre-feet per year (af/yr). According to the Water Supply Assessment completed for the SLSP, the City's existing and additional 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 SLSP, to the year 2035 under all hydrologic conditions. In addition, the SLSP anticipates the use of recycled water to provide irrigation for landscaped areas in order to reduce the demand for potable water.

Development of the water system within the Plan Area and Offsite, would contribute to the conversion of designated Important Farmland to nonagricultural use. The loss of Important Farmland is considered a potentially significant environmental impact. Mitigation Measure 3.2-1 contained in Section 3.2 Agricultural Resources requires payment of fees to SJMSCP in order to fund the purchase of conservation easements on agricultural and habitat lands in the project vicinity. The conservation easements ensure protection of land for agricultural uses in perpetuity, although it does not result in the creation of new farmland. As such, the development of infrastructure within the Plan Area would contribute to the loss of Important Farmland which would be a significant and unavoidable impact.

While the payment of fees would reduce the fiscal impacts to water services, this fee does not remove the potential environmental impact caused by the construction and operation of new water facilities. Therefore, this would result in a **cumulatively considerable contribution** and a **significant and unavoidable** impact.

Impact 4.24: Cumulative Impact on Stormwater Facilities (Cumulatively Considerable and Significant and Unavoidable)

As described under Impact 3.15-5 in Section 3.15, discharge rates are required to be limited to a maximum of 30 percent of the 100-year flow rate. Runoff from the Plan Area is anticipated to discharge to the San Joaquin River through a proposed outfall located near the

southwest corner of the Plan Area. The outfall is regional facility consistent with the City's Master Drainage Plan, which will also serve the Lathrop Gateway Business Park Specific Plan (LGBPSP) area and development area along the McKinley Corridor.

The City of Lathrop requires all development projects in the City to be consistent with the drainage regulations established in the Storm Water Development Standards Plan (SWDS). These standards have been developed in response to the requirements contained in its Municipal Separate Storm Water Sewer System (MS4) NPDES Permit. All drainage facilities will be constructed according to City standards. All drainage facilities for the SLSP will be developed on-site, except for a possible interim connection to the Crossroad outfall, and would not require the construction or expansion of existing City drainage facilities.

Development of the storm drainage system within the Plan Area and Offsite, would contribute to the conversion of designated Important Farmland to nonagricultural use. The loss of Important Farmland is considered a potentially significant environmental impact. Mitigation Measure 3.2-1 contained in Section 3.2 Agricultural Resources requires payment of fees to SJMSCP in order to fund the purchase of conservation easements on agricultural and habitat lands in the project vicinity. The conservation easements ensure protection of land for agricultural uses in perpetuity, although it does not result in the creation of new farmland. As such, the development of infrastructure within the Plan Area would contribute to the loss of Important Farmland which would be a significant and unavoidable impact.

While the payment of fees would reduce the fiscal impacts to water services, this fee does not remove the potential environmental impact caused by the construction and operation of new storm water facilities. Therefore, this would result in a **cumulatively considerable contribution** and a **significant and unavoidable** impact.

Impact 4.25: Cumulative Impact on Solid Waste Facilities (Less than Significant and Less than Cumulatively Considerable)

Solid waste generated in the City is disposed at the Foothill Landfill. This landfill is projected to close in the year 2082. The City's solid waste generation has decreased since 2007 due to the waste diversion efforts of the City. The permitted maximum disposal at the Foothill Landfill is 1,500 tons per day. Currently, the average daily disposal is 620 tons per day. The total permitted capacity of the landfill is 138 million cubic yards. The additional volume of solid waste generated by the SLSP is approximately 32.5 tons per day at total buildout. This total, which would be disposed of at the Foothill Landfill, would not exceed the landfill's remaining capacity. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to solid waste facilities would be a l**ess 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), requires that the EIR include a discussion of significant irreversible environmental changes which would be

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 SLSP would result in the conversion of approximately 315 acres of land currently used for agricultural and industrial uses for the development of industrial and commercial facilities. Development of the SLSP 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 original 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 SLSP 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 SLSP. The introduction of commercial and industrial to the Plan Area will result in an increase in area traffic over existing conditions. Fossil fuels are the principal source of energy and the SLSP 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 Plan Area.

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 3.2-1: The proposed project has the potential to result in the conversion of Farmlands, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, to non-agricultural uses
- Impact 3.3-1: Project operation has the potential to cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation
- Impact 3.11-1: The project would result in the loss of a known mineral resource that would be of value to the region
- Impact 3.11-2: The project would result in the loss of a locally important mineral resource recovery site delineated on a local general plan
- Impact 3.13-1: The proposed project has the potential to require the construction of fire department facilities which may cause substantial adverse physical environmental impacts
- Impact 3.14-1: Project implementation would result in a significant impact at the SR 120/Guthmiller Road unsignalized ramp-terminal intersections
- Impact 3.14-2: Project implementation would add traffic to the Yosemite Avenue/Airport Way intersection and result in unacceptable levels of service in the PM peak hour
- Impact 3.14-4: Project implementation would result in a significant impact to freeway facilities
- Impact 3.14-10: Under cumulative conditions, project implementation would exacerbate levels of service at the SR 120/Guthmiller Road ramp-terminal intersections
- Impact 3.14-12: Under cumulative conditions, project implementation would exacerbate cumulatively unacceptable levels of service at the Louise Avenue/McKinley Avenue intersection
- Impact 3.14-13: Under cumulative conditions, project implementation would exacerbate cumulatively unacceptable levels of service at the SR 120/Airport Way ramp-terminals intersections and the Airport Way/Daniels Street intersection
- Impact 3.14-14: Under cumulative conditions, project implementation would exacerbate cumulatively unacceptable levels of service on SR 120 and I-5
- Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region
- Impact 4.4: Cumulative Impact on Agricultural and Forest Resources
- Impact 4.13: Cumulative Impacts Related to Degradation of Groundwater Supply or Recharge
- Impact 4.17: Cumulative Impacts Resulting in the Loss of a Known Mineral Resource.
- Impact 4.21: Under cumulative conditions, project implementation would exacerbate levels of service at various traffic facilities within the study area

5.1 CEQA REQUIREMENTS

CEQA requires that an 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

As described in Chapter 2, the principal objective of the SLSP is the approval and subsequent implementation of the SLSP. Implementation would involve the development of potential uses under the land use designations of commercial office, limited industrial and open space.

The quantifiable objectives of the SLSP include the development of up to 222 acres of limited industrial, 10 acres of commercial office, 31.5 acres of open space, 36 acres of related public facilities and 15.5 acres of right-of-way at ultimate build out, with a projected potential of approximately 4,288,918 square feet of employment-generating development.

The SLSP has developed the following objectives:

- Commercial Office: Establish a core of regional and local serving business and commercial uses that capitalize upon the visibility and access provided by SR 120, and augment City sales tax revenue.
- Employment Opportunities: Provide for local and regional employment opportunities that take advantage of the Plan Area's high level of accessibility, allow for the expansion of the City's economic base, help create a jobs/housing balance, and reduce the commute for regional residents.
- Provide access to the San Joaquin River Trail, connecting to the City of Lathrop.
- Transportation: Provide an efficient circulation system that includes not only automobile transportation but also pedestrian, bicycle and public transit.
- Public Facilities and Services: Provide infrastructure and services that meet City standards, integrate with existing and planned facilities and connections and do not diminish services to existing residents of the City.
- Phasing: Establish a logical phasing plan designed to ensure that each phase of development would include necessary public improvements required to meet City standards.

- Environmental Mitigation: Create a "self-mitigating" plan that, to the extent practical incorporates environmental mitigation measures into project design.

- Economic Contribution: Strengthen the City's economic base through South Lathrop Specific Plan's job creation; development related investment; disposable income from future employees; and increased property, sales, and transient occupancy taxes.

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 SLSP. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the SLSP. No specific alternatives were recommended by commenting agencies or the general public during the NOP public review process.

5.2 ALTERNATIVES CONSIDERED IN THIS EIR

Four alternatives to the SLSP were developed based on input from City staff, the public during the NOP review period, and the technical analysis performed to identify the environmental effects of the SLSP. The alternatives analyzed in this EIR include the following four alternatives in addition to the SLSP.

- **No Build Alternative**: Under this alternative, development of the Plan Area would not occur, and the Plan Area would remain in its current condition.

- **No Project (General Plan Alternative):** This alternative would be a continuation of the Lathrop General Plan into the future. The Plan Area is listed as within the Sub Plan Area # 1 of the General Plan and has the General Plan land use designation of Limited Industrial.

- **Reduced Project Alternative:** Under this alternative, the Plan Area would be developed with the same components as described in the Project Description, but the area utilized for the industrial and commercial uses would be reduced.

- **Agriculture Protection Alternative:** Under this alternative, the SLSP would be developed in such a way to protect those lands currently identified as prime farmland and farmland of statewide importance.

NO BUILD ALTERNATIVE

Under the No Build Alternative development of the Plan Area would not occur, and the Plan Area would remain in its current existing condition. It is noted that the No Build Alternative would fail to meet the project objectives identified by the project applicant.

NO PROJECT (GENERAL PLAN ALTERNATIVE)

The CEQA Guidelines (Section 15126.6[e]) require consideration of a no project alternative that represents the existing conditions, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved. The CEQA Guidelines Section 15126.6 (e)(3)(A) explains that "When the project is the revision of an existing land use or regulatory plan, policy or ongoing operation the "no project" alternative will be the continuation of the existing plan, policy or operation into the future. Typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, the project impacts of the proposed plans would be compared to the impacts that would occur under the existing plan."

This alternative would conform to the land uses for the Plan Area as identified in the Lathrop General Plan. The General Plan land use map identifies the site as Light Industrial (LI). The General Plan allows buildings up to four stories in height and a building intensity of up to 90% site area coverage, excluding off-street parking and loading. Assuming that the No Project (General Plan Alternative) would have the same requirements for roads and stormwater/recycled water basin, and the same Floor Area Ratio (FAR) as the SLSP, this alternative would allow for a minimum of 1,653,102 square feet and a maximum of 7,163,443 square feet of light industrial uses. Using the SLSP's 0.43 FAR, this alternative would allow for 4,738,892 square feet of light industrial uses which is an increase over the SLSP's proposed 4,288,918 square feet of combined commercial (130,680 sf) and industrial (4,158,238 sf) square footage. Additionally, the No Project (General Plan Alternative) would not include any river levee/park areas or commercial development as proposed under the SLSP because they are not required under the General Plan.

Table 5.0-1: General Plan Alternative Land Use

LAND USE	*ACREAGE (NET)* [1]	*TOTAL SQ. FT. PER LAND USE*	*FAR RANGE*	*MIN. SQ. FT.*	*SQ. FT. AT 0.43 FAR*	*MAX. SQ. FT.*
Commercial Office (CO)	0	0	0	0	0	0
Limited Industrial (LI)	253	11,020,680	.15 to .65	1,653,102	4,738,892	7,163,442
Open Space *River/Levee Park* *River*	*0* *10.5*					
Public/Quasi Public Facilities (Recycled/Storm Water Basin)	36					
Subtotal	299.5					
Existing Roads[2]	5					
Major Roads[2]	10.5					
TOTAL	**315**					

[1] *NET ACREAGE DOES NOT INCLUDE EXISTING/MAJOR ROADWAYS*
[2] *Major and existing roads include pedestrian and bicycle multi-use paths within the right-of-way*

REDUCED PROJECT ALTERNATIVE

Under this alternative, the SLSP would be developed with the same components as described in the Project Description, but the size of the buildings would be reduced resulting in an increase of open space/ parkland. The total acreage dedicated to industrial and commercial uses would be reduced by approximately 1/3, which would result in smaller building footprints.

Table 5.0-2: Reduced Project Alternative Land Use

LAND USE	*ACREAGE (NET)* [1]	*TOTAL SQ. FT. PER LAND USE*	*FAR RANGE*	*FAR TARGET*	*MAX. SQ. FT.*
Commercial Office (CO)	7	304,920	.20 to .60	.30	91,476
Limited Industrial (LI)	148	6,446,880	.15 to .65	.43	2,772,158
Open Space (OS) *River/Levee Park* *River*	 *98* *10.5*				
Public/Quasi Public Facilities (Recycled/Storm Water Basin)	36				
Subtotal	299.5				
Existing Roads[2]	5				
Major Roads[2]	10.5				
TOTAL	**315**				**2,863,634**

As shown in Table 5.0-2, the Reduced Project Alternative results in:

- A total commercial square footage of 91,476. This represents a reduction of 39,204 sq. ft. when compared to the SLSP (130,680 sq. ft.).
- A total industrial square footage of 2,772,158. This represents a reduction of 1,386,080 sq. ft. when compared to the SLSP (4,158,238 sq. ft.).
- An increase of 77 acres of River/Levee Park resulting in a total of 98 acres (the SLSP has 21 acres).
- All other aspects (roads and public/quasi public facilities) remain the same as the SLSP.

AGRICULTURE PROTECTION ALTERNATIVE

The reasoning behind this alternative is to present an alternative to protect some of the farmland in the Plan Area. Development of the SLSP would result in the permanent conversion of roughly 161 acres of Prime Farmland or Farmland of Statewide Importance on the Southchase LTD property (APN 241-030-013)[1], and 63 acres of Farmland of Local Importance on the HCW Lathrop Investors LLC property (APN 241-020-070), 37 acres on the Warm Springs Investments LP property (APN 241-410-007), one acre on the Keeney property (APN 241-410-039), and nine acres on the Bottini properties (APNs 241-410-041 and 042). This amounts to approximately 271 acres of farmland. However, if all of this land were removed from the Plan Area, the SLSP would no longer be viable as it would only leave 44 acres, 10.5 of which are river, for development. As

[1] The properly has areas of both Prime farmland and Farmland of Statewide Importance.

Such, only the Prime Farmland or Farmland of Statewide Importance acreage will be removed for this alternative. Table 5.0-3 shows the resulting land uses.

Table 5.0-3: Agriculture Protection Alternative Land Use

LAND USE	*ACREAGE (NET)* [1]	*TOTAL SQ. FT. PER LAND USE*	*FAR RANGE*	*FAR TARGET*	*MAX. SQ. FT.*
Commercial Office (CO)	10	435,600	.20 to .60	.30	130,680
Limited Industrial (LI)	76	3,310,560	.15 to .65	.43	1,423,541
Reserved Agriculture	161				
Open Space (OS) *River/Levee Park* *River*	 *21* *10.5*				
Public/Quasi Public Facilities (Recycled/Storm Water Basin)	21				
Subtotal	299.5				
Existing Roads[2]	5				
Major Roads[2]	10.5				
TOTAL	**315**				**1,554,221**

Note: This is based on the SLSP site layout. Approximately 15 acres of Public/Quasi public Facilities and 146 acres of Industrial were retained as agricultural land. All from parcel APN 241-030-013.

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 5.0-13 summarizes the comparative effects of each alternative.

NO BUILD ALTERNATIVE

Aesthetics and Visual Resources

The No Build Alternative would leave the Plan Area in its existing state and would not result in increases in daytime glare or nighttime lighting. The visual character of the Plan Area would not change under this alternative compared to existing conditions.

As described in Section 3.1, although the visual character of the Plan Area would be significantly altered as a result of project implementation, the guidelines and standards within the SLSP would ensure consistent development that is in line with the City's vision for the community's identity. Implementation of the design guidelines and standards in the SLSP would ensure that impacts to visual resources would be less than significant.

Implementation of the lighting and design standards in the SLSP would ensure that SLSP lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the design requirements in the SLSP and the subsequent design review of future projects within the Plan Area would ensure that excessively reflective building materials are not used, and that the SLSP would not result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant.

The SLSP would not result in potentially significant new sources of light and glare. The SLSP would also not result impacts to the existing visual character or quality of the Plan Area and its surroundings. However, the No Build Alternative would avoid these impacts altogether and would have less of an impact than the SLSP on aesthetics and visual resources.

Agricultural and Forest Resources

Currently, portions of the Plan Area are used for agricultural purposes. There are no forest resources in the area. The No Build Alternative would result in no development in the Plan Area. 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. This would have less impact to agricultural resources than the SLSP.

Air Quality

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 $PM_{2.5}$ and is either unclassified or attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone 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, the SLSP would result in increased emissions primarily from vehicle miles travelled associated with project implementation. The SJVAPCD has established operations related emissions thresholds of significance and it was determined that annual emissions of ROG, NOx, and PM_{10} exceed the SJVAPCD thresholds of significance.

The main source of pollution can be contributed to mobile source emissions for ROG and NOx. Area source emissions or ROG are also a major source of pollution causing the exceedance. Fugitive dust is the primary cause of the PM_{10} exceedance. Even with basic mitigation incorporated into the model, the SLSP would exceed the SJVAPCD thresholds of significance for operations.

The SLSP is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NOx and PM emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through project mitigation commitments. The current fees are $9,350 per ton of NOx and $9,011 per ton per of PM. The actual calculations will be accomplished by the SJVAPCD and project applicants as individual projects (i.e. portions of the Specific Plan) are brought forward for approval under Rule 9510.

Under the No Build Alternative, the Plan Area 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 significantly reduced when compared to the SLSP.

Biological Resources

As described in Section 3.4 Biological Resources, construction in the Plan Area has the potential to result in impacts to special-status species in the region. There are no known special-status species that have been observed in the Plan Area although there is sensitive habitat in the riparian area along the San Joaquin River. The riparian habitat has been set aside as open space to preserve the biological functions that they provide for the region. 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 SLSP 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. As such, implementation of the SLSP will have a less than significant impact.

Under the No Build Alternative, the SLSP would not be constructed, no habitat would be removed, no wetlands disturbed, and no ground disturbing activities would occur. Therefore, potential for impacts to biological resources would be eliminated under the No Build Alternative.

Cultural Resources

As described in Section 3.5, during the field surveys conducted in the Plan Area, historical and prehistorical resources were identified. Two resources, CA-SJP-313H and P39-004604, and associated artifacts and features were identified in the Plan Area. However, the cultural resources identified in the Plan Area are not eligible for listing based on the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHP) criteria. As with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or historical resource or human remains. Implementation of mitigation measures in Section 3.5 would reduce unknown cultural resources impacts to a less than significant level.

The No Build Alternative would result in no ground disturbing activities related to the SLSP and would not have the potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. While the SLSP is not anticipated to result in significant impacts to cultural resources with mitigation, the No Build Alternative would result in less potential for impacts to cultural resources as the entire Plan Area would be used for agriculture production.

Geology and Soils

The No Build Alternative would result in the Plan Area remaining in its existing condition. There are currently structures in the Plan Area that are subject to seismic or geologic risks, including earthquakes, liquefaction, subsidence, etc. However, the No Build Alternative would not involve new construction that could be subject to seismic, geologic or soils hazards, thus this alternative would have no potential for impact. As such, this alternative would have less impact relative to the SLSP.

Greenhouse Gases and Climate Change

As stated previously, 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 SLSP. With mitigation measures, the overall annual GHG emissions associated with the SLSP would be reduced by over 36.3 percent by the year 2020 compared to the business as usual scenario, consistent with applicable standards and thresholds of a 29 percent reduction. Because the SLSP would meet the City's 29 percent minimum reduction threshold, the SLSP would not hinder the State's ability to reach the GHG reduction target. Overall, the SLSP would be consistent with the reduction targets established by the Scoping Plan and the APCD. Based on the criteria set forth in the APCD's Climate Change Action Plan, the SLSP would have an individual and cumulative impact that is less than significant.

Under the No Build Alternative, the Plan Area 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 significantly reduced when compared to the SLSP.

Hazards and Hazardous Materials

The SLSP includes components which will likely use a variety of hazardous materials including: paints, cleaners, and cleaning solvents, relatively large quantity of pesticides, fertilizers, and fuel. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by San Joaquin County Department of Environmental Health. Additionally, there are septic tank and domestic water supply wells in the Plan Area. These must be upgraded or abandoned according to the San Joaquin County Department of Environmental Health standards. Implementation of mitigation measures 3.8-1 through 3.8-4 are intended to reduce the potential for an impact to a less than significant level.

Under the No Build alternative, no new land uses would be introduced to the Plan Area, and the potential for hazardous material release in the Plan Area would be eliminated. As such, this alternative would have less impact relative to the SLSP.

Hydrology and Water Quality

As described in Section 3.9, implementation of the SLSP has the potential to result in the violation of water quality standards and waste discharge of pollutants into surface waters during

both construction and long-term operations. 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 SLSP could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. Mitigation measures provided in Section 3.9 reduce potential water quality impacts to a less than significant level. The SLSP would not impact groundwater recharge or place persons or structures in a flood hazard zone.

Under the No Build Alternative, potential water quality impacts from construction and operation of the SLSP would be eliminated. While groundwater recharge is not considered a significant impact under the SLSP, under this alternative, the land will be kept in its present state with the majority of the Plan Area either fallow land or being used for agricultural purposes. The soil in the Plan Area is not considered optimal for groundwater recharge; however the No Build Alternative will have a greater chance of groundwater recharge because it does not introduce large areas of impervious surfaces as would the SLSP. As such, potential impacts related to hydrology and water quality would be reduced under the No Build Alternative when compared to the SLSP.

Land Use and Population

The No Build Alternative would not require a change of the General Plan land use designations. While the analysis in Section 3.10 concluded that the proposed General Plan amendments will ensure the SLSP's consistency with the City's General Plan land use requirements and would not result in any significant land use impacts, the No Build Alternative would result in no changes to land use. Therefore, the No Build Alternative would have less potential for plan inconsistencies and associated impacts than the SLSP. The SLSP is not expected to induce substantial population increase that has not already been accounted for as a part of approved residential developments in the City of Lathrop and vicinity. The SLSP does not displace persons or remove housing units.

Mineral Resources

Section 3.11 discusses the SLSP's impact on mineral resources. This analysis determined that the SLSP would have a significant and unavoidable impact to mineral resources based on the loss of a State identified aggregate used in the production of Portland cement concrete (PCC). No mitigation for this loss is feasible while being able to still implement the SLSP.

The No Build Alternative would not result in the loss of this important mineral and while it is currently not being mined, its availability would still exist if needed in the future. Therefore, the No Build Alternative would have less impact on mineral resources.

Noise

As described in Section 3.12, commercial office uses are not generally considered to be a significant noise generating use. However, the SLSP could increase noise-generating activities

associated with the maintenance and operation of the proposed industrial areas. The specific businesses that would occupy the Plan Area are not yet determined therefore an actual noise impact from industrial uses may or may not exist in the future. Mitigation measures provided in Section 3.12 would reduce the potential impact to a less than significant level.

Under the No Build Alternative, the Plan Area would not be developed and there would be no potential for new noise sources. As such, this alternative would have less impact relative to the SLSP.

Public Services and Recreation

Under the No Build Alternative the Plan Area would remain undeveloped. As described in Section 3.13, implementation of the SLSP would result in a significant and unavoidable impact as a result of the need for an additional fire station to serve the SLSP. The construction of new fire facilities in order to serve the SLSP within the City's and LMFPD response time standard would be required. This fire station has been needed to serve areas of the City which are currently underserved for a number of years and is not solely needed for the SLSP. The City's Capital Facilities Fee, in part, assists in the development of a new fire station. Development in the SLSP will pay all applicable fire service fees and assessments required to fund its fair share of LMFPD facilities and services. This funding would assist in the development of fire facilities in order to meet the City's and LMFPD response time standards. The funding of the station is not, however, a physical impact to the environment as defined in CEQA. While this funding may provide the financial assistance needed for a new station, it does not identify or reduce any potential environmental impacts caused by the construction of a new fire station. The impacts associated with a new fire station cannot be fully assessed at this time as a location for a fire station has not been determined.

The SLSP would have a less than significant or no impact to police, school or recreational facilities. The SLSP provides an additional 21 acres of River Levee/Park facilities to the City's existing parkland, which would be a beneficial impact.

Under the No Build Alternative, there would be no increased demand for police, fire and other public services but alternatively, no increased recreational facilities and opportunities for City residents would be provided. Additionally, while there would be no increase in demand for fire, the need for a fire station to serve the area still exists based on the presence of existing and approved projects. Therefore, the No Build Alternative would have slightly less demand on public services compared to the SLSP with the possible exception of recreational facilities.

Traffic and Circulation

The No Build Alternative would not introduce additional vehicle trips onto the study area roadways. As described in Section 3.14, implementation of the SLSP would cause an increase in traffic on roadways or intersections that would cause traffic operations to degrade to an unacceptable level of service. Two of these intersections, SR 120/Guthmiller Road and Yosemite Avenue/Airport Way, and freeway facilities on SR 120 result in significant and unavoidable impacts. Additionally, implementation of the SLSP would result in inadequate emergency vehicle

access. Implementation of the SLSP would cause significant and unavoidable impacts under Cumulative Plus Project conditions at the SR 120/Guthmiller Road ramp-terminal intersections, the Louise Avenue/McKinley Avenue intersection, the SR 120/Airport Way ramp-terminals intersections and the Airport Way/Daniels Street intersection. Additionally, implementation of the SLSP would cause significant and unavoidable impacts under cumulative conditions for SR 120 and I-5. Under the No Build Alternative, these potential impacts would be avoided, and the No Build Alternative would have less of an overall traffic impact than the SLSP.

Utilities

Implementation of the SLSP would result in impacts to the public wastewater system. However mitigation measures provided in Section 3.15 would reduce these impacts to a less than significant level. Project impacts to water, stormwater and solid waste facilities are all less than significant.

Under the No Build Alternative the Plan Area would continue to have the existing 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 Build Alternative when compared to the SLSP.

NO PROJECT (GENERAL PLAN ALTERNATIVE)

Aesthetics and Visual Resources

As described in Section 3.1, although the visual character of the Plan Area would be significantly altered as a result of project implementation, the guidelines and standards within the SLSP would ensure consistent development that is in line with the City's vision for the community's identity. Implementation of the design guidelines and standards in the SLSP would ensure that impacts to visual resources would be less than significant. Additionally, implementation of the lighting and design standards in the SLSP would ensure that SLSP lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. As such, impacts related to nighttime lighting and daytime glare would be less than significant.

The No Project (General Plan Alternative) is located on the same site and has similar uses when compared to the SLSP. While the density of urban development may be greater, the overall aesthetics of the Plan Area would be the same under this alternative when compared to the SLSP.

Agricultural and Forest Resources

Currently, portions of the Plan Area are used for agricultural purposes. There are no forest resources in the Plan Area.

The No Project (General Plan Alternative) would result in the same land disturbances as the SLSP and therefore agricultural resource impacts would be the same. The No Project (General Plan Alternative) would have the same significant and unavoidable impacts on agricultural resources as the SLSP.

Air Quality

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 $PM_{2.5}$ and is either unclassified or attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone 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, the SLSP would result in increased emissions primarily from vehicle miles travelled associated with project implementation. The SJVAPCD has established operations related emissions thresholds of significance and it was determined that annual emissions of ROG, NOx, and PM_{10} exceed the SJVAPCD thresholds of significance.

The main source of pollution can be contributed to mobile source emissions for ROG and NOx. Area source emissions or ROG are also a major source of pollution causing the exceedance. Fugitive dust is the primary cause of the PM_{10} exceedance. Even with basic mitigation incorporated into the model, the SLSP would exceed the SJVAPCD thresholds of significance for operations.

The SLSP is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NOx and PM emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through project mitigation commitments. The current fees are $9,350 per ton of NOx and $9,011 per ton per of PM. The actual calculations will be accomplished by the SJVAPCD and project applicants as individual projects (i.e. portions of the Specific Plan) are brought forward for approval under Rule 9510.

Under the No Project (General Plan Alternative), the Plan Area would have the potential for up to 7,163,442 square feet of industrial uses. This is much more than the 4,158,238 square feet of industrial under the SLSP. Even if this alternative uses the same FAR as the SLSP, which would result in 4,738,892 square feet of industrial uses, the industrial square footage is almost 600,000 square feet larger. While industrial uses in the No Project (General Plan Alternative) would be required to adhere to the same mitigation measure as the SLSP, the increase in square footage increases the total air emissions. As such, the air quality impact is greater than the SLSP.

Biological Resources

As described in Section 3.4 Biological Resources, construction in the Plan Area has the potential to result in impacts to special-status species in the region. There are no known special-status species that have been observed in the Plan Area although there is sensitive habitat in the riparian area along the San Joaquin River. The riparian habitat has been set aside as open space to preserve the biological functions that they provide for the region. 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 SLSP 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. As such, implementation of the SLSP will have a less than significant impact.

The No Project (General Plan Alternative) would result in the same land disturbances as the SLSP and therefore biological resource impacts would be the same. The No Project (General Plan Alternative) would have the same potential to disturb biological resources as the SLSP.

Cultural Resources

As described in Section 3.5, during the field surveys conducted in the Plan Area, historical and prehistorical resources were identified. However, the cultural resources identified in the Plan Area are not eligible for listing based on the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHP) criteria. As with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or historical resource or human remains. Implementation of mitigation measures in Section 3.5 would reduce unknown cultural resources impacts to a less than significant level.

The No Project (General Plan Alternative) would result in the same land disturbances as the SLSP and therefore cultural resource impacts would be the same. The No Project (General Plan Alternative) would have the same potential to disturb undiscovered cultural resources as the SLSP.

Geology and Soils

As described in Section 3.6, implementation of the SLSP would result in the construction of new commercial and industrial structures in the Plan Area, which has limited potential for liquefaction and lateral spreading, would result erosion both during construction and operation, and would place structures on expansive soils. Mitigation measures identified in Section 3.6 would reduce the potential impacts to a less than significant level.

Under the No Project (General Plan Alternative), the proposed construction and improvements would remain in the same location as the SLSP and associated potential geologic and soils impacts will be identical. While the SLSP is not anticipated to result in significant impacts from geology and soils with mitigation, the No Project (General Plan Alternative) would result in the same potential for impacts when compared to the SLSP.

Greenhouse Gases and Climate Change

As stated previously, 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 SLSP. With mitigation measures, the overall annual GHG emissions associated with the SLSP would be reduced by over 36.3 percent by the year 2020 compared to the business as usual

scenario, consistent with applicable standards and thresholds of a 29 percent reduction. Because the SLSP would meet the City's 29 percent minimum reduction threshold, the SLSP would not hinder the State's ability to reach the GHG reduction target. Overall, the SLSP would be consistent with the reduction targets established by the Scoping Plan and the APCD. Based on the criteria set forth in the APCD's Climate Change Action Plan, the SLSP would have an individual and cumulative impact that is less than significant.

Under the No Project (General Plan Alternative), the Plan Area would have the potential for up to 7,163,442 square feet of industrial uses. This is much more than the 4,158,238 square feet of industrial under the SLSP. Even if this alternative uses the same FAR as the SLSP, which would result in 4,738,892 square feet of industrial uses, the industrial square footage is almost 600,000 square feet larger. While industrial uses in the No Project (General Plan Alternative) would be required to adhere to the same mitigation measure as the SLSP, the increase in square footage increases the total greenhouse gas emissions. As such, the greenhouse gas emissions impact is greater than the SLSP.

Hazards and Hazardous Materials

The SLSP includes components that will likely use a variety of hazardous materials including: paints, cleaners, and cleaning solvents, relatively large quantity of pesticides, fertilizers, and fuel. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by San Joaquin County Department of Environmental Health. Additionally, there are septic tank and domestic water supply wells in the Plan Area. These must be upgraded or abandoned according to the San Joaquin County Department of Environmental Health standards. Implementation of Mitigation Measures 3.8-1 through 3.8-4 would reduce the potential for an impact to a less than significant level.

Under the No Project (General Plan Alternative), the Plan Area would have the potential for up to 7,163,442 square feet of industrial uses. This is much more than the 4,158,238 square feet of industrial under the SLSP. Even if this alternative uses the same FAR as the SLSP, which would result in 4,738,892 square feet of industrial uses, the industrial square footage is almost 600,000 square feet larger. While industrial uses in the No Project (General Plan Alternative) would be required to adhere to the same hazardous materials regulations as the SLSP, the increase in square footage increases the potential for hazardous material spills. As such, while the chance of a hazardous material release may be mitigated to a less than significant level for this alternative, the potential for hazards and hazardous materials impacts is greater than the SLSP.

Hydrology and Water Quality

As described in Section 3.9, implementation of the SLSP has the potential to result in the violation of water quality standards and waste discharge of pollutants into surface waters during both construction and long-term operations. 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 SLSP could result in long-term impacts to surface water quality from urban stormwater runoff which could enter groundwater or surface water systems. Mitigation measures provided in Section 3.9 reduce potential water quality impacts to a less than significant level. The SLSP would not impact groundwater recharge or place persons or structures in a flood hazard zone.

Under the No Project (General Plan Alternative), potential impacts to water quality or waste discharge from construction and long-term operations related to stormwater runoff would be similar to the SLSP because this alternative is of a similar use when fully developed as the SLSP. This alternative would be subject to the same water quality requirements of the City, County and State. However, because the No Project (General Plan Alternative) has the potential for greater industrial square footage, the potential for hazardous chemical spillage is greater. Potential spills could end up in water resources in the area if not properly treated. As a result, potential impacts related to hydrology and water quality would be greater for the No Project (General Plan Alternative) when compared to the SLSP.

Land Use and Population

The analysis in Section 3.10 concluded that the proposed General Plan amendments will ensure the SLSP's consistency with the City's General Plan land use requirements and would not result in any significant land use impacts. The SLSP would require an annexation of the Plan Area by the City. The SLSP is not expected to induce a substantial the population increase that has not already been accounted for as a part of the existing and approved residential developments in the vicinity. The SLSP does not displace persons or remove housing units.

The No Project (General Plan Alternative) would not require a General Plan amendment to change the land use designations; however, this alternative would still require an annexation of the Plan Area by the City. This alternative would be consistent with the General Plan land uses and therefore would have less potential for impact to land uses. The No Project (General Plan Alternative) would have the same impact to population and housing as the SLSP as it has similar development attributes and would not displace persons or remove housing units.

Mineral Resources

Section 3.11 discusses the SLSP's impact on mineral resources. This analysis determined that the SLSP would have a significant and unavoidable impact to mineral resources based on the loss of a State identified aggregate use in the production of Portland cement concrete (PCC). No mitigation for this loss is feasible while being able to still implement the SLSP.

The No Project (General Plan Alternative) would have the same result in the loss of this important mineral as the Plan Area would be fully developed for industrial uses, thereby not allowing for the mining of the mineral resource. This alternative would have the same impact on mineral resources as the SLSP.

Noise

As described in Section 3.12, commercial office uses are not generally considered to be noise generating. However, the SLSP would increase noise-generating activities associated with the maintenance and operation of the proposed industrial areas. Mitigation measures provided in Section 3.12 would reduce the impact to a less than significant level. The SLSP would result in less than significant levels of noise or vibrations impacts due to construction and operational noise.

As this alternative allows for a greater development of industrial square footage than that of the SLSP, the potential for industrial noise impacts is increased. An increased square footage may also result in more truck pickups, deliveries and idling which may increase noise levels in the Plan Area. Noise level increases could affect the existing Oakwood Lakes subdivision residential uses located south of the Plan Area. This alternative would require mitigation for industrial and truck noise similar to the SLSP as required by noise standards. All other noise issues would be similar to the SLSP. Therefore, under this alternative, noise impacts are greater when compared to the SLSP.

Public Services and Recreation

As described in Section 3.13, implementation of the SLSP would result in a significant and unavoidable impact as a result of the need for an additional fire station to serve the SLSP. The construction of new fire facilities in order to serve the SLSP within the City's and LMFPD response time standard would be required. This fire station has been needed to serve areas of the City which that have been underserved for a number of years and is not solely needed for the SLSP. The City's Capital Facilities Fee, in part, assists in the development of a new fire station. Development in the SLSP will pay all applicable fire service fees and assessments required to fund its fair share of LMFPD facilities and services. This funding would assist in the development of fire facilities in order to meet the City's and LMFPD response time standards. The funding of the station is not, however, a physical impact to the environment as defined in CEQA. While this funding may provide the financial assistance needed for a new station, it does not identify or reduce any potential environmental impacts caused by the construction of a new fire station. The impacts associated with a new fire station cannot be fully assessed at this time as a location for a fire station has not been determined.

The SLSP would have a less than significant or no impact to police, school or recreational facilities. The SLSP provides an additional 21 acres of River Levee/Park facilities to the City's existing parkland. This would be a beneficial impact.

Under the No Project (General Plan Alternative), the Plan Area would still require fire protection and would necessitate the need for a new fire station. Similar to the SLSP, this alternative would fund its fair share of the new fire station but it would not be guaranteed that a fire station could be built prior to the alternative being developed. As such, this alternative would result in a significant and unavoidable impact similar to the SLSP.

While the No Project (General Plan Alternative) has the potential to result in a greater amount of industrial uses, police levels of service (LOS) are based on residential population and would be largely the same as the SLSP. This alternative would have no impact to schools or parks as it does not increase population. This alternative does not provide the beneficial impact of additional open space for the city. Overall, this alternative would have greater demand for public services when compared to the SLSP.

Traffic and Circulation

As described in Section 3.14, implementation of the SLSP would cause an increase in traffic on roadways or intersections that would cause traffic operations to degrade to an unacceptable level of service. Two of these intersections, SR 120/Guthmiller Road and Yosemite Avenue/Airport Way, and freeway facilities on SR 120 result in significant and unavoidable impacts. Additionally, implementation of the SLSP would result in inadequate emergency vehicle access. Implementation of the SLSP would cause significant and unavoidable impacts under Cumulative Plus Project conditions at the SR 120/Guthmiller Road ramp-terminal intersections, the Louise Avenue/McKinley Avenue intersection, the SR 120/Airport Way ramp-terminals intersections and the Airport Way/Daniels Street intersection. Additionally, implementation of the SLSP would cause significant and unavoidable impacts under cumulative conditions for SR 120 and I-5.

The traffic analysis completed for the SLSP is based on the commercial and industrial square footage proposed for the SLSP. According to the traffic analysis, the SLSP's industrial uses would amount to 7,121 daily vehicle trips (see Table 3.14-9) and 3,221 vehicle trips related to the commercial uses. This alternative would result in the construction of no commercial facilities but approximately 580,654 square feet more of industrial uses. Using the High Cube Warehouse/General Light Industrial square footage ratios and peak hour trip rates shown in Table 3.14-9 of Section 3.14, a rough estimate of peak hour and daily trips can be made for the No Project (General Plan Alternative). This estimate is shown in Table 5.0-4 below.

TABLE 5.0-4: NO PROJECT (GENERAL PLAN ALTERNATIVE) TRIP GENERATION

LAND USE	*QUANTITY (1,000 SQ. FT.)*	*ITE LAND USE CODE*	*PEAK HOUR TRIP RATE*			*TRIPS*		
			AM	*PM*	*DAILY*	*AM PEAK HOUR*	*PM PEAK HOUR*	*DAILY*
High Cube Warehouse	3,526	152	0.17	0.18	1.44	599	635	5,077
General Light Industrial	1,213	110	0.44	0.42	3.02	534	509	3,663
Shopping Center	0	820	1	3.73	42.94	-	-	-
Total	4,739				Gross Trips	**1,133**	**1,144**	**8,741**

Note: this is just a rough estimate and only used for comparative analysis. All calculations are based on a FAR of 0.43 and rates shown in Table 3.14-9.

As shown in Table 5.0-4, the General Plan Alterative would produce 8,741 daily trips (the SLSP produces a total of 10,342 daily trips), 1,601 less trips than the SLSP. This is largely a result of replacing the commercial, which has a larger trip rate, with the industrial, which has a lesser trip

rate. Based on this analysis, this alternative would have less impact to traffic when compared to the SLSP.

Utilities

Implementation of SLSP would result in impacts the public wastewater system. However mitigation measures provided in Section 3.15 would reduce these impacts to a less than significant level. SLSP impacts to water, stormwater and solid waste facilities are all less than significant.

The No Project (General Plan Alternative) would increase potential industrial square footage in the Plan Area. This increase would also increase the amount of wastewater coming from the Plan Area which would increase the demand for wastewater treatment and disposal. The demand factors identified in Table 3.15-5 in Section 3.15 were used to calculate the wastewater demand for the No Project (General Plan Alternative). It was determined that the No Project (General Plan Alternative) would produce 227,700 gallons per day (gpd) of wastewater. This is 15,900 gpd more than the SLSP.

TABLE 5.0-5: WASTEWATER DEMAND COMPARISON

LAND USE DESCRIPTION	*AVERAGE DEMAND FACTOR (GPD/AC)*	*No Project (General Plan Alternative)*		*SLSP Project*	
		ACRES	*AVERAGE DEMAND (GPD)*	*ACRES*	*AVERAGE DEMAND (GPD)*
Commercial Office	1,200	0	0	10	12,000
Limited Industrial	900	253	227,700	222	199,800
Public/Quasi-Public	0	36	0	36	0
Open Space	0	10.5	0	31.5	0
Major Roads (ROW)	0	15.5	0	15.5	0
Total		315	227,700	315	211,800

Additionally, the increase of industrial uses would raise the demand for water. Table 5.0-6 shows the water demand for the No Project (General Plan Alternative) based on the water demand factor identified in Table 3.15-16 in Section 3.15. As shown in Table 5.0-6, while the No Project (General Plan Alternative) has less open space and commercial acres, it will demand more water than the SLSP.

TABLE 5.0-6: PROJECTED WATER DEMAND COMPARISON

LAND USE TYPE	WATER DEMAND FACTOR[a]	No Project (General Plan Alternative)			SLSP PROJECT		
		ACRES	AVERAGE DEMAND (GPD)	Annual Water Demand, AFY[b]	ACRES	AVERAGE DEMAND (GPD)	ANNUAL WATER DEMAND, AFY[b]
Commercial Office	1,500 gpd/AC[c]	0	0	0	10	15,000	17
Limited Industrial	2,000 gpd/AC[c]	253	506,000	567	222	444,000	497
Open Space	311 gpd/AC[c]	10.5	3,266	4	31.5	9,797	11
Sub-Total Water Demand			509,266	571		468,797	525
Unaccounted-for Water[d]			35,286	40		35,286	40
Total Water Demand			*544,552*	*611*		*504,083*	*565*

Note: (a) Same Unit Water Demands used to calculate demands for Table 9 from the City of Lathrop 2005 Urban Water Management Plan, October 2009. Source documents for these Unit Water Demands are 2001 Master Plan Documents (see Tables 3-11), and Water Supply Study (see Table 20). (b) AFY = Acre-Feet per Year. (c) gpd/AC = gallons per day per acre. (d) Based on 7 percent of total water production (see 2010 UWMP Section 4.0, last paragraph).

The No Project (General Plan Alternative) could result in up to 17,470 tons of solid waste per year compared to 11,854 tons from the SLSP. The difference is almost 5,500 more tones of solid waste per year. The No Project (General Plan Alternative), like the SLSP, has flexibility in the total square footage developed based on the FAR requirements. Table 5.0-7 below presents the solid waste generation under variable square footage scenarios.

TABLE 5.0-7: SOLID WASTE PROJECTION

LAND USE	MEDIAN EMPLOYEE/SF*	SOLID WASTE/EMPLOYEE (LBS/DAY)	SQUARE FOOTAGE	TOTAL EMPLOYEES	TOTAL SOLID WASTE	
					TONS/DAY	TONS /YR
NO PROJECT (GENERAL PLAN ALTERNATIVE)						
Low Rise Office	1 emp/415 sf	29.8	0	0	0	0
Light Industrial	1 emp/2230 sf	29.8	1,653,102	741	11	4,032
			4,738,892	2,125	32	11,557
			7,163,442	3,212	48	17,470
SLSP PROJECT						
Low Rise Office	1 emp/415 sf	29.8	130,680	1,315	4.7	1,713
Light Industrial	1 emp/2230 sf	29.8	4,158,238	1,865	27.8	10,141
TOTAL				2,180	32.5	11,854

Impacts to stormwater facilities are assumed to be similar to those of the SLSP as development would cover the entire Plan Area under either alternative.

Overall, this alternative would have more wastewater treatment demand, more water demand, and more solid waste generation when compared to the SLSP. . Stormwater demand would be

the same under both alternatives. The No Project (General Plan Alternative) would place more demand on utilities and as such, it would have a greater impact result as the SLSP in this area.

REDUCED PROJECT ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1, although the visual character of the Plan Area would be significantly altered as a result of SLSP implementation, the guidelines and standards within the SLSP would ensure consistent development that is in line with the City's vision for the community's identity. Implementation of the design guidelines and standards in the SLSP would ensure that impacts to visual resources would be less than significant. Additionally, implementation of the lighting and design standards in the SLSP would ensure that SLSP lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. As such, impacts related to nighttime lighting and daytime glare would be less than significant.

These impacts would be similar with the Reduced Project Alternative as this alternative is located on the same site and has similar uses. This alternative would reduce the building square footage, and reduce the acreage by 1/3. The impacts of light and glare would still occur and could be mitigated to a less than significant level. The impacts to the existing visual quality would be similar as the Plan Area would be developed with the same uses as under the SLSP, just on a smaller scale and on slightly less acreage. The Reduced Project Alternative would have a slightly less impact on visual resources when compared to the SLSP.

Agricultural and Forest Resources

Currently, portions of the Plan Area are used for agricultural purposes. There are no forest resources in the Plan Area. The Reduced Project Alternative would result in development in the Plan Area, but would only utilize 2/3 of the Plan Area for urban development. The remaining acreage (approximately 98 acres) is intended to be used for River/Levee Park or open space uses. As such, this alternative would not change the impact 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 alternatives. The Reduced Project Alternative would have an equal impact on agricultural resources when compared to the SLSP.

Air Quality

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 $PM_{2.5}$ and is either unclassified or attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone 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, the SLSP would result in increased emissions primarily from vehicle miles travelled associated with project implementation. The SJVAPCD has

established operations related emissions thresholds of significance and it was determined that annual emissions of ROG, NOx, and PM_{10} exceed the SJVAPCD thresholds of significance.

The main source of pollution can be contributed to mobile source emissions for ROG and NOx. Area source emissions or ROG are also a major source of pollution causing the exceedance. Fugitive dust is the primary cause of the PM_{10} exceedance. Even with basic mitigation incorporated into the model, the SLSP would exceed the SJVAPCD thresholds of significance for operations.

The SLSP is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NOx and PM emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through project mitigation commitments. The current fees are $9,350 per ton of NOx and $9,011 per ton per of PM. The actual calculations will be accomplished by the SJVAPCD and project applicants as individual projects (i.e. portions of the Specific Plan) are brought forward for approval under Rule 9510.

Implementation of the SLSP would cause an increase in traffic, which is the dominant source of air emissions associated with the SLSP. According to the traffic analysis, the SLSPs industrial uses would amount to 7,121 daily vehicle trips (see Table 3.14-9) and 3,221 vehicle trips related to the commercial uses. This alternative would result in the construction of 91,476 square feet of commercial facilities and approximately 2,772,158 square feet of industrial uses. Using the High Cube Warehouse/General Light Industrial square footage ratios and peak hour trip rates, a rough estimate of peak hour and daily trips can be made for the Reduced Project Alternative. This estimate is shown in Table 5.0-8 below.

TABLE 5.0-8: REDUCED PROJECT ALTERNATIVE TRIP GENERATION

LAND USE	*QUANTITY (1,000 SQ. FT.)*	*ITE LAND USE CODE*	*PEAK HOUR TRIP RATE*			*TRIPS*		
			AM	*PM*	*DAILY*	*AM PEAK HOUR*	*PM PEAK HOUR*	*DAILY*
High Cube Warehouse	2,063	152	0.17	0.18	1.44	351	371	2,971
General Light Industrial	709	110	0.44	0.42	3.02	312	298	2,141
Shopping Center	91	820	1	3.73	42.94	91	339	3,908
Total	4,739				Gross Trips	754	1,009	9,019

Note: this is just a rough estimate and only used for comparative analysis. All calculations are based on a FAR of 0.43 and rates shown in Table 3.14-9.

As shown in Table 5.0-8, the Reduced Project Alterative would produce an estimated 9,019 daily trips (the SLSP produces a total of 10,342 daily trips), 1,323 less trips that the SLSP. The Reduced Project Alternative would represent an approximately 12.8 percent reduction in the amount of traffic generated from the Plan Area. Mobile source air emissions are directly correlated to traffic volume; therefore, it is estimated that the reduced trip volume would reduce the mobile source emissions by approximately the same 12.8 percent. Additionally, this alternative would

have a reduction in area source emissions proportional to the reduction in square footage. While uses in the Reduced Protection Alternative would be required to adhere to the same mitigation measures as the SLSP, the decrease in square footage and reduced traffic volumes would result in reductions in air emissions. The Reduced Project Alternative would result in less air emissions when compared to the SLSP.

Biological Resources

As described in Section 3.4 Biological Resources, construction in the Plan Area has the potential to result in impacts to special-status species in the region. There are no known special-status species that have been observed in the Plan Area although there is sensitive habitat in the riparian area along the San Joaquin River. The riparian habitat has been set aside as open space to preserve the biological functions that they provide for the region. 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 SLSP 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. As such, implementation of the SLSP will have a less than significant impact.

The Reduced Project Alternative would result in development in the Plan Area, but would only utilize 2/3 of the Plan Area for urban development. The remaining acreage (approximately 98 acres) is intended to be used for River/Levee Park or open space uses. Under this alternative, there would be approximately 77 more acres of open space land that would provide habitat for a variety of species, predominately associated with riparian areas along the San Joaquin River. This additional open space would provide biological benefits even though the remainder of the Plan Area would be developed. As such, the Reduced Project Alternative would result in less impact to biological resources when compared to the SLSP.

Cultural Resources

As described in Section 3.5, the SLSP has a number of cultural resources that have the potential to be affected. As with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or historical resource or human remains. Implementation of mitigation measures in Section 3.5 would reduce unknown cultural resources impacts to a less than significant level.

The Reduced Project Alternative would result in development in the Plan Area, but would only utilize 2/3 of the Plan Area for development. The remaining acreage could continue to be used for agricultural purposes. Under this alternative, there would be less ground disturbing activities related to development and there would a reduced potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. While the SLSP is not anticipated to result in significant impacts to cultural resources with mitigation, the Reduced Project Alternative would result in less potential for impacts to cultural resources as more of the Plan Area would be used for agriculture production.

Geology and Soils

As described in Section 3.6, implementation of the SLSP would result in the construction of new commercial and industrial structures in the Plan Area, which has an unknown potential for liquefaction and lateral spreading, would result erosion both during construction and operation, and would place structures in expansive soils. Mitigation measures identified in Section 3.6 would reduce the potential impacts to a less than significant level.

Under the Reduced Project Alternative there would be less developed area resulting in less structures that would be subject to geological conditions. This alternative would result in more of the Plan Area remaining in its existing condition. While the SLSP is not anticipated to result in significant impacts from geology and soils with mitigation, the Reduced Project Alternative would result in less potential for impacts when compared to the SLSP.

Greenhouse Gases and Climate Change

As stated previously, 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 SLSP. With mitigation measures, the overall annual GHG emissions associated with the SLSP would be reduced by over 36.3 percent by the year 2020 compared to the business as usual scenario, consistent with applicable standards and thresholds of a 29 percent reduction. Because the SLSP would meet the City's 29 percent minimum reduction threshold, the SLSP would not hinder the State's ability to reach the GHG reduction target. Overall, the SLSP would be consistent with the reduction targets established by the Scoping Plan and the APCD. Based on the criteria set forth in the APCD's Climate Change Action Plan, the SLSP would have an individual and cumulative impact that is less than significant.

Under this alternative, the Plan Area would be developed with the same facilities and amenities as the SLSP, but the total footprint and square footage would be reduced. While industrial uses in the Reduced Protection Alternative would be required to adhere to the same mitigation measure as the SLSP, the decrease in square footage decreases the total greenhouse gas emissions. As such, the greenhouse gas emissions impact is less than the SLSP.

Hazards and Hazardous Materials

The SLSP includes components that will likely use a variety of hazardous materials including: paints, cleaners, and cleaning solvents, relatively large quantity of pesticides, fertilizers, and fuel. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by San Joaquin County Department of Environmental Health. Additionally, there are septic tank and domestic water supply wells in the Plan Area. These must be upgraded or abandoned according to the San Joaquin County Department of Environmental Health standards. Implementation of Mitigation Measures 3.8-1 through 3.8-4 would reduce the potential for an impact to a less than significant level.

Under this alternative, all project components would remain the same with the exception of smaller building footprints. This alternative would still use the hazardous materials identified

under the SLSP. This alternative would have the same potential impacts relative to hazardous materials and emergency response plans in the developed area, but there would be less development. As such, this alternative would have less impacts from hazards and hazardous materials impacts when compared to the SLSP.

Hydrology and Water Quality

As described in Section 3.9, implementation of the SLSP has the potential to result in the violation of water quality standards and waste discharge of pollutants into surface waters during both construction and long-term operations. 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 SLSP could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. Mitigation measures provided in Section 3.9 reduce potential water quality impacts to a less than significant level. The SLSP would not impact groundwater recharge or place persons or structures in a flood hazard zone.

Under the Reduced Project 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 undisturbed by construction of the smaller building footprints. The increased areas of open space can be used for stormwater detention/retention, and provide additional areas for the installation of natural BMPs to reduce pollutants in stormwater runoff. As such, potential impacts related to hydrology and water quality would be less under the Reduced Project Alternative when compared to the SLSP.

Land Use and Population

The analysis in Section 3.10 concluded that the proposed General Plan amendments will ensure the SLSP's consistency with the City's General Plan land use requirements and would not result in any significant land use impacts. The SLSP would require an annexation of the Plan Area by the City. The SLSP is not expected to induce a substantial the population increase that has not already been accounted for as a part of the existing and approved residential developments in the vicinity. The SLSP does not displace persons or remove housing units.

The Reduced Project Alternative would require the same General Plan land use changes and amendments as the SLSP. This alternative is not expected to induce substantial population growth in the area and does not displace persons or remove housing units. As such, this alternative would have a similar impact relative to the SLSP.

Mineral Resources

Section 3.11 discusses the SLSP's impact on mineral resources. This analysis determined that the SLSP would have a significant and unavoidable impact to mineral resources based on the loss of a State identified aggregate use in the production of Portland cement concrete (PCC). No mitigation for this loss is feasible while being able to still implement the SLSP.

The Reduced Project Alternative would have a similar result in the loss of this important mineral as the majority of the Plan Area would be developed for industrial and commercial uses, thereby not allowing for the mining of the mineral resource. The land that would not be developed would likely not be large enough for a viable mining operation. Therefore, this alternative would be similar, but have slightly less impact on mineral resources when compared to the SLSP.

Noise

As described in Section 3.12, commercial office uses are not generally considered to be noise generating. However, the SLSP would increase noise-generating activities associated with the maintenance and operation of the proposed industrial areas. Mitigation measures provided in Section 3.12 would reduce the impact to a less than significant level. The SLSP would result in less than significant levels of noise or vibrations impacts due to construction and operational noise.

As this alternative is a reduction in the size of the buildings without eliminating the project components, the noise impacts associated with future industrial uses would be reduced proportionate to the vehicular and operational activities. All noise issues would be mitigated as appropriate through noise attenuation and best management practices; however, under this alternative, noise impacts are less when compared to the SLSP.

Public Services and Recreation

As described in Section 3.13, implementation of the SLSP would result in a significant and unavoidable impact as a result of the need for an additional fire station to serve the SLSP. The construction of new fire facilities in order to serve the SLSP within the City's and LMFPD response time standard would be required. This fire station has been needed to serve areas of the City which that have been underserved for a number of years and is not solely needed for the SLSP. The City's Capital Facilities Fee, in part, assists in the development of a new fire station. Development in the SLSP will pay all applicable fire service fees and assessments required to fund its fair share of LMFPD facilities and services. This funding would assist in the development of fire facilities in order to meet the City's and LMFPD response time standards. The funding of the station is not, however, a physical impact to the environment as defined in CEQA. While this funding may provide the financial assistance needed for a new station, it does not identify or reduce any potential environmental impacts caused by the construction of a new fire station. The impacts associated with a new fire station cannot be fully assessed at this time as a location for a fire station has not been determined.

The SLSP would have a less than significant or no impact to police, school or recreational facilities. The SLSP provides an additional 21 acres of River Levee/Park facilities to the City's existing parkland. This would be a beneficial impact.

Under the Reduced Project Alternative, the Plan Area would still require fire protection and would necessitate the need for a new fire station. Similar to the SLSP, this alternative would fund its fair share of the new fire station but it would not be guaranteed that a fire station could

be built prior to the alternative being developed. As such, this alternative would result in a significant and unavoidable impact similar to the SLSP.

This alternative has the potential to result in increased demand for police and fire services. This alternative would have no impact to schools or parks as it does not increase population. This alternative would provide a beneficial impact of additional open space for the city. Overall, this alternative would have less demand for public services when compared to the SLSP.

Traffic and Circulation

As described in Section 3.14, implementation of the SLSP would cause an increase in traffic on roadways or intersections that would cause traffic operations to degrade to an unacceptable level of service. Two of these intersections, SR 120/Guthmiller Road and Yosemite Avenue/Airport Way, and freeway facilities on SR 120 result in significant and unavoidable impacts. Additionally, implementation of the SLSP would result in inadequate emergency vehicle access. Implementation of the SLSP would cause significant and unavoidable impacts under Cumulative Plus Project conditions at the SR 120/Guthmiller Road ramp-terminal intersections, the Louise Avenue/McKinley Avenue intersection, the SR 120/Airport Way ramp-terminals intersections and the Airport Way/Daniels Street intersection. Additionally, implementation of the SLSP would cause significant and unavoidable impacts under cumulative conditions for SR 120 and I-5.

The traffic analysis completed for the SLSP is based on the commercial and industrial square footage proposed for the SLSP. According to the traffic analysis, the SLSPs industrial uses would amount to 7,121 daily vehicle trips (see Table 3.14-9) and 3,221 vehicle trips related to the commercial uses. This alternative would result in the construction of 91,476 square feet of commercial facilities and approximately 2,772,158 square feet of industrial uses. Using the High Cube Warehouse/General Light Industrial square footage ratios and peak hour trip rates shown in Table 3.14-9 of Section 3.14, a rough estimate of peak hour and daily trips can be made for the Reduced Project Alternative. This estimate is shown in Table 5.0-9 below.

TABLE 5.0-9: REDUCED PROJECT ALTERNATIVE TRIP GENERATION

LAND USE	*QUANTITY (1,000 SQ. FT.)*	*ITE LAND USE CODE*	*PEAK HOUR TRIP RATE*			*TRIPS*		
			AM	*PM*	*DAILY*	*AM PEAK HOUR*	*PM PEAK HOUR*	*DAILY*
High Cube Warehouse	2,063	152	0.17	0.18	1.44	351	371	2,971
General Light Industrial	709	110	0.44	0.42	3.02	312	298	2,141
Shopping Center	91	820	1	3.73	42.94	91	339	3,908
Total	4,739				Gross Trips	754	1,009	9,019

Note: this is just a rough estimate and only used for comparative analysis. All calculations are based on a FAR of 0.43 and rates shown in Table 3.14-9.

As shown in Table 5.0-9, the Reduced Project Alterative would produce an estimated 9,019 daily trips (the SLSP produces a total of 10,342 daily trips), 1,323 less trips that the SLSP. The Reduced

Project Alternative would represent an approximately 12.8 percent reduction in the amount of traffic generated from the Plan Area. Based on this analysis, this alternative would have less impact to traffic when compared to the SLSP.

Utilities

Implementation of SLSP would result in impacts the public wastewater system. However mitigation measures provided in Section 3.15 would reduce these impacts to a less than significant level. SLSP impacts to water, stormwater and solid waste facilities are all less than significant.

The Reduced Project Alternative would decrease both the industrial and commercial square footage in the Plan Area. This decrease would also decrease the amount of wastewater generated in the Plan Area which would reduce the demand for wastewater treatment and disposal. Based on the demand factors identified in Table 3.15-4, the wastewater demand for the Reduced Project Alternative was calculated and is shown in Table 5.0-10. This calculation determined the Reduced Project Alternative would produce 141,600 gallons per day (gpd) of wastewater. This is 70,200 gpd less than the SLSP.

TABLE 5.0-10: WASTEWATER DEMAND COMPARISON

LAND USE DESCRIPTION	*AVERAGE DEMAND FACTOR (GPD/AC)*	*Reduced Project Alternative*		*SLSP Project*	
		ACRES	*AVERAGE DEMAND (GPD)*	*ACRES*	*AVERAGE DEMAND (GPD)*
Commercial Office	1,200	7	8,400	10	12,000
Limited Industrial	900	148	133,200	222	199,800
Public/Quasi-Public	0	36	0	36	0
Open Space	0	108.5	0	31.5	0
Major Roads (ROW)	0	15.5	0	15.5	0
Total		**315**	**141,600**	**315**	**211,800**

Additionally, the increase of industrial uses would raise the demand for water. Table 5.0-11 shows the water demand for the Reduced Project Alternative based on the water demand factor identified in Table 3.15-16. As shown in Table 5.0-11, because the Reduced Project Alternative has more open space but less commercial and industrial acres, it will demand less water than the SLSP.

TABLE 5.0-11: PROJECTED WATER DEMAND COMPARISON

LAND USE TYPE	WATER DEMAND FACTOR[a]	REDUCED PROJECT ALTERNATIVE			SLSP PROJECT		
		ACRES	AVERAGE DEMAND (GPD)	Annual Water Demand, AFY[b]	ACRES	AVERAGE DEMAND (GPD)	ANNUAL WATER DEMAND, AFY[b]
Commercial Office	1,500 gpd/AC[c]	7	10,500	12	10	15,000	17
Limited Industrial	2,000 gpd/AC[c]	148	296,000	332	222	444,000	497
Open Space	311 gpd/AC[c]	108.5	33,744	38	31.5	9,797	11
Sub-Total Water Demand			340,244	381		468,797	525
Unaccounted-for Water[d]			35,286	40		35,286	40
Total Water Demand			***375,530***	***421***		***504,083***	***565***

Note: (a) Same Unit Water Demands used to calculate demands for Table 9 from the City of Lathrop 2005 Urban Water Management Plan, October 2009. Source documents for these Unit Water Demands are 2001 Master Plan Documents (see Tables 3-11), and Water Supply Study (see Table 20). (b) AFY = Acre-Feet per Year. (c) gpd/AC = gallons per day per acre. (d) Based on 7 percent of total water production (see 2010 UWMP Section 4.0, last paragraph).

Development of the Plan Area under the Reduced Project Alternative would produce 8,139 tons of solid waste annually. This is 3,715 tons per year less than the SLSP.

TABLE 5.0-12: SOLID WASTE PROJECTION

LAND USE	MEDIAN EMPLOYEE/SF*	SOLID WASTE/ EMPLOYEE (LBS/DAY)	SQUARE FOOTAGE	TOTAL EMPLOYEES	TOTAL SOLID WASTE	
					TONS/DAY	TONS /YR
REDUCED PROJECT ALTERNATIVE						
Low Rise Office	1 emp/415 sf	29.8	91,476	220	3.3	1,204
Light Industrial	1 emp/2230 sf	29.8	2,772,158	1,243	18.5	6,935
Total			2,863,,634	1,463	21.8	8,139
SLSP PROJECT						
Low Rise Office	1 emp/415 sf	29.8	130,680	1,315	4.7	1,713
Light Industrial	1 emp/2230 sf	29.8	4,158,238	1,865	27.8	10,141
		TOTAL	**4,288,918**	**2,180**	**32.5**	**11,854**

Impacts to stormwater facilities are assumed to be similar to those of the SLSP as the storm drainage infrastructure would be largely the same.

Overall, this alternative would have less wastewater treatment demand, less water demand, and less solid waste generated when compared to the SLSP. As such, this alternative would have less impact when compared to the SLSP.

AGRICULTURE PROTECTION ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1, although the visual character of the Plan Area would be significantly altered as a result of SLSP implementation, the guidelines and standards within the SLSP would ensure consistent development that is in line with the City's vision for the community's identity. Implementation of the design guidelines and standards in the SLSP would ensure that impacts to visual resources would be less than significant. Additionally, implementation of the lighting and design standards in the SLSP would ensure that SLSP lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. As such, impacts related to nighttime lighting and daytime glare would be less than significant.

A portion of the Plan Area would remain under agricultural production, and therefore, would retain the existing visual character. However, portions of the Plan Area that are currently vacant/fallow land would be converted to industrial or commercial uses. 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 through design guidelines. Under this alternative, the changes to the existing visual quality would be similar to the SLSP, just on a smaller scale. As such, this alternative would have slightly less impact when compared to the SLSP.

Agricultural and Forest Resources

Development of the SLSP would remove approximately 271 acres of land considered to be Prime Farmland, Farmland of Statewide Importance or Farmland of Local importance. This loss results in a significant and unavoidable impact.

The Agriculture Protection Alternative would reduce the amount of lost farmland to approximately 110 acres. This land is all classified as Farmland of Local Importance. Land identified as Prime Farmland and Farmland of Statewide Importance would be protected under this alternative. However, the loss of any farmland is considered a significant impact whether it be prime, statewide or of local importance. The SLSP Section 2.6.5.1 and Section 8.3 include provisions for payment of fees to SJMSCP and require the implementation of right-to-farm measures to lessen the impacts associated with the conversion of Important Farmland in the Plan Area. The fees fund easements that are purchased for land exhibiting benefits to wildlife, including a combination of habitat, open space, and agricultural lands. The fees contributed to the SJMSCP would partially offset conversions of Important Farmland associated with project impacts; however, no new farmland would be made available, and the productivity of existing farmland would not be improved as a result of these measures. Therefore, full compensation for losses of Important Farmland under the Agriculture Protection Alternative would not be achieved resulting in a significant and unavoidable impact.

While this alternative would still result in a significant and unavoidable impact to agriculture, the land lost to urban uses is much less than under the SLSP. As such, this alternative would have less impact when compared to the SLSP.

Air Quality

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 $PM_{2.5}$ and is either unclassified or attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone 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, the SLSP would result in increased emissions primarily from vehicle miles travelled associated with project implementation. The SJVAPCD has established operations related emissions thresholds of significance and it was determined that annual emissions of ROG, NOx, and PM_{10} exceed the SJVAPCD thresholds of significance.

The main source of pollution can be contributed to mobile source emissions for ROG and NOx. Area source emissions or ROG are also a major source of pollution causing the exceedance. Fugitive dust is the primary cause of the PM_{10} exceedance. Even with basic mitigation incorporated into the model, the SLSP would exceed the SJVAPCD thresholds of significance for operations.

The SLSP is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NOx and PM emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through project mitigation commitments. The current fees are $9,350 per ton of NOx and $9,011 per ton per of PM. The actual calculations will be accomplished by the SJVAPCD and project applicants as individual projects (i.e. portions of the Specific Plan) are brought forward for approval under Rule 9510.

Implementation of the SLSP would cause an increase in traffic, which is the dominant source of air emissions associated with the SLSP. According to the traffic analysis, the SLSPs industrial uses would amount to 7,121 daily vehicle trips and 3,221 vehicle trips related to the commercial uses. This alternative would result in the construction of 130,680 square feet of commercial facilities and approximately 1,423,541 square feet of industrial uses. Using the High Cube Warehouse/General Light Industrial square footage ratios and peak hour trip rates shown in Table 3.14-9 of Section 3.14, a rough estimate of peak hour and daily trips can be made for the Agriculture Protection Alternative. This estimate is shown in Table 5.0-13 below.

TABLE 5.0-13: AGRICULTURE PROTECTION ALTERNATIVE TRIP GENERATION

LAND USE	QUANTITY (1,000 SQ. FT.)	ITE LAND USE CODE	PEAK HOUR TRIP RATE			TRIPS		
			AM	PM	DAILY	AM PEAK HOUR	PM PEAK HOUR	DAILY
High Cube Warehouse	1,059	152	0.17	0.18	1.44	180	191	1,525
General Light Industrial	364	110	0.44	0.42	3.02	160	153	1,099
Shopping Center	131	820	1	3.73	42.94	131	489	5,625
Total	4,739				Gross Trips	**471**	**832**	**8,249**

Note: this is just a rough estimate and only used for comparative analysis. All calculations are based on a FAR of 0.43 and rates shown in Table 3.14-9.

As shown in Table 5.0-13, the Agriculture Protection Alterative would produce 8,249 daily trips (the SLSP produces a total of 10,342 daily trips), 2,092 less trips that the SLSP. The Reduced Project Alternative would represent an approximately 20.2 percent reduction in the amount of traffic generated from the Plan Area. Mobile source air emissions are directly correlated to traffic volume; therefore, it is estimated that the reduced trip volume would reduce the mobile source emissions by approximately the same 20.2 percent. Additionally, this alternative would have a reduction in area source emissions proportional to the reduction in square footage. While uses in the Agriculture Protection Alterative would be required to adhere to the same mitigation measures as the SLSP, the decrease in square footage and reduced traffic volumes would result in reductions in air emissions. The Agriculture Protection Alterative would result in less air emissions when compared to the SLSP. Based on this analysis, this alternative would have less impact to traffic when compared to the SLSP.

Biological Resources

As described in Section 3.4 Biological Resources, construction in the Plan Area has the potential to result in impacts to special-status species in the region. There are no known special-status species that have been observed in the Plan Area although there is sensitive habitat in the riparian area along the San Joaquin River. The riparian habitat has been set aside as open space to preserve the biological functions that they provide for the region. 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 SLSP 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. As such, implementation of the SLSP will have a less than significant impact.

The Agriculture Protection Alternative would result in development in the Plan Area, but the development would be significantly reduced with 161 acres remaining under agricultural use. Under this alternative, there would be more acres of agricultural land that would provide open space habitat for a variety of wildlife species, predominately associated with foraging (i.e. protected raptors including Swainson's hawk, migratory birds). This additional agricultural land

would provide biological benefits to wildlife in the region even though a portion of the Plan Area would still be developed. As such, the Agriculture Protection Alternative would result in less impact to biological resources when compared to the SLSP.

Cultural Resources

As described in Section 3.5, during the field surveys conducted in the Plan Area, historical and prehistorical resources were identified. Two resources, CA-SJP-313H and P39-004604, and associated artifacts and features were identified in the Plan Area. However, the cultural resources identified in the Plan Area are not eligible for listing based on the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHP) criteria. As with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or historical resource or human remains. Implementation of mitigation measures in Section 3.5 would reduce unknown cultural resources impacts to a less than significant level. As such, this alternative would have less impact when compared to the SLSP.

Under this Agricultural Protection Alternative, there would be less ground disturbing activities related to development and there would a reduced the potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. While the SLSP is not anticipated to result in significant impacts to cultural resources with mitigation, the Agricultural Protection Alternative would result in less potential for impacts to cultural resources as more of the Plan Area would be used of agriculture production.

Geology and Soils

As described in Section 3.6, implementation of the SLSP would result in the construction of new commercial and industrial structures in the Plan Area, which has an unknown potential for liquefaction and lateral spreading, would result erosion both during construction and operation, and would place structures in expansive soils. Mitigation measures identified in Section 3.6 would reduce the potential impacts to a less than significant level.

Under the Agriculture Protection Alternative there would be less developed area resulting in less structures that would be subject to geological conditions. Agricultural Protection Alternative would result more of the Plan Area remaining in its existing condition. While the SLSP is not anticipated to result in significant impacts from geology and soils with mitigation, the Agricultural Protection Alternative would result in less potential for impacts when compared to the SLSP.

Greenhouse Gases and Climate Change

As stated previously, 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 SLSP. With mitigation measures, the overall annual GHG emissions associated with the SLSP would be reduced by over 36.3 percent by the year 2020 compared to the business as usual scenario, consistent with applicable standards and thresholds of a 29 percent reduction.

Because the SLSP would meet the City's 29 percent minimum reduction threshold, the SLSP would not hinder the State's ability to reach the GHG reduction target. Overall, the SLSP would be consistent with the reduction targets established by the Scoping Plan and the APCD. Based on the criteria set forth in the APCD's Climate Change Action Plan, the SLSP would have an individual and cumulative impact that is less than significant.

Under this alternative, the Plan Area would be developed with the same facilities and amenities as the SLSP in the developed area, but the total footprint and square footage would be significantly reduced. While industrial uses in the Reduced Protection Alternative would be required to adhere to the same mitigation measure as the SLSP, the significant decrease in square footage would significantly decrease the total greenhouse gas emissions. As such, the greenhouse gas emissions impact is less than the SLSP.

Hazards and Hazardous Materials

The SLSP includes components that will likely use a variety of hazardous materials including: paints, cleaners, and cleaning solvents, relatively large quantity of pesticides, fertilizers, and fuel. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by San Joaquin County Department of Environmental Health. Additionally, there are septic tank and domestic water supply wells in the Plan Area. These must be upgraded or abandoned according to the San Joaquin County Department of Environmental Health standards. Implementation of Mitigation Measures 3.8-1 through 3.8-4 would reduce the potential for an impact to a less than significant level.

Under this alternative, all project components would remain the same with the exception of the farmland preservation area. This alternative would still use the hazardous materials identified under the SLSP. This alternative would have the same potential impacts relative to hazardous materials and emergency response plans. The farmland may use herbicides and pesticides that would not be used under the proposed SLSP and the industrial uses would be required to adhere to the same hazardous materials regulations as the SLSP. While the chance of a hazardous material release may be mitigated to a less than significant level for this alternative, the potential for hazards and hazardous materials impacts is reduced when compared to the SLSP.

Hydrology and Water Quality

As described in Section 3.9, implementation of the SLSP has the potential to result in the violation of water quality standards and waste discharge of pollutants into surface waters during both construction and long-term operations. 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 SLSP could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. Mitigation measures provided in Section 3.9 reduce potential water quality impacts to a less

than significant level. The SLSP would not impact groundwater recharge or place persons or structures in a flood hazard zone.

Under the Agricultural 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 undisturbed. The increased areas of agricultural production would reduce urban pollutants in stormwater runoff. As such, potential impacts related to hydrology and water quality would be reduced under the Agricultural Protection Alternative when compared to the SLSP.

Land Use and Population

The analysis in Section 3.10 concluded that the proposed General Plan amendments will ensure the SLSP's consistency with the City's General Plan land use requirements and would not result in any significant land use impacts. The SLSP would require an annexation of the Plan Area by the City. The SLSP is not expected to induce a substantial the population increase that has not already been accounted for as a part of the existing and approved residential developments in the vicinity. The SLSP does not displace persons or remove housing units.

This alternative would require the same General Plan land use changes and amendments as the SLSP. This alternative is not expected to induce substantial population growth in the area and does not displace persons or remove housing units. As such, this alternative would have a similar impact relative to the SLSP.

Mineral Resources

Section 3.11 discusses the SLSP's impact on mineral resources. This analysis determined that the SLSP would have a significant and unavoidable impact to mineral resources based on the loss of a State identified aggregate use in the production of Portland cement concrete (PCC). No mitigation for this loss is feasible while being able to still implement the SLSP.

The Agriculture Protection Alternative would have a similar result in the loss of this important mineral as the majority of the Plan Area would be developed for industrial and commercial uses, thereby not allowing for the mining of the mineral resource. The land that would not be developed would likely not be large enough for a viable mining operation. Therefore, this alternative would be similar, but have slightly less impact on mineral resources when compared to the SLSP.

Noise

As described in Section 3.12, commercial office uses are not generally considered to be noise generating. However, the SLSP would increase noise-generating activities associated with the maintenance and operation of the proposed industrial areas. Mitigation measures provided in Section 3.12 would reduce the impact to a less than significant level. The SLSP would result in less than significant levels of noise or vibrations impacts due to construction and operational noise.

As this alternative result in less development, the noise impacts associated with future industrial uses would be less. The agriculture area would involve the use of farming equipment and haul trucks that would cause a noise impact; however, the noises related to the agricultural activities already exist and therefore this would not introduce a new source of noise to the area. All other noise issues would be similar to the SLSP. Therefore, under this alternative, noise impacts are less than those of the SLSP.

Public Services and Recreation

As described in Section 3.13, implementation of the SLSP would result in a significant and unavoidable impact as a result of the need for an additional fire station to serve the SLSP. The construction of new fire facilities in order to serve the SLSP within the City's and LMFPD response time standard would be required. This fire station has been needed to serve areas of the City which that have been underserved for a number of years and is not solely needed for the SLSP. The City's Capital Facilities Fee, in part, assists in the development of a new fire station. Development in the SLSP will pay all applicable fire service fees and assessments required to fund its fair share of LMFPD facilities and services. This funding would assist in the development of fire facilities in order to meet the City's and LMFPD response time standards. The funding of the station is not, however, a physical impact to the environment as defined in CEQA. While this funding may provide the financial assistance needed for a new station, it does not identify or reduce any potential environmental impacts caused by the construction of a new fire station. The impacts associated with a new fire station cannot be fully assessed at this time as a location for a fire station has not been determined.

The SLSP would have a less than significant or no impact to police, school or recreational facilities. The SLSP provides an additional 21 acres of River Levee/Park facilities to the City's existing parkland. This would be a beneficial impact.

Under the Agriculture Protection Alternative, the Plan Area would still require fire protection and would necessitate the need for a new fire station. Similar to the SLSP, this alternative would fund its fair share of the new fire station but it would not be guaranteed that a fire station could be built prior to the alternative being developed. As such, this alternative would result in a significant and unavoidable impact similar to the SLSP.

This alternative has the potential to result in increased demand for police and fire services. This alternative would have no impact to schools or parks as it does not increase population. This alternative would provide a beneficial impact of additional open space for the city. Overall, this alternative would have less demand for public services when compared to the SLSP.

Traffic and Circulation

As described in Section 3.14, implementation of the SLSP would cause an increase in traffic on roadways or intersections that would cause traffic operations to degrade to an unacceptable level of service. Two of these intersections, SR 120/Guthmiller Road and Yosemite Avenue/Airport Way, and freeway facilities on SR 120 result in significant and unavoidable impacts. Additionally, implementation of the SLSP would result in inadequate emergency vehicle

access. Implementation of the SLSP would cause significant and unavoidable impacts under Cumulative Plus Project conditions at the SR 120/Guthmiller Road ramp-terminal intersections, the Louise Avenue/McKinley Avenue intersection, the SR 120/Airport Way ramp-terminals intersections and the Airport Way/Daniels Street intersection. Additionally, implementation of the SLSP would cause significant and unavoidable impacts under cumulative conditions for SR 120 and I-5.

The traffic analysis completed for the SLSP is based on the commercial and industrial square footage proposed for the SLSP. According to the traffic analysis, the SLSPs industrial uses would amount to 7,121 daily vehicle trips (see Table 3.14-9) and 3,221 vehicle trips related to the commercial uses. This alternative would result in the construction of 130,680 square feet of commercial facilities and approximately 1,423,541 square feet of industrial uses. Using the High Cube Warehouse/General Light Industrial square footage ratios and peak hour trip rates shown in Table 3.14-9 of Section 3.14, a rough estimate of peak hour and daily trips can be made for the Agriculture Protection Alternative. This estimate is shown in Table 5.0-14 below.

TABLE 5.0-14: AGRICULTURE PROTECTION ALTERNATIVE TRIP GENERATION

LAND USE	QUANTITY (1,000 SQ. FT.)	ITE LAND USE CODE	PEAK HOUR TRIP RATE			TRIPS		
			AM	PM	DAILY	AM PEAK HOUR	PM PEAK HOUR	DAILY
High Cube Warehouse	1,059	152	0.17	0.18	1.44	180	191	1,525
General Light Industrial	364	110	0.44	0.42	3.02	160	153	1,099
Shopping Center	131	820	1	3.73	42.94	131	489	5,625
Total	4,739				Gross Trips	**471**	**832**	**8,249**

Note: this is just a rough estimate and only used for comparative analysis. All calculations are based on a FAR of 0.43 and rates shown in Table 3.14-9.

As shown in Table 5.0-14, the Agriculture Protection Alterative would produce 8,249 daily trips (the SLSP produces a total of 10,342 daily trips), 2,092 less trips that the SLSP. The Agriculture Protection Alternative would represent an approximately 20.2 percent reduction in the amount of traffic generated from the Plan Area. Based on this analysis, this alternative would have less impact to traffic when compared to the SLSP.

Utilities

Implementation of SLSP would result in impacts the public wastewater system. However mitigation measures provided in Section 3.15 would reduce these impacts to a less than significant level. Project impacts to water, stormwater and solid waste facilities are all less than significant.

The Agriculture Protection Alternative would decrease the industrial square footage in the Plan Area. This decrease would also decrease the amount of wastewater generated in the Plan Area, which would reduce the demand for wastewater treatment and disposal. Based on the demand factors identified in Table 3.15-4, the wastewater demand for this alternative was calculated

and is shown in Table 5.0-15. This calculation determined the Agricultural Protection Alternative would produce 80,400 gallons per day (gpd) of wastewater. This is 131,400 gpd less than the SLSP.

TABLE 5.0-15: WASTEWATER DEMAND COMPARISON

LAND USE DESCRIPTION	*AVERAGE DEMAND FACTOR (GPD/AC)*	*Agricultural Protection Alternative*		*SLSP Project*	
		ACRES	*AVERAGE DEMAND (GPD)*	*ACRES*	*AVERAGE DEMAND (GPD)*
Commercial Office	1,200	10	12,000	10	12,000
Limited Industrial	900	76	68,400	222	199,800
Public/Quasi-Public	0	36	0	36	0
Reserved Agriculture[1]	N/A	N/A	N/A	0	0
Open Space	0	31.5	0	31.5	0
Major Roads (ROW)	0	15.5	0	15.5	0
Total		**315**	**80,400**	**315**	**211,800**

Note: [1] the demand for reserved agriculture is not calculated as it is an existing land use and therefore already accounted for in the City wastewater treatment demand and as such would not be a new source of wastewater.

Additionally, the decrease of industrial uses would reduce the demand for water. Table 5.0-16 shows the water demand for the Agriculture Protection Alternative based on the water demand factor identified in Table 3.15-16. While water demand for open space and commercial remains the same as the SLSP, the water demand for the industrial uses has decrease by 327 AFY.

TABLE 5.0-16: PROJECTED WATER DEMAND COMPARISON

LAND USE TYPE	*WATER DEMAND FACTOR[(a)]*	*Agricultural Protection*			*SLSP PROJECT*		
		ACRES	*AVERAGE DEMAND (GPD)*	*Annual Water Demand, AFY[(b)]*	*ACRES*	*AVERAGE DEMAND (GPD)*	*ANNUAL WATER DEMAND, AFY[(b)]*
Commercial Office	1,500 gpd/AC[(c)]	10	15,000	17	10	15,000	17
Limited Industrial	2,000 gpd/AC[(c)]	76	152,000	170	222	444,000	497
Reserved Agriculture[(d)]	N/A	N/A	N/A	N/A	0	0	0
Open Space	311 gpd/AC[(c)]	31.5	9,797	11	31.5	9,797	11
Sub-Total Water Demand			176,797	198		468,797	525
Unaccounted-for Water[(e)]			35,286	40		35,286	40
Total Water Demand			***212,083***	***238***		***504,083***	***565***

Note: (a) Same Unit Water Demands used to calculate demands for Table 9 from the City of Lathrop 2005 Urban Water Management Plan, October 2009. Source documents for these Unit Water Demands are 2001 Master Plan Documents (see Tables 3-11), and Water Supply Study (see Table 20). (b) AFY = Acre-Feet per Year. (c) gpd/AC = gallons per day per acre. (d) The demand for reserved agriculture is not calculated as it is an existing land use and therefore already accounted for in the City water demand. (e) Based on 7 percent of total water production (see 2010 UWMP Section 4.0, last paragraph).

Development of the Plan Area under the Agriculture Protection Alternative would produce 5,181 tons of solid waste annually. This is 4,960 tons per year less than the SLSP. Solid waste

produced by the agricultural land was not included in this calculation as waste from this use already exists and therefore is already a part of the waste stream.

TABLE 5.0-17: SOLID WASTE PROJECTION

LAND USE	MEDIAN EMPLOYEE/SF*	SOLID WASTE/EMPLOYEE (LBS/DAY)	SQUARE FOOTAGE	TOTAL EMPLOYEES	TOTAL SOLID WASTE	
					TONS/DAY	TONS/YR
Agricultural Protection						
Low Rise Office	1 emp/415 sf	29.8	130,680	1,315	4.7	1,713
Light Industrial	1 emp/2230 sf	29.8	1,423,541	638	9.5	3,468
Total			1,554,221	1,953	14.2	5,181
SLSP PROJECT						
Low Rise Office	1 emp/415 sf	29.8	130,680	1,315	4.7	1,713
Light Industrial	1 emp/2230 sf	29.8	4,158,238	1,865	27.8	10,141
		TOTAL	**4,288,918**	**2,180**	**32.5**	**11,854**

Impacts to stormwater facilities are assumed to be similar to those of the SLSP as the storm drainage infrastructure would be largely the same.

Overall, this alternative would have less wastewater treatment demand, less water demand, and less solid waste generated when compared to the SLSP. As such, this alternative would have less impact when compared to the SLSP.

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 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 SLSP.

As Table 5.0-18 presents a comparison of the alternative project impacts with those of the SLSP. As shown in the table, the No Project Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the Reduced Project and Agricultural Alternatives both rank higher than the SLSP. Comparatively, the Agricultural Protection Alternative would result in less impact then the Reduced Project Alternative because it provides the greatest reduction of potential impacts in comparison to the SLSP. It should be noted that the Agricultural Protection Alternative and Reduced Project Alternative do not meet all of the project objectives.

TABLE 5.0-18: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE SLSP

ENVIRONMENTAL ISSUE	*NO BUILD ALTERNATIVE*	*NO PROJECT (GENERAL PLAN ALTERNATIVE)*	*REDUCED PROJECT ALTERNATIVE*	*AGRICULTURE PROTECTION ALTERNATIVE*
Aesthetics and Visual Resources	Less	Equal	Slightly Less	Slightly Less
Agricultural and Forest Resources	Less	Equal	Equal	Less
Air Quality	Less	Greater	Less	Less
Biological Resources	Less	Equal	Less	Less
Cultural Resources	Less	Equal	Less	Less
Geology and Soils	Less	Equal	Less	Less
Greenhouse Gases and Climate Change	Less	Greater	Less	Less
Hazards and Hazardous Materials	Less	Greater	Less	Less
Hydrology and Water Quality	Less	Greater	Less	Less
Land Use & Population	Less	Less	Equal	Equal
Mineral Resources	Less	Equal	Slightly Less	Slightly Less
Noise	Less	Greater	Less	Less
Public Services and Recreation	Less	Greater	Less	Less
Transportation and Circulation	Less	Less	Less	Less
Utilities	Less	Greater	Less	Less

GREATER = GREATER IMPACT THAN THAT OF THE SLSP

LESS = LESS IMPACT THAN THAT OF THE SLSP

EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE SLSP

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