APPENDICES TO:

DRAFT ENVIRONMENTAL IMPACT REPORT

FOR

LATHROP GATEWAY BUSINESS PARK SPECIFIC PLAN

Lathrop, CA

Specific Plan File No: 09-012
General Plan and Map Amendment File No: 09-013
Zoning Text and Map Amendment File No: 09-014
Bicycle Transportation Plan Amendment File No: 09-015
Utility Master Plan Amendment File No: 09-016
Clearinghouse No: SCH 2009062106

June 8, 2010

Prepared for:

CITY OF LATHROP
Community Development Department
390 Towne Center Drive
Lathrop, CA 95330
(209) 941-729

APPENDIX A
NOTICE OF PREPARATION AND RESPONSES

NOTICE OF PREPARATION
OF AN
ENVIRONMENTAL IMPACT REPORT

FOR THE

LATHROP GATEWAY BUSINESS PARK SPECIFIC PLAN

City of Lathrop, California

Specific Plan File No: 09-012
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June 25, 2009

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CITY OF LATHROP
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Lathrop, CA 95330

NOTICE OF PREPARATION

LATHROP GATEWAY BUSINESS PARK SPECIFIC PLAN EIR

To: Reviewing Agencies

From: Community Development Department
City of Lathrop
390 Towne Center Drive
Lathrop, CA 95330
Attn: Charlie Mullen, Assistant Community Development Directory

Subject: Notice of Preparation of a Draft Environmental Impact Report

Project Title: Lathrop Gateway Business Park Specific Plan EIR

Project Applicant: South Lathrop, LLC
634 North Santa Cruz Avenue
Los Gatos, CA 95030
Attn: David Lazares

The Community Development Department of the City of Lathrop will be the Lead Agency and will prepare an environmental impact report for the project identified above. We need to know the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. An Initial Study has been prepared for the project that describes the project, the environmental setting and the potential environmental effects of the project; a copy of the Initial Study is attached.

The public review period for the Notice of Preparation of an EIR is July 1, 2009 through July 31, 2009. A Public Scoping Meeting will be held on Thursday, July 30, 2009 at 7:00 PM at the City of Lathrop, 320 Towne Center Drive, Lathrop, CA. Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Charlie Mullen, Assistant Community Development Director, at the address shown above. We will need the name for a contact person in your agency.

6/25/09
Date

Charlie Mullen, Asst. Community Development Dir.
Community Development
City of Lathrop
209-941-7298

Attachments:

Initial Study
Location Maps
Parcel Map

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

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Project Brief

The proposed project involves the adoption and implementation of the proposed Lathrop Gateway Business Park Specific Plan (GBPSP). The specific plan site is located in San Joaquin County, within the City of Lathrop's Sphere of Influence. The project site encompasses approximately 384 acres bordered by Vierra Court and West Yosemite Avenue to the north, SR 120 to the south, and the Union Pacific Railroad tracks to the east and to the west. The proposed project envisions development of a combination of new commercial office, limited industrial and service commercial uses.

The specific plan area consists predominantly of agricultural lands and related residential uses. Surrounding areas to the west and north have been developed with industrial type uses in the City of Lathrop. The specific plan is located within the City's existing Sphere of Influence and Urban Services boundaries and is designated for urban industrial development by the adopted Lathrop General Plan.

Purpose of Initial Study

The California Environmental Quality Act (CEQA) requires that public agencies document and consider the potential environmental effects of any agency actions that meet CEQA's definition of a "project;" briefly summarized, a "project" is an action that has the potential to result in direct or indirect physical changes in the environment. A project includes the agency's direct activities as well as activities that involve public agency approvals or funding. Guidelines for an agency's implementation of CEQA are found in the "CEQA Guidelines" (Title 14, Chapter 3 of the California Code of Regulations).

Provided that a project is not found to be exempt from CEQA, the first step in the agency's evaluation of the potential environmental effects of the project is the preparation of an Initial Study. The purpose of an Initial Study is to determine whether the project would involve "significant" environmental effects as defined by CEQA and to describe feasible mitigation measures that would be necessary avoid the significant effects or reduce them to a less than significant level. In the event that the Initial Study does not identify significant effects, or identifies mitigation measures that would reduce all of the significant effects of the project to a less than significant level, the agency may prepare a Negative Declaration. If this is not the case, the agency must prepare an Environmental Impact Report (EIR); the agency may also decide to proceed directly with the preparation of an EIR without preparation of an Initial Study.

The adoption of the specific plan, the approval of other required entitlements and the subsequent development of the study area in accordance with the specific plan is a "project" as defined by CEQA. The City of Lathrop has determined that the project involves the potential for significant environmental effects and that an EIR will be prepared for the project. The City of Lathrop has also elected to prepare this Initial Study of the project in conjunction with the Notice of Preparation that is required when the City prepares an EIR.

This Initial Study has been prepared by the City of Lathrop pursuant to its decision to prepare an EIR. The purpose of this Initial Study is to describe the proposed project, briefly describe the environmental setting of the project, discuss the potential environmental effects of the project, and describe the proposed scope of the EIR. The Initial Study is intended to be attached to the Notice of Preparation (NOP) for the City's EIR; the NOP will be circulated to agencies with potential permit or

approval responsibility for the project (responsible agencies) as well as agencies that are responsible for the management of public trust resources (trustee agencies).

Scope of Initial Study

This Initial Study evaluates the project's potential to result in "significant" environmental effects, as defined by CEQA, in the following issue areas.

Aesthetics
Agricultural Resources
Air Quality
Biological Resources
Cultural Resources
Geology and Soils
Hazards and Hazardous Materials
Hydrology and Water Quality
Land Use and Planning
Mineral Resources
Noise
Population and Housing
Public Services
Recreation
Transportation/Traffic
Utilities and Service Systems
Global Climate Change
Mandatory Findings of Significance

Where the City can identify feasible mitigation measures that would avoid or reduce the potential significant effects of the project, they are identified, at least briefly in this Initial Study. The proposed scope of the EIR, i.e. the issues that the City will address in the EIR, is identified in each of the above-listed environmental issue areas. The subsequent preparation of the EIR will involve detailed analysis of each of the environmental issues identified and detailed consideration of any mitigation measures that may be needed to address those issues. The EIR will also address alternatives, cumulative impacts and a range of other topics required by CEQA.

Environmental Evaluation Checklist Terminology

The potential environmental effects of the proposed project are evaluated in Chapter 3 of this document, which is the Environmental Evaluation Checklist. The checklist includes a list of environmental considerations against which the project is evaluated. For each question, the agency determines whether the project would involve: 1) No Impact, 2) a Less Than Significant Impact, 3) a Less Than Significant Impact With Mitigation Incorporated, or 4) a Potentially Significant Impact.

A Potentially Significant Impact occurs when there is substantial evidence that the project would involve a substantial adverse change to the physical environment, i.e. that the environmental effect may be significant, and mitigation measures have not been defined that would reduce the impact to a less than significant level. If there are one or more Potentially Significant Impact entries in the

Initial Study, an EIR is required. The Potentially Significant issues will be addressed in detail in the EIR.

A Less Than Significant Impact occurs when the project would involve effects on a particular resource, but the project would not involve a substantial adverse change to the physical environment, and no mitigation measures are required. These issues will be addressed in the EIR but would not be treated to the same extent as Potentially Significant Impacts.

An environmental effect that is Less Than Significant With Mitigation Incorporated is a Potentially Significant Impact that can be avoided or reduced to a less than significant level with the application of mitigation measures. These issues as well as the mitigation measures needed to address them will receive detailed consideration in the EIR.

A determination of No Impact is self-explanatory.

Initial Study Organization

Chapter 1, Introduction, briefly summarizes the project, the purposes of the Initial Study, the terminology used in the Initial Study, and the organization of the document.

Chapter 2, Project Description, describes the proposed development project, its location, planned land uses and the road and utility improvements required to serve planned development as well as required permits and approvals.

Chapter 3, the Environmental Checklist, contains additional information describing the project, the environmental evaluation of the project in the environmental issue areas described above, documentation of the resources used to prepare the Initial Study, and the lead agency's formal determination that an EIR is required. The proposed scope of the EIR evaluation is also described within each of the issue areas.

Chapter 2
Project Description

This chapter of the Initial Study provides a brief summary description of the project followed by project setting and background information and detailed descriptions of the location and physical elements of the project.

The proposed project involves the adoption and implementation of the proposed Lathrop Gateway Business Park Specific Plan (GBPSP). The GBPSP provides for the planned urban industrial and commercial development of approximately 384 gross acres to create a comprehensively planned development that provides an appropriate balance of land uses and systematically constructed infrastructure and services to adequately and responsibly support the development. The specific plan process provides a planning mechanism by which all of the issues are explored and policies and standards can be created to guide the build-out of the Plan Area.

Project Location

The Gateway Business Park Specific Plan encompasses approximately 384± gross acres located in an unincorporated area of San Joaquin County, adjacent to the City of Lathrop. The east and west boundaries of the Plan Area are defined by two tracks of the Union Pacific Railroad; the southern boundary is State Highway Route (SR) 120 and northern boundary is defined by Vierra Road and Yosemite Avenue. Although the Gateway Business Park Specific Plan currently falls under the jurisdiction of San Joaquin County, it is within the City of Lathrop's Sphere of Influence and is included in the 2008 revised General Plan Map. See Figures 2-1 through 2-6.

Project Setting and Background

The GBPSP area includes a variety of existing land uses: agricultural interspersed with rural residential, service, office, church and industrial uses. Agricultural uses are located in the southern and central plan area. Rural homes sites are distributed along McKinley Avenue in the plan area. Other residential and mixed light industrial uses are located on the northern site boundary along Vierra Road and Yosemite Avenue. The industrial uses are located in the western boundary of the plan area, both north and south of Guthmiller and Yosemite Avenue. No parcels within the plan area are under Williamson Act contract.

The GBPSP area is surrounded by a variety of existing land uses. To the north, 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. Directly south of the Plan Area, across SR 120, is vacant, farmed land within the City of Lathrop's Sphere of Influence. Farther south and southeast, within San Joaquin County and the City of Manteca, are developing lands: residential, commercial, business, and public uses. Proposed and approved projects for the area include Southwest Manteca Employment Center, an area of approximately 1,408 acres, a high-tech business industrial park, and the Oakwood Lakes Subdivision. To the east, in Manteca, new commercial development is approved for Manteca Big League Dreams Sports Park, a 30-acre City-owned recreational sports complex, with an adjacent regional commercial center; various phases are currently built or under construction. The City of Manteca Wastewater Treatment Plant is also east of the GBPSP. To the west are other industrial uses and Interstate 5.

Project Details

The proposed project consists of a request for City approval of the Lathrop Gateway Business Park Specific Plan (GBPSP) and annexation of the 384-acre specific plan area (SPA) into the City of Lathrop. Adoption of the proposed specific plan will also involve a series of related actions, including approval of a general plan amendment, pre-zoning, annexation and a Development Agreement. The various required approvals would be needed in order to maintain required consistency within and between the City of Lathrop's land use and infrastructure planning documents and implementing ordinances as well as with state regulations governing annexation. These actions are described in more detail below.

The proposed specific plan provides both a planning framework for and regulatory tool governing the future development of the Lathrop Gateway Business Park area. The various land use designations, improvement plans, guidelines and standards and other provisions of the plan will form the primary basis for future City evaluation of development proposals within the SPA, including any tentative maps or other entitlements considered in conjunction with the specific plan. It is anticipated that the specific plan will be adopted by City ordinance. The specific plan will be subject to CEQA review in an Environmental Impact Report; pursuant to CEQA Guidelines Section 15182, future projects that are consistent with the specific plan may be exempt from further CEQA review.

The Land Use Plan proposes 67.6 acres of new commercial office, 190.2 acres of limited industrial uses, and 48.7 acres of service commercial uses. The Plan also includes 11.2 acres of open space, and 2.8 acres divided between three well sites. The number of acres may vary slightly depending on more accurate survey information and the final alignment of roadways. The following table provides a summary of the Land Uses including a proposed Floor Area Ratio (FAR) Average that was used to generate a maximum square footage of buildable area and potential employees generated in the Plan Area:

TABLE 2-1

LAND USE SUMMARY

Land Use		Acreage [Net]	Total Sq. Ft. Per Land Use	FAR Range	FAR Average	Max. Sq. Ft.
Office/Commercial	OC	67.6	2,945,527	.20 to .60	0.30	883,658
Limited Industrial	LI	190.2	8,285,983	.15 to .65	0.43	3,562,973
Service Commercial	SC	48.7	2,121,808	.15 to .66	0.43	912,377
Well Site	W	2.8				
Detention	D	3.9				
Open Space	OS	11.2				
Subtotal		324.4				
Major & Existing Roads		59.4				
TOTAL		383.9				5,359,008

Office and Commercial uses (OC) have been directed toward the State Route 120 corridor to capitalize on the vehicular access, visibility, and the logical "capture" market for these uses along

the corridor. Office and Commercial uses provide regional as well as local serving business/professional workspace. Specific users for this district might characteristically include a full range of large or small commercial operations, professional and administrative support services, administrative offices, financial institutions, recreational facilities, eating establishments, hotels/motels, incubator/research and development space, and the like.

Located in the central portion of the Plan Area with immediate access from both Yosemite and McKinley Avenues, the central area is comprised of Limited Industrial uses (LI), both north and south of Yosemite Avenue, stretching northward to Vierra Street and southward to the Union Pacific Railroad line at the Plan Area boundary. Envisioned as an important employment-generating land use, this LI district would provide 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.

The Service Commercial (SC) District is envisioned for uses not as vitally dependent on highway visibility as Office Commercial but nevertheless is afforded immediate arterial road access to and from McKinley and Yosemite Avenues in the eastern sector of the Plan Area. This land use is envisioned to be characterized by such specific users such as professional and administrative support services, automotive, boat, and other vehicle sales and services, rentals, eating establishments, wineries and wine cellars, other retail sales and services, equipment and machinery repair, research and development/laboratory services, general, light, and high-tech industrial users, warehousing and distribution, and the like.

The Land Use Plan depicts three public or quasi-public facilities, consisting primarily of the pedestrian/biking greenway system along Yosemite Avenue, detention and retention basins, and public easements on the site.

Pedestrian/Biking Greenway: Within the Plan Area, and in accordance with the Citywide Lathrop Bicycle Transportation Plan, a combination Class I (10-ft. bikeway separated from roadway) is planned to traverse the project site from the southwest corner along the south side of the existing UPRR alignment and along Yosemite Avenue to the site's eastern boundary and beyond. This bikeway system will provide access to all main roads on the site, as well as to the Lathrop-Manteca ACE Transit station to the northeast of the Plan Area.

Detention/Retention Facilities: Land is allotted within the Plan Area for detention and/or retention facilities for the purpose of managing stormwater runoff and preventing flooding within the site and surrounding communities. Two primary areas have been designated for these facilities: 1) located within the central area (LI Land Use) to take site stormwater east and south of Yosemite Avenue/Guthmiller Road and 2) located within the western area (OC Land Use) to take stormwater west and north of Yosemite/Guthmiller. The Land Use Plan has allotted 3.9 acres for detention/retention uses; however, more precise calculations will be necessary as specific site plans are designed and reviewed in future stages of specific project development approvals.

Open Space: Within the Plan Area, open space is designated as landscape buffer and sloping banks between on-site land uses and major roadways, including SR 120. Other easements and greenways are also considered part of the opens space designation.

Circulation System

The GBPSP proposes a network of streets and pathways to serve the Plan Area. The GBPSP specifies a hierarchy of roadways that allows for the efficient flow of vehicular traffic, and also encourages walking, biking and public transit alternatives to single occupancy vehicles.

Arterial streets (which includes six-lane and four-lane roads) serve to convey significant "cross-town" traffic. These streets will provide for efficient access through the City of Lathrop, and connections to major commercial uses, employment centers, and amenities. Four arterial streets exist in the Plan Area: Yosemite Avenue, Guthmiller Road, and McKinley Avenue. These arterials may need improvements or upgrades due to the Specific Plan effort. These streets have been excluded from the calculations of developable acres in the Land Use Plan.

Collector streets provide connections into the development, linking to office, commercial and industrial uses. These streets have also been excluded from the calculations of developable acres in the Land Use Plan.

Sewer

The proposed Plan Area will be served by the City of Lathrop. At project build-out, the entire Plan Area will be served by a combination gravity sewer system, sewage lift stations and force mains that will be utilized to direct flows to a treatment facility. There are two treatment facility options: 1) the City of Lathrop's Water Recycling Plan (WRP) #1 and/or #2, or 2) the City of Manteca's treatment plant to the east under agreement between the two cities.

If the treatment occurs at WRP #1 or #2 the treated recycled water will be required to be disposed of through land application. Parcels within the northwest part of Lathrop have been identified for disposal purposes. The parcels were previously identified in the City's Report of Waste Discharge (RWD) and Waste Discharge Requirements (WDR) issued by the Regional Water Quality Control Board (RWQCB). Land application will consist of lined storage basins to hold recycled water during non-irrigation periods and agricultural fields to dispose of the water during irrigation periods. Flood irrigation and perimeter berms around the fields will be utilized avoid any offsite runoff. A purple pipeline system will be required to deliver the water from the treatment plant to the storage basins. of which a portion of the pipeline has already been constructed. An annual water balance design will need to be completed during the design phase of the project to verify that sufficient storage and application area are available.

Water

The City of Lathrop will be responsible for providing water service to the Plan Area. The sources of water shall be groundwater from existing wells and/or an expansion of the City's well field with the possible development of surface water sources from Phase 1/Phase 2 expansion of the South County Surface Water Supply Program (SCSWSP) by the South San Joaquin Irrigation District (SSJID). Surface water will be treated off-site at a central facility outside of the City of Lathrop. Groundwater may be treated at the existing Well #21 site within the project area or possibly at the new well heads. It is also possible that arsenic treatment of groundwater could occur at an offsite central facility.

The Plan Area has included the use of reclaimed water to irrigate public open space areas and landscape corridors. Ultimately a separate distribution system is proposed to allow the use of this non-potable water as a measure to conserve potable water supplies.

Storm Drainage

The Plan Area is essentially flat, with surface flows moving roughly in a westerly direction. Site development will necessitate the need for the Plan Area to construct detention basins, pump stations, force mains and an outfall structure into the San Joaquin River. An offsite pipeline will need to be constructed between the project site and the San Joaquin Rover.

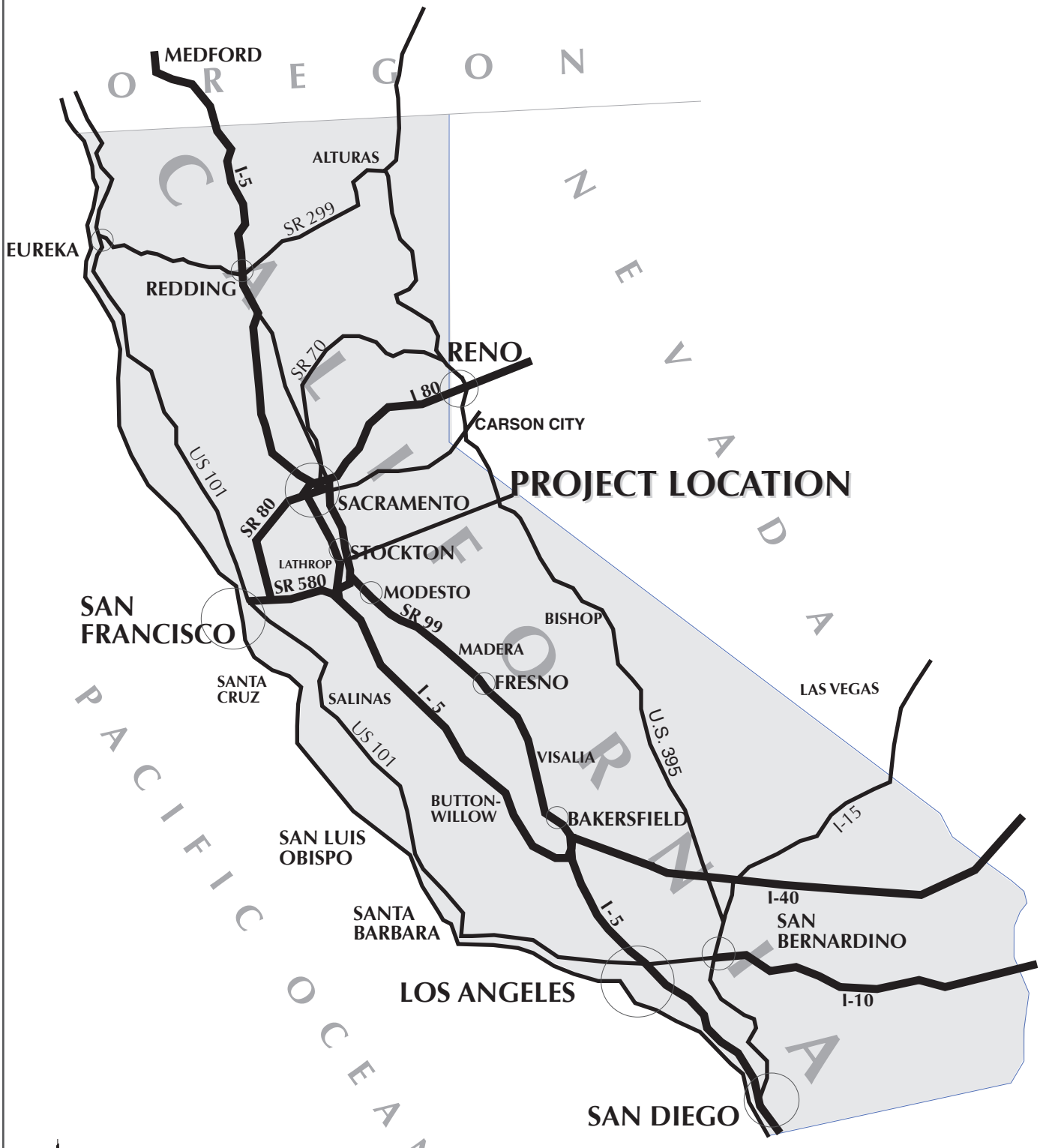
Approvals

In addition to approval of the specific plan and annexation of the Plan Area into the City of Lathrop, the project will require other discretionary approvals. These would include amendment of the Lathrop General Plan, pre-zoning of the plan area in accordance with approved specific plan designations and approval of a development agreement.

Other than the City of Lathrop and LAFCO actions described above, permits and approvals that may be required in conjunction with the development of the GBPSP area would include the following:

TABLE 2-2
PERMITS AND APPROVALS

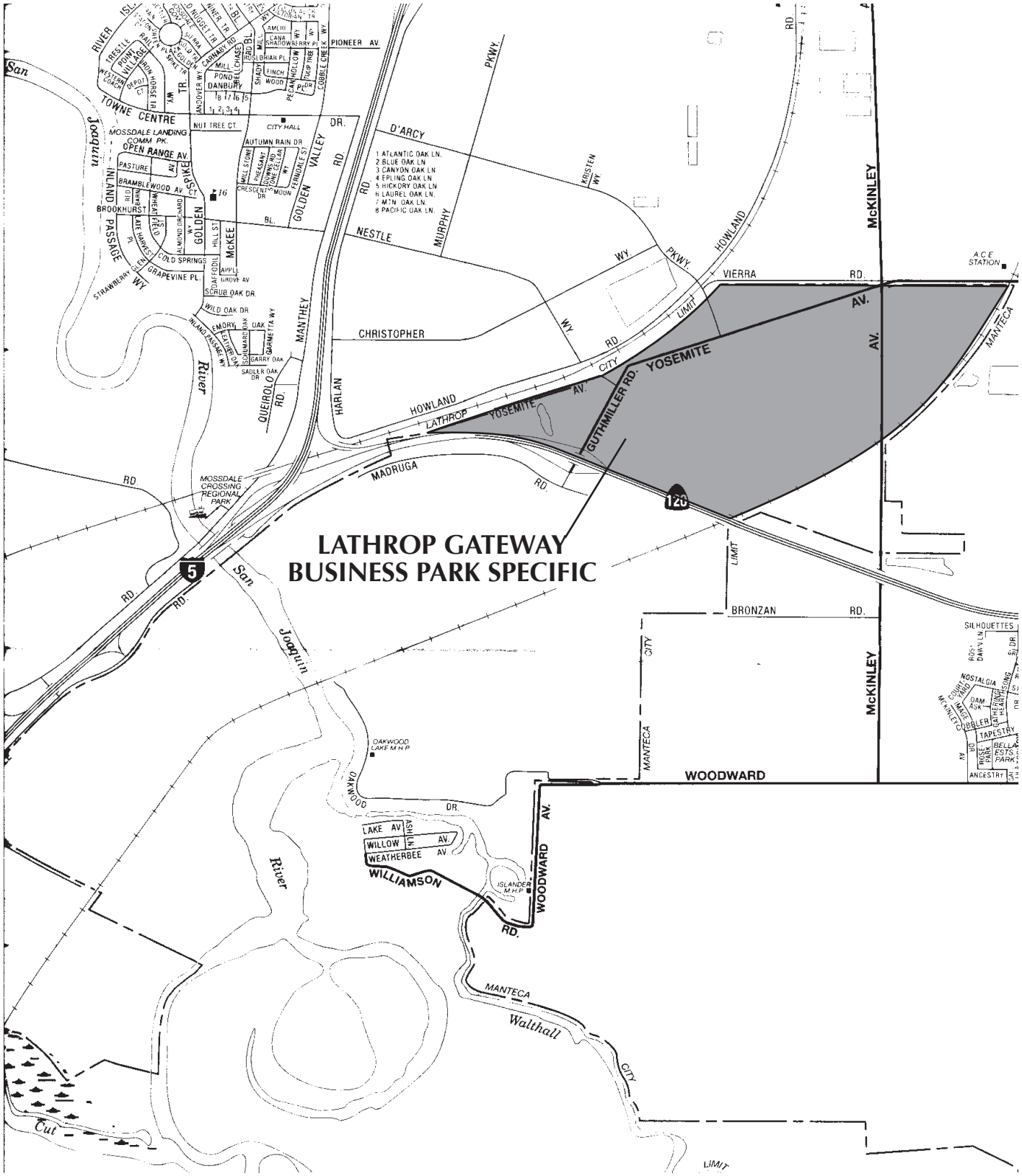
Agency	Permit/Approval
San Joaquin Valley Unified Air Pollution Control District	Indirect Source Rule Permit, Authority to Construct, Permit to Operate for stationary sources of air pollution (auxiliary power, storm drainage pump station)
California State Reclamation Board	Encroachment permit for work on or adjacent to levees, including storm drainage outfalls
California Department of Fish and Game	Stream alteration permit for storm drainage outfalls
California Water Resources Control Board	Section 401 Water Quality Certification, in conjunction with US Army Corps of Engineers Section 404 Permit
US Army Corps of Engineers	Section 404 permits for discharge of fill to Waters of the U.S. and wetlands, including development of any jurisdictional irrigation canals and construction of storm drainage outfalls. This permit will involve consultations with federal fish and wildlife protection agencies.



Source: INSITE ENVIRONMENTAL, INC.

INSITE ENVIRONMENTAL, INC.

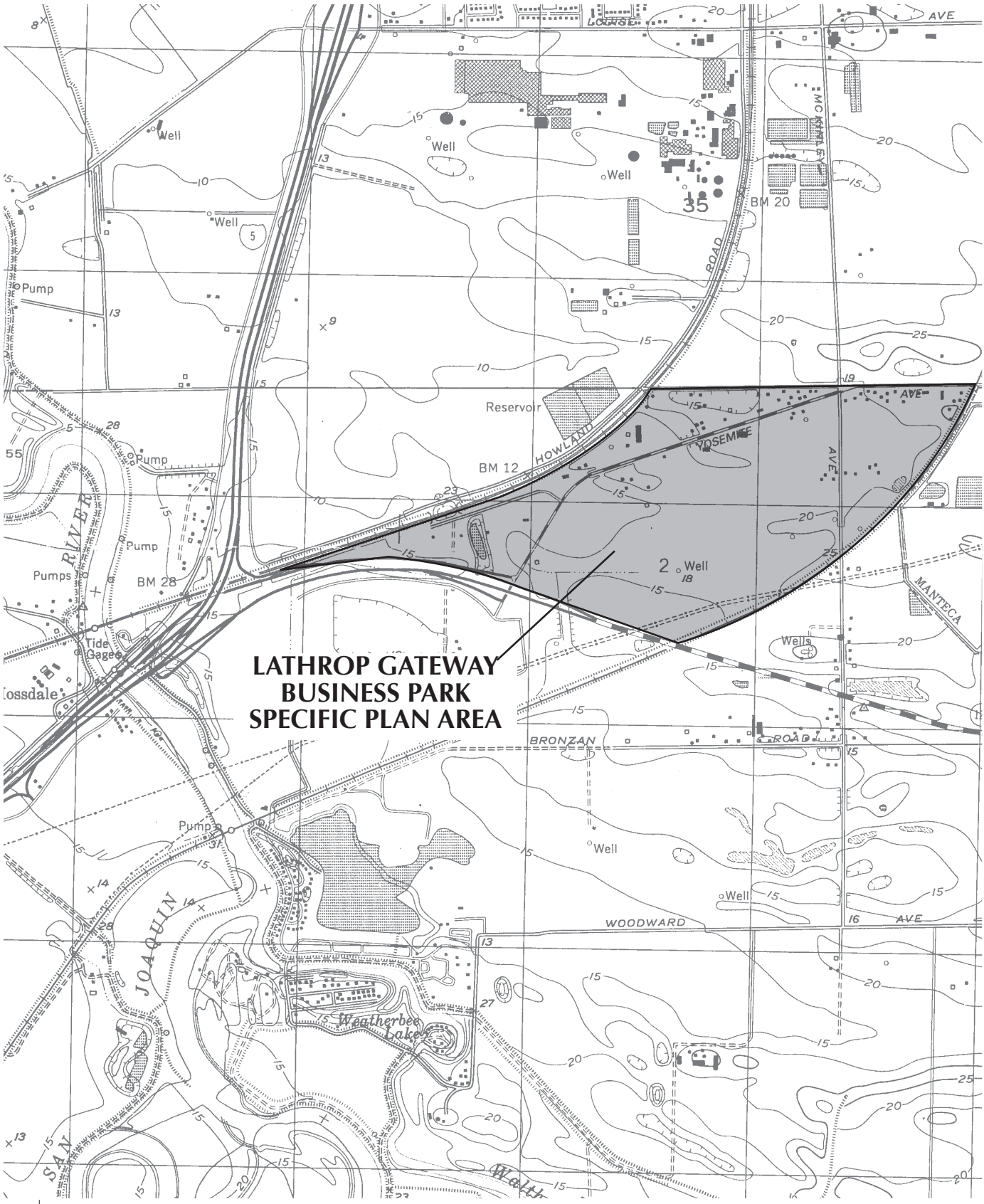
Figure 2-1
REGIONAL MAP



SOURCE: AAA, MANTECA, LATHROP, RIPON

Figure 2-2
VICINITY MAP

INSITE ENVIRONMENTAL, INC.



SOURCE: US GEOGLOGICAL SURVEY
LATHROP QUADRANGLE

Figure 2-3
USGS MAP

NORTH

SOURCE: GOOGLE EARTH

INSITE ENVIRONMENTAL, INC.

Figure 2-4
AERIAL PHOTO

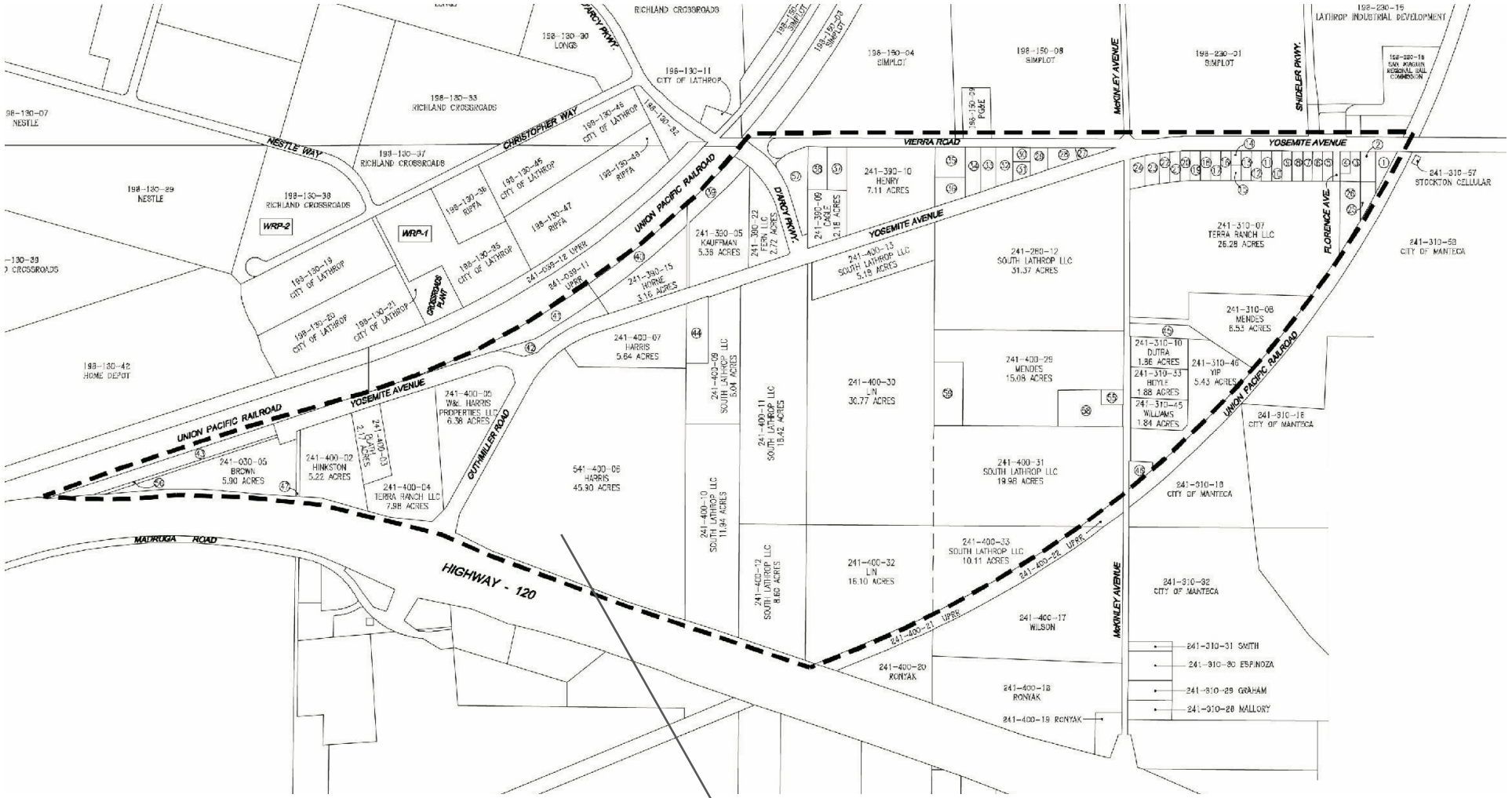
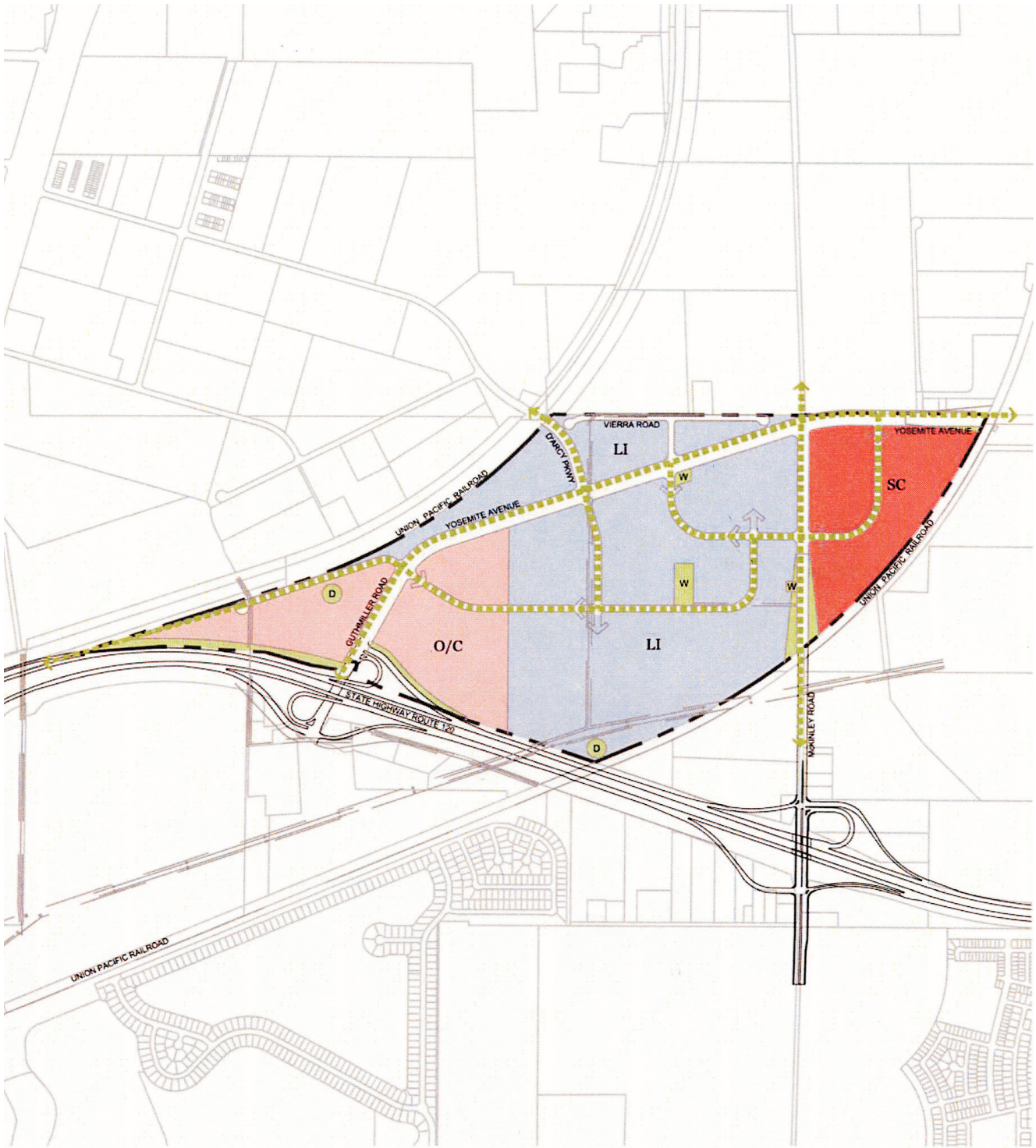


Figure 2-5
OWNERS PARCEL MAP

INSITE ENVIRONMENTAL, INC.



NORTH SOURCE: WOOD RODGERS

INSITE ENVIRONMENTAL, INC.

Figure 2-6
SITE PLAN

Chapter 3.0
Environmental Significance Checklist

A. PROJECT DESCRIPTION

1. Project Title:	Lathrop Gateway Business Park Specific Plan
2. Project Entitlements:	General Plan Amendment, Pre-Zoning, Annexation, CEQA Certification, Specific Plan Approval
3. Lead Agency Name and Address:	City of Lathrop 390 Towne Center Drive Lathrop, CA 95330
4. Contact Person and Phone Number:	Charlie Mullen, Assistant Community Development Director, 209-941-7298
5. Project Location:	The Lathrop Gateway Business Park Specific Plan encompasses approximately 384± acres located in an unincorporated area of San Joaquin County, adjacent to the City of Lathrop, California. The east and west boundaries of the Plan Area are defined by two Union Pacific Railroad tracks; the southern boundary is defined by State Highway Route 120 and the northern boundary is defined by Vierra Road and Yosemite Avenue.
6. Project Sponsor's Name and Address:	South Lathrop, LLC Attention: David Lazares 634 North Santa Cruz Ave. Los Gatos, Ca.95030 Phone: 408 399-4393 Fax: 408 399-4397 Email: dlazares@lazarescompanies.com
7. General Plan Designation and Zoning:	Existing General Plan: Service Commercial (SC); Freeway Commercial (FC); and General Industrial (GI) Proposed General Plan: Office Commercial (OC); Limited Industrial (LI); and Service Commercial (SC) Existing Zoning (Under San Joaquin County): I-W (Warehouse Industrial) and AU-20 (Agriculture Urban Reserve)
8. Description of Project:	A detailed description of the project is included in Chapter 2.0 of this Initial Study.
9. Surrounding Land Uses and Setting:	The project area is bounded by agricultural uses to the north and east; industrial uses to the northeast and northwest; transportation uses (railroad tracks to the west and east, as well as State Highway 120 right-of-way to the south); and rural residential units to the south.

10. Other public agencies whose approval is required: U.S. Army Corps of Engineers (404 Permit for Storm Discharge); State Regional Water Quality Control Board (401 Water Certification): California Department of Fish and Game (1600 Streambed Alteration Agreement): California Department of Transportation District 10 (SR 120 ROW Encroachment, if necessary); California State Reclamation Board (Encroachment Work on Levee); San Joaquin Valley Unified Air Pollution Control District (Indirect Source Rule Permit); San Joaquin Local Agency Formation Commission; California Department of Health Services (Land Application of Recycled Water); California Public Utilities Commission (ROW Encroachment); and Reclamation District 17 (San Joaquin River and Associated Levee Issues).

B. ENVIRONMENTAL FACTOR POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

■ Aesthetics	■ Agriculture Resources	■ Air Quality
■ Biological Resources	■ Cultural Resources	□ Geology /Soils
■ Hazards & Hazardous Materials	■ Hydrology/Water Quality	□ Land Use/Planning
□ Mineral Resources	■ Noise	□ Population / Housing
■ Public Services	□ Recreation	■ Transportation/Traffic
■ Utilities/Service Systems	■ Global Climate Change	■ Mandatory Findings of Significance

C. LEAD AGENCY DETERMINATION

On the basis of this initial evaluation:

□ I find that the proposed project COULD NOT have a significant effect on the environment and a NEGATIVE DECLARATION will be prepared.

□ I find that although the proposed project could have a significant effect on the environment there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

■ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

□ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on

attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Charlie Mullen, Assistant Community Development Director
City of Lathrop

6/25/09
Date

D. EVALUATION OF ENVIRONMENTAL IMPACTS

The foregoing environmental determination is based on the evaluation of the potential environmental effects of the proposed project, as documented in the following checklist and supporting documentation. The checklist has been prepared in accordance with the following requirements:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

5) Earlier analyses may be used where, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a) Earlier Analysis Used. Identify and state where the analysis(es) are available for review.

    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of, and adequately analyzed in, an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Incorporated", describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats.

9) The explanation of each issue should identify:

a) the significance criteria or threshold, if any, used to evaluate each question; and

b) the mitigation measure identified, if any, to reduce the impact to less than significance

E. ENVIRONMENTAL CHECKLIST AND NARRATIVE EXPLANATION

1. AESTHETICS -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	■
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	■
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	■	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	■	☐	☐

NARRATIVE EXPLANATION

The Lathrop Gateway Business Park Specific Plan area ("study area") is located along the eastern boundary of urban development in the City of Lathrop. The study area is predominantly in agricultural production and related use (i.e., storage of trailers for agricultural product transport), along with some rural residences. McKinley Boulevard, Yosemite Avenue, and Guthmiller Road run through the study area.

Railroad tracks run the length of the eastern and western borders of the study area (See Figure 2-2 Vicinity Map). Vierra Court and Yosemite Avenue border the study area to the north. Beyond these roads are a variety of visual landscapes from row crops to large warehouse type buildings. A Pacific Gas and Electric substation is also located north of the study area. In addition, the Lathrop Industrial Park (LIP) and ACE Station are located near the northeast corner of the study area and reflects a built our portion of the surrounding environment.

Visibility from and within the study area is relatively limited; nut and fruit orchards obscure views into and from the study area. Views of the study area from all but the immediately surrounding lands north and east of the area are further obscured by existing commercial and transportation development. Views of and over the study area are available from the San Joaquin River levee and the SR 120 frontage roads overpass.

The proposed project would over time involve substantial changes in the appearance of the study area. Early in the development process, existing agricultural open space will be replaced by new urban development. This would involve removal of agricultural land from active production. Planned development would result in the extension of new streets and parkways into the undeveloped portions of the study area. New development would be subject to the design

requirements of the Lathrop Gateway Business Park Specific Plan as well as the more general design requirements of the City of Lathrop.

The EIR will need to characterize existing landscapes in the Project vicinity, including industrial, residential, transportation, and agricultural development in an aesthetic context, identifying any elements of variety and interest including crops, existing storm basin, and other features. Primary viewer corridors and locations, and the sensitivity of viewers potentially affected by changes on the site will need to be identified. The EIR will identify existing night lighting features and their prominence in local viewsheds.

Issues to be addressed in the EIR would include:

- Nature and degree of potential landscape change associated with proposed industrial uses of the site. The analysis will be based on the specific plan as well as representative land use plans, design standards or other information that would govern the appearance and design of proposed facilities.

- Discussion of effects of planned development on existing viewsheds from existing and planned transportation corridors and representative locations in the Project vicinity, including SR 120, Guthmiller Road, Yosemite Avenue and McKinley Avenue. The analysis will include consideration of relevant specific plan design and landscaping standards.

- Potential effects of planned open study area corridors and perimeter treatments on the overall appearance of the Project.

- Extent and location of potential and proposed night lighting, particularly in proposed industrial areas, effects on night viewsheds, potential light and glare effects. The analysis would include consideration of areas where high-intensity lighting may affect sensitive receptors as well as potential effects on night viewsheds.

Interstate 580 is the only state designated scenic highway in San Joaquin County and is not visible to or from the study area. Because no scenic highways would be impacted this issue will not be analyzed in the EIR.

2. AGRICULTURE RESOURCES -- In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	■	☐	☐	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	■
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	■	☐

NARRATIVE EXPLANATION

Historically, the study area has been in agricultural use, predominantly orchards. Walnut orchards in the study area range from young to very mature. There are no Williamson Act contracts on lands within the study area. The agricultural lands of the study area are zoned General Agriculture (AG-40), Warehouse Industrial (I-W), and General Commercial (C-G) by San Joaquin County.

The proposed project would result in conversion of most of the study area to industrial uses; this would include conversion of prime agricultural lands. Development within the study area will be subject to the City's agricultural land mitigation program. Planned urban development may involve the potential for conflict with remaining agricultural uses within the study area during the buildout period; the project is not expected to result in conflicts with agricultural uses outside of the study area, as these lands are either in developed uses or substantially separated from the study area by existing freeways and railroad rights-of-way. The project would not involve conflicts with Williamson Act contracts.

The EIR will specifically identify, describe, and map existing agricultural uses within and near the study area, identify soil characteristics and suitability for agriculture, and quantify the site's general agricultural productivity. Existing irrigation supply and distribution systems will be identified. The City's existing program for the mitigation of agricultural land conversion impacts will be described and applied to the project's impacts.

Issues to be addressed in the EIR would include:

- Conversion of agricultural land to urban uses, in terms of loss of existing and future productivity, reversible and irreversible consequences. Availability and applicability of agricultural land conversion mitigation programs to the project.

- Potential conflicts, if any, between proposed urban uses and nearby agricultural land uses. Potential influence of agricultural land conversion and urban use on the future agricultural use of other nearby lands.

- Potential effects of planned development on-and off-site irrigation water supply and distribution systems.

3. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable Air Quality Attainment Plan?	■	☐	☐	☐
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	■	☐	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	■	☐	☐	☐

e) Expose sensitive receptors to substantial pollutant concentrations?	■	☐	☐	☐
f) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	■

NARRATIVE EXPLANATION

The State of California and the federal government have established ambient air quality standards for several different pollutants. San Joaquin County and the Lathrop area have been designated an attainment area for carbon monoxide under both state and federal standards, and particulate matter (PM-10) under federal standards. San Joaquin County is considered a non-attainment area for ozone under federal standards, and particulate matter (PM-10) under state standards. The San Joaquin Valley Air Pollution Control District (SJVAPCD) has jurisdiction over most air quality matters in the San Joaquin Valley Air Basin (SJVAB) and has adopted the Guide to Assessing and Mitigating Air Quality Impacts (GAMAQI), which establishes a methodology and thresholds of significance for CEQA analysis.

The proposed project will result in potentially significant construction emissions consisting of fugitive dust and construction equipment emissions. Project operations will result in significant ozone precursor emissions from automobile and truck traffic as well as potentially significant concentrations of carbon monoxide at congested intersections. The project will not involve any known major odor sources or exposure of sensitive receptors to known existing odor sources.

The EIR will need to document applicable regulations and standards, existing and projected future air quality for the Project area, regional and local meteorology and air quality, consistency with state and federal ambient air quality standards, and existing air quality management programs.

The air resources analysis in the EIR will document the potential air pollutant emissions associated with the project in conformance with the guidance presented in the SJVAPCD's GAMAQI. The analysis will include modeling of both construction- and operations-related particulate matter and ozone precursor emissions as well as screening analysis of local carbon monoxide (CO) emissions. CALINE modeling of carbon monoxide concentrations would be conducted if indicated by screening analysis. The EIR will include analysis of potential toxic air contaminant or odor impacts associated with the project. The following air quality issues would be addressed:

- Project compliance with all applicable state air quality legislation, including but not limited to AB 32, AB 170 and SB 375 (for additional discussion regarding Greenhouse Gases refer to Section 17, Global Climate Change, below).

- Potential for stationary source emissions from proposed urban uses and associated permitting requirements (e.g. industrial uses).

- Quantification of project construction and operations emissions using the most current URBEMIS model. This analysis would include analysis of the effectiveness of any proposed air quality mitigation (e.g. pedestrian and bicycle ways, proximity to commercial services, etc.) that would be included in the project.

- Identification of construction dust or other required construction control measures identified in GAMAQI or SJVAPCD regulations. This would include analysis of potential regional emission reductions associated with project participation in the SJVAPCD's Rule 9510 Indirect Source Rule.

- Using an approved screening model, assess potential for exceedence of CO standards at congested intersections under Existing Plus Approved Project Plus Project and Cumulative Plus Project conditions, and whether proposed traffic mitigation measures would reduce or eliminate these effects. Perform CALINE modeling of potentially impacted intersections if warranted by the screening model.

- Potential project exposure to odor or toxic air contaminant releases, as prescribed in GAMAQI. This will include consideration of diesel particulate emissions associated with SR 120 operations.

4. BIOLOGICAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Adversely impact, either directly or through habitat modifications, any endangered, rare, or threatened species, as listed in Title 14 of the California Code of Regulations (sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (sections 17.11 or 17.12)?	■	☐	☐	☐
b) 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 Game or U.S. Fish and Wildlife Service?	■	☐	☐	☐
c) 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 Game or US Fish and Wildlife Service?	■	☐	☐	☐
d) 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?	■	☐	☐	☐
e) 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?	☐	☐	■	☐
f) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	■	☐	☐
g) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	☐	■	☐	☐

NARRATIVE EXPLANTION

The proposed study area consists predominantly of agricultural uses that provide limited and relatively poor wildlife habitat. Biological resources within or adjacent to the study area includes

some wetland areas, potential special-status species and the San Joaquin River (the area in which a storm water outfall structure would be located), and its associated habitat.

The project will result in the removal of existing wildlife habitat values remaining in the agricultural portions of the study area. It is anticipated that the project will participate in the SJMSCP, including the payment of fees and implementation of any required Incidental Take Mitigation Measures; SJMSCP fees will be used to acquire, protect or enhance other habitat lands.

The project would involve the construction of a storm water outfall structure to the San Joaquin River. Each of these project elements would involve potential for effects on the wetland and other aquatic resources of the waterway systems.

The EIR will need to document the biological resources within the study area, including presence/absence of native vegetation communities, wetlands, oak trees, habitat for rare, threatened, endangered and other special-status plant and wildlife species, and any other important or unique biological resources. This information will be obtained from biological field surveys, supplemented, as needed, with literature review, aerial photo interpretation, agency consultation and field surveys.

Issues to be addressed in the EIR would include:

- Effects of proposed Lathrop Gateway Business Park land uses on existing wildlife habitats within the study area and their utilization, including any potential effects on wildlife movement.

- Analysis of potential effects of development affecting any jurisdictional waters of the U.S. or wetlands, including the storm drainage outfall structure located within the San Joaquin River system.

- Project effects on any critical wildlife habitats (i.e. wetlands, nesting sites) which may be identified on or adjacent to the study area.

- Relationship of the Lathrop Gateway Business Park Specific Plan to the San Joaquin County Multi-Species Open Study area and Habitat Conservation Plan (SJMSCP), identification of required fees and probable Incidental Take Mitigation Measures, and the degree to which the potential biological impacts of specific plan implementation would be addressed by the provisions of the SJMSCP.

5. CULTURAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource?	■	☐	☐	☐
b) Cause a substantial adverse change in the significance of a unique archaeological resource (i.e., an 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 contains information needed to answer important scientific research questions, has a special and particular quality such as being the oldest or best available example of its type, or is directly associated with a scientifically	☐	■	☐	☐

recognized important prehistoric or historic event or person)?

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	■
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	■	☐	☐

NARRATIVE EXPLANATION

A cultural resources inventory of the proposed study area will be prepared in conjunction with preparation of the EIR; this will include an archaeological survey of accessible properties as well as an evaluation of structures within the study area for their potential historical importance. Structures of potential historical importance will be subject to an evaluation of their potentially eligibility for listing on the California Register of Historic Places. There are no known records of the occurrence of paleontological resources in the project vicinity.

The proposed project would involve extensive grading and disturbance of lands within the study area. Planned development would involve the potential for disturbance of any archaeological sites identified during the field survey and any as yet-undiscovered archaeological resources located below the surface; planned development would involve potential removal or damage to historic structures, if present.

The EIR will need to document and describe known archaeological or historical sensitivities of the study area based on a search of database and other records. The EIR will consider the results of an archaeological field survey of proposed development properties as well as the results the historic resource evaluation, if needed.

Issues to be addressed in the EIR would include:

- Potential for direct disturbance of surface and subsurface archaeological or historic resources, if any, as a result of proposed site development.
- Potential effects of development on significant historic structures, if any.
- Potential for indirect disturbance of cultural resources, if any, as a result of planned urbanization and future use of the study area.
- Potential for avoidance, minimization, or mitigation of impacts through information recovery, site recordation, site protection, open study area dedication, or other measures as appropriate.

6. GEOLOGY AND SOILS -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of	☐	☐	☐	■

Mines and Geology Special Publication 42.

ii) Strong seismic ground shaking?	☐	☐	■	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	■
iv) Landslides?	☐	☐	☐	■
b) Result in substantial soil erosion or the loss of topsoil?	☐	■	☐	☐
c) Be located on strata 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?	☐	☐	☐	■
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?	☐	■	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	■

NARRATIVE EXPLANATION

The site itself is located in the northern central portion of the Central Valley in an area characterized by alluvial fan deposits. The study area is essentially flat and located at an elevation of 10-20 feet above mean sea level in east Lathrop. Geologic materials underlying the study area consist of a heterogeneous mix of poorly sorted clay, silt, sand, and gravel deposits.

There are no known earthquake faults located on or in the vicinity of the study area. There are no designated Alquist-Priolo earthquake fault zones in the study area. The study area could be subject to seismic activity, but potential seismic shaking risks are accounted for in applicable building codes. There are no known liquefaction or landslide hazards in the project vicinity.

The EIR will describe regional and local geology, topography, faulting, and seismicity including any fault displacement, seismic shaking, liquefaction, or settlement hazards from existing literature. The EIR will include a description of soil mapping units, soil productivity, soil characteristics (depth, texture, drainage, etc.), limitations (shrink/swell, saturation, etc.) and wind and water erosion potential. Any applicable geotechnical information prepared for the applicant by qualified consultants would be incorporated into the document.

Issues to be addressed in the EIR would include:

- Exposure of planned new development to fault, seismic, liquefaction, settlement or other geologic hazards.
- Exposure of proposed improvements to soil constraints and associated needs for soil engineering.
- Potential effects on soil erosion, effectiveness of planned storm drainage systems and City storm-water pollution-prevention programs in minimizing erosion and sediment discharges to surface waters.

7. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	■	☐	☐
b) 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?	☐	■	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	■	☐
d) 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?	☐	☐	■	☐
e) 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, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	■
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	■
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	■	☐	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	■

NARRATIVE EXPLANATION

Portions of the study area are currently in agricultural production. The remaining areas consist of residential units and a large area along Yosemite Avenue to store agricultural equipment. Potential concerns would include pesticide residues associated with past agricultural use, structures that may contain asbestos or lead-based paint, and wells and septic systems that would need to be properly abandoned in conjunction with planned urban development.

There are no airports or airstrips within two miles of the project site. There are no wildlands in the vicinity of the project site, and the site is not subject to wildland fire risks. The project would involve no substantial adverse change to existing transportation facilities or any known potential impact on emergency response or evacuation plans.

Development of proposed urban land uses could involve the potential for exposure of construction workers or future residents to existing hazardous materials contamination that may be present in the area. In addition, and on a more limited basis, it is anticipated that project construction would involve use of hazardous materials, and project residents would be exposed to hazardous materials transportation risks associated with traffic along existing roads in the project vicinity. The project would involve an increase in population in the study area and would involve some new emergency response and evacuation needs. The project would involve no new exposure to wild land fire risk.

The EIR will describe any existing or past potential releases of hazardous materials and to identify any remaining storage, use or generation of hazardous materials and wastes in the study area or vicinity. Hazardous material transportation risks associated with highway use will be identified. The EIR will document the presence or absence of schools and airports within applicable radii.

Issues to be addressed in the EIR would include:

- Potential for exposure of construction personnel and existing residents and future employees/businesses to environmental risks associated with previous and existing industrial and commercial use of the study area and vicinity, based on Phase I and II reports as available from the applicants' consultants. Cleanup action or other mitigation measures needed to avoid significant health risks.

- EMF hazards will be described and evaluated and impacts on future area employees and visitors.

- Identification of potential for use of hazardous materials in conjunction with future commercial and industrial uses of the site, and controls on such use.

- Identification and discussion of direct hazards and hazardous material transportation risks associated with roadway operations and electrical systems.

- Relationship of the proposed project to existing emergency response and evacuation plans.

- Documentation of the presence or absence of schools and airports within applicable risk radii.

8. HYDROLOGY AND WATER QUALITY -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	■	☐	☐
b) 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 pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	■	☐	☐	☐
c) 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 which would result in substantial erosion or siltation on- or off-site?	☐	■	☐	☐

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	■	☐	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems?	☐	■	☐	☐
f) Place housing 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?	☐	☐	☐	■
g) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	■
h) 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?	☐	☐	■	☐
i) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	■

NARRATIVE EXPLANATION

The proposed project will involve new urban development which will involve substantial increases in the volume of storm water, which would represent potential increases in flow in the San Joaquin River; planned development of the Lathrop Gateway Business Park Specific Plan storm drainage system would include detention capacity as well as provide required storm water quality treatment while minimizing the project's impacts on peak winter flows in the adjoining channels. The hydrologic effects of these proposed systems would be evaluated in the EIR.

The project will involve the generation of substantial new quantities of urban runoff and associated pollutant loading. Storm runoff will be subject to treatment by routing through the proposed storm drainage and detention system; storm runoff will also be subject to any other applicable requirements of the City's Storm Water Management Program and the Storm Water Quality Control Criteria Plan. These requirements are expected to reduce potential water quality impacts to less than significant, but these potential impacts will need to be evaluated in the EIR.

The project will require new domestic water service, which would be supplied by the City potable water system; net effects of the transition from existing supplies to the municipal system will need to be evaluated in the EIR. The project applicant will need to prepare a Water Supply Assessment for the project pursuant to SB 610 that addresses whether the projected supply for the next 20 years - based on normal, single dry, and multiple dry years – will meet the demand projected for the project as well as existing and other planned future uses. The Water Supply Assessment will be reviewed and approved by the City of Lathrop.

The EIR will describe the existing surface water features in the vicinity of the study area, identify floodplain classifications from FEMA maps and detail planned improvements that would address existing flooding concerns. Existing runoff patterns and approximate quantities will be identified, and the general nature, extent, and quality of groundwater resources in the study area will be described. Any wetland issues will be addressed in the Biological Resources section.

Hydrologic issues to be addressed in the EIR would include:

- Potential for direct physical or flow impacts on the San Joaquin River and its levee system, specifically the current status of the existing levee system including the Provisionally Accredited Levee (PAL) designation status, and current efforts by the Reclamation District (RD) 17.
- Changes in the existing drainage patterns and features of the site. Potential for increased runoff as a result of impervious surface development, provision of storm drainage and detention systems, and potential contributions of runoff to peak flows in the nearby waterways.

- Potential construction pollution contributions to waterways and effects on water quality. Required conformance with Lathrop Storm Water Management Plan and required preparation of the Storm Water Pollution Prevention Plan.

- Project contributions of urban runoff to the drainage system and the effectiveness of proposed detention or other treatment systems in conforming to the Lathrop Storm Water Management Plan and Storm Water Quality Control Criteria Plan.

- Potential for floodplain exposure, based on FEMA 100-year protection, and proposed improvements needed to eliminate significant flooding exposure. The EIR will also discuss how the Department of Water Resources (DWR) is required by SB 5 to develop criteria for 200-year protection that are not presently provided by FEMA. The impact these criteria have on the project will be discussed.

- Project-related potential for direct impacts on groundwater quantity or quality, if any, including potential effects of new urban development water usage on groundwater. SB 610 requirements are addressed in the Public Utilities and Services section.

- Potential impacts of storm drainage or other improvements on San Joaquin River floodway capacity.

9. LAND USE AND PLANNING – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	■
b) 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?	☐	■	☐	☐
c) Conflict with any applicable habitat conservation plan or natural communities conservation plan?	☐	■	☐	☐

NARRATIVE EXPLANATION

Existing land use in the study area are agriculture and/or agriculture-related and associated residences. Surrounding land uses consists of agricultural, industrial, public facilities, and transportation related uses (i.e., railroad tracks, highway, and the existing Lathrop-Manteca Altamont Commuter Express (ACE) Train station).

The study area is designated for future urban development in the City's General Plan, Freeway Commercial (FC), Service Commercial (SC) and General Industrial (GI). The study area is located outside the existing Lathrop City limits and is zoned Industrial Warehouse (I-W) and Agricultural Urban, 20-acre minimum (AU-20) by the County of San Joaquin. The study area is not currently zoned by the City of Lathrop.

A specific plan for the Lathrop Gateway Business Park area is being processed by the City and is the subject of this Initial Study. Approval of the specific plan would result in substantial growth inducement within the study area, resulting in approximately 384 acres of new urban development of existing agricultural, vacant and residential type lands. The proposed conversion of the study area to planned industrial serving uses is intended to result in an integrated planned urban area. The land use effects of these changes are expected to be largely beneficial and consistent with the provisions of the City's General Plan. Consistency of the specific plan with the City's General Plan, including the consistency of the Specific Plan with the designations and policies of the plan, will be considered in the EIR.

Nonetheless, implementation of the Specific Plan may involve potential conflicts between the proposed uses and existing land uses within and adjacent to the study area, during the build out period. Potential areas of conflict would be between proposed industrial uses and the existing agricultural and rural residential uses. Approval of the Lathrop Gateway Business Park Specific Plan would require an amendment of the Lathrop General Plan and Land Use Map, and Zoning Map, by pre-zoning of the site, as proposed. Potential conflicts between the Specific Plan and the City's general plan designations and policies will be evaluated in the EIR.

The study area is located within the coverage area for the San Joaquin County Multi-Species and Habitat Conservation Plan (SJMSCP). Development of the area would be subject to SJMSCP fees for Open Space or Agricultural Lands. Assuming project participation in the SJMSCP, the project would not involve a conflict with this plan.

The EIR will identify, describe, and map existing and planned land use and circulation patterns in the study area and vicinity as well as proposals for development of other lands in the vicinity. This would include land use designations and applicable provisions of the Lathrop General Plan as well as any other applicable designations and provisions of City, County, regional or state land use planning documents with relevance to the specific plan.

Land use issues to be addressed in the EIR would include:

- Consistency of the project with land use/circulation designations and applicable policy provisions of the Lathrop General Plan. Discuss the amendment to the City of Lathrop General Plan (including amendments to the four Utility Master Plans that are integral part of the General Plan and the Bicycle Transportation Master Plan). Where appropriate, the discussion will refer to other chapters of the EIR for additional discussion.

- Internal consistency of proposed land uses with each other and potential conflicts, if any, with adjoining and nearby land uses, including existing commercial and industrial uses.

- Project growth-inducing influences will be addressed in a chapter devoted to that subject.

- Project relationship to applicable Local Agency Formation Commission policies and standards.

- Agricultural land conversion and conflict issues will be addressed in a chapter devoted to that subject.

- The relationship of the Specific Plan with applicable habitat conservation plans would be addressed in the Biological Resources section of the EIR.

10. MINERAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource classified MRZ-2 by the State Geologist that would be of value to the region and the residents of the state?	☐	☐	☐	■
b) 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?	☐	☐	☐	■

NARRATIVE EXPLANATION

According to the Sate Department of Conservation's Mineral Land Classification Map for San Joaquin County, the entire project area is designated MRZ-1. An MRZ-1 designation indicates an area where no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. In addition, the study area is located within an area designated for urban development by the Lathrop General Plan. There are no known oil, gas or other energy resources in the study area or vicinity.

11. NOISE – Would the project result in:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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?	■	☐	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	■	☐	☐	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	■	☐	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	■	☐	☐	☐
e) 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, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■

NARRATIVE EXPLANATION

Noise levels in the project vicinity are primarily the result of existing transportation facilities, including SR 120, Yosemite Avenue and the UPRR tracks. The prevailing agricultural use of the area generates noise only intermittently during field preparation, planting and harvesting activities. Intermittent noise is generated by industrial operations and other activities on the adjoining developed industrial sites.

Development of the study area will involve substantial areas and extended periods of grading and construction activity. These activities will represent potentially significant but short-term sources of noise in any given area. Construction noise can be expected to continue, however, throughout the buildout period.

Specific plan buildout will involve generation of new traffic that will be distributed to existing and planned elements of the street system, increasing noise generated by these transportation sources. Future noise generated from these sources, and the project's contribution to future noise generation, will be identified and discussed in the EIR together with any available feasible mitigation measures for significant effects.

The EIR will include a detailed inventory and quantification of existing transportation and stationary noise sources affecting the study area as well as a detailed analysis of the potential noise generation and exposure of sensitive land uses to noise associated with specific plan buildout. The noise section of the EIR will identify existing and potential future noise sources, noise standards applicable to the SPA, and the location of sensitive receptors in the study area and vicinity. This analysis will be prepared by a qualified acoustical consultant and will be based on commonly-used noise modeling tools.

Noise issues to be addressed in the EIR would include:

- Construction noise associated with Specific Plan development and controls necessary to minimize construction noise for existing sensitive receptors on or in the vicinity of the site.

- Exposure of proposed land uses to traffic noise generated by near-term and future traffic on Yosemite Avenue and SR 120.

- Changes in off-site roadway noise levels resulting from traffic generated by the project.

- Potential noise associated with operation of planned commercial uses (e.g. loading truck circulation, HVAC) and potential impacts on existing and future residential uses in the project vicinity.

- Identification of near and long-term mitigation measures needed to maintain City noise standards within proposed uses, including identification of mitigation options (i.e. berms, walls or combinations) and specifications for barrier height or restrictions on the operating hours or location of noise-generating uses.

12. POPULATION AND HOUSING -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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)?	☐	☐	■	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

NARRATIVE EXPLANATION

The proposed project is located in an urbanizing area, and lands immediately adjacent to the project components are designated as industrial in the Lathrop General Plan. The City of Lathrop had a 2009 population of 17,671; according to the California Department of Finance, the City contains approximately 4,917 residential units, the majority of which are detached single-family units.

Long-term implementation of the Lathrop Gateway Business Park Specific Plan would involve the elimination of existing rural housing units in the study area as these lands are redeveloped for other non-residential uses. These changes would occur over the long-term in the context of the construction of substantial numbers of new replacement housing units throughout the San Joaquin Valley and at the option of the residential owners within the study area to sell and relocate. As a result, the project is not expected to result in a significant adverse effect on housing.

The EIR will document existing and projected population growth, demographics and housing stock for the City of Lathrop and the potential effects of the Lathrop Gateway Business Park on population and housing due to the introduction of new employment.

Population and housing issues to be addressed in the EIR would include:

- Demolition and/or removal of existing housing within the study area. Relationship of the project to applicable policies of the Housing Element of the General Plan.
- Potential growth-inducing impacts will be addressed in a separate chapter devoted to that subject.

13. PUBLIC SERVICES -- Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fire protection?	■	☐	☐	☐

b) Police protection?	■	☐	☐	☐
c) Schools?	☐	☐	■	☐
d) Parks?	☐	☐	■	☐
e) Other public facilities?	■	☐	☐	☐

NARRATIVE EXPLANATION

The study area is located in an unincorporated area and is served with County law enforcement and general government services. Police protection service is provided within the City of Lathrop by the San Joaquin County Sheriff's Department, under contract with the City. The Sheriff's Department maintains a 24-hour patrol in the city. The Lathrop-Manteca Fire District provides fire protection services for the City of Lathrop, including the project area.

The proposed project would generate substantial demands for each of the listed public services and will require the extension of existing police and fire protection services from the City; the EIR will need to consider the degree to which these services can be met with existing capital facilities.

The EIR will briefly identify and describe existing service providers in the study area, noting which services might require detachment when the site is annexed. Existing and planned City services will be defined including providers, planned new facilities, existing systems and facilities, response times and staffing and any relevant capacity or operational constraints.

Public service issues to be addressed in the EIR would include:

- Potential effects of planned industrial type uses on delivery of police and fire protection services, including impacts during construction.
- Review effectiveness of proposed open spaces and corridors in meeting recreational and open space needs of the City of Lathrop.
- Potential effects on other services affected by the Lathrop Gateway Business Park, if any.

14. RECREATION	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project 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?	☐	☐	■	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	■

NARRATIVE EXPLANATION

The project would not involve any new demands for recreational sites or facilities or involve any adverse physical impact on an existing or planned recreational facility. The project does not include recreational facilities, or require construction or expansion of recreational facilities. The project's industrial type uses would not result in any residential development, and would therefore have no impact on adjacent recreational and open space.

15. TRANSPORTATION/TRAFFIC – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	■	☐	☐	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	■	☐	☐	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	■
d) Substantially increase hazards to a design feature (e g., sharp curves or dangerous intersections) or incompatible uses (e g, farm equipment)?	■	☐	☐	☐
e) Result in inadequate emergency access?	■	☐	☐	☐
f) Result in inadequate parking capacity?	■	☐	☐	☐
g) Conflict with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	■	☐	☐	☐

NARRATIVE EXPLANATION

The Lathrop Gateway Business Park Specific Plan site is located in San Joaquin County, within the City of Lathrop's Sphere of Influence. The project site encompasses approximately 384 acres bordered by Vierra Court and West Yosemite Avenue to the north, SR 120 to the south, the Southern Pacific Railroad tracks to the west, and the Union Pacific Railroad tracks to the east. The proposed project envisions development of a combination of new commercial office, limited industrial and service commercial uses.

The EIR traffic study will identify daily and peak hour traffic volumes and levels of service on study area roadways and intersections to be defined in consultation with City staff. Traffic conditions will be identified under existing, "existing plus approved projects" and cumulative scenarios for projected potential levels of development. Planned roadway and intersection improvements in the specific plan vicinity, or the status of facilities planning, will be addressed. Existing transit systems, pedestrian and bicycle facilities and potential impacts on these systems will be identified. The EIR

will identify the location and function of airports and other relevant transportation facilities with respect to the study area.

Transportation issues to be addressed in the EIR would include:

- Traffic generated by the various land uses included in the proposed specific plan on a daily and peak hour basis, and the distribution and assignment of those trips.

- Thirty-three (33) intersections and seven (7) roadway segments will be studied within the project vicinity.

- Traffic impacts on levels of service for existing and proposed streets and intersections in the study area vicinity that would be potentially affected by the Specific Plan proposed land uses. The scope of this analysis will be identified in cooperation with the City of Lathrop. Analysis will be provided under the following scenarios:

  Existing Conditions
  Short-Term Base Conditions (Existing plus Currently Approved or Pending Approval Projects)
  Short-Term Base Conditions Plus Specific Plan
  Cumulative Baseline Conditions Without Specific Plan
  Cumulative Baseline Conditions plus Specific Plan

- Review of proposed on-site circulation plans, phasing scenario, access points and potential concerns with future industrial site development; consistency with City traffic engineering and design standards.

- Consistency of the Specific Plan with adopted transportation plans.

- Consideration of any relevant concerns regarding other transportation modes including pedestrian and transit services.

- Relationship of proposed industrial uses to City parking requirements.

16. UTILITIES AND SERVICE SYSTEMS -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	■	☐	☐	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	■	☐	☐	☐
c) 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?	■	☐	☐	☐
d) Are sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded	■	☐	☐	☐

entitlements needed?

e) Has the wastewater treatment provider which serves or may serve the project determined that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	■	☐	☐	☐
f) Is the project served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	■	☐
g) Comply with federal, state. and local statutes and regulations related to solid waste?	☐	☐	■	☐

NARRATIVE EXPLANATION

The City of Lathrop currently operates water facilities. Senate Bills 221 and 610 require consideration of water supply availability to meet projected demands over a 20-year period. SB 221 requires that adequacy be demonstrated in conjunction with tentative map approval, and SB 610 requires that information on adequacy be included in CEQA documents. The required water supply assessment has been prepared and will be included and discussed in the EIR.

The proposed project will involve new demands for wastewater collection and treatment, domestic water service and storm drainage. The project will involve extensions of existing water and wastewater collection line into planned development areas of the Specific Plan. Plans for these line extensions are being developed in conjunction with the Lathrop Gateway Business Park Specific Plan document.

Development of the specific plan will generate substantial new volumes of urban runoff. These volumes will be managed in a new storm drainage system to be constructed in conjunction with planned urban development. The system will include a storm water detention facility and an outfall to the San Joaquin River. Detention capacity of the proposed detention facility will provide reductions in peak discharge as well as water quality treatment.

The project will also involve substantial new demands for energy, communication and cable television services. The utilities indicate that existing facilities are in place to provide services, although service extensions will need to be coordinated with planned development.

Utility issues to be addressed in the EIR would include:

- Quantify potential sewage disposal demands and adequacy of existing and planned sewage collection and treatment systems.

- Quantify potential domestic water demands. Identify City water utility capacity to supply domestic water needs generated by development of the specific plan from information to be obtained from the City and the project engineer. Incorporate Water Supply Assessment and discuss project conformance with SB 610 and 221 requirements.

- Identify potential runoff increases and discuss planned storm drainage system and potential impacts on terminal drainage facilities. Evaluate consistency of projected water quality components of storm drainage system with the City policies and standards.

- Identify solid waste demands generated by new development anticipated in the specific plan, potential effects on collection franchisee, if any, and disposal site capacity. Discuss municipal recycling obligations and opportunities with respect to the specific plan.

- Discuss new demands for gas, electricity, CATV and telephone services and the ability of the existing utilities to meet these demands.

- Discuss energy issues associated with the project, including consideration of applicable areas of concern identified in Appendix F of the CEQA Guidelines.

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17. GLOBAL CLIMATE CHANGE -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in a significant effect on, or a cumulatively considerable contribution to, global climate change?	■	☐	☐	☐

NARRATIVE DISCUSSION:

Global climate change is a subject of increasing scientific and public concern as well as of government action. Global climate change is understood to be the result of atmospheric concentrations of greenhouse gases (GHGs) that trap heat in the earth's atmosphere. GHGs are naturally occurring and are emitted by human activity. GHGs include carbon dioxide (CO2), the most abundant GHG, as well as methane, nitrous oxide and other gases. Total worldwide emissions of GHGs in 2004 were estimated at 20,135 teragrams of CO2 equivalents (CO2e); U.S. emissions during the same year were estimated at 7,074 teragrams CO2e.

GHG emissions are associated with the combustion of carbon-based fuels; major GHG sources in California include transportation (40.7%), electric power (20.5%), industrial (20.5%), agriculture and forestry (8.3%) and others (8.3%). GHG emissions in California in 2004 were estimated at 484 teragrams CO2e.

The State of California is identifying strategies and implementing GHG emission reduction programs through AB 32 the Global Warming Solutions Act of 2006. AB 32 identifies global climate change as a "serious threat to the economic well-being, public health, natural resources and the environment of California." The State adopted its Global Climate Change Scoping Plan in December 2008. Primary strategies addressed in the Scoping Plan include new industrial and emission control technologies, alternative energy generation technologies, advanced energy conservation in lighting, heating, cooling and ventilation, reduced-carbon fuels, hybrid and electric vehicles, and other methods of improving vehicle mileage.

The proposed project would involve GHG emissions from the short-term use of construction equipment and long-term operation of industrial type uses proposed within the study area. Current state and federal policies and regulations will be identified in the EIR, including but not limited to AB 32, AB 170 and SB 375. Potential impacts of and reductions in GHG emissions associated with the project will also be addressed in the EIR.

18. MANDATORY FINDINGS OF SIGNIFICANCE --	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	■	☐	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	■	☐	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	■	☐

NARRATIVE EXPLANATION

The proposed project would involve the possibility of significant effects on biological and cultural resources. These potential effects would be considered in detail in the EIR, based on field surveys of the project site.

The project is relatively large and involves the potential for several potentially significant environmental effects. The project would involve the potential for cumulatively considerable contributions to, and therefore potentially significant, cumulative impacts. Potential cumulative effects will be addressed in a separate chapter of the EIR and will address potential cumulative effects in each environmental discipline. In addition, the EIR will also include consideration of growth-inducing impacts, irreversible effects and other technical requirements of CEQA.

Other than the potential environmental effects described in this document, the project would involve no other known impacts that could cause substantial adverse effects on human beings, either directly or indirectly. Nonetheless, the EIR will consider the potential for occurrence of such impacts.

F. SOURCES

WORKS CITED

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PERSONS CONSULTED

Jensen, Sean. Archaeological consultant. Genesis Society.

Moore, Diane. Biological Consultant. Moore Biological.

Ragan, Chris. Applicant Engineer, MacKay & Somps.

U.S. Department of Finance and Demographic Research.

Vance, Sandy. Applicant Planner, Wood Rodgers.

DOCUMENT PREPARERS

This document was prepared by InSite Environmental, Inc. of Stockton under the direction of the City of Lathrop. InSite Environmental staff participating in document preparation included the following:

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APPENDIX B
BIOLOGICAL STUDY

USFWS Species List

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 090907025615

Database Last Updated: January 29, 2009

Quad Lists

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Hypomesus transpacificus
Critical habitat, delta smelt (X)
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana aurora draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Mammals

Sylvilagus bachmani riparius
riparian brush rabbit (E)

Vulpes macrotis mutica
San Joaquin kit fox (E)

Quads Containing Listed, Proposed or Candidate Species:

MANTECA (461C)
LATHROP (462D)

County Lists

No county species lists requested.

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental

documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be December 06, 2009.

Photographs

Historical orchard now farmed in strawberries, looking west from McKinley Ave.; 06/10/09.

Almond orchard on the west side of McKinley Ave., looking west; 06/10/09.

Row crop land southeast of the intersection of McKinley Ave. and Yosemite Ave.; 06/10/09.

Industrial area southeast of the intersection of Yosemite Ave. and S. Guthmiller Rd; 06/10/09.

The storm drain alignment follows the base of the elevated railroad tracks; 08/12/09.

Storm drain outfall location along the San Joaquin River, looking northwest; 08/12/09.

Small wetland near the storm drain alignment, 500+/- feet southwest of SR-120; 08/12/09.

Small wetland near the storm drain alignment, 3,400+/- feet southwest of SR-120; 08/12/09.

Perennial fire supression pond in the west part of the site, west of Guthmiller Road; 08/05/09.

Seasonal pond in the east part of the site (dry after heavy rains), looking northwest; 03/04/10.

Elderberry shrub in the east part of the site, looking west from the railroad tracks; 08/05/09.

Off-site blue elderberry shrubs along the railroad tracks that had been recently cut; 08/05/09.

MOORE BIOLOGICAL CONSULTANTS

March 20. 2010

Mr. Charlie Simpson
InSite Environmental
6653 Embarcadero Dr., Ste. Q
Stockton, CA 95219

Subject: BASELINE BIOLOGICAL ASSESSMENT FOR THE LATHROP GATEWAY BUSINESS PARK, LATHROP, SAN JOAQUIN COUNTY, CALIFORNIA

Dear Charlie:

Thank you for asking Moore Biological Consultants to conduct a baseline biological resources assessment for the Lathrop Gateway Business Park (Figures 1 and 2). The focus of our work was to document existing biological resources in the site, conduct a survey to determine presence or absence of waters of the U.S. and wetlands, and search for suitable habitat for or presence of special-status species in the site. This letter report details the methodology and results of our investigation.

Methods:

Prior to the field surveys, we conducted a search of California Department of Fish and Game's (CDFG) California Natural Diversity Database (CNDDB, 2009); the search was updated in March 2010. Since the site is in the east part of the USGS 7.5-minute Lathrop topographic quadrangle, the CNDDB search area encompassed this quadrangle, and the Manteca quadrangle, which is situated to the east. This CNDDB search area is approximately 120 square miles

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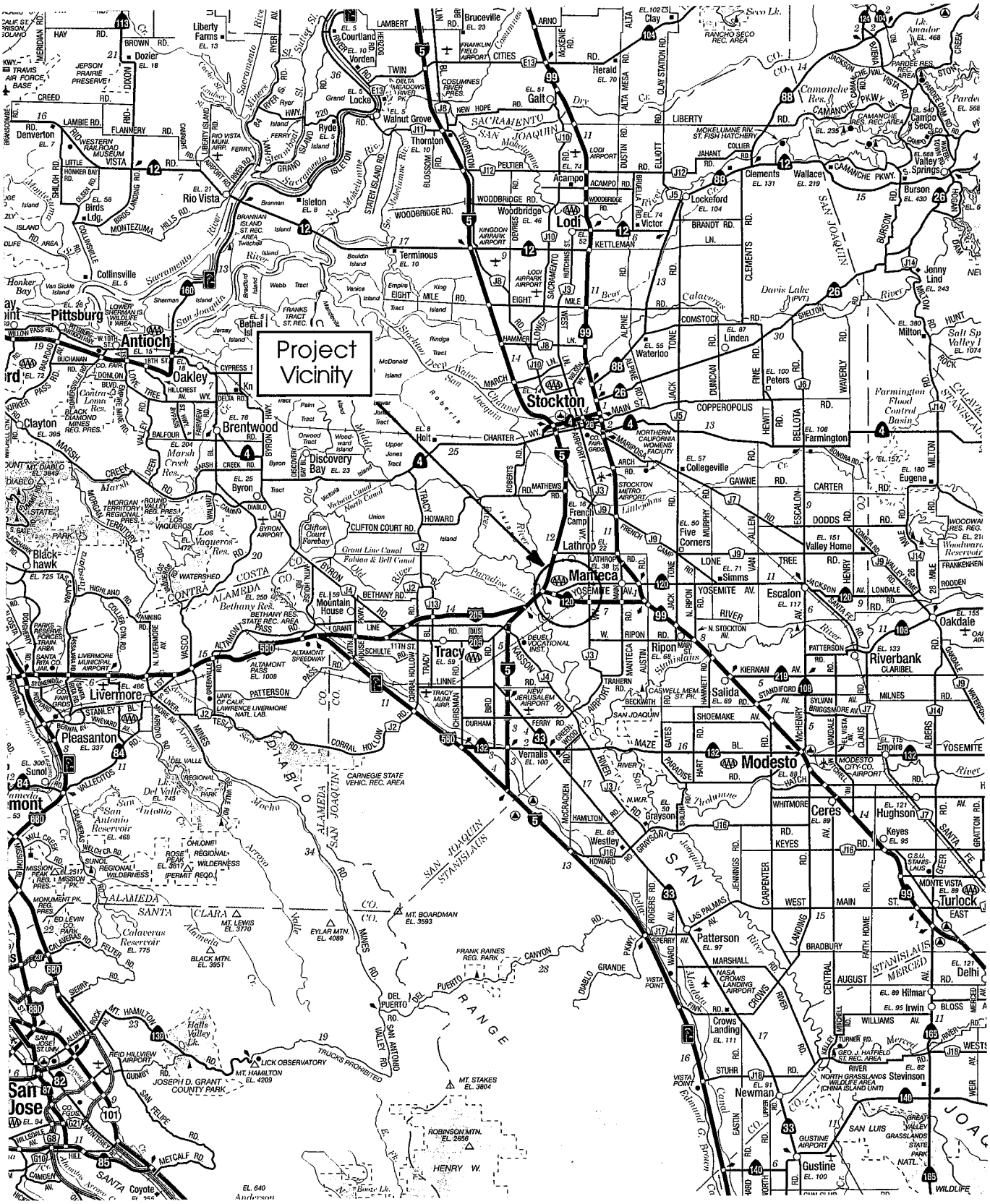

Scale: 1 inch = 9 miles

Source: Calif. State Automobile Association

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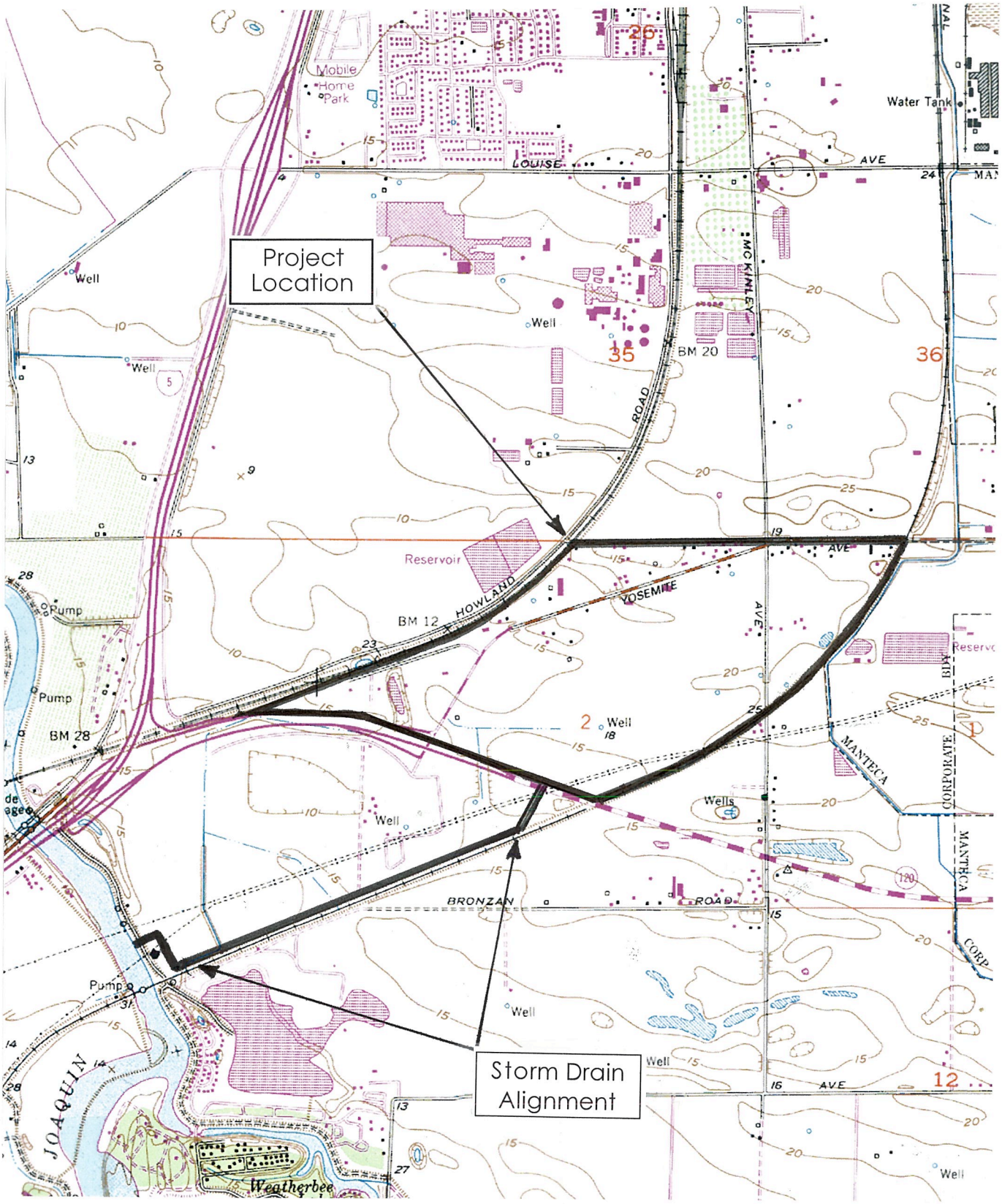
FIGURE 1
PROJECT VICINITY



Scale: 1 inch = 2,000 feet
Source: USGS 7.5-minute Lathrop topographic quadrangle

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FIGURE 2
PROJECT LOCATION

surrounding the site. The United States Fish and Wildlife Service (USFWS) list of Federally Threatened and Endangered species that may occur in or be affected by projects in the Lathrop and Manteca topographic quadrangles was also reviewed. This information was used to identify special-status species that have been previously documented in the greater project vicinity or have the potential to occur based on presence of suitable habitat and geographical distribution. Finally, we reviewed a prior biological report (Sycamore Environmental Consultants, Inc., 2006) that addressed biological resources on 216+/- acres of the 384+/- acre site.

Field surveys were conducted on June 10 and August 5 and 12, 2009, and March 4, 2010. The surveys consisted of driving and walking around the site and along the storm drain alignment, making observations and noting habitat conditions, surrounding land uses, and plant and wildlife species. We conducted an assessment of potentially jurisdictional Waters of the U.S. and wetlands as defined by the U.S. Army Corps of Engineers (ACOE, 1987; 2008), and a search for special-status species, and suitable habitat for special-status species (e.g., blue elderberry shrubs, vernal pools). Additionally, trees at and near the site was assessed for the potential use by nesting raptors, especially Swainson's hawk (*Buteo swainsoni*), and burrows in the area were inspected burrowing owls (*Athene cunicularia*) or evidence of past occupancy.

Results:

GENERAL SETTING: The project site is in southeast Lathrop, in San Joaquin County, California (Figure 1). The site is within Sections 1, 2, and 3 in Township 2 South, Range 6 East of the USGS 7.5-minute Lathrop topographic quadrangle; the off-site storm drain alignment is within Sections 13 and 10 within the same Township and Range (Figure 2). The site is essentially level and is at an elevation of approximately 10 to 25 feet above mean sea level; the storm drain outfall site along the San Joaquin River is at sea level.

The site includes almond orchards, annual cropland, residential parcels, and several industrial, logistics, and commercial businesses (Figure 3 and attached photographs). There is a large truck storage yard in the west part of the site. The south-central part of the site was historically orchard but is now fallow cropland and strawberries. Residences in the site are primarily clustered along Yosemite Avenue and McKinley Avenue. The storm drain alignment is located at the base of elevated railroad tracks (within the railroad right-of-way), adjacent to fields farmed in alfalfa and other annual crops.

Surrounding land uses in this semi-rural portion of San Joaquin County are primarily industrial and agricultural, interspersed with areas of relatively new residential and commercial development. A number of industrial businesses are located to the northwest of the site and there is a relatively new business park and a commuter train station to the northeast of the site. There are agricultural fields and a few businesses to the east of the site across the railroad tracks. Most of the land south of the site across the Highway120 is in agriculture, with associated residences.

VEGETATION: Virtually all of the habitats in the site and along the storm drain alignment are highly disturbed from agriculture and development. The orchard floors, road shoulders, and other ruderal areas in the site are vegetated with various native and non-native annual grass and weed species. Grasses including oats (*Avena* sp.), soft chess brome (*Bromus hordeaceus*), ripgut brome (*B. diandrus*), foxtail barley (*Hordeum murinum*), Bermuda grass (*Cynodon dactylon*), and perennial ryegrass (*Lolium perenne*) are dominant grass species on-site. Other grassland species such as tumbleweed (*Salsola tragus*), fiddleneck (*Amsinckia menziesii*), black mustard (*Brassica nigra*), bull thistle (*Cirsium vulgare*), prickly lettuce (*Lactuca serriola*), pigweed (*Amaranthus albus*), dove weed (*Eremocarpus setigerus*), common mallow (*Malva neglecta*), and filaree (*Erodium botrys*) are intermixed with the grasses. Table 1 is a list of plant species observed in the site during the 2009 and 2010 surveys.

Scale: 1 inch = 1,000+/- feet
Source: Google Earth

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FIGURE 3
AERIAL PHOTOGRAPH

TABLE 1

PLANT SPECIES OBSERVED DURING THE 2009-2010 SURVEYS

Ailanthus altissima	tree of heaven
Amaranthus albus	pigweed
Amsinckia menziesii	fiddleneck
Avena sp.	oat
Brassica nigra	black mustard
Bromus diandrus	ripgut brome
Bromus hordeaceus	soft-chess brome
Centaurea solstitialis	yellow star-thistle
Cirsium vulgare	bull thistle
Convolvulus arvensis	morning glory
Conyza canadensis	horseweed
Cynodon dactylon	Bermuda grass
Cyperus eragrostis	umbrella sedge
Dactylis glomerata	orchard grass
Eremocarpus setigerus	dove weed
Erodium botrys	filaree
Erodium cicutarium	red-stem filaree
Eschscholzia californica	California poppy
Eucalyptus globulus	blue gum
Ficus carica	edible fig
Geranium dissectum	cut-leaf geranium
Grindelia camporum	gumplant
Helianthus annuus	common sunflower
Hemizonia pungens	common spikeweed
Hordeum murinum	foxtail barley
Juglans californica	black walnut
Juglans regia	English walnut
Lactuca serriola	prickly lettuce
Lolium perenne	perennial ryegrass

TABLE 1 (continued)
PLANT SPECIES OBSERVED DURING THE 2009-2010 SURVEYS

Malva neglecta	common mallow
Morus alba	mulberry
Nerium sp.	oleander
Olea europaea	olive
Phoenix sp.	date palm
Picris echioides	bristly ox-tongue
Pinus sp.	ornamental pine
Populus fremontii	Freemont cottonwood
Prunus dulcis	almond
Quercus agrifolia	coastal live oak
Quercus lobata	valley oak
Raphanus sativus	wild radish
Robinia pseudoacacia	black locust
Rumex crispus	curly dock
Salix sp.	willow
Salsola tragus	tumbleweed
Sambucus mexicana	blue elderberry
Scirpus acutus	tule
Senecio vulgaris	common groundsel
Sequoia sempervirens	coastal redwood
Silybum marianum	milk thistle
Sonchus asper	prickly sow-thistle
Sorghum halepense	Johnsongrass
Tribulus terrestris	puncture vine
Trifolium repens	white clover
Typha sp.	cattail
Vulpia myuros	annual fescue
Washingtonia filifera	California fan palm

In addition to hundreds of orchard trees, the site contains other trees including blue gum (*Eucalyptus* sp.), mulberry (*Morus alba*), California fan palm (*Washingtonia filifera*), date palm (*Phoenix* sp.), edible fig (*Ficus carica*), Fremont cottonwood (*Populus fremontii*), coastal redwood (*Sequoia sempervirens*), pines (*Pinus* spp.), black walnut (*Juglans californica*), olive (*Olea europaea*), tree-of-heaven (*Ailanthus altissima*), and a number of other ornamentals. These ornamentals and volunteers are primarily growing along the edges of the roads, fields, and around the homes and shops.

There are no trees along the storm drain alignment. However, the riparian corridor along the San Joaquin River in the vicinity of the outfall supports a discontinuous band of valley oaks (*Quercus lobata*), coastal live oak (*Quercus agrifolia*), and Fremont cottonwoods (*Populus fremontii*).

A single blue elderberry (*Sambucus mexicana*) shrub was observed growing in the back yard of a residential parcel along McKinley Avenue (Figure 4 and attached photograph). This shrub was not inspected close-up but appeared healthy. The cluster of elderberry shrubs documented just off-site along the railroad tracks in the prior biological report (Sycamore Environmental Consultants, Inc., 2006) was not located. A number of stumps and piles of branches were found in the area (see attached photograph) and it appears that all of the vegetation growing along the railroad tracks had been recently cleared. No other blue elderberry shrubs were observed within or adjacent to the site or along the storm drain alignment or outfall location on the San Joaquin River.

WILDLIFE: A variety of wildlife species were observed in the site. Some of the more common birds observed include red-tailed hawk (*Buteo jamaicensis*), mourning dove (*Zenaida macroura*), rock dove (*Columba livia*), American crow (*Corvus brachyrhynchos*), northern mockingbird (*Mimus polyglottos*), yellow-billed magpie (*Pica nuttalli*), and western scrub jay (*Aphelocoma coerulescens*). All of these are species commonly found in agricultural, urban, and industrial areas in the project vicinity (Table 2).

TABLE 2

WILDLIFE SPECIES OBSERVED DURING THE 2009-2010 SURVEYS

Birds	
Mallard	*Anas platyrhynchos*
Turkey vulture	*Cathartes aura*
Red-shouldered hawk	*Buteo lineatus*
Swainson's hawk	*Buteo swainsoni*
Red-tailed hawk	*Buteo jamaicensis*
American kestrel	*Falco sparverius*
American coot	*Fulica americana*
Killdeer	*Charadrius vociferous*
Rock dove	*Columba livia*
Black phoebe	*Sayornis nigricans*
Mourning dove	*Zenaida macroura*
Western kingbird	*Tyrannus verticalis*
Western scrub jay	*Aphelocoma coerulescens*
Yellow-billed magpie	*Pica nuttalli*
American crow	*Corvus brachyrhynchos*
Northern mockingbird	*Mimus polyglottos*
European starling	*Sturnus vulgaris*
Yellow-rumped warbler	*Dendroica coronata*
Red-winged blackbird	*Agelaius phoeniceus*
Brewer's blackbird	*Euphagus cyanocephalus*
House finch	*Carpodacus mexicanus*
Mammals	
Striped skunk	*Mephitis mephitis*
Coyote	*Canis latrans*
Raccoon	*Procyon lotor*
California ground squirrel	*Spermophilus beecheyi*
Amphibians and Reptiles	
Western fence lizard	*Sceloporus occidentalis*
Pacific chorus frog	*Pseudacris regilla*
Western pond turtle	*Actinemys marmorata*

No active raptor nests were located during the 2009 or 2010 surveys. However, there are several potential nest trees in the site that are suitable for nesting raptors and other protected migratory birds, including Swainson's hawk. There are some notable raptor stick nests in some of the large trees in the site and along the San Joaquin River, and it is possible that some of these nests were used by nesting Swainson's hawks.

A pair of red-tailed hawks was observed flying and calling over the central part of the site during the June 10, 2009 survey; this territorial behavior suggests these hawks nested nearby in 2009. Swainson's hawks were also observed soaring over the west part of the site and lands to the west during the 2009 surveys. Given the presence of large trees and raptor foraging habitat (i.e., open fields) in the area, it is likely one or more pairs of raptors, plus a variety of songbirds, nest in or near the project site and along the San Joaquin River each year.

A variety of mammals common to agricultural and semi-rural areas are expected to use habitats in the site. Hundreds of California ground squirrels (*Spermophilus beecheyi*) were observed in the site; evidence of coyote (*Canis latrans*), raccoon (*Procyon lotor*), and striped skunk (*Mephitis mephitis*) was also observed. Virginia opossum (*Didelphis virginiana*) and black-tailed hares (*Lepus californicus*) are expected to occur in the area. A number of species of small rodents including mice (*Mus musculus, Reithrodontomys megalotis,* and *Peromyscus maniculatus*) and voles (*Microtus californicus*) also likely occur.

Based on habitat types present, a limited variety of amphibians and reptiles are expected to use habitats in the site. Pacific chorus frog (*Pseudacris regilla*) was the only amphibian observed in the site; western fence lizard (*Sceloporus occidentalis*) and western pond turtle (*Actinemys marmorata*) were the only reptiles observed. Although none were observed, the site and surrounding lands provide suitable habitat for species including coast horned lizard (*Phrynosoma coronatum*), western toad (*Bufo boreas*), common king snake (*Lampropeltis*

getulus), gopher snake (*Pituophis melanoleucus*), and common garter snake (*Thamnophis sirtalis*).

WATERS OF THE U.S. AND WETLANDS: Waters of the U.S., including wetlands, are broadly defined under 33 Code of Federal Regulations (CFR) 328 to include navigable waterways, many of their tributaries, and adjacent wetlands. State and federal agencies regulate these habitats and Section 404 of the Clean Water Act requires that a permit be secured prior to the discharge of dredged or fill materials into waters of the U.S. Both CDFG and ACOE have jurisdiction over modifications to riverbanks, lakes, stream channels and other wetland features.

Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water, and support vegetation adapted to life in saturated soil. Jurisdictional wetlands are vegetated areas that meet specific vegetation, soil, and hydrologic criteria defined by the ACOE *Wetlands Delineation Manual* and Regional Supplement (ACOE, 1987; 2008). Waters of the U.S. are drainage features or water bodies as described in 33 CFR 328.4. Currently, ACOE and the U.S. Environmental Protection Agency (EPA) share authority to determine the jurisdictional status of waters of the U.S., including wetlands.

In the past, ACOE has asserted jurisdiction over isolated wetlands, as well as ephemeral and intermittent streams, in cases where there is a downstream tributary connection to jurisdictional Waters of the U.S. However, in the 2001 *SWANCC* case, the U.S. Supreme Court concluded that isolated wetlands must have a connection to interstate or foreign commerce to fall within ACOE jurisdiction. In 2006, one of the Supreme Court opinions in the *Rapanos* case stated that a tributary is subject to ACOE jurisdiction only if it is a relatively permanent, standing or flowing body of water, not a channel containing merely intermittent or ephemeral flow. A concurring opinion further clarified that a wetland or a tributary must have a "significant nexus" with a traditionally navigable water of the U.S. in order to be subject to ACOE jurisdiction.

Jurisdictional wetlands and Waters of the U.S. include, but are not limited to, perennial and intermittent creeks and drainages, lakes, seeps, and springs; emergent marshes; riparian wetlands; and seasonal wetlands. Wetlands and Waters of the U.S. provide critical habitat components, such as nest sites and a reliable source of water, for a wide variety of wildlife species.

The only area within the site that appears to have any potential to fall under the jurisdiction of ACOE is a relatively large (0.75+/- acre) seasonal pond in the east part of the site near the railroad tracks (Figure 4 and attached photograph). The pond in the east part of the site is mapped as a "blue-line" seasonal pond on the USGS topographic maps (Figure 2). Vegetation on the floor of the pond includes species such as perennial ryegrass, Bermuda grass, curly dock (*Rumex crispus*), and Mediterranean barley. Soils in the area are sandy.

The pond appears to hold water to a depth of up to 5 feet but appears to be inundated for only a short period of time following extended and very heavy rain events. This pond was dry during the 2009 and 2010 surveys, including the March 4, 2010 survey, which was conducted after a very wet February. However, the pond was inundated during the November 22, 2004 Google Earth photograph (Figure 4) and during the March 20, 2006 survey by Sycamore Environmental Consultants, Inc. (2006). This pond is not adjacent to or tributary to creeks or drainages and may fall outside ACOE jurisdiction due to hydrologic and geographic isolation from jurisdictional wetlands and Waters of the U.S.

There is a created perennial pond west of South Guthmiller Road surrounded by a number of industrial businesses. This pond is mapped in purple on the USGS topographic map (Figure 2), indicating it was created between 1952 and 1987. The pond is aerated, has bulkhead on one side, signage indicating it is part of a local fire suppression system, and supports fish, waterfowl and western pond turtle. Immediately south of the pond is a low area supporting cattails (*Typha* sp.), umbrella sedge (*Cyperus eragrostis*) and other hydrophytes (see attached photograph). This small wetland appears to be connected to the fire suppression

Scale: 1 inch = 100+/- feet
Source: Google Earth

Photo Date: 11/22/04

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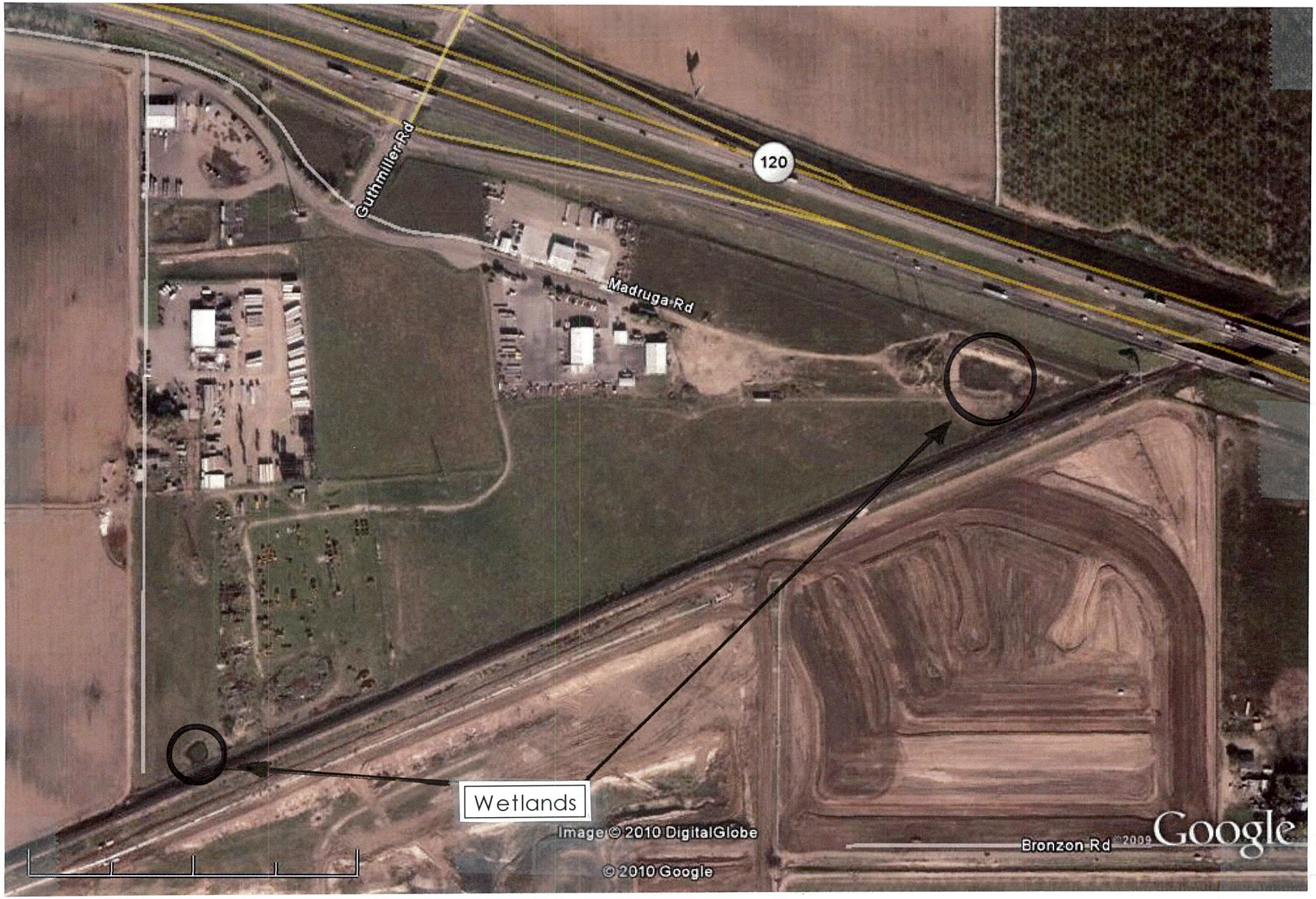
FIGURE 4
SEASONAL POND AND ELDERBERRY SHRUB

pond by a pipe. Due to the created nature of the fire suppression pond and adjacent low area, and hydrologic and geographic isolation from jurisdictional wetlands and Waters of the U.S., these areas are believed to fall outside ACOE jurisdiction.

No other potential jurisdictional wetlands or Waters of the U.S. were observed in the site. The site consists of almond orchards, annual cropland, residential parcels, and several businesses. No other areas were observed within or adjacent to the site appearing to have any potential to fall under ACOE jurisdiction. Specifically, no vernal pools, seasonal wetlands, marshes, ponds, creeks, or lakes of any type were observed within the site.

There are two isolated wetlands along the storm drain alignment that are adjacent to but outside the railroad right-of-way (Figure 5 and attached photographs). These wetlands appear to collect agricultural tail water from fields to the north. The storm drain alignment will be bored under Highway 120 and will pass by the northwest edge of the eastern wetland; the storm drain alignment will pass by the sough edge of the western wetland. Similar to the seasonal pond in the east part of the site, these wetlands are not adjacent to or tributary to creeks or drainages and may fall outside ACOE jurisdiction due to hydrologic and geographic isolation from jurisdictional wetlands and Waters of the U.S.

Finally, the storm drain outfall will be along the east bank of the San Joaquin River, which is a navigable Waters of the U.S. The section of the river at the storm drain outfall site 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 are vegetated with riparian trees and shrubs. The San Joaquin falls under the jurisdiction of agencies including ACOE, CDFG, the State Reclamation Board, and the California Regional Water Quality Control Board (RWQCB).



Scale: 1 inch = 400+/- feet

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FIGURE 5

WETLANDS ALONG THE STORM DRAIN ALIGNMENT

SPECIAL-STATUS SPECIES: Special-status species are plants and animals that are legally protected under the state and/or federal Endangered Species Act or other regulations. The Federal Endangered Species Act (FESA) of 1973 declares that all federal departments and agencies shall utilize their authority to conserve endangered and threatened plant and animal species. The California Endangered Species Act (CESA) of 1984 parallels the policies of FESA and pertains to native California species. Both FESA and CESA prohibit unauthorized "take" (i.e., killing) of listed species, with take broadly defined in both acts to include activities such as harassment, pursuit and possession.

Special-status wildlife species also includes species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. The federal Migratory Bird Treaty Act and Fish and Game Code of California protect special-status bird species year-round, as well as their eggs and nests during the nesting season. Fish and Game Code of California also provides protection for mammals and fish.

Special-status plants include species which are designated rare, threatened, or endangered and candidate species for listing by the U.S. Fish and Wildlife Service (USFWS). Special-status plants also include species considered rare or endangered under the conditions of Section 15380 of the California Environmental Quality Act (CEQA) Guidelines, such as those plant species identified on Lists 1A, 1B and 2 in the Inventory of Rare and Endangered Vascular Plants of California by the California Native Plant Society (CNPS, 2001). Finally, special-status plants may include other species that are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those included on List 3 in the CNPS Inventory.

Table 3 provides a summary of the listing status and habitat requirements of special-status plant and wildlife species that have been documented in the greater project vicinity or for which there is potentially suitable habitat within the site. This table also includes an assessment of the likelihood of occurrence of each of these species within the site. The evaluation of the potential for occurrence of each species is based on the distribution of regional occurrences (if any), habitat suitability, and field observations.

SPECIAL-STATUS PLANTS: Special-status plants identified in the CNDDB (2010) query slough thistle (*Cirsium crassicaule*), delta button celery (*Eryngium racemosum*), Suisun Marsh aster (*Symphyotrichum lentum*), and Wright's trichocoronis (*Trichocoronis wrightii var. wrightii*). Most of the special-status plants found in the greater project vicinity generally occur in relatively undisturbed areas within vegetation communities such as vernal pools, marshes, swamps, chenopod scrub, and riparian scrub. None of these habitat types occur within the site. Due to lack of suitable habitat, no special-status plant species are expected to occur in the site.

It is possible that slough thistle, delta button celery, Suisun Marsh aster, and Wright's trichocoronis may still occur along the San Joaquin River at or near the outfall site. The leveed bank where the outfall will be constructed is open grassland and does not support riparian scrub vegetation. There also is no marsh vegetation along the water line. Surveys would need to be done at the appropriate time(s) of the year to confirm species presence or absence at the outfall site.

SPECIAL-STATUS WILDLIFE: With the exception of Swainson's hawk, burrowing owl, and western pond turtle, the potential for intensive use of habitats within the site by special-status wildlife species is very low. Special-status wildlife species recorded in project area in the CNDDB (2010) include burrowing owl, Swainson's hawk, tricolored blackbird (*Agelaius tricolor*), yellow-headed blackbird

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likelihood of Occurrence in the Project Site
PLANTS						
Slough thistle	*Cirsium crassicaule*	None	None	1B	Chenopod scrub, sloughs containing marshes and swamps, and riparian scrub; blooms May - August.	Extremely low: the site does not contain suitable habitat for slough thistle. The only record of this species in the CNDDB (2010) within the search area is a 1933 occurrence in a canal approximately 1 mile northwest of the site. It is possible this species may still occur along the San Joaquin River at or near the outfall site.
Delta button celery	*Eryngium racemosum*	None	E	1B	Riparian scrub on seasonally inundated floodplain with a clay substrate; blooms June - August.	Extremely low: the site does not contain suitable habitat for this species. Delta button celery has been found in a few locations along the San Joaquin River, just west of the site (CNDDB, 2010). It is possible this species may still occur along the San Joaquin River at or near the outfall site.
Suisun Marsh aster	*Symphyotrichum lentum*	None	None	1B	Marshes and swamps (brackish and freshwater); blooms March-June.	Extremely low: the site does not contain suitable habitat for Suisun Marsh aster. The nearest occurrence of Suisun Marsh aster documented in the CNDDB (2010) is an 1892 record with the location only generally described as "Lathrop". It is possible this species may still occur along the San Joaquin River at or near the outfall site.
Wright's trichocoronis	*Trichocoronis wrightii var. wrightii*	None	None	2	Marshes and swamps, riparian forest, meadows and seeps, and vernal pools; blooms May-September.	Extremely low: the site does not contain suitable habitat for Wright's trichocoronis. The only record of this species in the CNDDB (2010) within the search areas is a 1914 occurrence in the San Joaquin River, just west of the site (CNDDB, 2010). It is possible this species may still occur along the San Joaquin River at or near the outfall site.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likelihood of Occurrence in the Project Site
WILDLIFE						
Birds						
Burrowing owl	*Athene cunicularia*	None	SC	N/A	Grasslands, deserts and scrublands with low-growing vegetation; primarily nests in ground squirrel burrows.	Moderate: there are numerous ground squirrels and ground squirrel burrows in the site and along the elevated railroad tracks that parallel the storm drain alignment. Burrowing owls are documented in the CNDDB (2010) in several locations in the search area, including an occurrence just north of the northeast part of the site.
Swainson's hawk	*Buteo swainsoni*	None	T	N/A	Nesting: large trees, usually within riparian corridors. Foraging: agricultural fields and annual grasslands.	High: several of the larger trees in the site are suitable for nesting raptors, including Swainson's hawks. Open grassland and cropland in the area provides Swainson's hawk foraging habitat and increases the suitability of on-site trees for nesting. The CNDDB (2010) contains numerous occurrences of nesting Swainson's hawks within a few miles of the site, including two recent (1998 and 2003) records in the northeast part of the site.
Tricolored blackbird	*Agelaius tricolor*	None	SC	N/A	Requires open water and protected nesting substrate, usually cattails and riparian scrub with surrounding foraging habitat.	Moderate: there are a few patches of emergent wetlands in the site (e.g., the fire suppression pond) that provide suitable nesting habitat for tricolored blackbirds; open grain fields and grassland are suitable for foraging. The nearest occurrence of tricolored blackbirds in the CNDDB (2010) is mapped approximately in the extreme northeast corner of site. This record is not mapped with high precision and may have been just off-site.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likelihood of Occurrence in the Project Site
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*	None	SC	N/A	Nests in freshwater emergent wetlands with dense vegetation and deep water; usually in lakes or ponds.	Very low: there is no highly suitable nesting habitat for yellow-headed blackbird in the site. The only record of this species in the CNDDB (2010) in the search area is a 1894 record approximately 0.5 miles north of the site (CNDDB, 2010)
Mammals						
Riparian brush rabbit	*Sylvilagus bachmani riparius*	E	E	N/A	Riparian thickets within Stanislaus and southern San Joaquin Counties. Known primarily from Caswell State Park.	Extremely low: there is no suitable habitat for riparian brush rabbit in the site. The nearest occurrence of riparian brush rabbit is approximately 0.75 miles northwest of the site in a riparian forest in an oxbow along the San Joaquin River (CNDDB, 2010). There are no riparian thickets along the San Joaquin River at the outfall site and the relatively open understory lacks cover required by riparian brush rabbit.
Reptiles & Amphibians						
Western pond turtle	*Actinemys marmorata*	None	SC	N/A	Seeks cover in ponds, marshes, and irrigation ditches with aquatic vegetation. Needs basking sites and nearby upland habitats for egg laying.	High: western pond turtles were observed in the fire suppression pond in the west part of the site. The San Joaquin River is potentially suitable habitat for western pond turtle. There are no records of western pond turtles in the CNDDB (2010) in the search area.
California tiger salamander	*Ambystoma californiense*	T	T	N/A	Seasonal water bodies without fish (i.e., vernal pools and stock ponds) near grassland/ woodland habitats with summer refugia (i.e., burrows).	Very low: due to short periods of inundation, the seasonal pond in the east part of the site is not suitable breeding habitat for California tiger salamander. The wetlands along the storm drain alignment provide potential breeding habitat for this species. Burrows and cracks in grassland, cropland, and ruderal habitats in the site could be used be aestivating salamanders if nearby ponds support breeding populations. The only record of this species in the CNDDB (2010) in the 120+/- square-mile search area are 1974 and 1996 observations of

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likelihood of Occurrence in the Project Site
						larvae in a pond just southwest of the intersection of Highway 120 and McKinley Avenue, approximately 0.25 miles south of the site. It is considered unlikely any salamanders breeding in this pond would migrate north across the elevated railroad tracks and/or Highway 120 on to the site. The site is not within designated critical habitat for California tiger salamander (USFWS, 2005).
Invertebrates						
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	T	None	N/A	Elderberry shrubs, usually in Central Valley riparian habitats	Low: only one blue elderberry shrub was observed in the site. However, this shrub is surrounded by farmland, residential parcels, and is not in a riparian setting, making it less likely to support valley elderberry longhorn beetle. There are no occurrences of this species documented in the CNDDB (2010) within the 120+/- square mile search area.

1 T = Threatened; E = Endangered. SC= State of California Species of Special Concern.

2 CNPS List 1B includes species that are rare, threatened, or endangered in California and elsewhere; List 2 includes species that are rare, threatened, or endangered in California, but more common elsewhere.

(*Xanthocephalus xanthocephaus*), riparian brush rabbit (*Sylvilagus bachmani riparius*), and California tiger salamander (*Ambystoma californiense*).

While the project site and surrounding areas may have provided habitat for some of the special-status wildlife species listed in Table 3 at some time in the past, farming and development in the area have substantially modified natural habitats within the greater project vicinity. Of the wildlife species identified in the CNDDB, Swainson's hawk, burrowing owl, tricolored blackbird, western pond turtle, and California tiger salamander are the only species that have potential to occur in the site on more than a transitory or very occasional basis. While not recorded in the CNDDB (2010), valley elderberry longhorn beetle could occur in the on-site elderberry.

SWAINSON'S HAWK: The Swainson's hawk is a migratory hawk listed by the State of California as a Threatened species. The Migratory Bird Treaty Act and Fish and Game Code of California protect Swainson's hawks year-round, as well as their nests during the nesting season (March 1 through September 15). Swainson's hawk are found in the Central Valley primarily during their breeding season, a population is known to winter in the San Joaquin Valley.

Swainson's hawks prefer nesting sites that provide sweeping views of nearby foraging grounds consisting of grasslands, irrigated pasture, hay, and wheat crops. Most Swainson's hawks are migratory, wintering in Mexico and breeding in California and elsewhere in the western United States. This raptor generally arrives in the Central Valley in mid-March, and begins courtship and nest construction immediately upon arrival at the breeding sites. The young fledge in early July, and most Swainson's hawks leave their breeding territories by late August.

The CNDDB (200) contains numerous occurrences of nesting Swainson's hawks within a few miles of the site, including two recent (1998 and 2003) records in the northeast part of the site. Swainson's hawks were observed soaring over the

west part of the site and lands to the west during the 2009 surveys, but no active nests were located in the site. There are areas of open grassland and cropland in and near the site that may be used by foraging Swainson's hawks. There are also a few relatively large trees in and near the site that may be used during some years by nesting Swainson's hawks.

BURROWING OWL: The Migratory Bird Treaty Act and Fish and Game Code of California protect burrowing owls year-round, as well as their nests during the nesting season (February 1 through August 31). Burrowing owls are a year-long resident in a variety of grasslands as well as scrub lands that have a low density of trees and shrubs with low growing vegetation; burrowing owls that nest in the Central Valley may winter elsewhere.

The primary habitat requirement of the burrowing owl is small mammal burrows for nesting. The owl usually nests in abandoned ground squirrel burrows, although they have been known to dig their own burrows in softer soils. In urban areas, burrowing owls often utilize artificial burrows including pipes, culverts, and piles of concrete pieces. This semi-colonial owl breeds from March through August, and is most active while hunting during dawn and dusk. Burrowing owls are documented in the CNDDB (2010) in several locations in the search area, including an occurrence just north of the northeast part of the site.

No burrowing owls were observed in the project site during the 2009 surveys. While numerous ground squirrels and ground squirrel burrows were observed in the site and along the elevated railroad tracks that parallel the storm drain alignment, none of the ground squirrel burrows had any evidence of burrowing owl occupancy (i.e. whitewash, feathers and/or pellets). Intensive agriculture and development within and surrounding the site substantially reduce the likelihood of owls potentially using the site for nesting. However, this species likely flies over the site on an occasional basis and could nest in the site during some years.

TRICOLORED BLACKBIRD: The tricolored blackbird is a State of California Species of Concern and is also protected by the federal Migratory Bird Treaty Act. Tricolors are colonial nesters requiring very dense stands of emergent wetland vegetation and/or dense thickets of wild rose or blackberries adjacent to open water for nesting. This species is endemic to California.

No tricolored blackbirds were observed nesting, foraging or perching within the project site during the 2009 or 201 surveys. There are a few patches of emergent wetlands in the site, such as the fire suppression pond, that provide marginal, yet potentially suitable nesting habitat for tricolored blackbird; open grassland and cropland in and near the site may be used for foraging. The nearest occurrence of tricolored blackbirds in the CNDDB (2010) is mapped approximately in the extreme northeast corner of site. This record is not mapped with high precision and may have been just off-site.

CALIFORNIA TIGER SALAMANDER: California tiger salamander is a State of California Species of Special Concern and was recently listed as threatened by the USFWS under the Federal Endangered Species Act (USFWS, 2004). In August 2005, USFWS also designated critical habitat for the Central Valley population of California tiger salamander (USFWS, 2005). The site is not within designated critical habitat of California tiger salamander (USFWS, 2005).

California tiger salamanders require stock ponds without game fish or deep, large vernal pools, which hold water well into the spring (i.e., April or May) for breeding (Jennings and Hayes, 1994). Following breeding, the young disperse to nearby grasslands and woodland habitats and spend the summer months in subterranean refugia such as small mammal burrows. While most salamanders aestivate in burrows within several hundred feet of their breeding ponds, they have been documented over-summering up to 1+ mile from their breeding pond.

The only record of this species in the CNDDB (2010) in the 120+/- square-mile search area are 1974 and 1996 observations of larvae in a pond just southwest of the intersection of Highway 120 and McKinley Avenue, approximately 0.25 miles south of the site. This breeding population is well west of the current distributional range of the species in San Joaquin County and it is not known if this pond still exists supports a breeding population of California tiger salamanders.

Due to short periods of inundation, the seasonal pond in the east part of the site is not suitable breeding habitat for California tiger salamander. Fish believed to be largemouth bass (*Micropteris slamoides*) were observed in the fire suppression pond in the west part of the site; California tiger salamander can not co-exist with predatory fish and would not use this pond for breeding. The wetlands along the storm drain alignment provide marginal, yet potential breeding habitat for this California tiger salamander. Due to their small size and questionable water quality from agricultural runoff, it is considered unlikely California tiger salamander use these wetlands for breeding.

Burrows and cracks in grassland, cropland, and ruderal habitats in the site could be used be aestivating salamanders if the on-site pond or other nearby ponds support breeding populations. It is considered unlikely any salamanders breeding in the off-site pond southwest of the intersection of Highway 120 and McKinley Avenue would migrate north across the elevated railroad tracks and/or Highway 120 on to the site. Unless the wetlands along the storm drain alignment are breeding ponds, the likelihood of California tiger salamanders over-summering in the site is very low.

WESTERN POND TURTLE: The western pond turtle is a state species of concern, but is not a listed species at the state or federal level. Western pond turtles are associated with permanent or nearly permanent bodies of water with adequate basking sites such as logs, rocks or open mud banks. There are no records of western pond turtles in the CNDDB (2010) in the search area.

Western pond turtles were observed in the fire suppression pond in the west part of the site. The San Joaquin River is potentially suitable habitat for western pond turtle. There is no other suitable perennial aquatic habitat for western pond turtle in the site or along the storm drain alignment.

VALLEY ELDERBERRY LONGHORN BEETLE: The valley elderberry longhorn beetle (VELB) is listed as a federally threatened species and its host plant is the blue elderberry shrub. The United States Fish and Wildlife Service (USFWS, 1999) *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* identifies stems in excess of 1 inch diameter at ground level as potential habitat for the beetle. These guidelines direct that, if possible, elderberry shrubs should be avoided by a ground disturbance set back of at least twenty feet from the drip line of each shrub. The guidelines further direct that buffer areas between 20 and 100 feet from the driplines of the shrubs that are subject to temporary ground disturbance should be restored or re-vegetated.

A single blue elderberry shrub was observed growing in the back yard of a residential parcel along McKinley Avenue (Figure 4 and attached photograph). This shrub is surrounded by farmland, residential parcels, and is not in a riparian setting, making it less likely to support valley elderberry longhorn beetle. No other blue elderberry shrubs were observed within the site. There are no occurrences of this species documented in the CNDDB (2010) within the 120+/- square mile search area.

SENSITIVE FISH: A number of sensitive fish species occur in Delta waterways during various times of the year. These include delta smelt (*Hypomesus transpacificus*), fall/late-fall run, spring-run and winter-run Chinook salmon (*Oncorhynchus tshawytscha*), Central Valley steelhead (*O. mykiss*), green sturgeon (*Acipenser medirostris*), river lamprey (*Lampetra ayersi*), Pacific lamprey (*Lampetra tridentata*), and longfin smelt (*Spirinchus thaleichthys*). It is considered likely that some of these sensitive fish utilize the San Joaquin River at or near the storm drain outfall site, at least on a seasonal basis. OTHER SPECIES:

The USFWS list of Federally Threatened and Endangered species that may occur in or be affected by projects in the Lathrop and Manteca topographic quadrangles (attached) includes two of the same species included in the CNDDB (i.e., California tiger salamander and riparian brush rabbit). Additionally, the USFWS species list contains several species that have essentially no potential for occurrence in or near the site due to lack of habitat or the site being outside the known range of the species. For example, California red-legged frog (*Rana aurora draytonii*) does not occur on the floor of the Central Valley. There are no occurrences of giant garter snake (*Thamnophis gigas*) documented in the CNDDB (2010) within the 120+/- square mile search area and no suitable habitat for this species was observed in the site or along the storm drain alignment . The site is well east of the known range of San Joaquin kit fox (*Vulpes macrotis mutica*).

The USFWS list also includes vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*). Both of these species require vernal pools or seasonal wetlands and neither of these habitats occurs in the site. The seasonal pond in the east part of the site is in sandy soils and does not have the attributes of vernal pools such as underlying clay pan and typical vernal pool flora. The wetlands along the storm drain alignment are also not suitable for vernal pool fairy and tadpole shrimp. The site is outside the current distributional range of the species in San Joaquin County and there are no occurrences of vernal pool fairy shrimp or vernal pool tadpole shrimp documented in the CNDDB (2010) within the 120+/- square mile search area. The likelihood of occurrence of listed vernal pool branchiopods in the site is very low.

Conclusions and Recommendations:

- The site consists of almond orchards, annual cropland, residential parcels, and several businesses. Virtually all of the lands in the site are either intensively cultivated or highly disturbed, and biologically unremarkable.

- The San Joaquin River, which is a navigable Waters of the U.S. falls under the jurisdiction of agencies including ACOE, CDFG, the State Reclamation Board, and the California Regional Water Quality Control Board (RWQCB). Permits and/or certification from all of these agencies will be required for construction of the storm drain outfall.

- Potential impacts to special-status fish in the San Joaquin River from the storm drain outfall will be addressed during the ACOE Section 7 consultation processes with USFWS and the National Marine Fisheries Service (NMFS). Any needed mitigation measures to offset potential impacts to special-status fish (e.g., pre-treatment of storm water, construction scheduling) will be identified by USFWS and/or NMFS and attached as conditions to the ACOE Clean Water Act Permit.

- The only wetland areas within the site appearing to have any potential to fall under the jurisdiction of ACOE are a seasonal pond in the east part of the site near the railroad tracks two small wetlands along the storm drain alignment. These wetlands are not adjacent to or tributary to creeks or drainages and may fall outside ACOE jurisdiction due to hydrologic and geographic isolation from jurisdictional wetlands and Waters of the U.S. The small fire suppression pond in the west part of the site is also believed to fall outside ACOE jurisdiction due to its created nature and hydrologic isolation.

- No other ponds, ditches, seasonal wetlands, vernal pools, streams, lakes, or other potentially jurisdictional waters of the U.S. or wetlands of any kind were observed in the site.

- Potentially jurisdictional waters of the U.S. and wetland should be avoided to the maximum extent practicable. If avoidance of the three wetlands areas or the fire suppression pond is deemed infeasible and fill material (e.g., soil) is to be placed within these areas, the jurisdictional nature of

the features would need to be determined. This would involve preparation of a wetland delineation and submittal to ACOE for verification. If one or more of these wetlands are deemed jurisdictional, wetland permits and/or certification would be required from ACOE and RWQCB.

- Due to a lack of suitable habitat, the likelihood of occurrence of special-status plants in the site is considered very low. It is possible that slough thistle, delta button celery, Suisun Marsh aster, and Wright's trichocoronis may still occur along the San Joaquin River at or near the outfall site. Surveys would need to be done at the appropriate time(s) of the year to confirm species presence or absence at the outfall site.

- With the exception of western pond turtle, Swainson's hawk, burrowing owl, tricolored blackbird, California tiger salamander, and valley elderberry longhorn beetle, no special-status wildlife species are expected to occur in the site or at the outfall on more than a very occasional or transitory basis.

- The project is expected to participate in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (HCP) (SJCOG, 2000). This would involve pre-construction surveys for nesting Swainson's hawks and burrowing owls in and near the site, as specified in the Incidental Take Minimization Measures (ITMMs) that would be issued for the project. If active nests or occupied burrows are located, construction would need to be delayed until the birds are relocated or until nesting is completed and the young fledge. The HCP also contains ITMMs restricts disturbance near western pond turtle breeding areas from April through November.

- If the project does not participate in the HCP, pre-construction surveys for nesting Swainson's hawks within 0.25 miles of the site should be conducted if construction commences between March 1 and September 15. The survey should include all large trees visible from the site. If active

nests are found, a qualified biologist should determine the need (if any) for temporal restrictions on construction.

- If the project does not participate in the HCP, pre-construction surveys for burrowing owls within 250 feet of the site should be conducted if construction commences between February 1 and August 31. The survey should include the site, and all areas of open grassland visible from the site. If occupied burrows are found, a qualified biologist should determine the need (if any) for temporal restrictions on construction.

- Western pond turtles were observed in the fire suppression pond in the west part of the site. If the project does not participate in the HCP, consultation with CDFG is recommended to further assess the potential impacts to western pond turtles and determine the need (if any) for any permits or mitigation.

- Although considered unlikely, the wetlands along the storm drain alignment could be used by breeding California tiger salamanders. If salamanders breed in these wetlands, they would be expected to aestivate in nearby uplands and could be injured or killed during construction of the storm drain. Spring-time larval surveys of these wetlands for California tiger salamanders are recommended. In the event California tiger salamanders are found occupying the wetlands consultation with USFWS would be needed to further assess the potential impacts to the species and determine appropriate mitigation. If needed, the HCP provides coverage for California tiger salamanders. Alternately, mitigation may be accomplished by preservation of lands at an off-site conservation area, or by purchasing credits in an agency-approved mitigation bank.

- Valley elderberry longhorn beetle could potentially occur in the elderberry shrub in the east part of the site. Disturbance to this elderberry shrub should be avoided, if feasible. If needed, the HCP provides mitigation for impacts to elderberry shrubs on a cost per stem basis. In the event that the project does not participate in the HCP and avoidance of the elderberry shrub is infeasible, consultation with USFWS is recommended to further assess the potential impacts to VELB and determine the need (if any) for any permits or mitigation.

- Trees in the site could be used by nesting raptors and other protected birds. In the event any trees that need to be removed or trimmed to facilitate the project, they should be felled or trimmed outside of the general bird nesting season (February 1 through August 31) or a nesting bird survey should be conducted immediately prior to tree removal. If active nests are found, tree felling should be delayed until the young have fledged.

Thank you, again, for asking Moore Biological Consultants to assist with the project. Please feel free to call me at (209) 745-1159 with any questions.

Sincerely,

Diane S. Moore, M.S.
Principal Biologist

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APPENDIX C
CULTURAL

ARCHAEOLOGICAL INVENTORY SURVEY

Gateway Business Park Project,
c. 384-acres + 1.5-mile Off-Site Storm Drain Pipeline,
City of Lathrop, San Joaquin County, California.

Prepared for

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Keywords *for Information Center Use:*

Archaeological Inventory Survey, c. 384-acres, 1.5-mile Off-Site Storm Drain Pipeline, San Joaquin County, CEQA, USGS Lathrop, Ca. 7.5' Quad., Twenty-six historic-era sites not formally evaluated for significance.

March 3, 2010

GENESIS SOCIETY - PARADISE, CALIFORNIA

ARCHAEOLOGICAL - HISTORICAL - CULTURAL RESOURCE MANAGEMENT SERVICES

INTRODUCTION

Project Background

This report details the results of an archaeological inventory survey for the proposed Gateway Business Park Road Project involving approximately 384-acres and an off-site storm drain pipeline located immediately east of Interstate 5 and adjacent to both the north and south sides of State Route 120, within the City of Lathrop, San Joaquin County, California. The Specific Plan would serve as a planning document that would facilitate future commercial development of the land area. Specific development actions that could follow include wide-spread demolition of existing structures and features, construction of new commercial buildings and construction of new infrastructure features.

Since the proposed project will ultimately involve physical disturbance to ground surface and sub-surface components, the potential exists to impact any cultural resources that may be located within the Area of Potential Effect (APE). In this case, the APE would consist of the 384-acre property and a c. 1.5-mile off-site storm drain pipeline. Evaluation of the project's potential effects to cultural resources must be undertaken in conformity with City of Lathrop and San Joaquin County rules and regulations, and in compliance with requirements of the California Environmental Quality Act of 1970, Public Resources Code, Section 21000, et seq. (CEQA), and The California CEQA Environmental Quality Act Guidelines, California Administrative Code, Section 15000 et seq. (Guidelines as amended).

Scope of Work

At the most general level, compliance with CEQA requires completion of projects in conformity with standards contained in Section 15064.5 of the CEQA Guidelines. Based on this and other relevant Sections of the Guidelines, the following specific tasks were considered an adequate and appropriate Scope of Work for the present project:

- Conduct a records search at the Central California Information Center of the California Historical Resources Information System at CSU-Stanislaus and consult with affected Native American representatives and the Native American Heritage Commission. Collectively, the goals of the records search and consultation are to determine (a) the extent and distribution of previous archaeological surveys, (b) the locations of known archaeological sites and any previously recorded archaeological districts, and (c) the relationships among known sites and environmental variables. This step is also designed to ensure that during field survey work, all cultural resources considered significant or potentially significant per CEQA are discovered, correctly identified, and properly interpreted.

- Conduct a pedestrian field survey of the project area. Based on generally uniform terrain and archaeological sensitivity within the project area, complete-coverage, intensive-level coverage was considered appropriate. The purpose of the pedestrian survey is to ensure that any previously recorded sites that may have been identified during the records search and consultation are re-located and significance evaluations updated on the basis of

existing field conditions vis-à-vis site integrity. For any previously undocumented sites discovered that retain sufficient integrity to be considered significant historical or unique archaeological resources, the field survey would involve formally recording these on State DPR-523 forms. For both previously identified and newly identified sites, the level of field work would be sufficient to recommend measures designed to avoid, minimize or mitigate potential adverse effects of the proposed undertaking to any sites determined significant or potentially significant.

With respect to components of the built environment (structures and buildings), this task will be addressed in a separate document. The present study addresses only prehistoric sites, and historic features and components other than structures and buildings.

- Upon completion of the records search and pedestrian survey, prepare an Archaeological Survey Report that identifies project effects and recommends appropriate mitigation measures for sites found significant or potentially significant under CEQA and whose significant qualities would be affected by the project.

The remainder of the present document constitutes the final report for this project, detailing the results of the records search, consultation and pedestrian survey and providing recommendations for treatment of significant or unique resources that could be affected. All field survey procedures followed guidelines provided by the State Historic Preservation Office (Sacramento) and conform to accepted professional standards.

Location and Cultural Context

The Gateway Business Park Project involves approximately 384-acres and a c. 1.5-mile off-site storm drain pipeline located immediately east of Interstate 5 and adjacent to both the north and south sides of State Route 120, within the City of Lathrop, San Joaquin County, California. Lands affected are located within a portion of Township 1 South, Range 6 East (MDM), as shown on the USGS Lathrop, California, 7.5' series quad (see attached ***Project Location Map***).

Much of this portion of the county has been subjected to historic ranching and farming, while the project area today consists of a variety of land uses, including: agricultural, residential and industrial. Natural surface water sources in the area include the San Joaquin River, located at the west end of the proposed 1.5-mile off-site storm drain pipeline, approximately 0.5 miles west of the 384-acre land area subject to the present inventory.

Overall, but notwithstanding the effects of prior impacts to the ground surface and subsurface components resulting from historic through contemporary agricultural/ranching, residential and commercial use, the project area appeared to be situated within lands of low to moderate archaeological sensitivity with respect to prehistoric and historic-period sites and features.

Prehistory: The San Joaquin Valley area generally has a long and complex cultural history with distinct regional patterns that extends back more than 11,000 years. The first generally agreed-upon evidence for the presence of prehistoric peoples in the area is represented by the distinctive fluted spear points (e.g. Heizer 1938), some resembling Clovis Points, found on

the margins of extinct lakes in the San Joaquin Valley. The Clovis points are found on the same surface with the bones of extinct animals such as mammoths, sloths, and camels. Based on evidence from elsewhere, the ancient hunters who used these spear points existed during a narrow time range between about 10,900 BP and 11,200 BP (Moratto 1984/2004).

The next cultural period represented, the Western Pluvial Lakes Tradition and thought by most to be subsequent to the Clovis period, is another widespread complex that is characterized by stemmed spear points. This poorly defined early cultural tradition is regionally known from a small number of sites in the Central Coast Range, San Joaquin Valley lake margins, and Sierra Nevada foothills. The cultural tradition is dated to between about 8,000 and 10,000 years ago and its practitioners may be the precursors to the subsequent cultural pattern (Wallace 1978c).

About 8,000 years ago, many California cultures shifted the main focus of their subsistence strategies from hunting to seed gathering as evidenced by the increase in food-grinding implements found in archeological sites dating to this period. This cultural pattern is best known for southern California, where it has been termed the Milling Stone Horizon (Wallace, 1954, 1978a). However, subsequent research suggests that the horizon may be more widespread than originally described and likely extended throughout the Valley (Moratto 1984/2004); radiocarbon dates suggest a maximum age range between about 8,000 and 2,000 BP, but with most clustering between about 6,000 to 4,000 BP.

Cultural patterns as reflected in the archeological record, particularly specialized subsistence practices, became codified within the last 3,000 years. The archeological record becomes more complex, as specialized adaptations to locally available resources were developed and populations expanded. Many sites dated to this time period contain mortars and pestles and/or are associated with bedrock mortars implying the intense exploitation of the acorn. The range of subsistence resources utilized along with regional exchange systems expanded significantly. Along the coast and in the Central Valley, archeological evidence of social stratification and craft specialization is indicated by well-made artifacts such as charmstones and beads, often found as mortuary items. Ethnographic lifeways serve as good analogs for this period.

Ethnography: The project area is located within territory claimed by the Penutian-speaking Northern Valley Yokuts (Wallace 1978b: Figure 1) at the time of initial European-American entry into this region (*circa*. A.D. 1800). The Yokuts occupied a fairly extensive area, extending from the crest of the Coast "Diablo" Range easterly into the foothills of the Sierra Nevada, north to the American River, and south to the upper San Joaquin River.

The basic social unit for the Yokuts was the family, although the village may also be considered a social, a political and economic unit. Villages were often located on elevated features (natural levees, knolls, ridges) adjoining streams, and were inhabited mainly in the winter as it was necessary to seasonally relocate, sometimes to hills and higher elevation zones, to establish temporary camps during food gathering seasons (i.e., spring, summer and fall). Villages typically consisted of a scattering of small structures, numbering from four or five to several dozen in larger villages, each house containing a single family of from three to seven people. Larger villages, with from twelve to fifteen or more houses, might also contain an earth lodge.

As with most California Indian groups, economic life for the Yokuts revolved around hunting, fishing and the collecting of plant foods, with deer, acorns, and aquatic resources representing primary staples. The collection and processing of these various food resources was accomplished with the use of a wide variety of wooden, bone and stone artifacts. The Yokuts were very sophisticated in terms of their knowledge of the uses of local animals and plants, and of the availability of raw material sources that could be used in manufacturing an immense array of primary and secondary tools and implements. However, only fragmentary evidence of their material culture remains, due in part to perishability, and in part to the impacts to archaeological sites resulting from later (historic) land uses.

Historic Context: Historically, the interior of California was initially visited by Anglo-American fur trappers, Russian scientists, and Spanish-Mexican expeditions during the early part of the 19th Century. These early explorations were followed by a rapid escalation of European-American activities, which culminated in the massive influx fostered by the discovery of gold at Coloma in 1848.

Early Spanish expeditions arrived from Bay Area missions as early as 1804, penetrating the northwestern San Joaquin Valley (Cook, 1976). By the mid-1820s, hundreds of fur trappers were annually traversing the Valley on behalf of the Hudson's Bay Company (Maloney, 1945). By the late 1830s and early 1840s, several small permanent European-American settlements had emerged in the Central Valley and adjacent foothill lands, including Ranchos in the interior Coast Range, and of course the settlement at New Helvetia (Sutter's Fort) at the confluence of the Sacramento and American Rivers (Sacramento).

With the discovery of gold in the Sierra Nevada, large numbers of European-Americans, Hispanics, and Chinese arrived in and traveled through the Valley. The Valley's east-side mining communities' demands for hard commodities led quickly to the expansion of ranching and agriculture throughout the Great Central Valley and the interior valleys of the Coast Range. Stable, larger populations arose and permanent communities slowly emerged in the Central Valley, particularly along major transportation corridors. Of particular importance in this regard was the transformation brought about by the railroad.

The Southern Pacific and Central Pacific Railroads and a host of smaller interurban lines to the north and east around the cities of Sacramento, Stockton and Modesto began intensive projects in the late 1860s. By the turn of the century, nearly 3,000 miles of lines connected the cities of Modesto and Stockton with points south and north. Many of the valley's cities, including many in San Joaquin and adjacent Counties, were laid out as isolated railroad towns in the 1870s and 1880s by the Southern and Central Pacific, which not only built and settled, but continued to nurture the infant cities until settlement could be independently sustained.

RECORDS SEARCH

Several sources of information were considered relevant to evaluating the types of archaeological and historical sites and site distribution that might be encountered within the project area. The information evaluated prior to conducting pedestrian field survey includes data maintained by the Central California Information Center at CSU-Stanislaus, consultation

with Yokuts tribal representatives, the Native American Heritage Commission, and review of available published and unpublished documents relevant to regional prehistory, ethnography, and early historic developments (discussed above).

Central California Information Center (CSU-Stanislaus)

Prior to conducting the pedestrian field survey, the official San Joaquin County archaeological records maintained by the Central California Information Center were examined for any existing recorded prehistoric or historic sites (CCIC File # 7420 L, dated June 17, 2009 and CCIC File # 7614 L, dated February 24, 2010). These records document the following existing conditions for the project area:

- Due to minor mapping errors, the information center has identified a total of twenty-nine (29) archaeological studies which have been conducted within, adjacent, or within close proximity to the proposed APE. The surveys include the following ("SJ" numbers in the list below reference Information Center report file numbers):

    729 Chavez (1981)
    786 Napton (1993)
    1900 Napton (1993)
    2175 Dondero (1993)
    2515 Caruso and Macdougall (1994)
    3611 William Self Associates (1999)
    4090 Peak & Associates (1999)
    4091 Peak & Associates (2000)
    4786 Windmiller and Napoli (2002)
    4807 Gross (2002)
    4901 Windmiller and Napoli (2003)
    5003 Gross (2003)
    5309 Baloian, Baloian, and Nettles (2004)
    5460 Jensen (2004)
    5540 Becker (2004)
    5622 Tanksley (2003)
    5623 Onken (2002)
    5624 Tanksley (2003)
    5625 Palmer and Lemon (2004)
    5626 Brady (2003)
    5803 Gross (2005)
    6447 URS Corp. (2007)
    6476 ECORP Consulting (2006)
    6506 ECORP Consulting (2006)
    6625 ASI (1998)
    6643 URS Corp. (2008)
    6723 URS Corp. (2008)
    6724 URS Corp. (2008)
    6756 ECORP Consulting (2006)

- A total of thirty-two (32) cultural resources have been identified within or immediately adjacent to the subject property. One of these (P-39-4608) consists of an isolate, and therefore does not achieve the threshold for historical resource and consequently warrants no further consideration or treatment. One multi-component site (P-39-141) consists of a prehistoric occupation local and burial mound as well as the site of the old Mossdale School. However, this site is situated completely outside of the present project property and therefore warrants no further consideration or treatment. Similarly, two of the sites (P-39-2 and P-39-98) represent segments of the Southern Pacific/Union Pacific and Western Pacific Railroads, respectively. Both are located immediately adjacent, but outside of the present project property and thus warrant no further consideration or treatment.

  The remaining twenty-eight (28) sites represent historic-era built environment buildings, structures and features. Of these 28 sites, two (P-39-4608 and P-39-4610) are located outside of the subject property and therefore warrant no further consideration or treatment. In summary, twenty-six (26) historic-era sites (with the P-39 sub-heading) are located within the subject property:

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  As noted in the Scope of Work section (above) evaluation of components of the built environment (structures and buildings) will be addressed in a separate document.

In addition to documented resources within the subject property, the GLO Plat map for T2S/R6E (dated 1851-1869) was examined and found to reference two house within Section 2, and possibly within the subject property. The map references Visher's House and Wilber's House. Finally, the USGS Lathrop 7.5' map (dated 1915) depicts five structures (presumably houses) located within the project property.

Other Sources

In addition to examining the official records of San Joaquin County as maintained by the Central California Information Center, the following were also consulted:

- The National Register of Historic Places (1986, Supplements to 8/08).
- The California Register of Historical Resources.
- The California Inventory of Historic Resources (State of California 1976).
- The California Historical Landmarks (State of California 1996).
- The California Points of Historical Interest (May 1992 and updates).
- The Directory of Properties in the Historic Property Data File (OHP listing 2/9/2010) and the Archaeological Determinations of Eligibility (OHP listing 2/8/2010).
- The CALTRANS State and Local bridge Survey (1989 and updates).
- The Survey of Surveys (1989).
- GLO Plat Maps and other historic maps.
- The Native American Heritage Commission (NAHC) re. Sacred Land Listings.
- Northern Valley Yokuts Tribe, Linden, California.

PEDESTRIAN FIELD SURVEY

Survey Coverage: Considering that all of the APE has been subjected to previous survey, and due to numerous parcels (including private residences and security fenced lots), all of the readily accessible portions of the APE were subjected to intensive pedestrian survey. This task was accomplished by walking systematic transects, spaced at 20 meter intervals throughout agricultural fields, roadways, along the margins of the railroads and in other open areas. In searching for cultural resources, the surveyor took into account the results of background research and was alert for any unusual contours, soil changes, distinctive vegetation patterns, exotic materials, artifacts, feature or feature remnants and other possible markers of cultural sites.

Field Work: Archaeological field survey was undertaken by Sean Michael Jensen on June 28 & 29, 2009 and on March 2, 2010. No special problems were encountered and all survey objectives were satisfactorily achieved.

PROJECT FINDINGS

As noted in previous discussion, disturbance to the ground surface and subsurface components has been substantial throughout the project area. Approximately 40% of the land area is located within heavily disturbed areas, including: roads, industrial yards, commercial facilities and residences. Much of the remainder of the APE has been subjected

to moderate disturbance associated with continuous and ongoing agricultural activity (farming). The proposed off-site storm drain pipeline parallels the north side of the Southern/Union Pacific Railroad, before terminating at the San Joaquin River levee at the project's western terminus.

Prehistoric Resources

No evidence of **prehistoric** use or presence was observed during the pedestrian survey – no artifacts, flakes, and no elevated spots or other soil characteristics suggesting a possible village encampment were observed. The degree of prior disturbance to which all of the project area has been subjected partially explains the absence of prehistoric cultural material along the study corridor.

As part of the process of identifying prehistoric cultural resources and in conjunction with the ***Records Search*** and background data review, Native American consultation was undertaken for this project. The Native American Heritage Commission (NAHC) was requested to supply any information they had concerning Sacred Land listings for the project area. The NAHC responded indicating no Sacred Land listings for the project area or adjacent lands. The contact list from the Native American Heritage Commission included the following group which was requested to supply any specific information they might have concerning prehistoric sites, traditional use areas or other concerns they might have for lands within or near the project area:

- Northern Valley Yokuts Tribe, Linden, California.

To date, no responses have been received.

Historical Resources

As noted in the Records Search section (above) twenty-six **historic-period** sites have been documented within the subject property. Formal evaluation of components of the built environment (structures and buildings) was not undertaken during the present effort. Formal evaluation of the existing historical resources is recommended as a mitigation measure that will be implemented prior to demolition of any of the structures.

No additional historic-periods sites or features were observed during the present pedestrian survey.

SUMMARY and RECOMMENDATIONS

The present report details the results of an archaeological inventory survey for the proposed Gateway Business Park Project involving approximately 384-acres and an off-site storm drain pipeline, located immediately east of Interstate 5 and adjacent to both the north and south sides of State Route 120, within the City of Lathrop, San Joaquin County, California.

Components of the present archaeological survey include a complete records search and examination of studies undertaken and sites recorded within the project area and vicinity, consultation with the Native American Heritage Commission (NAHC) and Tribal representatives on the NAHC contact list, and a complete-coverage, intensive-level pedestrian survey of the APE.

The records at the Central California Information Center at CSU-Stanislaus document that all of the APE had been previously surveyed for cultural resources, and that twenty-six historic-era site have been formally recorded within the APE. All of these sites represent buildings and/or structures which were not formally evaluated as part of the present inventory survey. Formal evaluation of the existing historical resources is recommended as a mitigation measure that will be implemented prior to demolition of any of the structures. No new historical sites were identified during the present pedestrian survey.

Consultation with the NAHC and Native American individuals and groups produced negative results with respect to specific information regarding the presence of prehistoric archaeological sites, traditional use areas or Sacred Land Listings for the project area or adjacent lands. No prehistoric sites or features were observed during the present pedestrian survey.

Based on absence of significant cultural resource or unique archaeological resources within the project area/APE, archaeological clearance is recommended for the proposed Gateway Business Park Project, although the following general provisions are recommended:

1) ***Consultation in the event of inadvertent discovery of human remains***: Evidence of human burial or scattered human remains related to prehistoric occupation of the area could be inadvertently encountered during future construction activity or other actions involving disturbance to the ground surface and subsurface components. In the event of such an inadvertent discovery, the County Coroner would have to be informed and consulted, per State law.

2) ***Consultation in the event of inadvertent discovery of cultural material***: The present evaluation and recommendations are based on the findings of an inventory-level surface survey only. There is always the possibility that important unidentified cultural materials could be encountered on or below the surface during the course of future development or construction activities. This possibility is particularly relevant considering the constraints generally to archaeological field survey, and particularly where past road construction has nearly completely obscured ground surface visibility and/or farming and ranching have impacted land surface and subsurface components, as in the present case. In the event of an inadvertent discovery of previously unidentified cultural material, archaeological consultation should be sought immediately.

REFERENCES CITED and/or UTILIZED

Advisory Council of Historic Preservation
1980 Advisory Council's Treatment of Archaeological Properties: A Handbook, Draft Guidelines. Washington, D.C.

Barbour, M. G. and J. Major (eds.)
1977 Terrestrial Vegetation of California. New York: John Wiley & Sons.

Brotherton, I. N. "Jack"
1981 "River Towns and Ferries." Annals of Stanislaus County, Volume I. Santa Cruz, Western Tanager Press.

Cook, S.F.
1976 The Conflict Between the California Indian and White Civilization. University of California Press. Berkeley.

Heizer, Robert F.
1938 "A Folsom-Type Point from the Sacramento Valley." The Masterkey 12(5):180-182. Los Angeles.

Kroeber, Alfred L.
1925 Handbook of the Indians of California. Bureau of American Ethnology Bulletin 78. Washington, D.C.

Kuchler, A. W.
1977 Map titled "Natural Vegetation of California," In, M. G. Barbour and J. Major, Editors, Terrestrial Vegetation of California. Wiley: New York.

Maloney, A.D. (Editor)
1945 "Fur Brigade to the Bonaventura: John Work's California Expedition, 1832-1833, for the Hudson's Bay Company." California Historical Society. San Francisco.

Moratto, Michael J.
1984/2004 California Archaeology, 2nd Edition (original 1984). Academic Press, New York.

State of California
1970 Public Resources Code, Section 21000, et seq. (CEQA), and The California Environmental Quality Act Guidelines, California Administrative Code, Section 15000 et seq. (Guidelines as Amended)

1976 The California Inventory of Historic Resources.

1990 California Historical Landmarks.

1992 California Points of Historical Interest listing (1990, and updates).

1998 California Register of Historical Resources

United States Department of the Interior

1996 National Register of Historic Places. Federal Register, Washington, D.C. Current listing.

Wallace, William J.

1954 "The Little Sycamore Site and Early Milling Stone Cultures in Southern California." American Antiquity 20(2):112-123.

1978a "Southern Valley Yokuts," IN, Handbook of North American Indians, Volume 8: California, Robert F. Heizer, Editor, pp. 448-461. Smithsonian Institution, Washington, D.C.

1978b "Northern Valley Yokuts," IN, Handbook of North American Indians, Volume 8: California, Robert F. Heizer, Editor, pp. 462-470. Smithsonian Institution, Washington, D.C.

1978c "Post-Pleistocene Archaeology," IN, Handbook of North American Indians, Volume 8: California, Robert F. Heizer, Editor, pp. 25-36. Smithsonian Institution, Washington, D.C.

Work, John

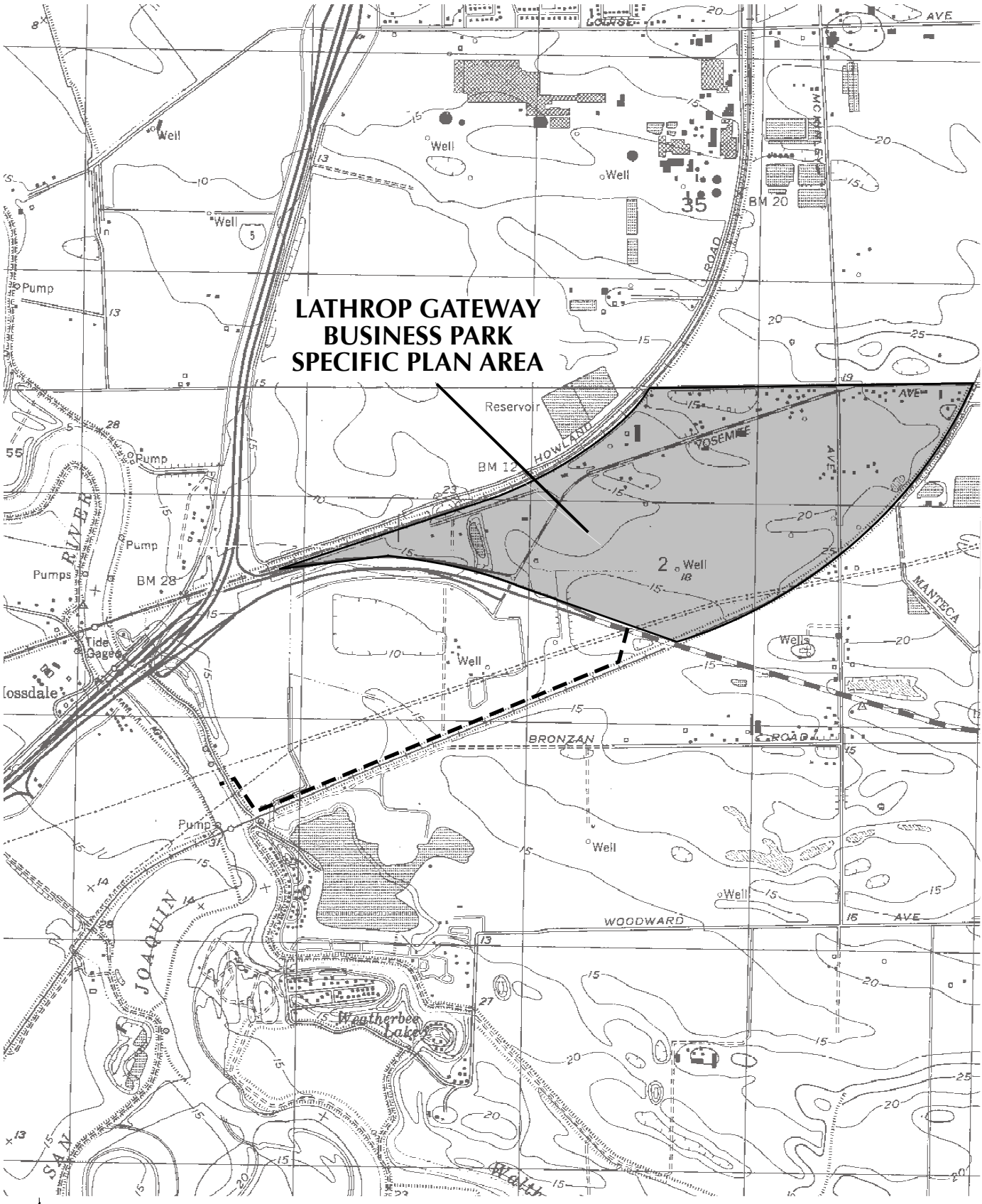
1945 "Fur Brigade to the Bonaventura: John Work's California Expedition, 1832-1833, for the Hudson's Bay Company", IN, The Journal of John Work, Alice B. Maloney, Editor. California Historical Society, San Francisco.

ARCHAEOLOGICAL INVENTORY SURVEY

Gateway Business Park Project,
c. 384-acres + 1.5-mile Off-Site Storm Drain Pipeline,
City of Lathrop, San Joaquin County, California.

ATTACHMENTS

- **Project Location Map**
- **Copy of Records Search #7420 L and #7614 L**
- **Letters to the Native American Heritage Commission**
- **Responses from the Native American Heritage Commission**
- **Letter to Native American Individuals, Groups and/or Tribes**
- **Site Records for sites: P-39-4612 through P-39-4638**



SOURCE: US GEOGLOGICAL SURVEY
LATHROP QUADRANGLE

Figure 1-3
USGS MAP

INSITE ENVIRONMENTAL, INC.

CENTRAL CALIFORNIA INFORMATION CENTER
California Historical Resources Information System
Department of Anthropology – California State University, Stanislaus
One University Circle, Turlock, California 95382
(209) 667-3307 - FAX (209) 667-3324

Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus & Tuolumne Counties

Date: June 17, 2009

CCIC File #: 7420 L
Project: Lathrop Business Park, ca. 300 Acres

Sean M. Jensen, Administrator
Genesis Society
7053 Molokai Drive
Paradise, CA 95969

Dear Mr. Jensen,

We have conducted a records search as per your request for the above-referenced project area located on the Lathrop USGS 7.5-minute quadrangle map in San Joaquin County.

Search of our files includes review of our maps for the specific project area and the immediate vicinity of the project area (as specified by the client), and review of the National Register of Historic Places, the California Register of Historical Resources, the *California Inventory of Historic Resources* (1976), the *California Historical Landmarks* (1996), and the *California Points of Historical Interest* listing (May 1992 and updates), the Directory of Properties in the Historic Property Data File and the Archaeological Determinations of Eligibility (Office of Historic Preservation current computer lists dated 05-28-2009 and 04-30-2009), the CALTRANS State and Local Bridge Survey (1989 and updates), the *Survey of Surveys* (1989), GLO Plats, and other pertinent historic data available at the CCIC for each specific county.

The following details the results of the records search:

Prehistoric or historic resources within the project area:

Sites, structures, and isolates reported to the Information Center as follows; copies of records attached:

Primary # **P-39-**	**Trinomial** **CA-SJO-**	**Resource Attributes**
000002	000250H	Segment of the Southern Pacific/Union Pacific Railroad line.
000098	---	Western Pacific Railroad line—not recorded within this search area. Record by JRP for a nearby segment attached for reference.

Primary # P-39-	Trinomial CA-SJO-	Resource Attributes
000141	000003/H	Prehistoric occupation and burial mound, and site of old Mossdale School
004608	---	Isolate—Small piece of fire-cracked rock.
004611	---	Well with spout and pump, pump house, barn at 3530 W. Yosemite
004612	---	House at 18656 McKinley
004613	---	House at 18389 McKinley
004614	---	House at 18366 S. McKinley
004615	---	House at 2222 E. Vierra
004616	---	Duplex at 2286 E. Vierra
004617	---	House at 3600 W. Yosemite
004618	---	Industrial building/former gas station at 3049 W. Yosemite
004619	---	House at 3133 W. Yosemite
004620	---	House, garage, shed, barn at 3303 W. Yosemite
004621	---	House at 2672 W. Yosemite
004622	---	House at 2690 W. Yosemite
004623	---	House at 2750 W. Yosemite
004624	---	Industrial building/mechanic shop at 2748 W. Yosemite
004625	---	Duplex at 2780 W. Yosemite
004626	---	House at 2848 W. Yosemite
004627	---	House at 2862 W. Yosemite
004628	---	House at 2886 W. Yosemite
004629	---	House at 2914 W. Yosemite
004630	---	House at 2938 W. Yosemite
004631	---	House at 2950 W. Yosemite
004632	---	House and restaurant at 2978 W. Yosemite
004633	---	House (now demolished) at 2113 E. Vierra
004634	---	Industrial building/auto-wrecking yard at 3737 W. Yosemite
004635	---	House at 2964 W. Yosemite
004636	---	House at 2900 W. Yosemite
004637	---	House at 2792 W. Yosemite
004638	---	Quadruplex at 2694 W. Yosemite

None of the above were listed on either the HPDF or the ADOE.

The following historic maps are attached for your use:

GLO Plat map for T1S/R6E (sheet #44-009, dated 1851-1877)—no cultural references noted for the project or immediate vicinity.

GLO Plat map for T2S/R6E (sheet #44-110, dated 1851-1869)—two references to houses called Visher's House, and a reference to a Wilber's House.

Jan. 1915 Lathrop USGS 7.5' (1:31680 scale)—see for details.

Prehistoric or historic resources within the immediate vicinity of the project area:

No prehistoric resources reported.

One historic feature reported; record attached:

Primary # P-39-	Trinomial CA-SJO-	Resource Attributes
004610	---	Spray pump on a concrete foundation.

Resources known to have value to local cultural groups:

None have been formally reported to the CCIC.

Previous investigations within the project area:

Title pages attached:

CCIC report # SJ-	Author/Date
729	Chavez (1981)
1900	Napton (1993)
2175	Dondero (1993)—1 page regarding CA-SJO-3; attached to site record
2515	Caruso and Macdougall (1994)
3611	William Self Associates (1999)
4090	Peak & Associates (1999)—study area, but not survey area in; and survey area not adjacent
4091	Peak & Associates (2000)
4786	Windmiller and Napoli (2002)
4807	Gross (2002)
4901	Windmiller and Napoli (2003)
5003	Gross (2003)
5309	Baloian, Baloian, and Nettles (2004)
5540	Becker (2004)
5622	Tanksley (2003)
5625	Palmer and Lemon (2004)
5626	Brady (2003)
5803	Gross (2005)
6476	ECORP Consulting (2006)
6506	ECORP Consulting (2006)
6625	ASI (1998)
6756	ECORP Consulting (2006)

Previous investigations within the immediate vicinity of the project area:

Title pages attached:

CCIC report # SJ-	Author/Date
5460	Jensen (2004)
5623	Onken (2002)
5624	Tanksley (2003)

Comments:

In accordance with State law, if any historical resources are found during project-related activities, work is to stop and the lead agency and a qualified professional are to be consulted to determine the importance and appropriate treatment of the find.

We understand that you will be conducting an archaeological survey of the proposed project that is the subject of this records search. We look forward to receiving one copy of your report of findings which should include two copies each of site records for all historical resources.

We thank you for contacting this office regarding historical resource preservation. Please let us know when we can be of further service. Please sign and return the attached Access Agreement form. Billing is attached, payable within 60 days of receipt of the invoice.

Sincerely,

R. Hards

Robin Hards, Assistant Research Technician
Central California Information Center
California Historical Resources Information System

CENTRAL CALIFORNIA INFORMATION CENTER
California Historical Resources Information System
Department of Anthropology – California State University, Stanislaus
One University Circle, Turlock, California 95382
(209) 667-3307 - FAX (209) 667-3324

Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus & Tuolumne Counties

Date: February 24, 2010

CCIC File #: 7614 L
Project: Lathrop Business Park Off-Site Storm Drain, ca. 1.5-mile linear corridor

Sean M. Jensen, Administrator
Genesis Society
7053 Molokai Drive
Paradise, CA 95969

Dear Mr. Jensen,

We have conducted a records search as per your request for the above-referenced project area located on the Lathrop USGS 7.5-minute quadrangle map in San Joaquin County.

Search of our files includes review of our maps for the specific project area and the immediate vicinity of the project area (as specified by the client), and review of the National Register of Historic Places, the California Register of Historical Resources, the *California Inventory of Historic Resources* (1976), the *California Historical Landmarks* (1996), and the *California Points of Historical Interest* listing (May 1992 and updates), the Directory of Properties in the Historic Property Data File and the Archaeological Determinations of Eligibility (Office of Historic Preservation current computer lists dated 02-09-2010 and 02-08-2010), the CALTRANS State and Local Bridge Survey (1989 and updates), the *Survey of Surveys* (1989), GLO Plats, and other pertinent historic data available at the CCIC for each specific county.

The following details the results of the records search:

Prehistoric or historic resources within the project area:

No prehistoric or historic archaeological resources or historic properties have been reported to the Information Center.

Prehistoric or historic resources within the immediate vicinity of the project area:

No prehistoric or historic archaeological resources or historic properties have been reported to the Information Center.

The adjacent section of the Western Pacific (Union Pacific) Railroad line (CCIC Primary file #P-39-000098/CA-SJO-000292H) has not been formally recorded at this time. The associated railroad bridge over the San Joaquin River has also not yet been formally recorded, and is not found in the June 2009 Caltrans *Historical Significance—Local Agency Bridges.*

Please also consult the historic GLO Plat and USGS maps sent with previous associated record search #7420 L as they also cover this area. No additional maps attached.

Resources known to have value to local cultural groups: None have been formally reported to the CCIC.

Previous investigations within the project area:

Ten have been reported. NADB printouts attached (*) for those *not* also referenced in previous records search #7420 L:

CCIC report # SJ-	**Author/Date**
786*	Napton (1988)
1900	Napton (1993)
5003	Gross (2003)
5803	Gross (2003)
6447*	URS Corp. (2007)
6476	ECORP Consulting (2006)
6643*	URS Corp. (2008)
6723*	URS Corp. (2008)
6724*	URS Corp. (2008)
6756	ECORP Consulting (2006)

Previous investigations within the immediate vicinity of the project area:

Six reported to the Information Center. No copy attached as all but SJ-7063 were referenced in previous search #7420 L. SJ-7063 is your 2009 report for the Lathrop Gateway Business Park.

CCIC report # SJ-	**Author/Date**
729	Chavez (1981)
3611	Self (1999)

CCIC report # SJ-	Author/Date
4786	Windmiller and Napoli (2002)
6506	ECORP Consulting (2006)
6625	ASI (1998)
7063	Jensen (2009) *Archaeological Inventory Survey Gateway Business Park Project San Joaquin, County, CA*

Comments: In accordance with Federal and State law, if any historical resources are found during project-related activities, work is to stop and the lead agency and a qualified professional are to be consulted to determine the importance and appropriate treatment of the find.

We understand that you will be conducting an archaeological survey of the proposed project that is the subject of this records search. We look forward to receiving one copy of your report of findings which should include two copies each of site records for all historical resources.

We thank you for contacting this office regarding historical resource preservation. Please let us know when we can be of further service. Please sign and return the attached Access Agreement form. Billing is attached, payable within 60 days of receipt of the invoice.

Sincerely,

Robin Hards, Assistant Research Technician
Central California Information Center
California Historical Resources Information System

GENESIS SOCIETY

a Corporation Sole

7053 MOLOKAI DRIVE
PARADISE, CALIFORNIA 95969
(530) 680-6170 VOX
(530) 876-8650 FAX
seanjensen@comcast.net

February 23, 2010

Native American Heritage Commission
Attn.: Ms. Debbie Treadway
915 Capitol Mall, Room 364
Sacramento, California 95814

Subject: ***Lathrop Business Park Off-Site Pipeline, San Joaquin County, California.***

Dear Debbie:

We have been requested to conduct the archaeological survey, for the above-cited project, and are requesting any information you may have concerning archaeological sites or traditional use areas for this area. Any information you might supply will be used to supplement the archaeological and historical study being prepared for this project.

Project Name:	Lathrop Business Park Off-Site Pipeline, c. 1.5-mile linear corridor
County:	San Joaquin
Map	USGS Lathrop, 7.5'
Location:	Portion of T1S, R6E

Thanks in advance for your assistance.

Regards,

Sean Michael Jensen

Sean Michael Jensen, Administrator

STATE OF CALIF BNIA Arnold Schwarzenegger, Governor

NATIVE AI ERICAN HERITAGE COMMISSION
915 CAPITOL MA -, ROOM 364
SACRAMENTO, (95814
(916) 653-4082
Fax (916) 657-53
Web Site www.n c.ca.gov

July 7, 2009

Sean Micha l Jensen
Administrat r
Genesis So iety
7053 Molok i Drive
Paradise, C A 95969

Sent by Fa: 530-876-8650

Number of ages: 2

Re: Propo: ed Lathrop Business Park Project, San Joaquin County.

Dear Mr. Je sen:

A record se urch of the sacred land file has failed to indicate the presence of Native American cultural res urces in the immediate project area. The absence of specific site information in the sacred lan file does not indicate the absence of cultural resources in any project area. Other sources of ultural resources should also be contacted for information regarding known and recorded si es.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural res urces in the project area. The Commission makes no recommendation or preference f a single individual, or group over another. This list should provide a starting place in locating reas of potential adverse impact within the proposed project area. I suggest you contact all f those indicated, if they cannot supply information, they might recommend others with specifi knowledge. By contacting all those listed, your organization will be better able to respond to laims of failure to consult with the appropriate tribe or group. If a response has not been recei ed within two weeks of notification, the Commission requests that you follow-up with a telephon call to ensure that the project information has been received.

If you rece e notification of change of addresses and phone numbers from any of these individuals r groups, please notify me. With your assistance we are able to assure that our lists contai current information. If you have any questions or need additional information, please cor act me at (916) 653-4038.

Sincerely,

Debbie Pil s-Treadway
Environme tal Specialist III

Native American Contacts
San Joaquin County
July 7, 2009

Katherine Erolinda P rez
PO Box 717
Linden , CA 95236
(209) 887-3415

Ohlone/Costanoan
Northern Valley Yokuts
Bay Miwok

This list is current only as o the date of this document.

Distribution of this list does ot relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.9 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable f contacting local Native Americans with regard to cultural resources for the proposed Lathrop Business Park Proj ct, San Joaquin County.

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov

July 22, 2009

Sean Michael Jensen
Genesis Society
7053 Molokai Drive
Paradise, CA 95969

Sent by Fax: 530-876-8650
Number of Pages: 2

Re: Proposed Lathrop Business Park Project, San Joaquin County.

Dear Mr. Jensen:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

Debbie Pilas-Treadway
Environmental Specialist III

Native American Contacts
San Joaquin County
July 22, 2009

Katherine Erolinda Perez
PO Box 717
Linden , CA 95236
(209) 887-3415

Ohlone/Costanoan
Northern Valley Yokuts
Bay Miwok

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This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Lathrop Business Park project, San Joaquin County

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov

February 25, 2010

Sean Michael Jensen, Administrator
GENESIS SOCIETY
7053 Molokai Drive
Paradise, CA 95969

Sent by Fax: 530-876-8650
Number of Pages: 2

Re: Proposed Lathrop Business Off-Site Pipeline, San Joaquin County

Dear Mr. Jensen:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

Debbie Pilas-Treadway
Environmental Specialist III

Native American Contacts
San Joaquin County
February 24, 2010

Katherine Erolinda Perez
PO Box 717
Linden , CA 95236
(209) 887-3415

Ohlone/Costanoan
Northern Valley Yokuts
Bay Miwok

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This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Lathrop Business Off-Site Pipeline, San Joaquin County

GENESIS SOCIETY

a Corporation Sole

7053 MOLOKAI DRIVE
PARADISE, CALIFORNIA 95969
(530) 680-6170 VOX
(530) 876-8650 FAX
seanjensen@comcast.net

July 8, 2009

Native American Individuals, Groups and Tribes

Subject: ***Lathrop Gateway Business Park Project, San Joaquin County, California.***

Dear Interested Native Americans:

Enclosed is a USGS topo-based map showing the location for a proposed development project involving approximately 384-acres in the City of Lathrop, San Joaquin County, California.

We have been requested to conduct the archaeological survey, and are requesting any information you may have concerning archaeological sites or traditional use areas for this area. Any information you might supply will be used to supplement the archaeological and historical study being prepared for this project.

Project Name:	Lathrop Business Park Project, c. 300-acres
County:	San Joaquin
Map	USGS Lathrop, 7.5'
Location:	Portion of T1S, R6E

Thanks for your help. Please call with any questions.

Regards,

Sean Michael Jensen, Administrator

APPENDIX D
URBEMIS MODEL RESULTS

10/19/2009 1:25:45 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Terry Farmer\Application Data\Urbemis\Version9a\Projects\Lathrop Gateway.urb924

Project Name: Lathrop Gateway

Project Location: San Joaquin County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	1.05	8.95	4.64	0.00	112.80	0.44	113.24	23.56	0.40	23.96	851.79
Fine Grading 04/15/2010-04/15/2030	1.05	8.95	4.64	0.00	112.80	0.44	113.24	23.56	0.40	23.96	851.79
Fine Grading Dust	0.00	0.00	0.00	0.00	112.80	0.00	112.80	23.56	0.00	23.56	0.00
Fine Grading Off Road Diesel	1.05	8.93	4.36	0.00	0.00	0.44	0.44	0.00	0.40	0.40	826.81
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.01	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.98

2011	6.37	38.45	65.43	0.08	157.16	1.82	158.99	32.87	1.66	34.53	9,545.84
Fine Grading 04/15/2010-04/15/2030	1.37	11.68	6.11	0.00	156.83	0.56	157.39	32.75	0.51	33.27	1,184.32
Fine Grading Dust	0.00	0.00	0.00	0.00	156.83	0.00	156.83	32.75	0.00	32.75	0.00
Fine Grading Off Road Diesel	1.36	11.66	5.75	0.00	0.00	0.56	0.56	0.00	0.51	0.51	1,149.57
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.02	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.75
Asphalt 04/15/2011-10/15/2030	0.29	1.71	1.09	0.00	0.00	0.15	0.15	0.00	0.14	0.14	145.69
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.28	1.70	0.96	0.00	0.00	0.15	0.15	0.00	0.14	0.14	131.95
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.32
Paving Worker Trips	0.00	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.43
Building 04/15/2011-10/15/2030	3.24	25.06	58.21	0.08	0.33	1.11	1.44	0.12	1.01	1.12	8,214.00
Building Off Road Diesel	0.35	2.03	1.30	0.00	0.00	0.15	0.15	0.00	0.13	0.13	210.11
Building Vendor Trips	1.70	21.10	16.81	0.04	0.15	0.86	1.00	0.05	0.78	0.83	4,083.86
Building Worker Trips	1.19	1.92	40.11	0.04	0.18	0.11	0.29	0.07	0.09	0.16	3,920.03
Coating 07/01/2011-10/15/2030	1.47	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.83
Architectural Coating	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.83

2012	8.81	45.41	82.88	0.11	157.90	2.15	160.05	33.04	1.96	35.00	12,927.53
Asphalt 04/15/2011-10/15/2030	0.38	2.28	1.50	0.00	0.00	0.20	0.20	0.00	0.18	0.19	204.45
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.37	2.26	1.34	0.00	0.00	0.20	0.20	0.00	0.18	0.18	185.16
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.45
Building 04/15/2011-10/15/2030	4.20	32.16	75.53	0.11	0.46	1.44	1.90	0.16	1.30	1.46	11,530.53
Building Off Road Diesel	0.45	2.67	1.78	0.00	0.00	0.19	0.19	0.00	0.17	0.17	294.84
Building Vendor Trips	2.23	27.05	22.01	0.05	0.21	1.10	1.30	0.07	1.00	1.07	5,731.41
Building Worker Trips	1.52	2.44	51.74	0.06	0.26	0.16	0.41	0.09	0.12	0.22	5,504.28
Coating 07/01/2011-10/15/2030	2.92	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Architectural Coating	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Fine Grading 04/15/2010-04/15/2030	1.31	10.97	5.82	0.00	157.44	0.51	157.95	32.88	0.47	33.35	1,188.90
Fine Grading Dust	0.00	0.00	0.00	0.00	157.44	0.00	157.44	32.88	0.00	32.88	0.00
Fine Grading Off Road Diesel	1.30	10.95	5.49	0.00	0.00	0.51	0.51	0.00	0.47	0.47	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.02	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.91

2013	8.38	41.56	76.51	0.11	157.90	1.97	159.87	33.04	1.79	34.83	12,932.35
Asphalt 04/15/2011-10/15/2030	0.36	2.17	1.48	0.00	0.00	0.19	0.19	0.00	0.17	0.17	204.47
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.35	2.15	1.32	0.00	0.00	0.19	0.19	0.00	0.17	0.17	185.16
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.01	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.46
Building 04/15/2011-10/15/2030	3.85	29.12	69.47	0.11	0.46	1.31	1.77	0.16	1.18	1.34	11,535.31
Building Off Road Diesel	0.42	2.48	1.74	0.00	0.00	0.17	0.17	0.00	0.15	0.15	294.84
Building Vendor Trips	2.07	24.43	20.43	0.05	0.21	0.99	1.20	0.07	0.91	0.98	5,732.28
Building Worker Trips	1.36	2.21	47.30	0.06	0.26	0.15	0.41	0.09	0.12	0.21	5,508.20
Coating 07/01/2011-10/15/2030	2.92	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
Architectural Coating	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
Fine Grading 04/15/2010-04/15/2030	1.25	10.27	5.53	0.00	157.44	0.48	157.91	32.88	0.44	33.32	1,188.92
Fine Grading Dust	0.00	0.00	0.00	0.00	157.44	0.00	157.44	32.88	0.00	32.88	0.00
Fine Grading Off Road Diesel	1.24	10.26	5.23	0.00	0.00	0.47	0.47	0.00	0.44	0.44	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.01	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.93

2014	7.94	37.69	70.41	0.11	157.90	1.79	159.69	33.04	1.63	34.67	12,937.26
Asphalt 04/15/2011-10/15/2030	0.34	2.05	1.45	0.00	0.00	0.18	0.18	0.00	0.16	0.16	204.48
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.33	2.04	1.31	0.00	0.00	0.18	0.18	0.00	0.16	0.16	185.16
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.48
Building 04/15/2011-10/15/2030	3.50	26.11	63.63	0.11	0.46	1.18	1.65	0.16	1.07	1.23	11,540.19
Building Off Road Diesel	0.38	2.30	1.70	0.00	0.00	0.14	0.14	0.00	0.13	0.13	294.84
Building Vendor Trips	1.90	21.83	18.90	0.05	0.21	0.89	1.10	0.07	0.81	0.88	5,733.11
Building Worker Trips	1.22	1.98	43.03	0.06	0.26	0.15	0.41	0.09	0.12	0.21	5,512.24
Coating 07/01/2011-10/15/2030	2.92	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
Architectural Coating	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
Fine Grading 04/15/2010-04/15/2030	1.18	9.53	5.30	0.00	157.44	0.43	157.87	32.88	0.40	33.28	1,188.95
Fine Grading Dust	0.00	0.00	0.00	0.00	157.44	0.00	157.44	32.88	0.00	32.88	0.00
Fine Grading Off Road Diesel	1.18	9.51	5.02	0.00	0.00	0.43	0.43	0.00	0.40	0.40	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.01	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.96

2015	7.53	33.89	64.73	0.11	157.90	1.64	159.54	33.04	1.48	34.52	12,941.40
Asphalt 04/15/2011-10/15/2030	0.32	1.93	1.43	0.00	0.00	0.16	0.16	0.00	0.15	0.15	204.49
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.31	1.91	1.30	0.00	0.00	0.16	0.16	0.00	0.15	0.15	185.16
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.49
Building 04/15/2011-10/15/2030	3.18	23.21	58.21	0.11	0.46	1.08	1.54	0.16	0.97	1.13	11,544.28
Building Off Road Diesel	0.35	2.11	1.67	0.00	0.00	0.13	0.13	0.00	0.12	0.12	294.84
Building Vendor Trips	1.74	19.33	17.43	0.05	0.21	0.80	1.00	0.07	0.73	0.80	5,733.87
Building Worker Trips	1.09	1.78	39.11	0.06	0.26	0.15	0.41	0.09	0.12	0.21	5,515.57
Coating 07/01/2011-10/15/2030	2.92	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
Architectural Coating	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
Fine Grading 04/15/2010-04/15/2030	1.11	8.75	5.07	0.00	157.44	0.40	157.83	32.88	0.36	33.24	1,188.97
Fine Grading Dust	0.00	0.00	0.00	0.00	157.44	0.00	157.44	32.88	0.00	32.88	0.00
Fine Grading Off Road Diesel	1.10	8.74	4.82	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.01	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.98

2016	7.14	30.35	59.68	0.11	157.90	1.48	159.38	33.04	1.34	34.38	12,944.38
Asphalt 04/15/2011-10/15/2030	0.30	1.80	1.41	0.00	0.00	0.15	0.15	0.00	0.14	0.14	204.50
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.29	1.79	1.29	0.00	0.00	0.15	0.15	0.00	0.14	0.14	185.16
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.50
Building 04/15/2011-10/15/2030	2.88	20.51	53.37	0.11	0.46	0.97	1.43	0.16	0.87	1.03	11,547.25
Building Off Road Diesel	0.32	1.94	1.65	0.00	0.00	0.11	0.11	0.00	0.11	0.11	294.84
Building Vendor Trips	1.58	16.98	16.07	0.05	0.21	0.71	0.91	0.07	0.64	0.71	5,734.55
Building Worker Trips	0.97	1.60	35.65	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,517.86
Coating 07/01/2011-10/15/2030	2.92	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
Architectural Coating	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
Fine Grading 04/15/2010-04/15/2030	1.05	8.03	4.88	0.00	157.44	0.36	157.80	32.88	0.33	33.21	1,188.99
Fine Grading Dust	0.00	0.00	0.00	0.00	157.44	0.00	157.44	32.88	0.00	32.88	0.00
Fine Grading Off Road Diesel	1.04	8.02	4.66	0.00	0.00	0.36	0.36	0.00	0.33	0.33	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.99

2017	6.76	26.98	54.89	0.11	157.30	1.33	158.62	32.92	1.20	34.11	12,897.03
Asphalt 04/15/2011-10/15/2030	0.28	1.68	1.38	0.00	0.00	0.14	0.14	0.00	0.13	0.13	203.72
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.27	1.67	1.28	0.00	0.00	0.14	0.14	0.00	0.13	0.13	184.45
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.84
Paving Worker Trips	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.43
Building 04/15/2011-10/15/2030	2.59	17.97	48.80	0.11	0.46	0.87	1.33	0.16	0.78	0.94	11,505.23
Building Off Road Diesel	0.29	1.77	1.62	0.00	0.00	0.10	0.10	0.00	0.09	0.09	293.71
Building Vendor Trips	1.43	14.76	14.74	0.05	0.21	0.62	0.82	0.07	0.56	0.63	5,713.17
Building Worker Trips	0.87	1.44	32.44	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,498.35
Coating 07/01/2011-10/15/2030	2.91	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Architectural Coating	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Fine Grading 04/15/2010-04/15/2030	0.98	7.33	4.68	0.00	156.83	0.32	157.16	32.75	0.30	33.05	1,184.44
Fine Grading Dust	0.00	0.00	0.00	0.00	156.83	0.00	156.83	32.75	0.00	32.75	0.00
Fine Grading Off Road Diesel	0.98	7.32	4.48	0.00	0.00	0.32	0.32	0.00	0.30	0.30	1,149.57
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.01	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.87

2018	6.45	24.10	51.04	0.11	157.90	1.20	159.10	33.04	1.08	34.12	12,948.14
Asphalt 04/15/2011-10/15/2030	0.26	1.58	1.37	0.00	0.00	0.13	0.13	0.00	0.12	0.12	204.51
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.26	1.57	1.28	0.00	0.00	0.13	0.13	0.00	0.12	0.12	185.16
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.50
Building 04/15/2011-10/15/2030	2.35	15.81	45.08	0.11	0.46	0.78	1.24	0.16	0.70	0.86	11,550.98
Building Off Road Diesel	0.27	1.63	1.60	0.00	0.00	0.09	0.09	0.00	0.08	0.08	294.84
Building Vendor Trips	1.30	12.87	13.64	0.05	0.21	0.55	0.75	0.07	0.50	0.57	5,735.65
Building Worker Trips	0.79	1.31	29.84	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,520.50
Coating 07/01/2011-10/15/2030	2.92	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Architectural Coating	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Fine Grading 04/15/2010-04/15/2030	0.92	6.72	4.56	0.00	157.44	0.29	157.72	32.88	0.26	33.14	1,189.00
Fine Grading Dust	0.00	0.00	0.00	0.00	157.44	0.00	157.44	32.88	0.00	32.88	0.00
Fine Grading Off Road Diesel	0.91	6.71	4.37	0.00	0.00	0.29	0.29	0.00	0.26	0.26	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.01	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.01

2019	6.16	21.44	47.41	0.11	157.90	1.07	158.97	33.04	0.96	34.01	12,949.13
Asphalt 04/15/2011-10/15/2030	0.25	1.48	1.35	0.00	0.00	0.11	0.12	0.00	0.11	0.11	204.51
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.24	1.47	1.27	0.00	0.00	0.11	0.11	0.00	0.11	0.11	185.16
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.51
Building 04/15/2011-10/15/2030	2.13	13.83	41.61	0.11	0.46	0.70	1.16	0.16	0.62	0.79	11,551.96
Building Off Road Diesel	0.25	1.49	1.58	0.00	0.00	0.07	0.07	0.00	0.07	0.07	294.84
Building Vendor Trips	1.17	11.16	12.59	0.05	0.21	0.48	0.69	0.07	0.44	0.51	5,736.10
Building Worker Trips	0.71	1.19	27.43	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,521.02
Coating 07/01/2011-10/15/2030	2.92	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Architectural Coating	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Fine Grading 04/15/2010-04/15/2030	0.87	6.13	4.43	0.00	157.44	0.25	157.69	32.88	0.23	33.11	1,189.01
Fine Grading Dust	0.00	0.00	0.00	0.00	157.44	0.00	157.44	32.88	0.00	32.88	0.00
Fine Grading Off Road Diesel	0.87	6.12	4.26	0.00	0.00	0.25	0.25	0.00	0.23	0.23	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.01	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.01

2020	5.91	19.27	44.33	0.11	158.51	0.97	159.48	33.17	0.87	34.04	12,999.39
Asphalt 04/15/2011-10/15/2030	0.23	1.39	1.35	0.00	0.00	0.11	0.11	0.00	0.10	0.10	205.29
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.38	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.86
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.57
Building 04/15/2011-10/15/2030	1.93	12.27	38.62	0.11	0.46	0.64	1.10	0.16	0.56	0.73	11,596.87
Building Off Road Diesel	0.22	1.38	1.58	0.00	0.00	0.07	0.07	0.00	0.06	0.06	295.97
Building Vendor Trips	1.07	9.80	11.73	0.05	0.21	0.43	0.64	0.07	0.39	0.46	5,758.48
Building Worker Trips	0.64	1.09	25.31	0.06	0.26	0.14	0.40	0.09	0.11	0.21	5,542.42
Coating 07/01/2011-10/15/2030	2.93	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.67
Architectural Coating	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.67
Fine Grading 04/15/2010-04/15/2030	0.82	5.61	4.34	0.00	158.04	0.23	158.27	33.01	0.21	33.21	1,193.56
Fine Grading Dust	0.00	0.00	0.00	0.00	158.04	0.00	158.04	33.00	0.00	33.00	0.00
Fine Grading Off Road Diesel	0.82	5.61	4.18	0.00	0.00	0.23	0.23	0.00	0.21	0.21	1,158.42
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.15

2021	5.34	15.20	33.48	0.11	157.90	0.84	158.74	33.04	0.75	33.79	12,951.44
Asphalt 04/15/2011-10/15/2030	0.23	1.38	1.32	0.00	0.00	0.11	0.11	0.00	0.10	0.10	204.51
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.51
Building 04/15/2011-10/15/2030	1.38	8.23	27.87	0.11	0.46	0.50	0.97	0.16	0.44	0.60	11,554.27
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	0.77	6.14	8.81	0.05	0.21	0.29	0.50	0.07	0.26	0.33	5,737.89
Building Worker Trips	0.39	0.72	17.49	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,521.54
Coating 07/01/2011-10/15/2030	2.92	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Architectural Coating	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Fine Grading 04/15/2010-04/15/2030	0.81	5.59	4.27	0.00	157.44	0.23	157.66	32.88	0.21	33.09	1,189.01
Fine Grading Dust	0.00	0.00	0.00	0.00	157.44	0.00	157.44	32.88	0.00	32.88	0.00
Fine Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.01

2022	5.32	15.14	33.35	0.11	157.30	0.83	158.13	32.92	0.75	33.66	12,901.82
Asphalt 04/15/2011-10/15/2030	0.23	1.37	1.31	0.00	0.00	0.11	0.11	0.00	0.10	0.10	203.73
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	184.45
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.84
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.44
Building 04/15/2011-10/15/2030	1.38	8.20	27.77	0.11	0.46	0.50	0.96	0.16	0.44	0.60	11,510.00
Building Off Road Diesel	0.22	1.36	1.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	293.71
Building Vendor Trips	0.77	6.12	8.78	0.05	0.21	0.29	0.49	0.07	0.26	0.33	5,715.91
Building Worker Trips	0.39	0.71	17.43	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,500.39
Coating 07/01/2011-10/15/2030	2.91	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Architectural Coating	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Fine Grading 04/15/2010-04/15/2030	0.81	5.57	4.26	0.00	156.83	0.22	157.06	32.75	0.21	32.96	1,184.45
Fine Grading Dust	0.00	0.00	0.00	0.00	156.83	0.00	156.83	32.75	0.00	32.75	0.00
Fine Grading Off Road Diesel	0.81	5.56	4.15	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,149.57
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.88

2023	5.32	15.14	33.35	0.11	157.30	0.83	158.13	32.92	0.75	33.66	12,901.82
Asphalt 04/15/2011-10/15/2030	0.23	1.37	1.31	0.00	0.00	0.11	0.11	0.00	0.10	0.10	203.73
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	184.45
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.84
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.44
Building 04/15/2011-10/15/2030	1.38	8.20	27.77	0.11	0.46	0.50	0.96	0.16	0.44	0.60	11,510.00
Building Off Road Diesel	0.22	1.36	1.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	293.71
Building Vendor Trips	0.77	6.12	8.78	0.05	0.21	0.29	0.49	0.07	0.26	0.33	5,715.91
Building Worker Trips	0.39	0.71	17.43	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,500.39
Coating 07/01/2011-10/15/2030	2.91	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Architectural Coating	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Fine Grading 04/15/2010-04/15/2030	0.81	5.57	4.26	0.00	156.83	0.22	157.06	32.75	0.21	32.96	1,184.45
Fine Grading Dust	0.00	0.00	0.00	0.00	156.83	0.00	156.83	32.75	0.00	32.75	0.00
Fine Grading Off Road Diesel	0.81	5.56	4.15	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,149.57
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.88

2024	5.36	15.26	33.60	0.11	158.51	0.84	159.34	33.17	0.75	33.92	13,001.07
Asphalt 04/15/2011-10/15/2030	0.23	1.38	1.32	0.00	0.00	0.11	0.11	0.00	0.10	0.10	205.29
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.38	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.86
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.57
Building 04/15/2011-10/15/2030	1.39	8.26	27.98	0.11	0.46	0.50	0.97	0.16	0.44	0.61	11,598.54
Building Off Road Diesel	0.22	1.38	1.58	0.00	0.00	0.07	0.07	0.00	0.06	0.06	295.97
Building Vendor Trips	0.77	6.17	8.84	0.05	0.21	0.29	0.50	0.07	0.26	0.33	5,759.88
Building Worker Trips	0.39	0.72	17.56	0.06	0.26	0.15	0.41	0.09	0.12	0.21	5,542.70
Coating 07/01/2011-10/15/2030	2.93	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.67
Architectural Coating	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.67
Fine Grading 04/15/2010-04/15/2030	0.82	5.61	4.29	0.00	158.04	0.23	158.27	33.01	0.21	33.21	1,193.56
Fine Grading Dust	0.00	0.00	0.00	0.00	158.04	0.00	158.04	33.00	0.00	33.00	0.00
Fine Grading Off Road Diesel	0.82	5.61	4.18	0.00	0.00	0.23	0.23	0.00	0.21	0.21	1,158.42
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.15

2025	5.34	15.20	33.48	0.11	157.90	0.84	158.74	33.04	0.75	33.79	12,951.44
Asphalt 04/15/2011-10/15/2030	0.23	1.38	1.32	0.00	0.00	0.11	0.11	0.00	0.10	0.10	204.51
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.51
Building 04/15/2011-10/15/2030	1.38	8.23	27.87	0.11	0.46	0.50	0.97	0.16	0.44	0.60	11,554.27
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	0.77	6.14	8.81	0.05	0.21	0.29	0.50	0.07	0.26	0.33	5,737.89
Building Worker Trips	0.39	0.72	17.49	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,521.54
Coating 07/01/2011-10/15/2030	2.92	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Architectural Coating	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Fine Grading 04/15/2010-04/15/2030	0.81	5.59	4.27	0.00	157.44	0.23	157.66	32.88	0.21	33.09	1,189.01
Fine Grading Dust	0.00	0.00	0.00	0.00	157.44	0.00	157.44	32.88	0.00	32.88	0.00
Fine Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.01

2026	5.11	13.96	28.31	0.11	157.90	0.79	158.69	33.04	0.71	33.75	12,953.70
Asphalt 04/15/2011-10/15/2030	0.23	1.38	1.30	0.00	0.00	0.11	0.11	0.00	0.10	0.10	204.51
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.51
Building 04/15/2011-10/15/2030	1.15	6.99	22.75	0.11	0.46	0.46	0.92	0.16	0.40	0.56	11,556.51
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	0.67	5.09	7.55	0.05	0.21	0.25	0.45	0.07	0.22	0.29	5,738.77
Building Worker Trips	0.26	0.53	13.63	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,522.91
Coating 07/01/2011-10/15/2030	2.92	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Architectural Coating	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Fine Grading 04/15/2010-04/15/2030	0.81	5.59	4.25	0.00	157.44	0.23	157.66	32.88	0.21	33.09	1,189.02
Fine Grading Dust	0.00	0.00	0.00	0.00	157.44	0.00	157.44	32.88	0.00	32.88	0.00
Fine Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.02

2027	5.11	13.96	28.31	0.11	157.90	0.79	158.69	33.04	0.71	33.75	12,953.70
Asphalt 04/15/2011-10/15/2030	0.23	1.38	1.30	0.00	0.00	0.11	0.11	0.00	0.10	0.10	204.51
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.51
Building 04/15/2011-10/15/2030	1.15	6.99	22.75	0.11	0.46	0.46	0.92	0.16	0.40	0.56	11,556.51
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	0.67	5.09	7.55	0.05	0.21	0.25	0.45	0.07	0.22	0.29	5,738.77
Building Worker Trips	0.26	0.53	13.63	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,522.91
Coating 07/01/2011-10/15/2030	2.92	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Architectural Coating	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Fine Grading 04/15/2010-04/15/2030	0.81	5.59	4.25	0.00	157.44	0.23	157.66	32.88	0.21	33.09	1,189.02
Fine Grading Dust	0.00	0.00	0.00	0.00	157.44	0.00	157.44	32.88	0.00	32.88	0.00
Fine Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.02

2028	5.09	13.90	28.20	0.11	157.30	0.79	158.09	32.92	0.71	33.62	12,904.07
Asphalt 04/15/2011-10/15/2030	0.23	1.37	1.30	0.00	0.00	0.11	0.11	0.00	0.10	0.10	203.73
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	184.45
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.84
Paving Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.44
Building 04/15/2011-10/15/2030	1.14	6.96	22.66	0.11	0.46	0.46	0.92	0.16	0.40	0.56	11,512.23
Building Off Road Diesel	0.22	1.36	1.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	293.71
Building Vendor Trips	0.66	5.07	7.52	0.05	0.21	0.25	0.45	0.07	0.22	0.29	5,716.78
Building Worker Trips	0.26	0.53	13.58	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,501.75
Coating 07/01/2011-10/15/2030	2.91	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Architectural Coating	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Fine Grading 04/15/2010-04/15/2030	0.81	5.57	4.23	0.00	156.83	0.22	157.06	32.75	0.21	32.96	1,184.46
Fine Grading Dust	0.00	0.00	0.00	0.00	156.83	0.00	156.83	32.75	0.00	32.75	0.00
Fine Grading Off Road Diesel	0.81	5.56	4.15	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,149.57
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.89

2029	5.11	13.96	28.31	0.11	157.90	0.79	158.69	33.04	0.71	33.75	12,953.70
Asphalt 04/15/2011-10/15/2030	0.23	1.38	1.30	0.00	0.00	0.11	0.11	0.00	0.10	0.10	204.51
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.51
Building 04/15/2011-10/15/2030	1.15	6.99	22.75	0.11	0.46	0.46	0.92	0.16	0.40	0.56	11,556.51
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	0.67	5.09	7.55	0.05	0.21	0.25	0.45	0.07	0.22	0.29	5,738.77
Building Worker Trips	0.26	0.53	13.63	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,522.91
Coating 07/01/2011-10/15/2030	2.92	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Architectural Coating	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Fine Grading 04/15/2010-04/15/2030	0.81	5.59	4.25	0.00	157.44	0.23	157.66	32.88	0.21	33.09	1,189.02
Fine Grading Dust	0.00	0.00	0.00	0.00	157.44	0.00	157.44	32.88	0.00	32.88	0.00
Fine Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.02

2030	3.62	8.21	20.21	0.09	45.61	0.51	46.12	9.58	0.45	10.03	9,627.21
Asphalt 04/15/2011-10/15/2030	0.18	1.09	1.03	0.00	0.00	0.08	0.09	0.00	0.08	0.08	161.42
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.17	1.09	0.99	0.00	0.00	0.08	0.08	0.00	0.08	0.08	146.14
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46
Paving Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.82
Building 04/15/2011-10/15/2030	0.91	5.52	17.95	0.09	0.37	0.36	0.73	0.13	0.32	0.45	9,121.23
Building Off Road Diesel	0.18	1.08	1.24	0.00	0.00	0.05	0.05	0.00	0.05	0.05	232.71
Building Vendor Trips	0.53	4.02	5.96	0.04	0.16	0.20	0.36	0.05	0.18	0.23	4,529.45
Building Worker Trips	0.20	0.42	10.76	0.05	0.20	0.12	0.32	0.07	0.09	0.17	4,359.08
Coating 07/01/2011-10/15/2030	2.30	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.89
Architectural Coating	2.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.89
Fine Grading 04/15/2010-04/15/2030	0.23	1.61	1.22	0.00	45.24	0.06	45.31	9.45	0.06	9.51	341.67
Fine Grading Dust	0.00	0.00	0.00	0.00	45.24	0.00	45.24	9.45	0.00	9.45	0.00
Fine Grading Off Road Diesel	0.23	1.60	1.20	0.00	0.00	0.06	0.06	0.00	0.06	0.06	331.61
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.06

Phase Assumptions

Phase: Fine Grading 4/15/2010 - 4/15/2030 - Default Fine Site Grading Description

Total Acres Disturbed: 241.3

Maximum Daily Acreage Disturbed: 60.32

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

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On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 4/15/2011 - 10/15/2030 - Default Paving Description

Acres to be Paved: 60.32

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 4/15/2011 - 10/15/2030 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 7/1/2011 - 10/15/2030 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 130

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 130

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.27	3.70	3.11	0.00	0.01	0.01	4,439.14
Hearth							
Landscape	0.03	0.01	0.42	0.00	0.00	0.00	0.76
Consumer Products	0.00						
Architectural Coatings	5.61						
TOTALS (tons/year, unmitigated)	5.91	3.71	3.53	0.00	0.01	0.01	4,439.90

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Strip mall	20.25	17.72	180.15	0.41	3.56	2.23	40,691.63
Office park	7.17	6.87	71.08	0.17	1.47	0.92	16,853.24
General light industry	12.15	11.00	113.87	0.27	2.36	1.47	27,037.66
TOTALS (tons/year, unmitigated)	39.57	35.59	365.10	0.85	7.39	4.62	84,582.53

Operational Settings:

Includes correction for passby trips

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Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year: 2030 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Strip mall		42.94	1000 sq ft	1,239.60	53,228.42	217,025.02
Office park		11.42	1000 sq ft	1,122.28	12,816.44	90,024.15
General light industry		6.97	1000 sq ft	2,893.72	20,169.23	144,436.88
					86,214.09	451,486.05

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	45.6	0.0	100.0	0.0
Light Truck < 3750 lbs	11.4	0.0	99.1	0.9
Light Truck 3751-5750 lbs	21.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	11.4	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	81.0	19.0
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	18.2	81.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.5	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	0.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.8	34.2	65.8	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	0.0	90.0	10.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
Office park				48.0	24.0	28.0
General light industry				50.0	25.0	25.0

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Terry Farmer\Application Data\Urbemis\Version9a\Projects\Lathrop Gateway Mitigated.urb924

Project Name: Lathrop Gateway Mitigated

Project Location: San Joaquin County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	1.05	8.95	4.64	0.00	7.86	0.44	8.30	1.64	0.40	2.04	851.79
Fine Grading 04/15/2010-04/15/2030	1.05	8.95	4.64	0.00	7.86	0.44	8.30	1.64	0.40	2.04	851.79
Fine Grading Dust	0.00	0.00	0.00	0.00	7.86	0.00	7.86	1.64	0.00	1.64	0.00
Fine Grading Off Road Diesel	1.05	8.93	4.36	0.00	0.00	0.44	0.44	0.00	0.40	0.40	826.81
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.01	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.98

2011	4.94	38.45	65.43	0.08	11.26	1.82	13.08	2.40	1.66	4.06	9,545.84
Fine Grading 04/15/2010-04/15/2030	1.37	11.68	6.11	0.00	10.93	0.56	11.48	2.28	0.51	2.79	1,184.32
Fine Grading Dust	0.00	0.00	0.00	0.00	10.93	0.00	10.93	2.28	0.00	2.28	0.00
Fine Grading Off Road Diesel	1.36	11.66	5.75	0.00	0.00	0.56	0.56	0.00	0.51	0.51	1,149.57
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.02	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.75
Asphalt 04/15/2011-10/15/2030	0.29	1.71	1.09	0.00	0.00	0.15	0.15	0.00	0.14	0.14	145.69
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.28	1.70	0.96	0.00	0.00	0.15	0.15	0.00	0.14	0.14	131.95
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.32
Paving Worker Trips	0.00	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.43
Building 04/15/2011-10/15/2030	3.24	25.06	58.21	0.08	0.33	1.11	1.44	0.12	1.01	1.12	8,214.00
Building Off Road Diesel	0.35	2.03	1.30	0.00	0.00	0.15	0.15	0.00	0.13	0.13	210.11
Building Vendor Trips	1.70	21.10	16.81	0.04	0.15	0.86	1.00	0.05	0.78	0.83	4,083.86
Building Worker Trips	1.19	1.92	40.11	0.04	0.18	0.11	0.29	0.07	0.09	0.16	3,920.03
Coating 07/01/2011-10/15/2030	0.04	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.83
Architectural Coating	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.83

2012	6.05	45.41	82.88	0.11	11.43	2.15	13.59	2.45	1.96	4.41	12,927.53
Asphalt 04/15/2011-10/15/2030	0.38	2.28	1.50	0.00	0.00	0.20	0.20	0.00	0.18	0.19	204.45
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.37	2.26	1.34	0.00	0.00	0.20	0.20	0.00	0.18	0.18	185.16
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.45
Building 04/15/2011-10/15/2030	4.20	32.16	75.53	0.11	0.46	1.44	1.90	0.16	1.30	1.46	11,530.53
Building Off Road Diesel	0.45	2.67	1.78	0.00	0.00	0.19	0.19	0.00	0.17	0.17	294.84
Building Vendor Trips	2.23	27.05	22.01	0.05	0.21	1.10	1.30	0.07	1.00	1.07	5,731.41
Building Worker Trips	1.52	2.44	51.74	0.06	0.26	0.16	0.41	0.09	0.12	0.22	5,504.28
Coating 07/01/2011-10/15/2030	0.15	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Fine Grading 04/15/2010-04/15/2030	1.31	10.97	5.82	0.00	10.97	0.51	11.48	2.29	0.47	2.76	1,188.90
Fine Grading Dust	0.00	0.00	0.00	0.00	10.97	0.00	10.97	2.29	0.00	2.29	0.00
Fine Grading Off Road Diesel	1.30	10.95	5.49	0.00	0.00	0.51	0.51	0.00	0.47	0.47	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.02	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.91

2013	5.61	41.56	76.51	0.11	11.43	1.97	13.40	2.45	1.79	4.24	12,932.35
Asphalt 04/15/2011-10/15/2030	0.36	2.17	1.48	0.00	0.00	0.19	0.19	0.00	0.17	0.17	204.47
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.35	2.15	1.32	0.00	0.00	0.19	0.19	0.00	0.17	0.17	185.16
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.01	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.46
Building 04/15/2011-10/15/2030	3.85	29.12	69.47	0.11	0.46	1.31	1.77	0.16	1.18	1.34	11,535.31
Building Off Road Diesel	0.42	2.48	1.74	0.00	0.00	0.17	0.17	0.00	0.15	0.15	294.84
Building Vendor Trips	2.07	24.43	20.43	0.05	0.21	0.99	1.20	0.07	0.91	0.98	5,732.28
Building Worker Trips	1.36	2.21	47.30	0.06	0.26	0.15	0.41	0.09	0.12	0.21	5,508.20
Coating 07/01/2011-10/15/2030	0.15	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
Fine Grading 04/15/2010-04/15/2030	1.25	10.27	5.53	0.00	10.97	0.48	11.45	2.29	0.44	2.73	1,188.92
Fine Grading Dust	0.00	0.00	0.00	0.00	10.97	0.00	10.97	2.29	0.00	2.29	0.00
Fine Grading Off Road Diesel	1.24	10.26	5.23	0.00	0.00	0.47	0.47	0.00	0.44	0.44	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.01	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.93

2014	5.18	37.69	70.41	0.11	11.43	1.79	13.23	2.45	1.63	4.08	12,937.26
Asphalt 04/15/2011-10/15/2030	0.34	2.05	1.45	0.00	0.00	0.18	0.18	0.00	0.16	0.16	204.48
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.33	2.04	1.31	0.00	0.00	0.18	0.18	0.00	0.16	0.16	185.16
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.48
Building 04/15/2011-10/15/2030	3.50	26.11	63.63	0.11	0.46	1.18	1.65	0.16	1.07	1.23	11,540.19
Building Off Road Diesel	0.38	2.30	1.70	0.00	0.00	0.14	0.14	0.00	0.13	0.13	294.84
Building Vendor Trips	1.90	21.83	18.90	0.05	0.21	0.89	1.10	0.07	0.81	0.88	5,733.11
Building Worker Trips	1.22	1.98	43.03	0.06	0.26	0.15	0.41	0.09	0.12	0.21	5,512.24
Coating 07/01/2011-10/15/2030	0.15	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
Fine Grading 04/15/2010-04/15/2030	1.18	9.53	5.30	0.00	10.97	0.43	11.40	2.29	0.40	2.69	1,188.95
Fine Grading Dust	0.00	0.00	0.00	0.00	10.97	0.00	10.97	2.29	0.00	2.29	0.00
Fine Grading Off Road Diesel	1.18	9.51	5.02	0.00	0.00	0.43	0.43	0.00	0.40	0.40	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.01	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.96

2015	4.76	33.89	64.73	0.11	11.43	1.64	13.07	2.45	1.48	3.94	12,941.40
Asphalt 04/15/2011-10/15/2030	0.32	1.93	1.43	0.00	0.00	0.16	0.16	0.00	0.15	0.15	204.49
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.31	1.91	1.30	0.00	0.00	0.16	0.16	0.00	0.15	0.15	185.16
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.49
Building 04/15/2011-10/15/2030	3.18	23.21	58.21	0.11	0.46	1.08	1.54	0.16	0.97	1.13	11,544.28
Building Off Road Diesel	0.35	2.11	1.67	0.00	0.00	0.13	0.13	0.00	0.12	0.12	294.84
Building Vendor Trips	1.74	19.33	17.43	0.05	0.21	0.80	1.00	0.07	0.73	0.80	5,733.87
Building Worker Trips	1.09	1.78	39.11	0.06	0.26	0.15	0.41	0.09	0.12	0.21	5,515.57
Coating 07/01/2011-10/15/2030	0.15	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
Fine Grading 04/15/2010-04/15/2030	1.11	8.75	5.07	0.00	10.97	0.40	11.37	2.29	0.36	2.66	1,188.97
Fine Grading Dust	0.00	0.00	0.00	0.00	10.97	0.00	10.97	2.29	0.00	2.29	0.00
Fine Grading Off Road Diesel	1.10	8.74	4.82	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.01	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.98

2016	4.37	30.35	59.68	0.11	11.43	1.48	12.91	2.45	1.34	3.79	12,944.38
Asphalt 04/15/2011-10/15/2030	0.30	1.80	1.41	0.00	0.00	0.15	0.15	0.00	0.14	0.14	204.50
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.29	1.79	1.29	0.00	0.00	0.15	0.15	0.00	0.14	0.14	185.16
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.50
Building 04/15/2011-10/15/2030	2.88	20.51	53.37	0.11	0.46	0.97	1.43	0.16	0.87	1.03	11,547.25
Building Off Road Diesel	0.32	1.94	1.65	0.00	0.00	0.11	0.11	0.00	0.11	0.11	294.84
Building Vendor Trips	1.58	16.98	16.07	0.05	0.21	0.71	0.91	0.07	0.64	0.71	5,734.55
Building Worker Trips	0.97	1.60	35.65	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,517.86
Coating 07/01/2011-10/15/2030	0.15	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
Fine Grading 04/15/2010-04/15/2030	1.05	8.03	4.88	0.00	10.97	0.36	11.33	2.29	0.33	2.62	1,188.99
Fine Grading Dust	0.00	0.00	0.00	0.00	10.97	0.00	10.97	2.29	0.00	2.29	0.00
Fine Grading Off Road Diesel	1.04	8.02	4.66	0.00	0.00	0.36	0.36	0.00	0.33	0.33	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.99

2017	4.00	26.98	54.89	0.11	11.39	1.33	12.72	2.44	1.20	3.64	12,897.03
Asphalt 04/15/2011-10/15/2030	0.28	1.68	1.38	0.00	0.00	0.14	0.14	0.00	0.13	0.13	203.72
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.27	1.67	1.28	0.00	0.00	0.14	0.14	0.00	0.13	0.13	184.45
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.84
Paving Worker Trips	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.43
Building 04/15/2011-10/15/2030	2.59	17.97	48.80	0.11	0.46	0.87	1.33	0.16	0.78	0.94	11,505.23
Building Off Road Diesel	0.29	1.77	1.62	0.00	0.00	0.10	0.10	0.00	0.09	0.09	293.71
Building Vendor Trips	1.43	14.76	14.74	0.05	0.21	0.62	0.82	0.07	0.56	0.63	5,713.17
Building Worker Trips	0.87	1.44	32.44	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,498.35
Coating 07/01/2011-10/15/2030	0.15	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Fine Grading 04/15/2010-04/15/2030	0.98	7.33	4.68	0.00	10.93	0.32	11.25	2.28	0.30	2.58	1,184.44
Fine Grading Dust	0.00	0.00	0.00	0.00	10.93	0.00	10.93	2.28	0.00	2.28	0.00
Fine Grading Off Road Diesel	0.98	7.32	4.48	0.00	0.00	0.32	0.32	0.00	0.30	0.30	1,149.57
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.01	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.87

2018	3.68	24.10	51.04	0.11	11.43	1.20	12.63	2.45	1.08	3.53	12,948.14
Asphalt 04/15/2011-10/15/2030	0.26	1.58	1.37	0.00	0.00	0.13	0.13	0.00	0.12	0.12	204.51
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.26	1.57	1.28	0.00	0.00	0.13	0.13	0.00	0.12	0.12	185.16
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.50
Building 04/15/2011-10/15/2030	2.35	15.81	45.08	0.11	0.46	0.78	1.24	0.16	0.70	0.86	11,550.98
Building Off Road Diesel	0.27	1.63	1.60	0.00	0.00	0.09	0.09	0.00	0.08	0.08	294.84
Building Vendor Trips	1.30	12.87	13.64	0.05	0.21	0.55	0.75	0.07	0.50	0.57	5,735.65
Building Worker Trips	0.79	1.31	29.84	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,520.50
Coating 07/01/2011-10/15/2030	0.15	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Fine Grading 04/15/2010-04/15/2030	0.92	6.72	4.56	0.00	10.97	0.29	11.26	2.29	0.26	2.56	1,189.00
Fine Grading Dust	0.00	0.00	0.00	0.00	10.97	0.00	10.97	2.29	0.00	2.29	0.00
Fine Grading Off Road Diesel	0.91	6.71	4.37	0.00	0.00	0.29	0.29	0.00	0.26	0.26	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.01	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.01

2019	3.40	21.44	47.41	0.11	11.43	1.07	12.50	2.45	0.96	3.42	12,949.13
Asphalt 04/15/2011-10/15/2030	0.25	1.48	1.35	0.00	0.00	0.11	0.12	0.00	0.11	0.11	204.51
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.24	1.47	1.27	0.00	0.00	0.11	0.11	0.00	0.11	0.11	185.16
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.51
Building 04/15/2011-10/15/2030	2.13	13.83	41.61	0.11	0.46	0.70	1.16	0.16	0.62	0.79	11,551.96
Building Off Road Diesel	0.25	1.49	1.58	0.00	0.00	0.07	0.07	0.00	0.07	0.07	294.84
Building Vendor Trips	1.17	11.16	12.59	0.05	0.21	0.48	0.69	0.07	0.44	0.51	5,736.10
Building Worker Trips	0.71	1.19	27.43	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,521.02
Coating 07/01/2011-10/15/2030	0.15	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Fine Grading 04/15/2010-04/15/2030	0.87	6.13	4.43	0.00	10.97	0.25	11.22	2.29	0.23	2.53	1,189.01
Fine Grading Dust	0.00	0.00	0.00	0.00	10.97	0.00	10.97	2.29	0.00	2.29	0.00
Fine Grading Off Road Diesel	0.87	6.12	4.26	0.00	0.00	0.25	0.25	0.00	0.23	0.23	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.01	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.01

2020	3.13	19.27	44.33	0.11	11.48	0.97	12.45	2.46	0.87	3.33	12,999.39
Asphalt 04/15/2011-10/15/2030	0.23	1.39	1.35	0.00	0.00	0.11	0.11	0.00	0.10	0.10	205.29
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.38	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.86
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.57
Building 04/15/2011-10/15/2030	1.93	12.27	38.62	0.11	0.46	0.64	1.10	0.16	0.56	0.73	11,596.87
Building Off Road Diesel	0.22	1.38	1.58	0.00	0.00	0.07	0.07	0.00	0.06	0.06	295.97
Building Vendor Trips	1.07	9.80	11.73	0.05	0.21	0.43	0.64	0.07	0.39	0.46	5,758.48
Building Worker Trips	0.64	1.09	25.31	0.06	0.26	0.14	0.40	0.09	0.11	0.21	5,542.42
Coating 07/01/2011-10/15/2030	0.15	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.67
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.67
Fine Grading 04/15/2010-04/15/2030	0.82	5.61	4.34	0.00	11.01	0.23	11.24	2.30	0.21	2.51	1,193.56
Fine Grading Dust	0.00	0.00	0.00	0.00	11.01	0.00	11.01	2.30	0.00	2.30	0.00
Fine Grading Off Road Diesel	0.82	5.61	4.18	0.00	0.00	0.23	0.23	0.00	0.21	0.21	1,158.42
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.15

2021	2.57	15.20	33.48	0.11	11.43	0.84	12.27	2.45	0.75	3.20	12,951.44
Asphalt 04/15/2011-10/15/2030	0.23	1.38	1.32	0.00	0.00	0.11	0.11	0.00	0.10	0.10	204.51
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.51
Building 04/15/2011-10/15/2030	1.38	8.23	27.87	0.11	0.46	0.50	0.97	0.16	0.44	0.60	11,554.27
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	0.77	6.14	8.81	0.05	0.21	0.29	0.50	0.07	0.26	0.33	5,737.89
Building Worker Trips	0.39	0.72	17.49	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,521.54
Coating 07/01/2011-10/15/2030	0.15	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Fine Grading 04/15/2010-04/15/2030	0.81	5.59	4.27	0.00	10.97	0.23	11.20	2.29	0.21	2.50	1,189.01
Fine Grading Dust	0.00	0.00	0.00	0.00	10.97	0.00	10.97	2.29	0.00	2.29	0.00
Fine Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.01

2022	2.56	15.14	33.35	0.11	11.39	0.83	12.22	2.44	0.75	3.19	12,901.82
Asphalt 04/15/2011-10/15/2030	0.23	1.37	1.31	0.00	0.00	0.11	0.11	0.00	0.10	0.10	203.73
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	184.45
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.84
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.44
Building 04/15/2011-10/15/2030	1.38	8.20	27.77	0.11	0.46	0.50	0.96	0.16	0.44	0.60	11,510.00
Building Off Road Diesel	0.22	1.36	1.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	293.71
Building Vendor Trips	0.77	6.12	8.78	0.05	0.21	0.29	0.49	0.07	0.26	0.33	5,715.91
Building Worker Trips	0.39	0.71	17.43	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,500.39
Coating 07/01/2011-10/15/2030	0.15	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Fine Grading 04/15/2010-04/15/2030	0.81	5.57	4.26	0.00	10.93	0.22	11.15	2.28	0.21	2.49	1,184.45
Fine Grading Dust	0.00	0.00	0.00	0.00	10.93	0.00	10.93	2.28	0.00	2.28	0.00
Fine Grading Off Road Diesel	0.81	5.56	4.15	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,149.57
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.88

2023	2.56	15.14	33.35	0.11	11.39	0.83	12.22	2.44	0.75	3.19	12,901.82
Asphalt 04/15/2011-10/15/2030	0.23	1.37	1.31	0.00	0.00	0.11	0.11	0.00	0.10	0.10	203.73
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	184.45
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.84
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.44
Building 04/15/2011-10/15/2030	1.38	8.20	27.77	0.11	0.46	0.50	0.96	0.16	0.44	0.60	11,510.00
Building Off Road Diesel	0.22	1.36	1.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	293.71
Building Vendor Trips	0.77	6.12	8.78	0.05	0.21	0.29	0.49	0.07	0.26	0.33	5,715.91
Building Worker Trips	0.39	0.71	17.43	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,500.39
Coating 07/01/2011-10/15/2030	0.15	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Fine Grading 04/15/2010-04/15/2030	0.81	5.57	4.26	0.00	10.93	0.22	11.15	2.28	0.21	2.49	1,184.45
Fine Grading Dust	0.00	0.00	0.00	0.00	10.93	0.00	10.93	2.28	0.00	2.28	0.00
Fine Grading Off Road Diesel	0.81	5.56	4.15	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,149.57
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.88

2024	2.59	15.26	33.60	0.11	11.48	0.84	12.32	2.46	0.75	3.21	13,001.07
Asphalt 04/15/2011-10/15/2030	0.23	1.38	1.32	0.00	0.00	0.11	0.11	0.00	0.10	0.10	205.29
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.38	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.86
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.57
Building 04/15/2011-10/15/2030	1.39	8.26	27.98	0.11	0.46	0.50	0.97	0.16	0.44	0.61	11,598.54
Building Off Road Diesel	0.22	1.38	1.58	0.00	0.00	0.07	0.07	0.00	0.06	0.06	295.97
Building Vendor Trips	0.77	6.17	8.84	0.05	0.21	0.29	0.50	0.07	0.26	0.33	5,759.88
Building Worker Trips	0.39	0.72	17.56	0.06	0.26	0.15	0.41	0.09	0.12	0.21	5,542.70
Coating 07/01/2011-10/15/2030	0.15	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.67
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.67
Fine Grading 04/15/2010-04/15/2030	0.82	5.61	4.29	0.00	11.01	0.23	11.24	2.30	0.21	2.51	1,193.56
Fine Grading Dust	0.00	0.00	0.00	0.00	11.01	0.00	11.01	2.30	0.00	2.30	0.00
Fine Grading Off Road Diesel	0.82	5.61	4.18	0.00	0.00	0.23	0.23	0.00	0.21	0.21	1,158.42
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.15

2025	2.57	15.20	33.48	0.11	11.43	0.84	12.27	2.45	0.75	3.20	12,951.44
Asphalt 04/15/2011-10/15/2030	0.23	1.38	1.32	0.00	0.00	0.11	0.11	0.00	0.10	0.10	204.51
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.51
Building 04/15/2011-10/15/2030	1.38	8.23	27.87	0.11	0.46	0.50	0.97	0.16	0.44	0.60	11,554.27
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	0.77	6.14	8.81	0.05	0.21	0.29	0.50	0.07	0.26	0.33	5,737.89
Building Worker Trips	0.39	0.72	17.49	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,521.54
Coating 07/01/2011-10/15/2030	0.15	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Fine Grading 04/15/2010-04/15/2030	0.81	5.59	4.27	0.00	10.97	0.23	11.20	2.29	0.21	2.50	1,189.01
Fine Grading Dust	0.00	0.00	0.00	0.00	10.97	0.00	10.97	2.29	0.00	2.29	0.00
Fine Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.01

2026	2.34	13.96	28.31	0.11	11.43	0.79	12.23	2.45	0.71	3.16	12,953.70
Asphalt 04/15/2011-10/15/2030	0.23	1.38	1.30	0.00	0.00	0.11	0.11	0.00	0.10	0.10	204.51
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.51
Building 04/15/2011-10/15/2030	1.15	6.99	22.75	0.11	0.46	0.46	0.92	0.16	0.40	0.56	11,556.51
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	0.67	5.09	7.55	0.05	0.21	0.25	0.45	0.07	0.22	0.29	5,738.77
Building Worker Trips	0.26	0.53	13.63	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,522.91
Coating 07/01/2011-10/15/2030	0.15	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Fine Grading 04/15/2010-04/15/2030	0.81	5.59	4.25	0.00	10.97	0.23	11.20	2.29	0.21	2.50	1,189.02
Fine Grading Dust	0.00	0.00	0.00	0.00	10.97	0.00	10.97	2.29	0.00	2.29	0.00
Fine Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.02

2027	2.34	13.96	28.31	0.11	11.43	0.79	12.23	2.45	0.71	3.16	12,953.70
Asphalt 04/15/2011-10/15/2030	0.23	1.38	1.30	0.00	0.00	0.11	0.11	0.00	0.10	0.10	204.51
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.51
Building 04/15/2011-10/15/2030	1.15	6.99	22.75	0.11	0.46	0.46	0.92	0.16	0.40	0.56	11,556.51
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	0.67	5.09	7.55	0.05	0.21	0.25	0.45	0.07	0.22	0.29	5,738.77
Building Worker Trips	0.26	0.53	13.63	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,522.91
Coating 07/01/2011-10/15/2030	0.15	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Fine Grading 04/15/2010-04/15/2030	0.81	5.59	4.25	0.00	10.97	0.23	11.20	2.29	0.21	2.50	1,189.02
Fine Grading Dust	0.00	0.00	0.00	0.00	10.97	0.00	10.97	2.29	0.00	2.29	0.00
Fine Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.02

2028	2.33	13.90	28.20	0.11	11.39	0.79	12.18	2.44	0.71	3.15	12,904.07
Asphalt 04/15/2011-10/15/2030	0.23	1.37	1.30	0.00	0.00	0.11	0.11	0.00	0.10	0.10	203.73
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	184.45
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.84
Paving Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.44
Building 04/15/2011-10/15/2030	1.14	6.96	22.66	0.11	0.46	0.46	0.92	0.16	0.40	0.56	11,512.23
Building Off Road Diesel	0.22	1.36	1.56	0.00	0.00	0.06	0.06	0.00	0.06	0.06	293.71
Building Vendor Trips	0.66	5.07	7.52	0.05	0.21	0.25	0.45	0.07	0.22	0.29	5,716.78
Building Worker Trips	0.26	0.53	13.58	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,501.75
Coating 07/01/2011-10/15/2030	0.15	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Fine Grading 04/15/2010-04/15/2030	0.81	5.57	4.23	0.00	10.93	0.22	11.15	2.28	0.21	2.49	1,184.46
Fine Grading Dust	0.00	0.00	0.00	0.00	10.93	0.00	10.93	2.28	0.00	2.28	0.00
Fine Grading Off Road Diesel	0.81	5.56	4.15	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,149.57
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.89

2029	2.34	13.96	28.31	0.11	11.43	0.79	12.23	2.45	0.71	3.16	12,953.70
Asphalt 04/15/2011-10/15/2030	0.23	1.38	1.30	0.00	0.00	0.11	0.11	0.00	0.10	0.10	204.51
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.22	1.37	1.26	0.00	0.00	0.11	0.11	0.00	0.10	0.10	185.16
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
Paving Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.51
Building 04/15/2011-10/15/2030	1.15	6.99	22.75	0.11	0.46	0.46	0.92	0.16	0.40	0.56	11,556.51
Building Off Road Diesel	0.22	1.37	1.57	0.00	0.00	0.06	0.06	0.00	0.06	0.06	294.84
Building Vendor Trips	0.67	5.09	7.55	0.05	0.21	0.25	0.45	0.07	0.22	0.29	5,738.77
Building Worker Trips	0.26	0.53	13.63	0.06	0.26	0.15	0.40	0.09	0.12	0.21	5,522.91
Coating 07/01/2011-10/15/2030	0.15	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Architectural Coating	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Fine Grading 04/15/2010-04/15/2030	0.81	5.59	4.25	0.00	10.97	0.23	11.20	2.29	0.21	2.50	1,189.02
Fine Grading Dust	0.00	0.00	0.00	0.00	10.97	0.00	10.97	2.29	0.00	2.29	0.00
Fine Grading Off Road Diesel	0.81	5.58	4.16	0.00	0.00	0.22	0.22	0.00	0.21	0.21	1,153.99
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.02

2030	1.41	8.21	20.21	0.09	3.52	0.51	4.03	0.79	0.45	1.24	9,627.21
Asphalt 04/15/2011-10/15/2030	0.18	1.09	1.03	0.00	0.00	0.08	0.09	0.00	0.08	0.08	161.42
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.17	1.09	0.99	0.00	0.00	0.08	0.08	0.00	0.08	0.08	146.14
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46
Paving Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.82
Building 04/15/2011-10/15/2030	0.91	5.52	17.95	0.09	0.37	0.36	0.73	0.13	0.32	0.45	9,121.23
Building Off Road Diesel	0.18	1.08	1.24	0.00	0.00	0.05	0.05	0.00	0.05	0.05	232.71
Building Vendor Trips	0.53	4.02	5.96	0.04	0.16	0.20	0.36	0.05	0.18	0.23	4,529.45
Building Worker Trips	0.20	0.42	10.76	0.05	0.20	0.12	0.32	0.07	0.09	0.17	4,359.08
Coating 07/01/2011-10/15/2030	0.09	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.89
Architectural Coating	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.89
Fine Grading 04/15/2010-04/15/2030	0.23	1.61	1.22	0.00	3.15	0.06	3.22	0.66	0.06	0.72	341.67
Fine Grading Dust	0.00	0.00	0.00	0.00	3.15	0.00	3.15	0.66	0.00	0.66	0.00
Fine Grading Off Road Diesel	0.23	1.60	1.20	0.00	0.00	0.06	0.06	0.00	0.06	0.06	331.61
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.06

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 4/15/2010 - 4/15/2030 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

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For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

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Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.21	2.96	2.49	0.00	0.01	0.01	3,551.31
Hearth							
Landscape	0.03	0.00	0.33	0.00	0.00	0.00	0.76
Consumer Products	0.00						
Architectural Coatings	5.05						
TOTALS (tons/year, mitigated)	5.29	2.96	2.82	0.00	0.01	0.01	3,552.07

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Commercial Increase Energy Efficiency Beyond Title 24	20.00
Industrial Increase Energy Efficiency Beyond Title 24	20.00
Percent of Commercial and Industrial Landscape Equipment that are Electrically Powered and have Electrical Outlets Available	20.00
For Nonresidential Interior Use Low VOC Coating	10.00
For Nonresidential Exterior Use Low VOC Coating	10.00

Area Source Changes to Defaults

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Strip mall	17.99	15.66	159.24	0.36	29.86	6.48	35,968.03

Office park	6.42	6.07	62.80	0.15	12.37	2.68	14,889.79
General light industry	10.96	9.71	100.60	0.24	19.85	4.30	23,887.28
TOTALS (tons/year, mitigated)	35.37	31.44	322.64	0.75	62.08	13.46	74,745.10
Less OnRoad Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS (tons/year, mitigated)	35.37	31.44	322.64	0.75	62.08	13.46	74,745.10

Operational Mitigation Options Selected

Residential Mitigation Measures

Nonresidential Mitigation Measures

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.36%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 16

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 6

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

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Nonresidential Mitigation Measures

Percent Reduction in Trips is 5.07%

Inputs Selected:

The Number of Intersections per Square Mile is 28

The Percent of Streets with Sidewalks on One Side is 0%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 67%

Non-Residential Parking Pricing/Cash Out Mitigation

Percent Reduction in Trips is 4.17%

Inputs Selected:

The Daily Parking Change was set to 1 dollars

Non-Residential Free Transit Passes Mitigation

Percent Reduction in Trips is 0.09%

Note that the above percent is applied ONLY to worker trips.

Inputs Selected:

The Free Transit Passes checkbox was selected.

Non-Residential On-Road Truck Mitigation:Pounds/Day & Tons/Year Estimates

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Nonresidential Mitigation Measures

Inputs Selected:

	ROG	NOx	CO	SO2	PM10
Pounds per Day Reduction	0	0	0	0	0
Tons per Year Reduction	0	0	0	0	0

Operational Settings:

Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year: 2030 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Strip mall		42.94	1000 sq ft	1,239.60	53,228.42	217,025.02
Office park		11.42	1000 sq ft	1,122.28	12,816.44	90,024.15
General light industry		6.97	1000 sq ft	2,893.72	20,169.23	144,436.88
					86,214.09	451,486.05

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	45.6	0.0	100.0	0.0
Light Truck < 3750 lbs	11.4	0.0	99.1	0.9

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Truck 3751-5750 lbs	21.2	0.0	100.0	0.0
Med Truck 5751-8500 lbs	11.4	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	81.0	19.0
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	1.1	0.0	18.2	81.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.5	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	0.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.8	34.2	65.8	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	0.0	90.0	10.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Office park				48.0	24.0	28.0
General light industry				50.0	25.0	25.0

Operational Changes to Defaults

Ambient summer temperature changed from 85 degrees F to 90 degrees F

APPENDIX E
NOISE STUDY

Environmental Noise Assessment

Lathrop Gateway Business Park Specific Plan EIR

Lathrop, California (San Joaquin County)

BAC Job #2009-012

DRAFT

Prepared For:

Insite Environmental

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Prepared By:

Bollard Acoustical Consultants, Inc.

Jason Mirise, Vice President

October 9, 2009

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ENVIRONMENTAL SETTING

Project Location and Description

The Lathrop Gateway Business Park Specific Plan area is located at the intersection of State Route 120 (SR 120) and Interstate 5 (I-5) just south of the City of Lathrop, California. The project area is bordered to the east and west by the Union Pacific Railroad (UPRR), to the north by Vierra Court Road and Yosemite Avenue, and to the south by State Route 120 (SR 120).

The project proposes the development of approximately 384 acres to include mostly office/commercial, limited industrial, and service commercial uses.

Please see the project land use plan presented as Appendix A.

Acoustical Terminology

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that human hearing can detect. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, or Hertz (Hz). Human hearing is generally capable of detecting sound between 20 Hz and 20,000 Hz.

We are generally capable of processing air pressure variations (sound) over an extremely broad dynamic range. Therefore, the measurement of sound directly in terms of pressure would require a very large and awkward range of numbers. The logarithmic treatment of these numbers – converting measured sound pressure (Pa) into sound pressure level (decibels, dB) – was developed primarily to limit the range of numbers. The decibel scale allows for five orders of magnitude in sound pressure to be expressed within a range of 100 dB.

The perceived loudness of sound is dependent on 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 the A-weighting network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way we perceive noise. For this reason, the A-weighted sound level has become a standard tool for environmental noise assessment. All noise levels reported in the following are in terms of A-weighting.

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 noise environment. A common statistical tool used to measure the ambient noise level is the average, or equivalent sound level (L_{eq}), which corresponds to a steady-state, A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually 1 hour). The L_{eq} is the foundation for the day/night average level (L_{dn}).

The L_{dn} is based on the average noise level over a continuous 24-hour period, with a +10 dB weighting (or penalty) applied to noise occurring during nighttime hours (10 p.m.-7 a.m.). The nighttime penalty is based on the assumption that people generally react to nighttime noise exposures as if the noise were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 provides definitions of acoustical terminology relevant to this study.

Table 1

Acoustical Terminology

Acoustics	The science (or physics) of sound.
Ambient Noise	The distinctive acoustical characteristics of a given environment consisting of all noise sources audible at a given 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 filter that conditions a given sound signal to approximate human response.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 p.m.-10 p.m.) weighted by a factor of three and nighttime hours (10 p.m.-7 a.m.) weighted by a factor of 10 prior to averaging.
Decibel or dB	A Bel is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bel.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
L_{dn}	Day/Night Average Level. Similar to CNEL but with no evening weighting. The hours of 7 a.m.-10 p.m. are considered daytime.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
L_n	The measured sound pressure level exceeded (n) percent of the time.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB at 1,000 Hz for those with good hearing.
SEL	A single-number rating indicating the total energy of a discrete noise event compressed into a 1-second time duration.

Existing Land Uses in the Project Vicinity

The project area is currently composed of agriculture, rural residential, commercial, and light industrial uses, and is bordered by like uses.

Noise-sensitive land uses in the immediate project vicinity include existing rural residences to the south-southeast. These uses may be affected by project-related increases in traffic noise on local area roadways and project construction. The project proposes no residential land uses.

Noise Level Measurement Equipment

Larson-Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used to complete all noise level measurement surveys for this project. The meters were calibrated before use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The measurement equipment used meets all pertinent specifications of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters (ANSI S1.4).

Existing Noise Environment

Ambient Noise Level Measurements

The existing ambient noise environment in the immediate project vicinity is defined primarily by traffic on SR 120, traffic on local surface roadways, and UPRR train operations. Some noise from local and distant industrial sources is evident.

To quantify the existing ambient noise environment in the project vicinity, long-term (24-hour) ambient noise level measurement surveys were conducted at four locations in the project area on October 18-23, 2006. The noise measurement locations are illustrated in Appendix B.

Ambient noise level survey results are summarized in Table 2 and Appendix C. The ambient noise level measurement surveys revealed that existing noise levels in the immediate project vicinity are appropriate for the proposed project uses (i.e., commercial and light industrial).

Table 2

Summary of Ambient Noise Level Measurements
October 18-24, 2006
Lathrop Gateway Business Park Specific Plan – Lathrop, California

Site	Location	Average L_{dn}, dB (Range)	Average Daytime L_{50}, dB (Range)	Noise Sources
1	1010 Madruga Road – North	67.4 (67-68)	57.2 (46-65)	SR 120/I-5 Traffic, Trains
2	1010 Madruga Road -- South	67.2	47.8 (40-59)	Trains, Distant Traffic (SR 120/I-5)
3	2978 W. Yosemite Avenue	59.4 (57-61)	50.8 (45-57)	Local Traffic, Natural Sounds
4	Highway 120 Towing Yosemite Avenue	66.7 (66-68)	51.8 (46-62)	Distant Traffic, Commercial, Trains

Source: Bollard Acoustical Consultants, Inc.

Traffic Noise

To predict existing noise levels due to traffic on roadways in the project area, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The Model is based on 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 project site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. A day/night traffic distribution of 83%/17% was factored into the calculations to determine L_{dn}. Additionally, a medium/heavy truck split of 7%/3% (% of the ADT) was assumed along with traffic speeds of 35-45 MPH for surface roadways. A truck split of 3%/16% (Caltrans 2005 counts) and speed of 65 MPH were used to model SR 120. The truck split information was provided by the project traffic consultant and Caltrans, while the traffic speed information was based on our observations during our visit of the project area.

Traffic volumes for existing conditions were obtained from the project traffic impact study prepared by Wood Rodgers (August 2009). Peak-hour intersection turning movement data for surface roadways was converted to ADT by Bollard Acoustical Consultants, Inc. based on the following equation. Traffic volume data in terms of ADT was provided for SR 120.

*ADT = 5 * (AM Peak Hour + PM Peak Hour)*

Table 3 shows the calculated, existing traffic noise levels in terms of L_{dn} at a reference distance of 100 feet from the centerlines of existing project-area roadways. This is considered to be the "baseline" condition. The table also includes the distances to existing traffic noise contours. Existing traffic noise contours for the primary project-area roadways are presented in Appendix D.

Table 3

Existing Traffic Noise Levels and Contour Distances
Lathrop Gateway Business Park Specific Plan EIR – Lathrop, California

			Distance to Noise Contour (feet)		
Roadway	**Segment**	**L_{dn} (dB) @ 100 Feet**	**70 dB L_{dn}**	**65 dB L_{dn}**	**60 dB L_{dn}**
Roth Road	East of I-5 NB Ramps	61	24	52	113
Lathrop Road	Harlan Rd. to 5th St.	65	50	107	232
	5th St. to McKinley Ave.	65	47	102	219
	McKinley Ave. to Airport Wy.	65	46	98	212
	Airport Wy. to Union Rd.	64	39	85	183
	East of Union Rd.	65	46	99	214
Louise Avenue	Harlan Rd. to 5th St.	65	43	93	201
	5th St. to McKinley Ave.	65	45	96	208
	McKinley Ave. to Airport Wy.	64	37	80	173
	Airport Wy. to Union Rd.	64	40	87	187
	Union Rd. to Main St.	66	55	119	257
	East of Main St.	65	50	107	230
Yosemite Avenue	West of McKinley Ave.	60	23	50	108
	McKinley Ave. to Airport Wy.	63	33	71	153
	Airport Wy. to Union Rd.	66	54	117	252
	Union Rd. to Main St.	64	40	87	187
	Main St. to SR 99 Ramps	67	67	144	311
	East of SR 99 NB Ramps	68	69	149	321
5th Street	Lathrop Rd. to Louise Ave.	57	14	30	64
Howland Road	South of Louise Ave.	51	6	12	26

Table 3

Existing Traffic Noise Levels and Contour Distances
Lathrop Gateway Business Park Specific Plan EIR – Lathrop, California

			Distance to Noise Contour (feet)		
Roadway	**Segment**	**L_{dn} (dB) @ 100 Feet**	**70 dB L_{dn}**	**65 dB L_{dn}**	**60 dB L_{dn}**
McKinley Avenue	Lathrop Rd. to Louise Ave.	58	17	36	78
	Louise Ave. to Yosemite Ave.	61	25	55	118
	South of Yosemite Ave.	55	9	20	43
Airport Way	North of Lathrop Rd.	62	28	60	129
	Lathrop Rd. to Louise Ave.	63	34	74	160
	Louise Ave. to Yosemite Ave.	65	43	93	200
	Yosemite Ave. to Daniels St.	64	42	90	194
Union Road	North of Lathrop Rd.	61	27	58	124
	Lathrop Rd. to Louise Ave.	65	47	102	220
	Louise Ave. to Yosemite Ave.	66	55	119	256
	Yosemite Ave. to SR 120 WB	66	58	124	268
Main Street	North of Louise Ave.	67	60	129	277
	Louise Ave. to Yosemite Ave.	67	60	130	281
	Yosemite Ave. to SR 120 WB	66	57	122	263
SR 120	Adjacent to Project Site	79	410	884	1,904

Source: FHWA-RD-77-108 with inputs from Wood Rodgers and Bollard Acoustical Consultants, Inc.

Train Noise

Noise measurement equipment at Sites 1 and 4, described above, were programmed to record noise events associated with train pass-bys along the south (east) and north (west) tracks of the UPRR, respectively. Again, please see Appendix B for the noise measurement sites.

A total of 11 assumed train events were recorded at Site 1 on October 19, 2006, with 5 of the events occurring during nighttime hours (10 p.m.-7 a.m.). The calculated train-related noise exposure was approximately 68 dB L_{dn} (average SEL=100 dB) at a distance of approximately 75 feet from the center of the tracks. Maximum noise levels from assumed train pass-bys was 80-91 dB L_{max}. Trains are a significant source of noise along the south project property line. A total of 2 assumed train events were recorded at Site 4 on October 19, 2006, with 1 of the events occurring during nighttime hours (10 p.m.-7 a.m.). The calculated train-related noise exposure was approximately 62 dB L_{dn} (average SEL=101 dB) at a distance of approximately 80 feet from the tracks. Maximum noise levels measured during assumed train pass-bys was 78-96 dB L_{max}.

Based on the measurement data summarized above, the location of existing train noise contours on the project site were determined. Please see Appendix D for the locations of the assumed train noise contours. Since there is no information regarding future operations on the rail lines, and there is no indication that operations will change in the future, these contours are used to assess future train noise exposure on the project site.

REGULATORY SETTING

City of Lathrop

In order to limit population exposure to physically and/or psychologically damaging noise levels, the State of California, various county governments, and most municipalities in the state have established standards to control noise. The City of Lathrop General Plan Noise Element and CEQA provide regulations regarding noise levels relevant to the proposed project. The following provides a general overview of the existing regulations established by the City and CEQA.

The City of Lathrop General Plan Noise Element establishes land use compatibility criteria for various community land uses. For noise generated by transportation noise sources such as traffic and trains, the Noise Element specifies that residential land uses are compatible with exterior noise levels of up to 60 dB L_{dn} without the need for noise mitigation. The 60 dB L_{dn} noise level is considered an acceptable noise environment for residential outdoor activities. The City may allow an exterior transportation-related noise level of up to 65 dB L_{dn} provided that practical exterior noise mitigation measures are implemented and interior noise levels do not exceed the applicable limit.

The City's interior noise level criterion of 45 dB L_{dn} is specified in the Noise Element for all noise-sensitive uses, including residential and commercial/office uses, exposed to transportation noise sources. The intent of this interior noise level standard is to provide a suitable environment for indoor communication (and sleep within residential structures).

The City of Lathrop Noise Element of the General Plan also establishes noise limits for non-transportation noise sources with respect to their impact on noise-sensitive receivers. These standards are summarized in Table 4, and would be applied at residential uses adjacent to the project.

Table 4

Noise Level Performance Standards – Non-Transportation Noise Sources
City of Lathrop Noise Element of the General Plan

Noise Level Descriptor	Daytime (7 a.m. – 10 p.m.)	Nighttime (10 p.m. – 7 a.m.)
L_{50}	55	45
L_{25}	60	50
L_{8}	65	55
L_{2}	70	60
L_{max}	75	65

Significance Criteria

The potential increase in traffic noise exposure due to the project is a factor in determining the significance of project-related traffic noise impacts. Research into the human perception of changes in sound level indicate 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.

Table 5 is based on recommendations made in August 1992 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 on 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 asserted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn}. Specifically, they provide good correlation to transportation-related noise sources.

Table 5

Significance of Changes to Noise Environment

Noise Level Without Project (L_{dn})	Increase Required for Significant Impact
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

Source: Federal Interagency Committee on Noise (FICON).

An increase in the traffic noise levels becomes more significant as the ambient noise level increases. For instance, a significant increase in traffic noise level is expected to be 1.5 dB when the no-project traffic noise level exceeds 65 dB L_{dn}. However, a significant increase in traffic noise level is expected to be 5 dB when the no-project traffic noise level is less than 60 dB L_{dn}. In other words, as ambient noise levels increase, a smaller increase in noise resulting from the project is sufficient to cause significant annoyance.

Generally, a project may have a significant impact on the environment if it will substantially increase ambient noise levels at adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed, as presented above. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local planning criteria.

NOISE IMPACT ANALYSES

The identified, primary noise-producing elements associated with this project include traffic on the local roadway network, trains, and project construction. These noise sources are studied in the following.

Traffic

To assess noise impacts due to traffic on the local roadway network, traffic noise levels were predicted at a representative distance (100 feet from roadway centerlines) for the Existing + Project,

Cumulative 2030 Base, and Cumulative 2030 Base + Project, Cumulative 2030 Base with SR 120/McKinley Avenue Interchange, Cumulative 2030 Base + Project without SR 120/McKinley Avenue Interchange conditions. The traffic noise levels were predicted using the same modeling methodology applied to the Existing scenario described in the Environmental Setting section above. Results of this analysis are summarized in Table 6.

As shown by the highlighted elements of Table 6, significant traffic noise impacts may be expected on Yosemite Avenue west of Airport Way, and McKinley Avenue south of Louise Avenue. Traffic noise exposure contours for SR 120 are presented in Appendix E.

Table 6

Predicted Traffic Noise Exposure at 100 Feet from Center of Roadways
Lathrop Gateway Business Park Specific Plan EIR – Lathrop, California

		L_{dn}, dB (Δ re: No Project Condition)		
Roadway	**Segment**	**Existing + Project**	**Cumulative 2030 Base + Project**	**Cumulative 2030 Base + Project (No I/C)**
Roth Road	East of I-5 NB Ramps	61 (0)	67 (0)	67 (0)
Lathrop Road	Harlan Rd. to 5th St.	66 (+1)	71 (0)	71 (0)
	5th St. to McKinley Ave.	65 (0)	70 (0)	70 (0)
	McKinley Ave. to Airport Wy.	65 (0)	70 (0)	70 (0)
	Airport Wy. to Union Rd.	64 (0)	69 (0)	69 (0)
	East of Union Rd.	65 (0)	69 (0)	69 (0)
Louise Avenue	Harlan Rd. to 5th St.	65 (0)	70 (0)	70 (0)
	5th St. to McKinley Ave.	65 (0)	70 (0)	70 (0)
	McKinley Ave. to Airport Wy.	64 (0)	70 (0)	70 (0)
	Airport Wy. to Union Rd.	65(+1)	67 (+1)	67 (+1)
	Union Rd. to Main St.	66 (0)	68 (0)	68 (0)
	East of Main St.	66 (+1)	68 (+1)	68 (+1)
Yosemite Avenue	West of McKinley Ave.	66 (+6)	70 (+2)	71 (+3)
	McKinley Ave. to Airport Wy.	67 (+4)	70 (+2)	71 (+3)
	Airport Wy. to Union Rd.	68 (+2)	69 (+1)	69 (+1)
	Union Rd. to Main St.	66 (+2)	68 (+1)	68 (+1)
	Main St. to SR 99 Ramps	68 (+1)	70 (+1)	70 (+1)
	East of SR 99 NB Ramps	68 (0)	69 (0)	69 (0)
5th Street	Lathrop Rd. to Louise Ave.	57 (0)	62 (0)	62 (0)
Howland Road	South of Louise Ave.	51 (0)	57 (0)	57 (0)
McKinley Avenue	Lathrop Rd. to Louise Ave.	61 (+3)	64 (+1)	64 (+1)
	Louise Ave. to Yosemite Ave.	64 (+3)	66 (+2)	66 (+2)
	South of Yosemite Ave.	65 (+10)	68 (+3)	68 (+3)
Airport Way	North of Lathrop Rd.	62 (0)	67 (0)	67 (0)
	Lathrop Rd. to Louise Ave.	64 (+1)	68 (+1)	68 (+1)
	Louise Ave. to Yosemite Ave.	65 (0)	70 (+1)	70 (+1)
	Yosemite Ave. to Daniels St.	65 (+1)	69 (0)	70 (+1)
Union Road	North of Lathrop Rd.	62 (+1)	65 (0)	65 (0)
	Lathrop Rd. to Louise Ave.	65 (0)	68 (0)	68 (0)
	Louise Ave. to Yosemite Ave.	67 (+1)	68 (0)	68 (0)
	Yosemite Ave. to SR 120 WB	67 (+1)	69 (0)	69 (0)

Table 6

Predicted Traffic Noise Exposure at 100 Feet from Center of Roadways
Lathrop Gateway Business Park Specific Plan EIR – Lathrop, California

		L_{dn}, dB (Δ re: No Project Condition)		
Roadway	**Segment**	**Existing + Project**	**Cumulative 2030 Base + Project**	**Cumulative 2030 Base + Project (No I/C)**
Main Street	North of Louise Ave.	67 (0)	68 (0)	68 (0)
	Louise Ave. to Yosemite Ave.	67 (0)	68 (0)	68 (0)
	Yosemite Ave. to SR 120 WB	66 (0)	70 (0)	70 (0)
SR 120	Adjacent to Project Site	80 (+1)	83 (0)	83 (0)

Source: FHWA-RD-77-108 with inputs from Wood Rodgers and Bollard Acoustical Consultants, Inc.

Note: Highlighted levels represent potential noise impacts.

Project Construction

During the construction phases of the project, noise from building equipment would be expected to add to the noise environment in the immediate project vicinity. Activities associated with construction would likely generate maximum noise levels, as indicated in Table 7, ranging from 77-85 dB at a distance of 50 feet. Construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours (7 a.m.-6 p.m.). Still, existing residences located to the south-southeast of the project site may be affected by this noise.

Noise would also be generated during the construction phases by increased truck traffic on local area roadways. A significant project-generated noise source would be truck traffic associated with the transport of heavy materials and equipment to and from the various project construction sites.

Table 7

Construction Equipment Noise Levels at 50 Feet

Type of Equipment	L_{max}, dB	Hourly L_{eq}, dB/% Use
Backhoe	78	74/40%
Concrete Mixer Truck	79	75/40%
Dump Truck	77	73/40%
Front End Loader	79	75/40%
Pneumatic Tools	85	82/50%
Air Compressor	78	74/40%

Source: Roadway Construction Noise Model V 1.0, U.S. Department of Transportation

IMPACTS AND MITIGATION

Impact 1: Off-Site Traffic Noise Increases Due to the Project

The project will generate increased traffic on local area roadways. As shown in Table 6, project-related traffic noise increases at existing residential uses in the project vicinity are expected to exceed the established significance criteria. Specifically, residential uses on Yosemite Avenue west of Airport Way (between Swanson Road and Airport Way) and McKinley Avenue south of Louise Avenue (between the south border of the project and just south of Bronzan Road) would be impacted. **This impact is significant.**

Mitigation 1

The following construction may be considered to mitigate project-related traffic noise exposure increases at existing noise-sensitive receiver locations in the project vicinity. The construction of property line noise barriers in this instance is not feasible since a majority of the impacted homes front the roadways and require driveway access.

Evaluation of Rubberized Asphalt Mitigation Measure Effectiveness:

One of the means of reducing overall noise levels along Yosemite Avenue and McKinley Avenue is to use a rubberized asphalt pavement or open gap pavement. Studies conducted for the Sacramento County Department of Environmental Review and Assessment and Transportation Department to determine the noise reduction provided by rubberized asphalt have been completed in recent years. Those studies indicate that the use of rubberized asphalt on Sacramento County roadways appears to have resulted in an average traffic noise level reduction of approximately 4 dB over that provided by conventional asphalt.

The European Commission Green Paper, published in the June 1997 edition of Noise/News International, cites the following on Page 87:

"Low-noise porous road surfaces have been the subject of much research. These porous road surfaces reduce both the generation and propagation of noise by several mechanisms - which can be related to the open structure of the surface layer. Results have shown that the emission noise levels can be reduced from levels generated on equivalent non-porous road surfaces by between 3-5 dB on average; by optimizing the surface design, larger noise reductions are feasible. At present, the cost of porous asphalt surfacing is higher than conventional surfaces (for resurfacing, but for new roads, the cost is minimal), but may drop as contractors gain experience with porous surfaces."

The use of noise-reducing paving materials in the impacted areas appears to be a feasible means of achieving a 3-5 dB decrease in traffic noise and reducing the potential for adverse public reaction to future traffic noise levels in these areas.

Impact after Mitigation 1

Project-related traffic noise exposure increases after mitigation along the impacted section of Yosemite Avenue would likely be 1 dB or less for the Existing + Project condition. However, the impacted sections of McKinley Avenue would still experience an increase of approximately 5-7 dB.

Given the significance threshold of +5 dB in this case, the resulting noise impact would be **significant and unavoidable** for the Existing + Project condition. The impact would be **less than significant** for the Cumulative + Project conditions.

Impact 2: Transportation-Related Noise Exposure on the Project Site

As shown in Appendix E, noise exposure from SR 120 traffic may exceed 70 dB L_{dn} along the southern portion of the project site. Office uses, or other noise-sensitive commercial/industrial buildings, constructed within the 70 dB L_{dn} contour may experience interior traffic noise exposure in excess of the applicable 45 dB L_{dn} standard. **Therefore, this impact is considered significant.**

Mitigation 2

Assuming standard commercial construction practices, it would be expected that noise-sensitive rooms/buildings within the 70 dB L_{dn} contour line may provide the needed interior noise mitigation with the addition of acoustically rated exterior doors and windows at facades with line-of-sight to the Highway. These upgraded windows and doors should provide minimum STC performance of 35.

Impact after Mitigation 2

With the above-described mitigation efforts, future traffic noise exposure from SR 120 within impacted project buildings would be expected to satisfy the interior noise exposure criterion of 45 dB L_{dn}, resulting in a **less than significant impact.**

Impact 3: Construction Noise

Activities associated with the project construction will result in elevated noise levels, with maximum noise levels ranging from 77-85 dB (L_{max}) at 50 feet as shown in Table 7. Although this noise would likely be audible at the nearest existing residences, it would be temporary in nature and would likely occur during normal daytime working hours. Nonetheless, because construction activities would result in periods of elevated noise levels, **this impact is considered potentially significant.**

Mitigation 3

Implementation of the following noise mitigation measures would reduce this noise impact to a **less than significant** level.

All construction activities should adhere to the construction practices established by the City of Lathrop. Construction activities should be limited to daytime hours (generally 7 a.m.-6 p.m.), and all internal combustion engines should be fitted with factory specified mufflers. Construction staging areas and storage of heavy equipment should be well removed from residential receivers to the south-southeast.

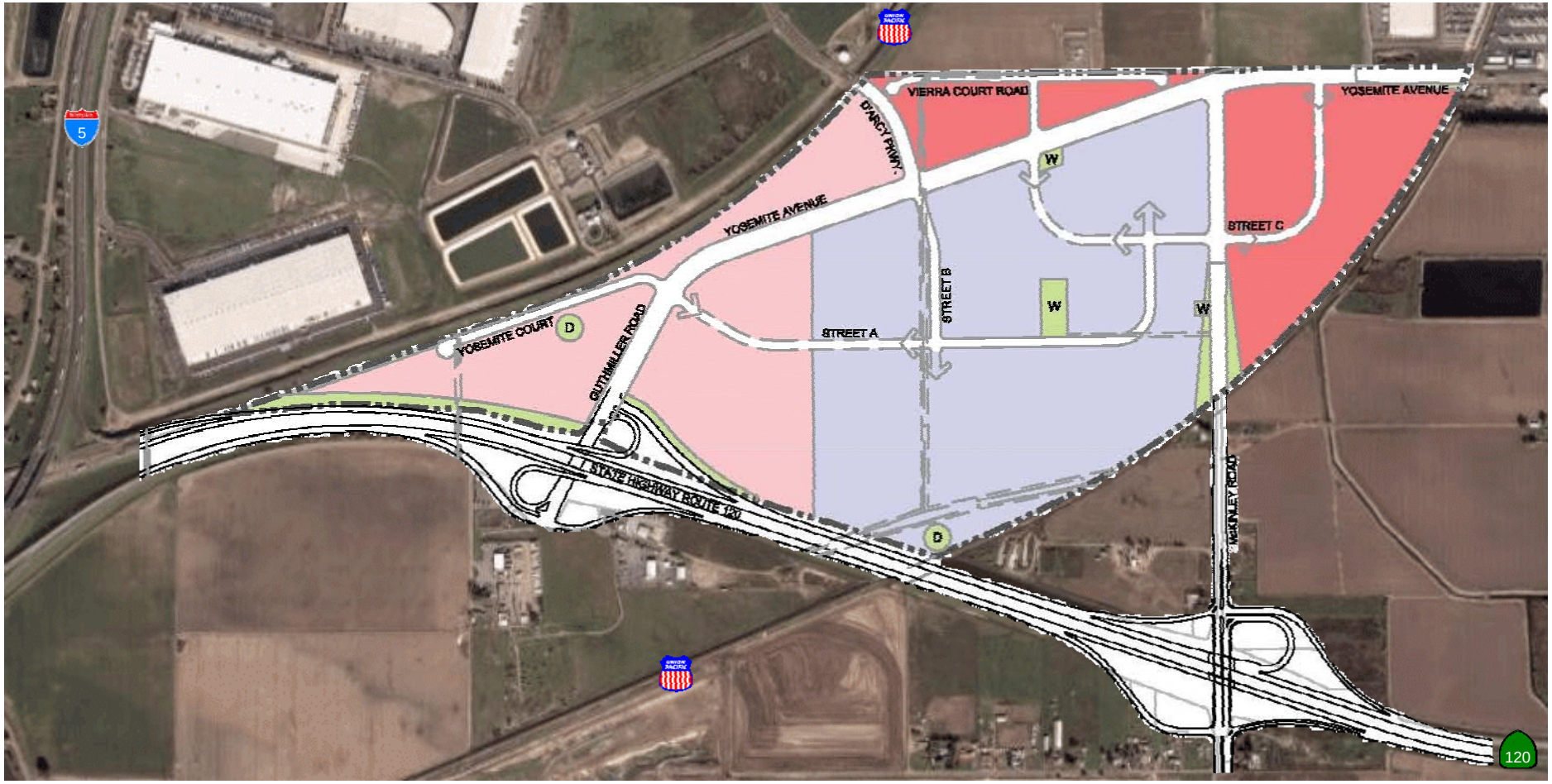
Impact after Mitigation 3

Assuming all recommended measures are provided, resulting construction noise exposure would not be expected to significantly exceed the existing ambient noise exposure at the closest residences to the south-southeast. This impact would be **less than significant.**

This concludes our Environmental Noise Assessment for the Lathrop Gateway Business Park Specific Plan EIR project. Please contact me at (916) 663-0500 or jasonm@bacnoise.com if you have any questions or require additional information.

Appendix A-1

Project Site Plan – McKinley/SR 120 Interchange Alternative
Lathrop Gateway Business Park Specific Plan EIR
Lathrop, California



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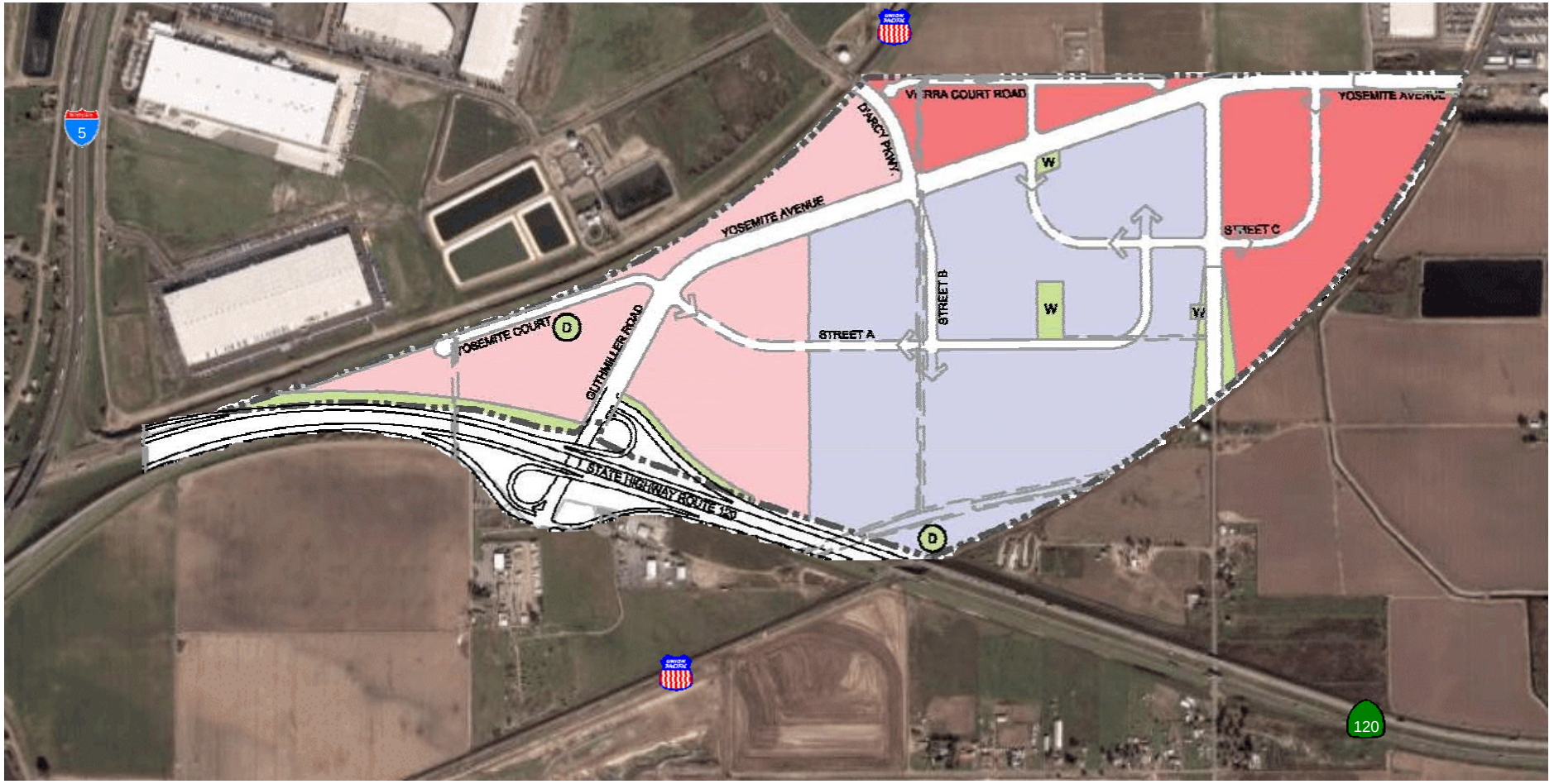
500' 1,500'
0 1,000' 2,000'

Appendix A-2
Project Site Plan – w/out McKinley/SR 120 Interchange
Lathrop Gateway Business Park Specific Plan EIR
Lathrop, California



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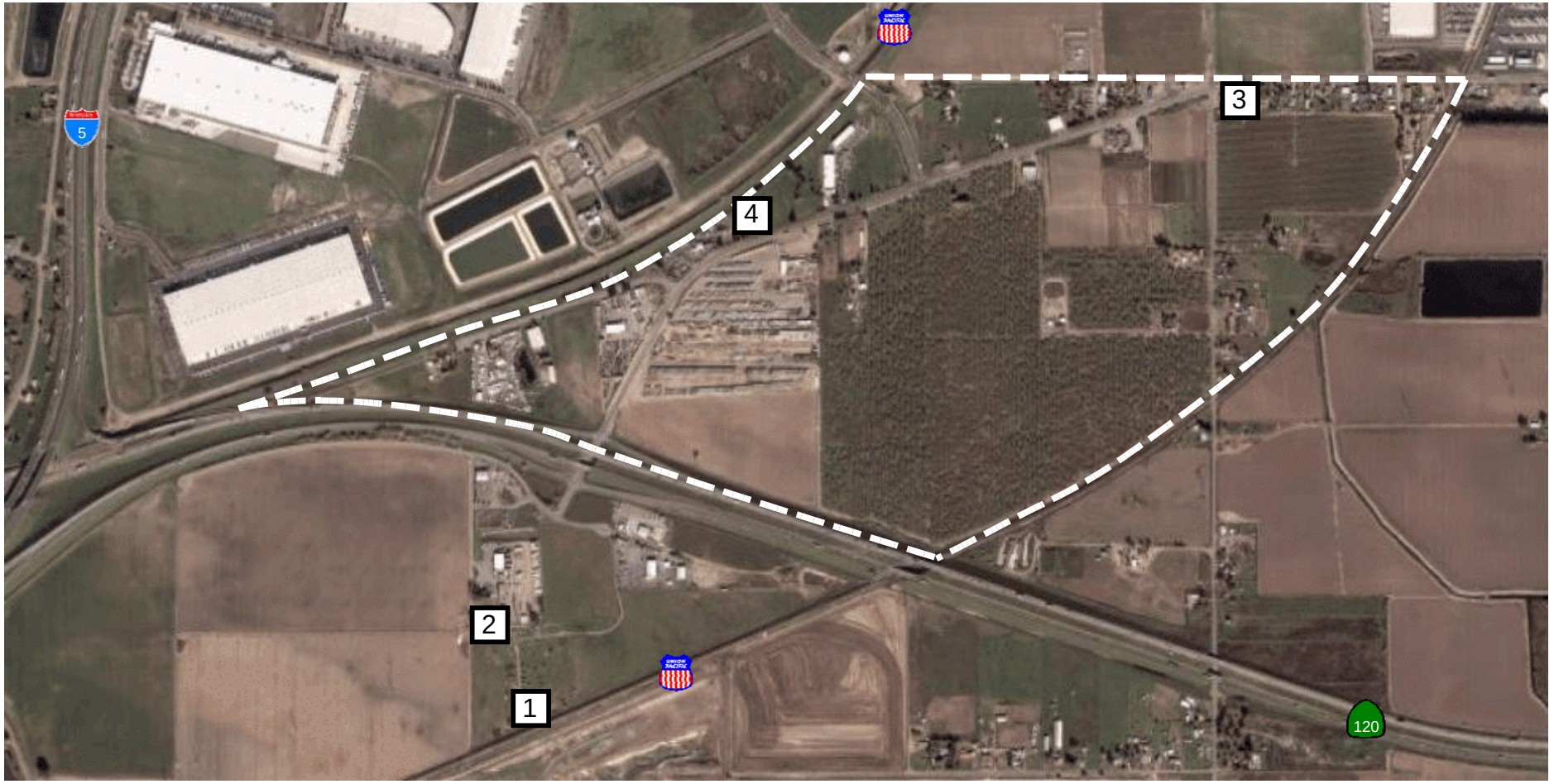
500' 1,500'
0 1,000' 2,000'

Appendix B
Ambient Noise Measurement Locations
Lathrop Gateway Business Park Specific Plan EIR
Lathrop, California



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General Project Boundary

Noise Measurement Site

500' 1,500'
0 1,000' 2,000'

Appendix C-1

Lathrop Gateway Business Park Specific Plan EIR – Lathrop, California

24-hour Continuous Noise Monitoring - Site #1

October 18-19, 2006

Hour	Lmax	L2	L8	L25	L50	Leq
11:00	65	63	62	61	60	61
12:00	66	63	63	62	61	61
13:00	65	63	62	61	60	60
14:00	69	63	62	61	60	60
15:00	65	63	62	61	60	60
16:00	67	62	61	60	59	59
17:00	67	60	60	59	58	58
18:00	74	61	60	59	58	58
19:00	71	63	62	59	56	58
20:00	72	66	64	63	61	62
21:00	79	71	64	62	61	63
22:00	68	65	64	63	61	62
23:00	69	65	64	62	60	61
0:00	73	66	64	61	59	60
1:00	64	61	59	58	56	57
2:00	70	64	62	60	58	59
3:00	73	70	63	61	60	62
4:00	71	64	63	62	61	61
5:00	78	66	65	64	63	63
6:00	70	67	67	65	65	65
7:00	73	69	67	66	65	65
8:00	80	68	65	64	62	64
9:00	70	64	62	59	53	57
10:00	68	57	52	50	48	50

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Lmax (Maximum)	79.9	64.6	69.9	78.2	63.8	70.7
L2	70.5	56.9	63.7	70.4	60.9	65.5
L8	67.5	51.9	61.8	66.5	59.3	63.4
L25	66.3	50.0	60.3	65.5	57.6	61.7
L50 (Median)	65.1	48.5	58.8	64.6	56.0	60.1
Leq (Average)	65.4	50.1	60.8	64.7	56.6	61.5

Computed Ldn, dB	67.8
% Daytime Energy	59%
% Nighttime Energy	41%

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Appendix C-2

Lathrop Gateway Business Park Specific Plan EIR – Lathrop, California
24-hour Continuous Noise Monitoring - Site #1
October 19-20, 2006

Hour	Lmax	L2	L8	L25	L50	Leq
11:00	71	58	52	49	48	51
12:00	70	56	50	48	47	50
13:00	63	52	50	48	46	47
14:00	63	53	50	48	47	48
15:00	66	60	57	53	49	52
16:00	66	62	61	59	58	58
17:00	62	60	59	58	57	57
18:00	71	65	60	58	57	58
19:00	76	62	61	59	57	58
20:00	64	62	61	60	58	59
21:00	82	69	65	63	62	63
22:00	82	70	64	63	61	63
23:00	89	71	65	63	62	64
0:00	65	63	62	61	60	60
1:00	64	63	61	60	59	59
2:00	62	60	58	56	54	55
3:00	65	61	60	58	56	57
4:00	82	65	63	61	59	61
5:00	67	62	60	59	57	58
6:00	66	64	63	62	61	61
7:00	70	67	66	65	63	64
8:00	70	69	67	66	65	65
9:00	86	70	64	61	59	65
10:00	68	61	60	57	56	57

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Lmax (Maximum)	85.6	62.1	69.9	89.3	61.7	71.3
L2	69.8	52.1	61.7	70.8	59.7	64.4
L8	67.4	49.8	58.8	64.6	58.3	61.8
L25	66.0	47.8	56.8	63.0	56.2	60.3
L50 (Median)	64.9	46.2	55.3	61.7	54.4	58.8
Leq (Average)	65.2	47.4	60.0	64.3	55.3	60.6

Computed Ldn, dB	67.0
% Daytime Energy	59%
% Nighttime Energy	41%

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Appendix C-3

Lathrop Gateway Business Park Specific Plan EIR – Lathrop, California

24-hour Continuous Noise Monitoring - Site #2

October 18-19, 2006

Hour	Lmax	L2	L8	L25	L50	Leq
14:00	81	54	52	51	49	53
15:00	57	52	51	49	48	48
16:00	67	53	50	49	48	49
17:00	81	53	51	50	50	54
18:00	85	64	53	52	51	59
19:00	85	57	55	53	51	57
20:00	91	58	55	54	52	65
21:00	88	76	55	54	53	67
22:00	59	56	55	54	53	53
23:00	63	59	57	55	53	54
0:00	85	73	56	54	52	63
1:00	57	56	55	53	51	52
2:00	58	57	56	54	53	53
3:00	86	79	58	56	55	66
4:00	84	57	56	55	54	57
5:00	89	59	57	56	54	63
6:00	63	62	61	60	59	59
7:00	85	63	61	60	59	64
8:00	91	63	57	55	54	67
9:00	81	57	55	52	46	54
10:00	64	55	48	44	42	46
11:00	65	54	47	43	41	45
12:00	80	54	45	42	40	55
13:00	58	51	46	42	40	43

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Lmax (Maximum)	91.4	57.0	77.3	89.3	56.9	71.7
L2	76.0	51.4	57.6	79.5	55.6	62.1
L8	61.1	45.5	52.1	60.9	54.5	56.8
L25	59.9	41.6	49.9	59.8	52.8	55.2
L50 (Median)	58.6	40.2	48.2	58.6	51.1	53.7
Leq (Average)	67.5	43.0	61.0	66.3	51.7	60.5

Computed Ldn, dB	67.0
% Daytime Energy	65%
% Nighttime Energy	35%

BOLLARD
Acoustical Consultants

Appendix C-4

Lathrop Gateway Business Park Specific Plan EIR – Lathrop, California
24-hour Continuous Noise Monitoring - Site #2
October 19-20, 2006

Hour	Lmax	L2	L8	L25	L50	Leq
14:00	80	51	45	41	40	50
15:00	86	52	46	42	41	59
16:00	59	52	48	45	43	45
17:00	58	50	48	47	43	45
18:00	86	76	52	50	48	64
19:00	86	57	55	52	50	57
20:00	61	55	53	51	49	50
21:00	88	76	56	55	53	65
22:00	91	63	57	55	53	68
23:00	88	76	58	56	54	65
0:00	60	56	55	54	52	53
1:00	57	54	53	52	51	52
2:00	61	55	54	52	50	51
3:00	60	57	55	54	52	53
4:00	85	59	57	55	54	62
5:00	82	55	54	53	52	56
6:00	59	58	57	56	55	55
7:00	85	62	59	58	57	63
8:00	63	59	58	57	56	57
9:00	85	55	53	51	48	56
10:00	63	52	48	46	45	47
11:00	57	50	47	45	44	45
12:00	83	50	48	46	45	57
13:00	61	52	50	48	47	47

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Lmax (Maximum)	87.8	56.8	73.4	91.1	57.4	71.5
L2	76.0	49.8	56.5	75.9	54.5	59.1
L8	58.9	45.0	51.1	57.8	53.4	55.5
L25	57.8	41.3	49.0	56.2	51.6	54.0
L50 (Median)	57.1	40.0	47.4	55.2	50.0	52.7
Leq (Average)	64.7	44.7	58.5	67.8	50.7	61.3

Computed Ldn, dB	67.4
% Daytime Energy	47%
% Nighttime Energy	53%

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Appendix C-5

Lathrop Gateway Business Park Specific Plan EIR – Lathrop, California

24-hour Continuous Noise Monitoring - Site #3

October 20-21, 2006

Hour	Lmax	L2	L8	L25	L50	Leq
16:00	68	58	55	52	50	52
17:00	69	61	56	53	51	53
18:00	77	61	58	55	53	55
19:00	71	64	59	55	52	56
20:00	82	62	58	54	52	56
21:00	78	62	58	55	53	56
22:00	67	60	57	55	53	54
23:00	73	59	56	53	52	54
0:00	78	58	55	53	52	54
1:00	70	55	53	51	49	51
2:00	65	55	52	49	48	49
3:00	79	62	53	50	49	53
4:00	76	58	53	52	51	55
5:00	75	65	56	53	52	56
6:00	64	58	55	53	52	53
7:00	69	61	59	57	55	56
8:00	70	63	58	56	55	56
9:00	73	59	55	54	52	54
10:00	70	58	55	53	51	52
11:00	69	59	54	50	48	52
12:00	69	62	54	51	49	52
13:00	85	62	57	55	51	58
14:00	72	61	57	53	50	54
15:00	81	62	55	51	48	55

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Lmax (Maximum)	84.7	68.3	73.6	79.3	64.1	71.8
L2	64.1	57.5	60.9	64.8	54.8	58.6
L8	58.9	54.1	56.6	56.8	51.8	54.3
L25	56.6	50.4	53.6	54.6	49.3	52.2
L50 (Median)	55.0	47.9	51.3	53.2	47.9	50.9
Leq (Average)	57.8	51.6	54.8	56.3	49.0	53.5

Computed Ldn, dB	60.2
% Daytime Energy	69%
% Nighttime Energy	31%

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Appendix C-6

Lathrop Gateway Business Park Specific Plan EIR – Lathrop, California
24-hour Continuous Noise Monitoring - Site #3
October 21-22, 2006

Hour	Lmax	L2	L8	L25	L50	Leq
16:00	74	62	56	51	48	53
17:00	76	63	57	53	50	55
18:00	76	63	58	55	52	56
19:00	74	62	58	55	53	56
20:00	78	62	58	55	53	56
21:00	75	63	56	53	50	55
22:00	70	59	56	53	50	53
23:00	64	57	54	52	50	51
0:00	66	57	53	50	48	50
1:00	63	55	52	49	48	49
2:00	70	57	50	47	45	49
3:00	61	54	50	48	47	48
4:00	63	55	51	48	47	48
5:00	61	55	52	49	48	49
6:00	69	58	54	51	49	51
7:00	68	61	58	55	52	54
8:00	74	63	61	59	56	58
9:00	71	59	55	53	52	53
10:00	72	58	53	49	47	51
11:00	78	58	52	49	46	51
12:00	72	61	55	50	47	53
13:00	71	60	55	51	48	52
14:00	73	58	54	50	46	51
15:00	75	58	53	48	45	51

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Lmax (Maximum)	78.1	68.2	73.8	70.2	60.8	65.2
L2	63.4	57.7	60.6	59.2	54.1	56.2
L8	60.9	52.3	56.0	55.9	50.3	52.4
L25	58.8	48.1	52.4	52.6	47.4	49.6
L50 (Median)	56.3	45.3	49.7	50.3	45.5	47.9
Leq (Average)	57.8	50.5	54.1	52.6	48.0	50.1

Computed Ldn, dB	57.3
% Daytime Energy	81%
% Nighttime Energy	19%

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Appendix C-7

Lathrop Gateway Business Park Specific Plan EIR – Lathrop, California
24-hour Continuous Noise Monitoring - Site #3
October 22-23, 2006

Hour	Lmax	L2	L8	L25	L50	Leq
16:00	75	59	54	50	48	52
17:00	72	60	58	53	50	54
18:00	83	65	57	54	51	58
19:00	70	59	55	52	49	52
20:00	69	56	53	51	49	51
21:00	87	59	55	52	49	60
22:00	76	57	54	50	48	53
23:00	59	55	52	49	48	49
0:00	69	55	51	49	48	49
1:00	67	56	53	51	50	51
2:00	63	56	53	51	49	50
3:00	67	59	55	52	50	52
4:00	81	63	59	55	53	57
5:00	77	63	59	56	54	57
6:00	76	67	60	57	55	59
7:00	79	64	60	58	56	59
8:00	69	62	59	57	56	57
9:00	68	60	58	57	56	56
10:00	69	59	56	55	54	54
11:00	63	59	56	53	50	52
12:00	64	57	54	51	49	50
13:00	68	58	54	51	48	51
14:00	68	58	54	52	49	51
15:00	65	58	55	52	49	51

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Lmax (Maximum)	86.9	62.9	71.4	80.9	59.3	70.7
L2	64.9	56.4	59.4	66.5	55.0	58.9
L8	60.5	53.2	55.9	59.9	50.9	55.0
L25	58.1	50.3	53.1	57.1	49.0	52.3
L50 (Median)	56.3	48.0	50.9	55.2	47.8	50.6
Leq (Average)	59.5	50.4	55.0	58.6	49.2	54.2

Computed Ldn, dB	60.8
% Daytime Energy	67%
% Nighttime Energy	33%

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Appendix C-8

Lathrop Gateway Business Park Specific Plan EIR – Lathrop, California

24-hour Continuous Noise Monitoring - Site #3

October 23-24, 2006

Hour	Lmax	L2	L8	L25	L50	Leq
16:00	68	59	56	52	50	52
17:00	80	61	57	53	51	55
18:00	70	64	59	55	53	56
19:00	86	61	57	54	52	57
20:00	68	58	56	53	50	52
21:00	67	60	57	54	51	53
22:00	73	58	55	52	51	52
23:00	72	59	54	50	49	51
0:00	81	59	54	51	50	55
1:00	79	61	56	52	51	55
2:00	65	55	52	51	49	50
3:00	83	63	58	52	50	57
4:00	78	63	59	55	53	56
5:00	70	62	59	57	55	56
6:00	73	63	59	57	55	57
7:00	66	61	60	58	57	57
8:00	64	61	60	59	57	58
9:00	65	59	57	54	51	53
10:00	67	55	53	50	48	50
11:00	74	58	54	51	48	51
12:00	71	58	54	52	49	52
13:00	69	56	53	51	48	50
14:00	71	59	54	51	49	52
15:00	86	59	55	52	50	54

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Lmax (Maximum)	86.3	64.5	71.5	83.4	65.1	75.0
L2	63.5	55.5	59.2	63.3	55.0	60.3
L8	59.8	52.6	56.0	59.1	52.5	56.2
L25	58.5	50.1	53.3	56.7	50.3	53.0
L50 (Median)	57.4	47.8	51.0	54.9	48.5	51.2
Leq (Average)	57.8	49.7	54.3	57.3	50.0	55.1

Computed Ldn, dB	61.4
% Daytime Energy	58%
% Nighttime Energy	42%

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Appendix C-9

Lathrop Gateway Business Park Specific Plan EIR – Lathrop, California

24-hour Continuous Noise Monitoring - Site #4

October 18-19, 2006

Hour	Lmax	L2	L8	L25	L50	Leq
16:00	74	61	56	52	49	53
17:00	95	69	64	52	49	68
18:00	81	67	58	54	52	58
19:00	65	59	57	55	53	54
20:00	64	61	60	58	56	57
21:00	67	60	59	57	56	57
22:00	80	70	61	57	56	61
23:00	71	60	58	56	55	56
0:00	64	58	57	55	54	54
1:00	61	58	56	54	53	53
2:00	63	61	59	57	55	56
3:00	66	65	62	59	57	58
4:00	67	64	63	61	60	60
5:00	72	65	64	63	62	63
6:00	86	63	62	61	60	61
7:00	76	68	65	64	62	63
8:00	73	65	64	61	59	60
9:00	69	59	56	54	50	53
10:00	61	57	54	50	48	50
11:00	65	58	55	51	49	51
12:00	75	58	54	50	47	52
13:00	74	60	55	51	48	53
14:00	66	57	54	52	50	51
15:00	62	56	53	51	48	50

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Lmax (Maximum)	94.6	61.3	71.1	85.6	61.0	70.2
L2	68.7	56.4	61.0	70.4	57.6	62.6
L8	65.5	53.4	57.6	64.3	55.6	60.2
L25	63.8	49.9	54.1	63.3	54.0	58.3
L50 (Median)	62.2	47.4	51.8	62.3	52.8	56.8
Leq (Average)	67.5	49.9	58.9	62.6	53.3	59.1

Computed Ldn, dB	65.5
% Daytime Energy	61%
% Nighttime Energy	39%

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Appendix C-10

Lathrop Gateway Business Park Specific Plan EIR – Lathrop, California

24-hour Continuous Noise Monitoring - Site #4

October 19-20, 2006

Hour	Lmax	L2	L8	L25	L50	Leq
16:00	67	56	53	50	47	49
17:00	78	73	65	51	48	62
18:00	67	58	56	54	52	53
19:00	62	59	58	56	54	55
20:00	67	63	61	60	58	59
21:00	66	65	63	62	60	61
22:00	67	62	60	58	57	57
23:00	96	77	60	57	56	68
0:00	68	61	60	59	57	58
1:00	63	60	59	58	57	57
2:00	67	60	59	58	57	57
3:00	66	63	62	60	58	59
4:00	71	66	65	63	62	62
5:00	66	65	63	62	61	61
6:00	65	63	62	61	60	60
7:00	74	64	63	62	61	61
8:00	65	63	62	60	59	59
9:00	68	58	56	55	53	53
10:00	64	57	54	51	49	51
11:00	74	59	54	50	47	54
12:00	61	55	52	49	46	48
13:00	59	54	51	48	46	48
14:00	75	58	53	50	47	52
15:00	62	56	53	51	48	50

Statistical Summary						
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Lmax (Maximum)	77.8	58.9	67.2	95.9	62.8	69.8
L2	73.3	54.1	59.8	77.3	59.9	64.1
L8	65.3	51.4	57.0	64.6	58.8	61.0
L25	61.9	48.4	53.8	63.3	57.1	59.5
L50 (Median)	60.8	45.9	51.8	61.6	56.0	58.3
Leq (Average)	61.6	47.9	56.8	68.2	56.9	61.8

Computed Ldn, dB	67.7
% Daytime Energy	34%
% Nighttime Energy	66%

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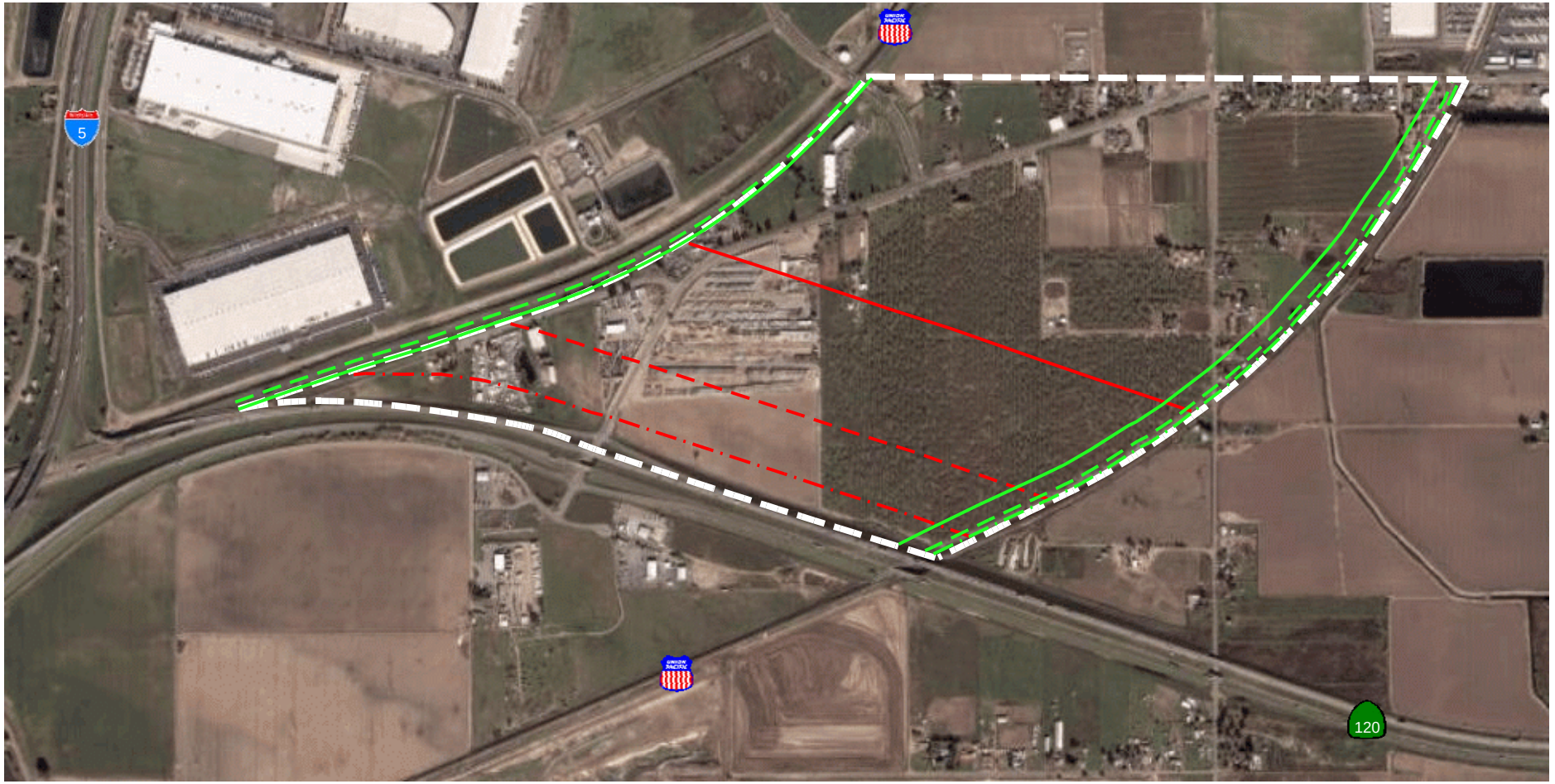
Appendix D
Existing Transportation Noise Contours
Lathrop Gateway Business Park Specific Plan EIR
Lathrop, California



Traffic Noise Contours

: 60 dB L_{dn}

: 65 dB L_{dn}

: 70 dB L_{dn}

Train Noise Contours

: 60 dB L_{dn}

: 65 dB L_{dn}

: 70 dB L_{dn}

500' 1,500'

0 1,000' 2,000'

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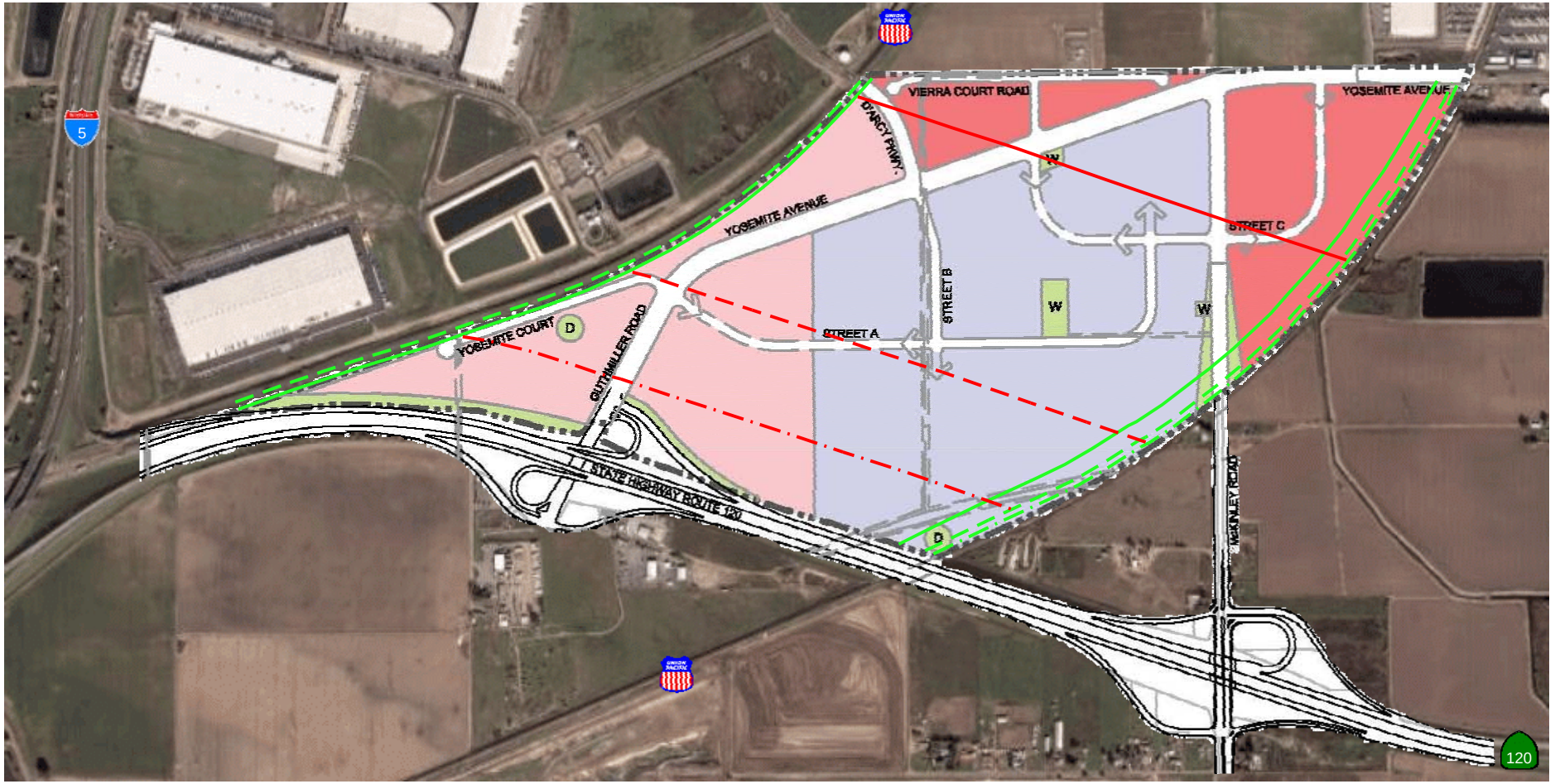
Appendix E-1

Cumulative Plus Project (McKinley/SR 120 Interchange Alternative) Transportation Noise Contours
Lathrop Gateway Business Park Specific Plan EIR
Lathrop, California



Traffic Noise Contours

: 60 dB L_{dn}
: 65 dB L_{dn}
: 70 dB L_{dn}

Train Noise Contours

: 60 dB L_{dn}
: 65 dB L_{dn}
: 70 dB L_{dn}

500' 1,500'
0 1,000' 2,000'

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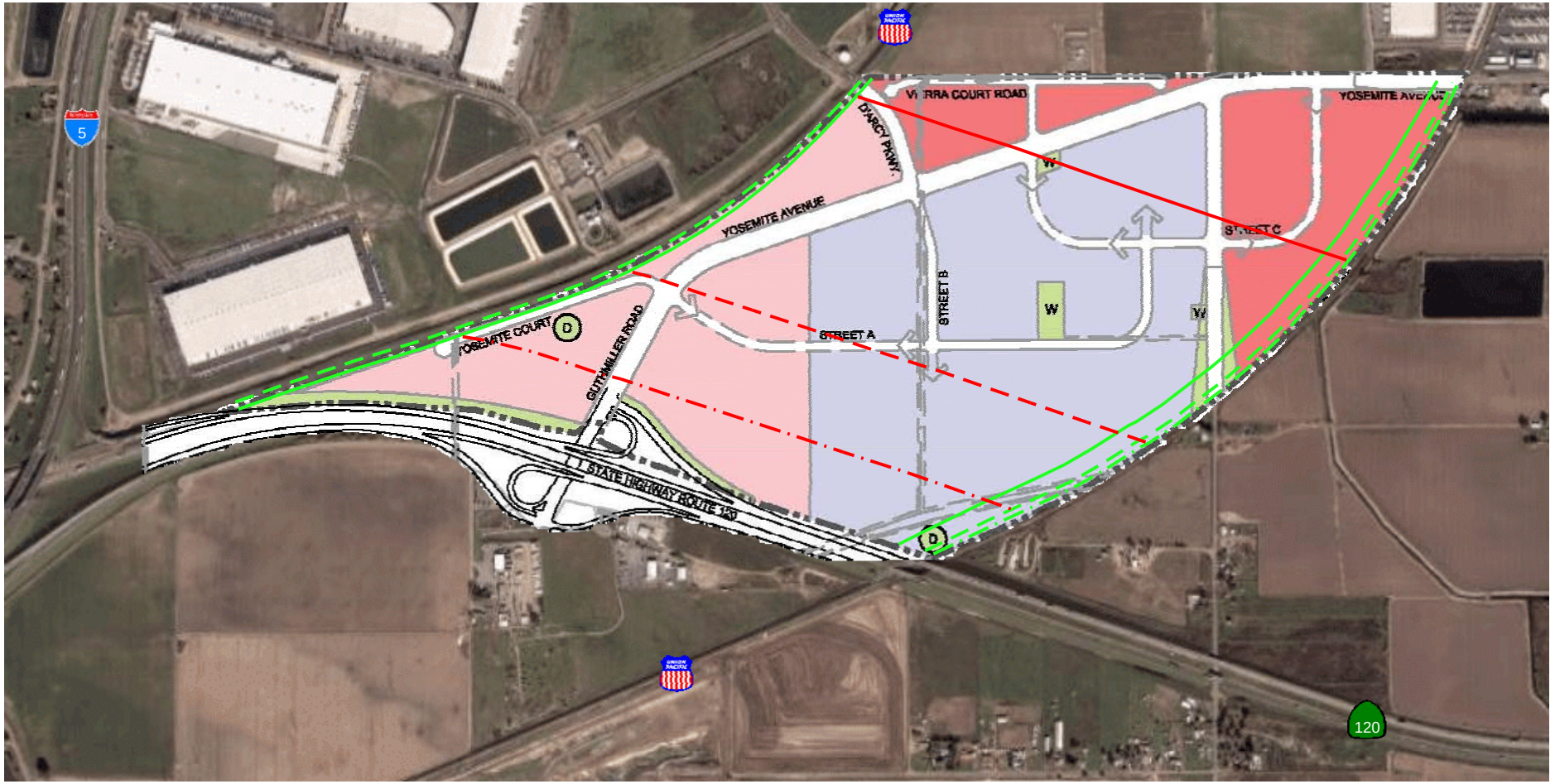
Appendix E-2

Cumulative Plus Project (w/out McKinley/SR 120 Interchange) Transportation Noise Contours
Lathrop Gateway Business Park Specific Plan EIR
Lathrop, California



Traffic Noise Contours

- : 60 dB L_{dn}
- : 65 dB L_{dn}
- : 70 dB L_{dn}

Train Noise Contours

- : 60 dB L_{dn}
- : 65 dB L_{dn}
- : 70 dB L_{dn}

0 500' 1,000' 1,500' 2,000'

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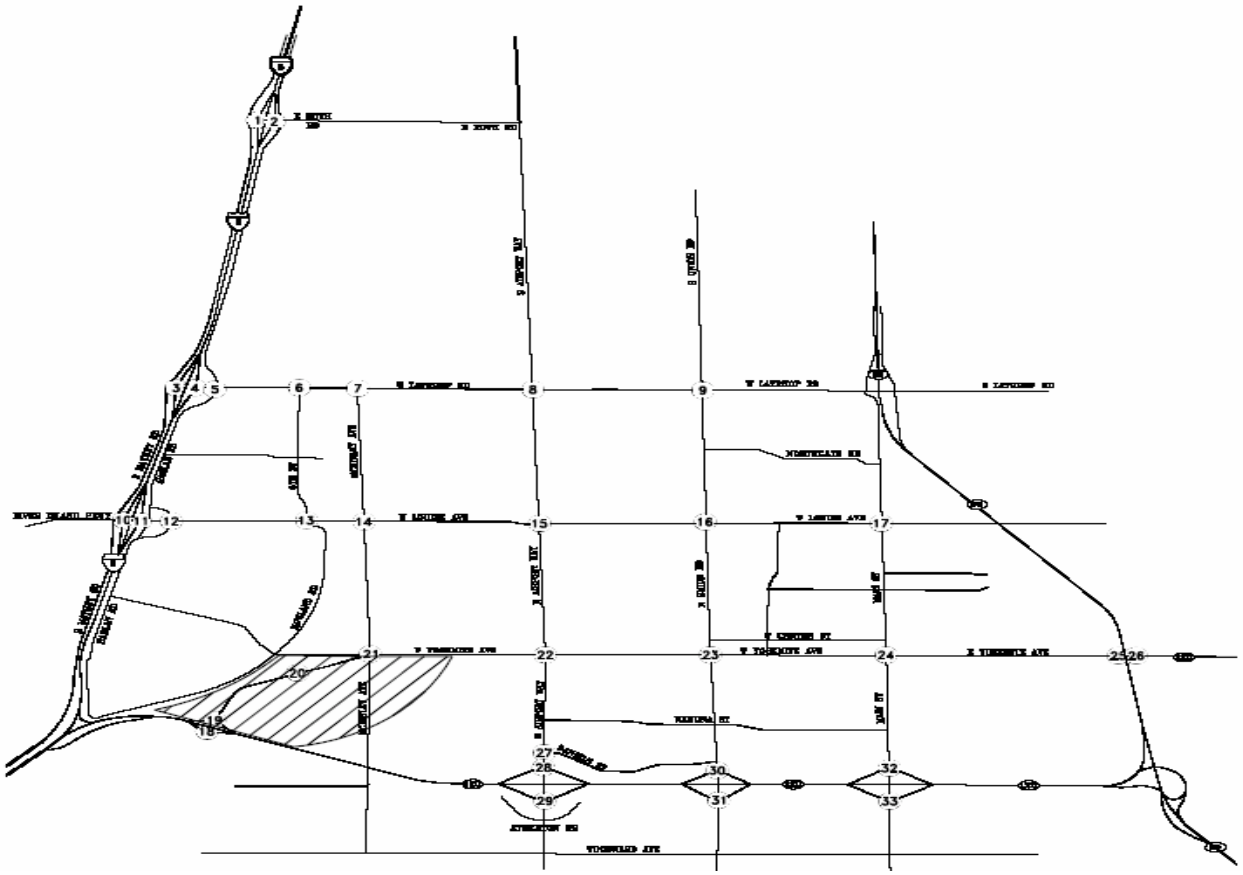
APPENDIX F
TRAFFIC STUDY

Lathrop Gateway Business Park Specific Plan
Transportation Impact Study

City of Lathrop



Draft Report

Prepared For:
InSite Environmental

April 2010

Prepared By:

WOOD RODGERS

LATHROP GATEWAY BUSINESS PARK SPECIFIC PLAN
TRANSPORTATION IMPACT STUDY

CITY OF LATHROP

DRAFT REPORT

Prepared For:
InSite Environmental

Prepared By

WOOD RODGERS
ENGINEERING · PLANNING · MAPPING · SURVEYING

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April 2010

8412.001
(8412-LathropGatewaySP_TS_20100406.doc)

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APPENDIX TABLE 2 – RAMP JUNCTIONS LEVEL OF SERVICE SUMMARY
APPENDIX TABLE 3 & 4 – PROJECT FAIR-SHARE ESTIMATES

ATTACHMENTS

- EXHIBIT 1 – TRIP INTERNALIZATION CALCULATION WORKSHEET
- EXHIBIT 2 – TRIP GENERATION WORKSHEET FOR CITY GP LAND USE ON PROJECT SITE
- EXHIBIT 3 – "CUMULATIVE BASE PLUS PROJECT" TRAFFIC VOLUMES WITHOUT SR 120/MCKINLEY AVE INTERCHANGE

LEVEL OF SERVICE WORKSHEETS
SIGNAL WARRANT ANALYSIS WORKSHEETS

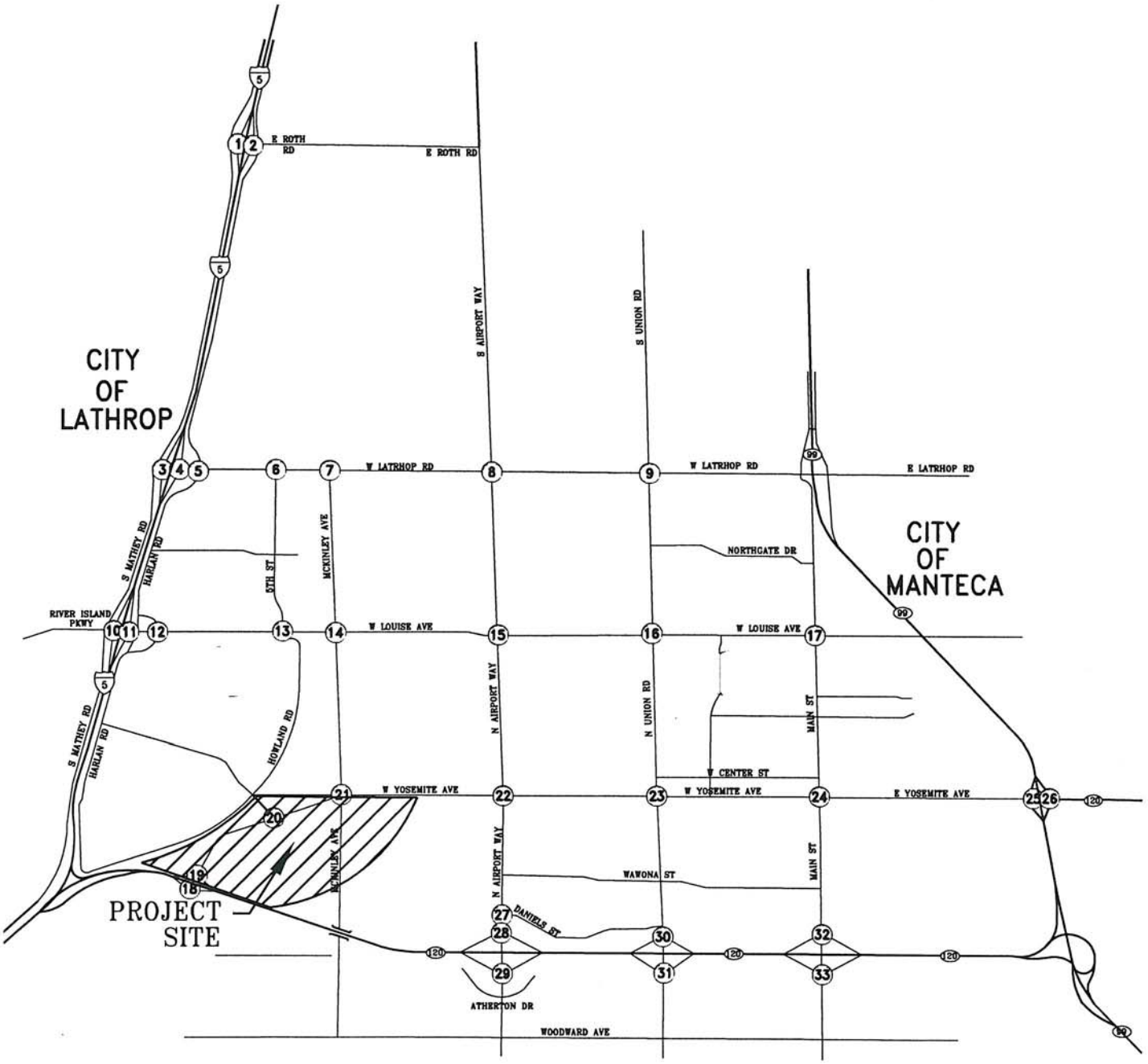
INTRODUCTION

This report has been prepared to present the results of a transportation impact analysis performed by Wood Rodgers, Inc. for the proposed Lathrop Gateway Business Park Specific Plan development project in/near the City of Lathrop in San Joaquin County. This Transportation Impact Study (TIS) report is prepared in support of the project's Environmental Impact Report (EIR) being prepared by Insite Environmental. The proposed project is an approximately 384-acre industrial development located in the southeastern portion of the City of Lathrop. The general location of the project area is to the south of the current incorporated limits of the City of Lathrop. The project site is bounded by Yosemite Avenue to the north and west, SR 120 to the south, and Union Pacific Railroad to the east. Figure 1 illustrates the Project location and vicinity map.

The term "project", as used in this report, refers to the development of proposed Lathrop Gateway Business Park Specific Plan Land Use Plan (Wood Rodgers Planning, dated January 14, 2010) illustrated on Figure 2. According to the proposed Specific Plan land plan, the full build out of the approximately 384-acre site would develop approximately 5,255,605 square-foot gross area of industrial park, office park and associated retail commercial land uses.

The analyses contained in this report focus on traffic operating conditions at critical study intersections and roadway/freeway segments located within the vicinity of the proposed Specific Plan site. The analysis covers existing, short-term future and cumulative (long-term future) scenarios, and under conditions both with and without the development of the proposed Specific Plan project. Included in this TIS report are the following sections:

- A description of the existing transportation/circulation setting.
- Analysis of "Existing" traffic conditions.
- Analysis of a near-term future condition that evaluates traffic operations with traffic generated by the first development phase of the proposed Specific Plan project superimposed on top of an existing/near-term traffic baseline.
- Analysis of a "Cumulative Base" condition that considers a long-term development scenario throughout project vicinity consistent with City of Lathrop (and other adjacent agencies') General Plan land use designations, and a "Cumulative Base plus Project" condition that evaluates operations with traffic generated by the full buildout of the proposed Specific Plan superimposed on top of the cumulative base.
- Recommendations on short-term and long-term improvements and potential mitigation measures/strategies needed to alleviate unacceptable levels of traffic impacts at critical off-site intersections and roadway segments, under conditions both with and without the development of the proposed project and a discussion of the significance of project impacts.



LEGEND:

(1) STUDY INTERSECTION

NORTH

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Lathrop Gateway Business Park SP Traffic Circulation Study, City of Lathrop, CA

FIGURE 1

PROJECT LOCATION AND VICINITY MAP

WOOD RODGERS
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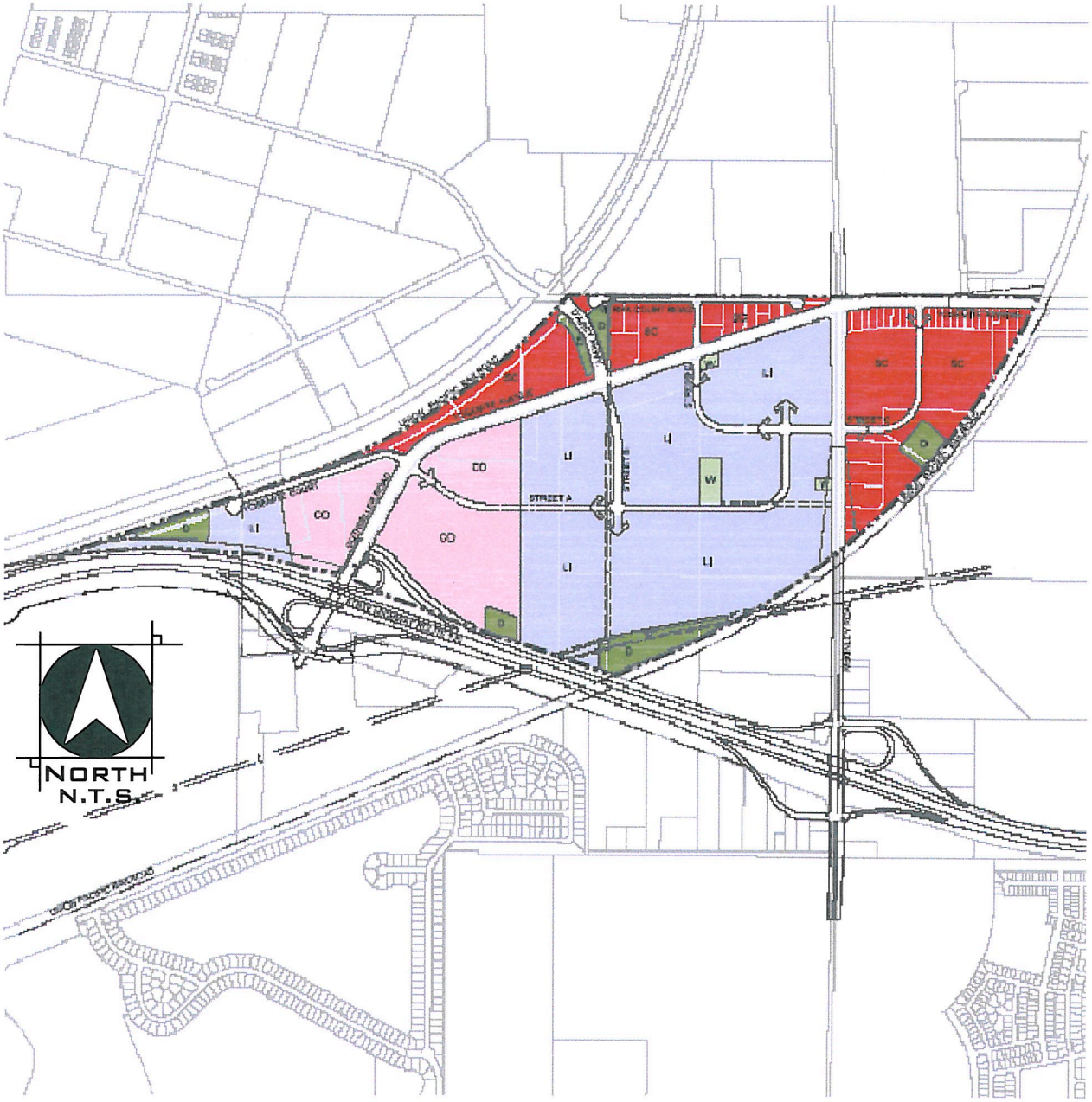
3301 C St, Bldg. 100-B Tel 916.341.7760
Sacramento, CA 95816 Fax 916.341.7767



Legend

LI	Limited Industrial	W	Well Site
CO	Commercial Office	OS	Open Space
SC	Service Commercial		Potential Future Right-of-Way
D	Detention (Approximate Location)		Project Boundary

SOURCE: WOOD RODGERS PLANNING DEPT. (DATED JANUARY 2010)

Lathrop Gateway Business Park SP Traffic Circulation Study, City of Lathrop, CA

FIGURE 2

PROJECT LAND USE PLAN

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Sacramento, CA 95816 Fax 916.341.7767

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EXISTING ROADWAY SYSTEM

The City of Lathrop is located in San Joaquin County, within the Central Valley region of California. The City is located approximately 12 miles south of the City of Stockton, 12 miles northeast of City of Tracy, and approximately 2 miles west of the City of Manteca. The proposed Specific Plan project site is located in currently unincorporated San Joaquin County lands, but within the City of Lathrop's planning sphere of influence. Roadways that currently provide primary circulation in the vicinity of the project site are described as follows:

Interstate 5 (I-5) is a major inter-regional north-south freeway facility of statewide importance, that traverses along the entire length of the State of California. Within the regional vicinity of the proposed project, I-5 serves as a vital link connecting Sacramento/Stockton urban region to Tracy and other parts of the San Francisco Bay Area. I-5 is extensively used by commuters and for goods movement within/through San Joaquin County. I-5 is generally a six-lane divided freeway facility through the City of Lathrop planning area. I-5 through the study area is posted for 70 mph speed limit. Within the study area, I-5 forms three interchanges with local roadways – Louise Avenue, Lathrop Road and Roth Road. Per 2008 Caltrans Annual Average Daily Traffic (AADT) data, I-5 segment carries approximately 152,000 vehicles per day southwest of SR 120 junction, 100,000 vehicles per day between SR 120 and Lathrop Road interchange, 96,000 vehicles per day between Lathrop Road and French Camp Road interchange, and 100,000 vehicles per day north of French Camp Road interchange. The I-5/Louise Avenue interchange is expected to provide regional commuter/truck access to/from the proposed project as well as other proposed Lathrop development projects such as Mossdale Village and River Islands. Per Caltrans 2008 Truck AADT data, the daily percentage of trucks on I-5 mainline segment between SR 120 interchange and French Camp Road interchange is 26%. The Caltrans' planning document *Interstate 5 Transportation Concept Report* (TCR) dated June 2001, notes that the study segment of I-5 from SR 120 to Roth Road is classified as Principal Arterial. The TCR also notes a year 2020 LOS "F" for the existing six-lane section, and LOS "D" for the improved I-5 section from six lanes to ten lanes.

State Route 120 (SR 120) is an east-west state highway facility connecting between the Cities of Lathrop and Manteca, and traversing across the southern portion of the project site. The westerly segment of SR 120 provides regional connection between I-5/I-205 and SR 99. East of SR 99, SR 120 continues as a general two-lane undivided highway through Stanislaus and Tuolumne Counties, to Yosemite National Park. Through the project vicinity, SR 120 has a four-lane divided freeway cross-section, and forms full-access diamond interchanges with Yosemite Avenue/Guthmiller Road, Airport Way, Union Road, and Main Street. Based on Caltrans 2008 AADT data, SR 120 currently carries an AADT of 77,000 vehicles per day west of the Yosemite Avenue interchange, 63,000 vehicles per day between I-5 and Airport Way, 61,000 between Airport Way and Main Street, and 70,000 between Main Street and SR 99 interchange. Per Caltrans 2008 Truck AADT data, the SR 120 segment east of I-5 carries approximately 18% trucks on a daily basis and the segment between south and north junctions with SR 99 carries 6% trucks on a daily basis. The Caltrans' *State Route 120 TCR* dated March 2005, notes a "20-year concept LOS" of "F" for the SR 120 segment from I-5 to SR 99 under the current four-lane section and LOS "D" for the improved eight-lane freeway (with possible HOV lanes).

State Route 99 (SR 99) is a north-south state highway facility of inter-regional significance that traverses approximately 3 miles east of the proposed project site. SR 99 is a Central Valley freeway that connects between the Sacramento metropolitan region to the north and Bakersfield area to the south. SR 99 shares a common segment with SR 120 for approximately 1 mile east of the City of Manteca. SR 99 has a general four-lane divided freeway cross-section through the City of Manteca.

Based on Caltrans 2008 AADT data, SR 99 currently carries an AADT of approximately 88,000 vehicles per day north of SR 120 interchange, and 70,000 vehicles per day north of the East Yosemite Avenue interchange. Per Caltrans 2008 Truck data, SR 99 carries a truck percentage of 13.5% north of Yosemite Avenue interchange and 14.8% south of Yosemite Avenue interchange.

Yosemite Avenue / Guthmiller Road is generally a two-to five lane east-west roadway that runs centrally across the project site, connecting between SR 120 to the west and SR 99 to the east. Yosemite Avenue forms full-access diamond interchanges with SR 120 and SR 99. The posted speed limit on Yosemite Avenue is 45 miles per hour. West Yosemite Avenue is a two-lane roadway from the SR 120/Guthmiller Road interchange to D'Arcy Parkway, a three-to-four lane roadway between D'Arcy Parkway and Airport Way, and a five-lane roadway east of Airport Way. The two-lane segment of Yosemite Avenue is provided with wide shoulders, but does not currently have curb or sidewalks. Yosemite Avenue provides an at-grade crossing of the UP railroad approximately 1,500 feet east of McKinley Avenue intersection. Yosemite Avenue provides driveway access to/from a number of industrial/warehouse developments located throughout the area. The Yosemite Avenue corridor will represent the key backbone roadway supporting local circulation within/through the proposed Specific Plan project site.

Louise Avenue is a two- to four-lane east-west roadway that traverses across the central portion of the City of Lathrop and Manteca, and forms a full-access diamond interchange with I-5 to the west within the City of Lathrop. West of I-5, Louise Avenue extends as **River Island Parkway** serving recent development in that portion of the City.

Lathrop Road is generally a two-lane (with a median left turn lane) east-west roadway connecting the Cities of Lathrop and Manteca, further north of the Louise Avenue corridor. Lathrop Road forms full-access interchanges with I-5 on the west and with SR-99 on the east. Lathrop Road now extends west of I-5 to the new high school.

Roth Road is a two-lane east-west roadway extending from I-5 to the west to Airport Way to the east, north of the Sharpe Army Depot and UPRR distribution facility. Roth Road forms a full-access diamond interchange with I-5 north of the study area.

McKinley Avenue is a north-south local roadway that provides access to/through the project site. McKinley Avenue connects between Lathrop Road to the north and East Woodward Avenue to the south, traversing across SR 120 via an existing under crossing. The SR 120/McKinley Avenue location is planned for a future full-access interchange. Through the project site/vicinity, McKinley Avenue has two-lane section with limited shoulders.

Airport Way is a two-lane (with center left turn lane) north-south roadway serving West Manteca. The Airport Way corridor extends from the City of Stockton to the north, to Kasson Road to the south. Airport Way forms a full-access diamond interchange with SR 120 approximately 1 mile east of the project site.

Union Road is a two-to four-lane north-south roadway that connects between SR 120 to the south and Lathrop Road to the north, traversing along central Manteca. Union Road also forms a full-access diamond interchange with SR 120. South of SR 120, Union Road extends through County lands.

Main Street is a two to four-lane north-south roadway providing access to central Manteca. Main Street forms a full-access diamond interchange with SR 120 on the south, and to the north connects to SR 99 at/near the SR 99/Lathrop Road interchange.

D'Arcy Parkway is a two-four lane north-south roadway providing connectivity between Harlan Road and Yosemite Avenue. The project is planned to obtain driveway access at the D'Arcy Parkway/Yosemite Avenue intersection. The study intersection currently operates as a three-legged signalized intersection and would be modified with addition of project access driveway as the south leg.

Howland Road is a two lane north-south local roadway providing connectivity between D'Arcy Parkway and Louise Avenue. Howland Road extends north of Louise Avenue as 5th Street.

Vierra Road is a two-lane east-west roadway providing access to Yosemite Avenue and McKinley Avenue.

EXISTING PEDESTRIAN, BIKEWAY AND TRANSIT FACILITIES

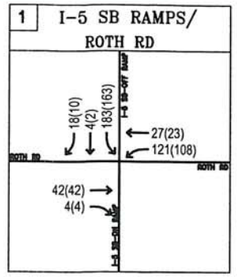
There are currently no sidewalks or bike paths/lanes within project site/vicinity; however, most of the signalized intersections within study area are provided with pedestrian crosswalks, and sidewalks are in place along the frontage of some of the residential, industrial and commercial developments in the area. East of the project area, there is Tidewater Bikeway, a Class I (off-street) bike trail serving the City of Manteca, and extending from Lathrop Road southerly to Spreckels Avenue just north of SR 120.

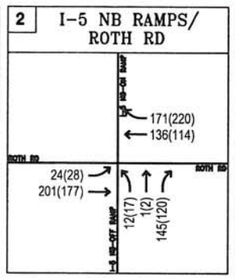
Currently, there are no existing public transit facilities that serve the project site. However, there are several transit services that operate west of I-5. These routes include the San Joaquin Regional Transit District (SJRTD) with fixed-route and flexible-response bus service in San Joaquin County; the Altamont Commuter Express (ACE), which operates a commuter rail service; and the Modesto Area Express (MAX), which operates fixed-route bus service between Modesto and the Lathrop-Manteca ACE Rail Station.

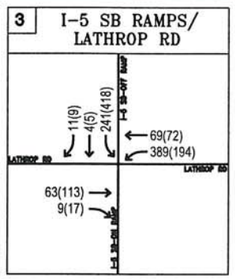
EXISTING TRAFFIC VOLUMES

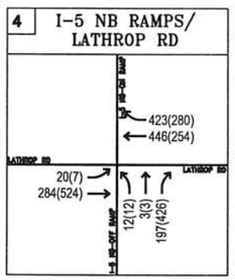
Existing AM and PM peak hour intersection traffic counts for all study intersections were obtained from the preliminary traffic study for the former *South Lathrop Specific Plan ADEIR* (uncirculated draft, dated March 2008). These traffic counts were originally collected in January 2008. The AM peak hour is defined as the highest one hour of traffic flow counted between 6:30 AM and 8:30 AM on a typical weekday, and the PM peak hour is defined as the highest one hour of traffic flow counted between 4:00 PM and 6:00 PM on a typical weekday. Existing annual average traffic counts on all study area highway/freeway facilities were obtained from Caltrans' 2008 traffic count data publications.

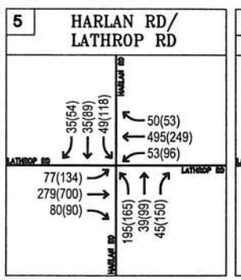
Figure 3 shows the existing (2008) traffic volumes and Figure 4 illustrates the existing intersection lane geometrics and control.

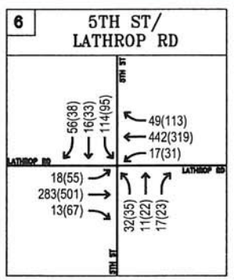


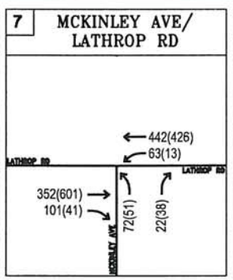


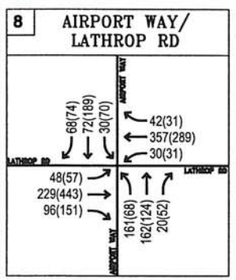


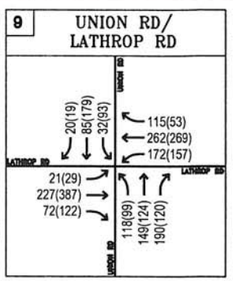


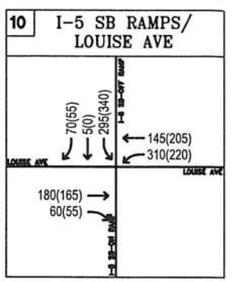


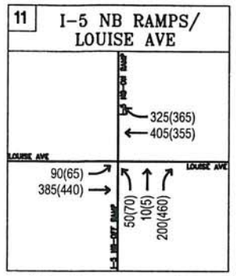


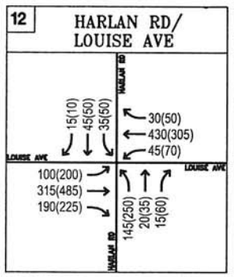


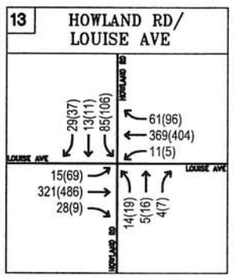


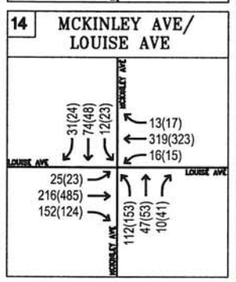


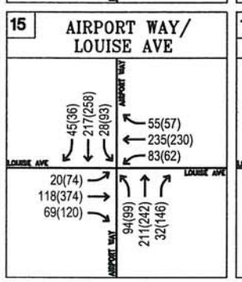


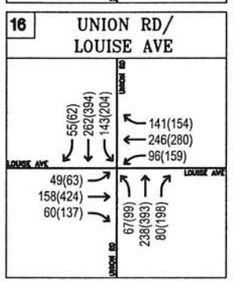


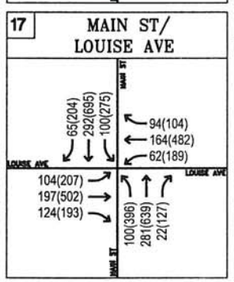


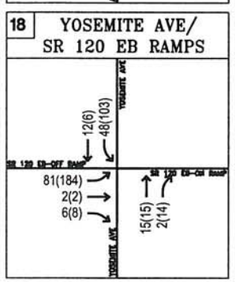


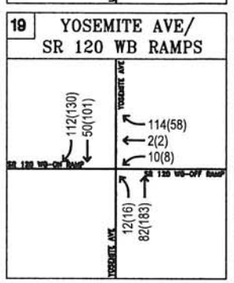


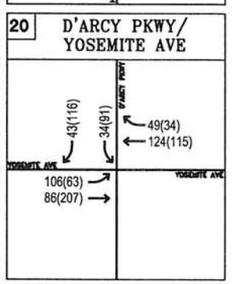


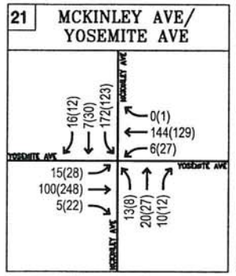


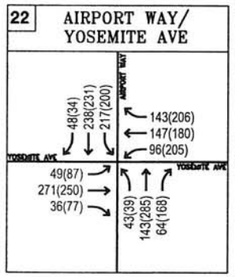


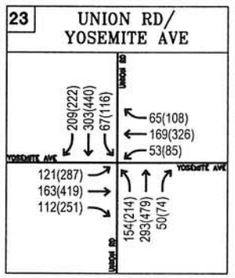


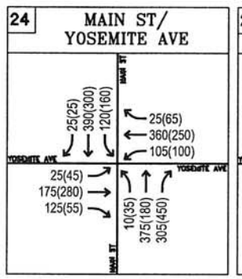


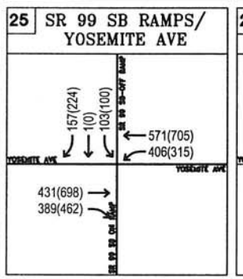


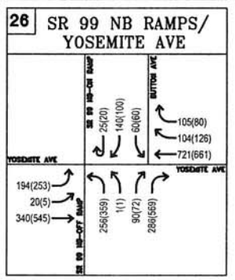


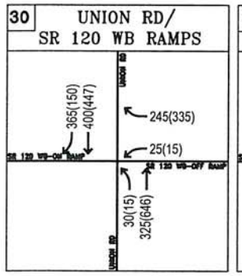


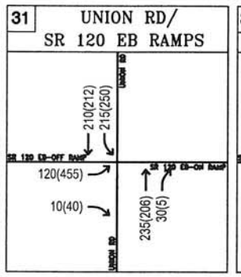


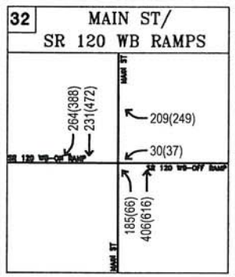


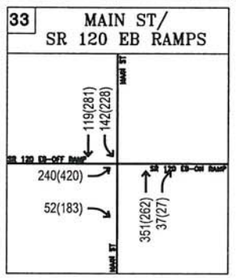










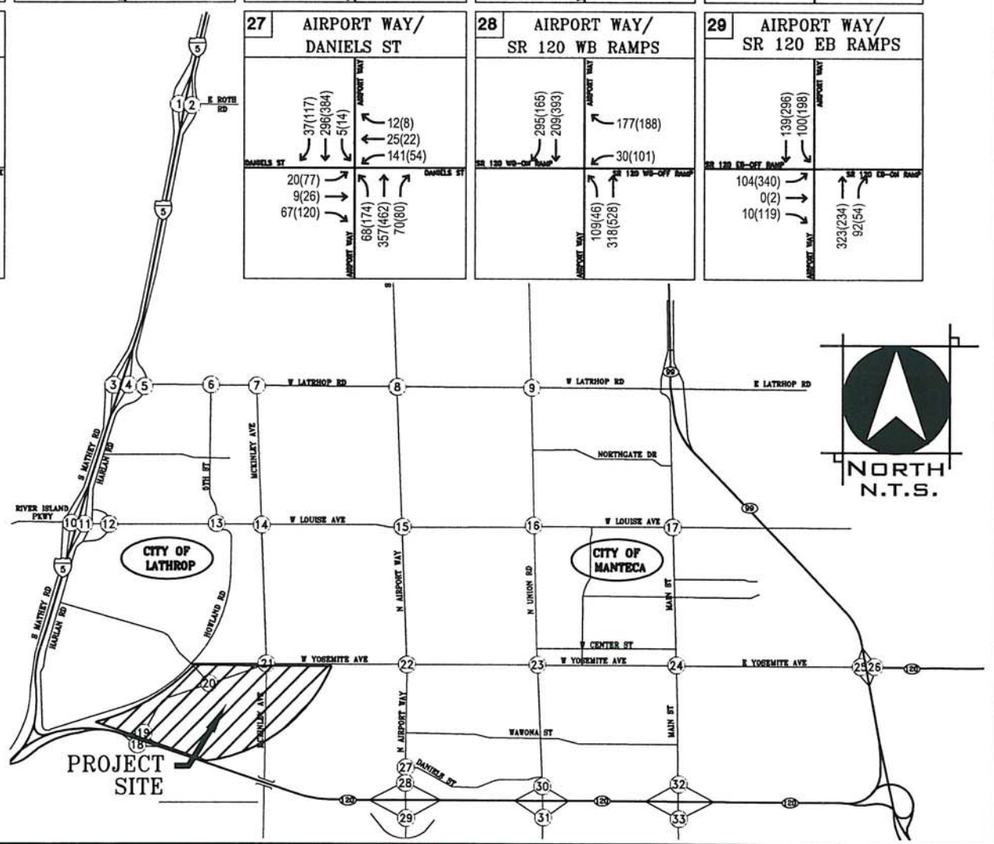


LEGEND:

XXX(XXX) – AM(PM) PEAK HOUR VOLUMES

(1) STUDY INTERSECTION

DRAFT



Lathrop Gateway Business Park SP Traffic Circulation Study, City of Lathrop, CA

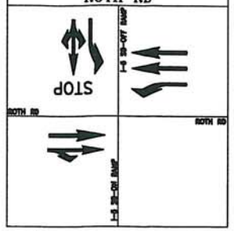
EXISTING (2008-2009) TRAFFIC VOLUMES

FIGURE 3

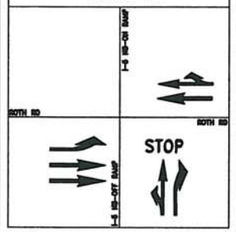
WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS
3301 C St, Bldg. 100-B Tel 916.341.7760
Sacramento, CA 95816 Fax 916.341.7767

J:\Jobs\8412_LathropGatewayEIR_TS\Traffic\Dwg\Figure03-ExVols.dwg 3/25/10 3:31pm achaukar

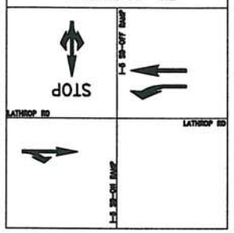
1 I-5 SB RAMPS/ ROTH RD



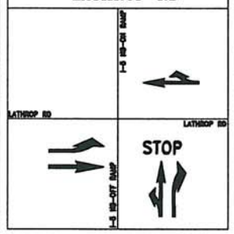
2 I-5 NB RAMPS/ ROTH RD



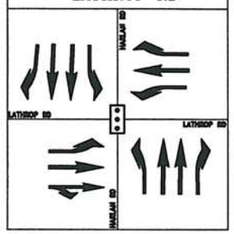
3 I-5 SB RAMPS/ LATHROP RD



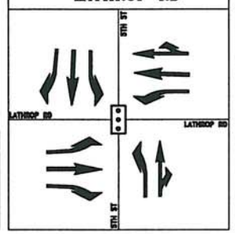
4 I-5 NB RAMPS/ LATHROP RD



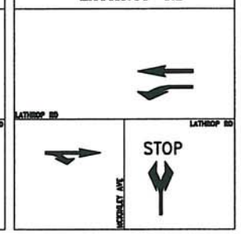
5 HARLAN RD/ LATHROP RD



6 5TH ST/ LATHROP RD



7 MCKINLEY AVE/ LATHROP RD



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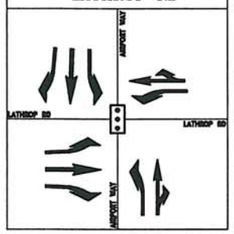
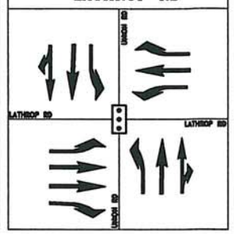
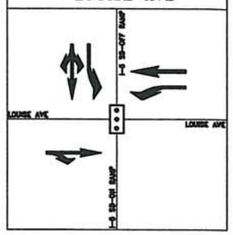


9 UNION RD/ LATHROP RD



10 I-5 SB RAMPS/ LOUISE AVE



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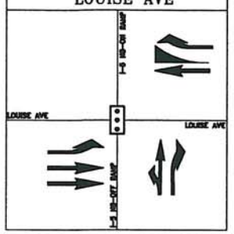

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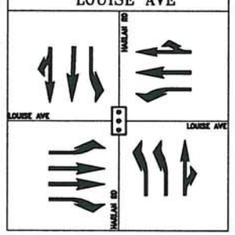

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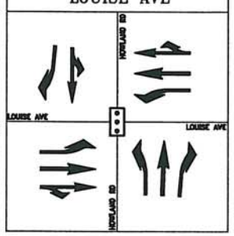
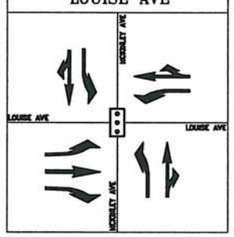
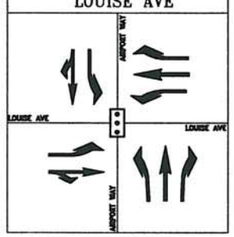


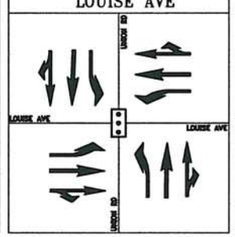
14 MCKINLEY AVE/ LOUISE AVE



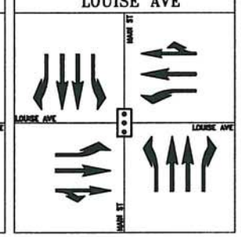
15 AIRPORT WAY/ LOUISE AVE



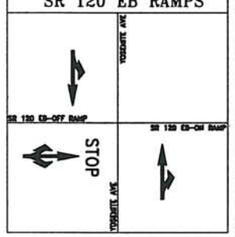
16 UNION RD/ LOUISE AVE



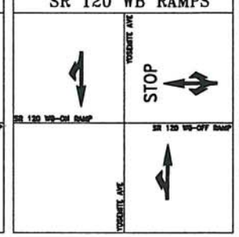
17 MAIN ST/ LOUISE AVE



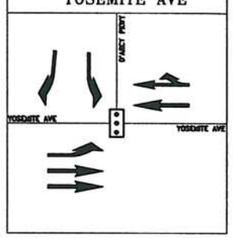
18 YOSEMITE AVE/ SR 120 EB RAMPS



19 YOSEMITE AVE/ SR 120 WB RAMPS



20 D'ARCY PKWY/ YOSEMITE AVE



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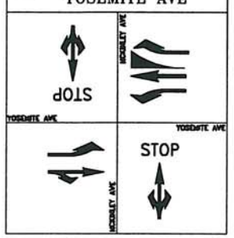

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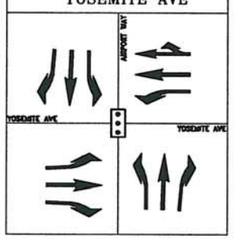
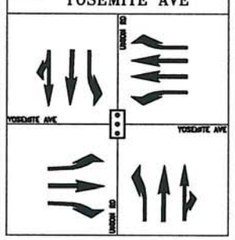
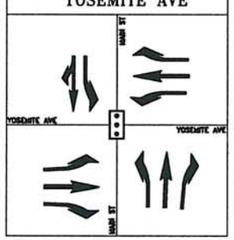


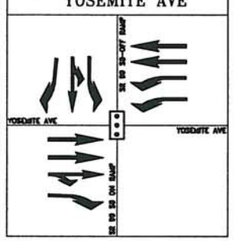
23 UNION RD/ YOSEMITE AVE



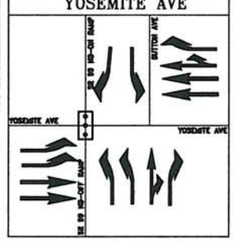
24 MAIN ST/ YOSEMITE AVE



25 SR 99 SB RAMPS/ YOSEMITE AVE



26 SR 99 NB RAMPS/ YOSEMITE AVE

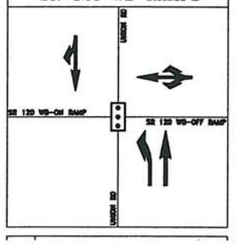


27 AIRPORT WAY/ DANIELS ST

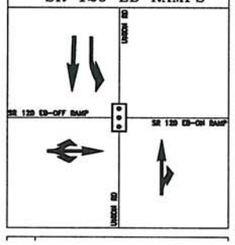
28 AIRPORT WAY/ SR 120 WB RAMPS

29 AIRPORT WAY/ SR 120 EB RAMPS

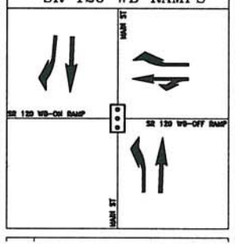
30 UNION RD/ SR 120 WB RAMPS



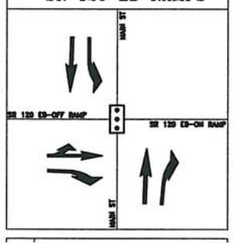
31 UNION RD/ SR 120 EB RAMPS



32 MAIN ST/ SR 120 WB RAMPS



33 MAIN ST/ SR 120 EB RAMPS



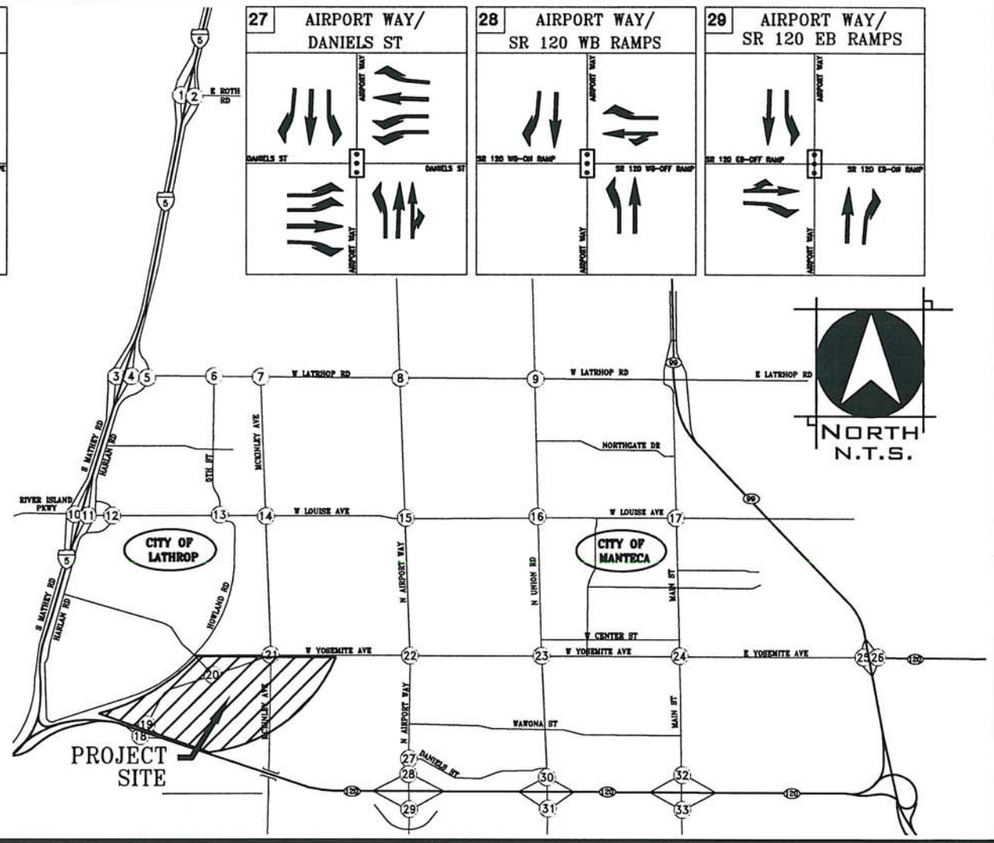
LEGEND:

TRAFFIC SIGNAL

STOP STOP SIGN CONTROLLED MOVEMENT

FREE RIGHT TURN

(1) STUDY INTERSECTION



Lathrop Gateway Business Park SP Traffic Circulation Study, City of Lathrop, CA

FIGURE 4

EXISTING INTERSECTION LANE GEOMETRICS AND CONTROL

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS
3301 C St, Bldg. 100-B Tel 916.341.7760
Sacramento, CA 95816 Fax 916.341.7767

J:\Jobs\8412_LathropGatewayEIR_TS\Traffic\Dwg\Figure04-ExGeos.dwg 3/25/10 3:45pm achaukar

LEVEL-OF-SERVICE METHODOLOGY

Traffic operations have been quantified through the determination of "Level of Service" (LOS). Level of Service is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an intersection or roadway segment, representing progressively worsening traffic operations. Levels of Service has been calculated for all intersection control types using methods documented in the Transportation Research Board (TRB) Publication *Highway Capacity Manual, Fourth Edition, 2000* (HCM-2000). For two-way-stop-controlled (TWSC) intersections, both average and the "worst-case" movement delays and LOS have been computed and reported based on HCM-2000. For signalized and all-way-stop-controlled (AWSC) intersections, the intersection delays and LOS reported are the average values for the whole intersection, computed based on HCM-2000.

The delay-based HCM-2000 LOS criteria for different types of intersection controls are outlined in Table 1. The annual average daily traffic (AADT) based roadway segment LOS thresholds, which are based upon HCM methodologies, are shown in Table 2.

Table 1. Level of Service Definitions and Criteria for Intersections

Level of Service	Flow Type	Operational Characteristics	Intersection Control Delay (seconds/vehicle)	
			Signal Control	2-Way-Stop or All-Way Stop Control
"A"	Stable Flow	Free-flow conditions with negligible to minimal delays. Excellent progression with most vehicles arriving during the green phase and not having to stop at all. Nearly all drivers find freedom of operation.	≤ 10	0 – 10
"B"	Stable Flow	Good progression with slight delays. Short cycle-lengths typical. Relatively more vehicles stop than under LOS "A". Vehicle platoons are formed. Drivers begin to feel somewhat restricted within groups of vehicles.	> 10 – 20	> 10 – 15
"C"	Stable Flow	Relatively higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant, although many still pass through without stopping. Most drivers feel somewhat restricted.	> 20 – 35	> 15 – 25
"D"	Approaching Unstable Flow	Somewhat congested conditions. Longer but tolerable delays may result from unfavorable progression, long cycle lengths, and/or high volume-to-capacity ratios. Many vehicles are stopped. Individual cycle failures may be noticeable. Drivers feel restricted during short periods due to temporary back-ups.	> 35 – 55	> 25 – 35
"E"	Unstable Flow	Congested conditions. Significant delays result from poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures occur frequently. There are typically long queues of vehicles waiting upstream of the intersection. Driver maneuverability is very restricted.	> 55 – 80	> 35 – 50
"F"	Forced Flow	Jammed or grid-lock type operating conditions. Generally considered to be unacceptable for most drivers. Zero or very poor progression, with over-saturation or high volume-to-capacity ratios. Several individual cycle failures occur. Queue spillovers from other locations restrict or prevent movement.	> 80	> 50

Source: HCM-2000, Exhibits 16-2, 17-2 and 17-22

Table 2. Level of Service (LOS) Criteria for Roadway Segments

Roadway Segment Type	Total Two-way Average Daily Traffic (ADT)				
	LOS A	LOS B	LOS C	LOS D	LOS E
10-Lane Divided Freeway	70,000	100,400	137,200	162,800	174,000
8-Lane Divided Freeway	56,000	86,400	123,200	148,800	160,000
6-Lane Divided Freeway	42,000	64,800	92,400	111,600	120,000
4-Lane Divided Freeway	28,000	43,200	61,600	74,400	80,000
6-lane Divided Expressway (with left-turn lanes)	35,500	42,200	46,200	55,800	60,000
6-Lane Divided Arterial (with left-turn lane)	32,000	38,000	43,000	49,000	54,000
4-Lane Divided Arterial (with left-turn lane)	22,000	25,000	29,000	32,500	36,000
4-Lane Undivided Arterial (no left-turn lane)	18,000	21,000	24,000	27,000	30,000
2-Lane Arterial (with left-turn median lane)	11,000	12,500	14,500	16,000	18,000
2-Lane Arterial (no left-turn median lane)	9,000	10,500	12,000	13,500	15,000
2-Lane Collector/Local Street	6,000	7,500	9,000	10,500	12,000

Notes:

1. Based on "Highway Capacity Manual", Transportation Research Board, Fourth Edition, 2000.

2. All volumes are approximate and assume ideal roadway characteristics. Actual threshold volumes for each Level of Service listed above may vary depending on a variety of factors including (but not limited to) - roadway curvature and grade, intersection or interchange spacing, driveway spacing, percentage of trucks and other heavy vehicles, travel lane widths, signal timing characteristics, on-street parking, volume of cross traffic and pedestrians, pavement conditions, etc.

The following summarizes the traffic level of service (LOS) policies of key public agencies likely impacted by the proposed project.

- City of Lathrop – City-maintained intersections are subject to the following minimum acceptable operations criteria: Signalized and All-way-stop intersections: LOS D or better, intersections with side street stop-sign control: LOS E or better.
- Caltrans District 10 – Study freeways and associated ramps (I-5, I-205, SR 99, and SR 120) are subject to the following minimum acceptable operations criterion: LOS D or better. The Caltrans' *Guide for the Preparation of Traffic Impact Studies (dated December 2002)* states the following: "*Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities, however, Caltrans acknowledges that this may not be always feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS"*.
- San Joaquin County – County-maintained intersections are subject to the following minimum acceptable operations criterion: Signalized, All-way-stop and side street stop sign-controlled intersections: LOS C or better. The County considers LOS E or F on freeways in the County to be unacceptable.
- City of Manteca – City of Manteca maintained intersections are subject to the following minimum acceptable operations criterion: Signalized and all-way-stop intersections: LOS C or better on a citywide basis, with a minimum acceptable LOS D at individual intersections dependent upon site restraints, intersections with side-street stop-sign control: LOS E or better.

The LOS policies of relevant agencies are also summarized in Table 3.

Table 3 Intersection and Roadway LOS Policy Standards

Study Facility	Responsible Jurisdiction(s)	Minimum Acceptable LOS
Signalized Intersections		
I-5 I/C ramp intersections with Louise Ave, Lathrop Rd and Roth Rd	City of Lathrop, Caltrans	LOS "D"
SR 120 I/C ramp intersections with Yosemite Ave, McKinley Ave	City of Lathrop, Caltrans	LOS "D"
Yosemite Ave intersections with D'Arcy Parkway, McKinley Ave	City of Lathrop, SJ County	LOS "D"
Louis Ave intersections with Harlan Rd, Howland Rd, McKinley Ave	City of Lathrop, SJ County	LOS "D"
Lathrop Road intersections with Harlan Road, 5th Street, McKinley Ave	City of Lathrop	LOS "D"
SR 120 I/C ramp intersections with Airport Way, Union Rd, Main Street	City of Manteca, Caltrans	LOS "C"
Airport Way intersection with Daniels Street	City of Manteca	LOS "D"
Yosemite Avenue intersections with Airport Way, Union Rd and Main St	City of Manteca	LOS "D"
Louise Avenue intersections with Airport Way, Union Rd and Main St	City of Manteca	LOS "D"
Lathrop Road intersections with Airport Way and Union Rd	City of Manteca	LOS "D"
SR 99 interchange with Yosemite Ave	City of Manteca, Caltrans	LOS "C"
Roadways and Freeways/Highways		
Mainline segments of I-5, I-205, SR 120 and SR 99	Caltrans	LOS "D"
Study segments of Louise Avenue, Lathrop Road, Yosemite Avenue, McKinley Avenue, Airport Way	Lathrop, Manteca, SJ County	LOS "C"
Notes: 1. The intersection LOS standards mentioned above are for signalizedand All Way Stop Controlled intersections on citywide basis. *2. For Two Way Stop controlled intersections, City of Lathrop and Manteca minimum acceptable LOS standard is LOS "E" or better* *3. If existing intersection is operating at less than target LOS, then the existing LOS should be maintained.*		

Based on policies from General Plans of the Cities of Lathrop and Manteca, Caltrans' 1996 Congestion Management Plan (CMP), Caltrans highway LOS goals/policies, and *Appendix G* of the CEQA guidelines (2007), the impacts associated with traffic operations are considered "significant" if the proposed project would:

Intersections and Roadway/Freeway System

- Worsen the LOS at an intersection in the Cities of Lathrop or Manteca from LOS C or better to LOS D or worse; (It should be noted that City of 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.)
- Increase the average delay by five or more seconds at an intersection in the Cities of Lathrop or Manteca intersection that currently operates (or is projected to operate) at LOS D or worse;
- Worsen LOS at an intersection maintained by Caltrans from LOS D or better to LOS E or F;
- Add traffic to an 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;
- Worsen operations on a segment of I-205 from LOS E or better to LOS F;
- Add traffic to a freeway segment or ramp that does not currently operate acceptably (according to the above bulleted criteria);
- 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).

Transit System

- Disrupt or preclude transit service and facilities;
- Cause an unmet demand for public transit;

Bicycle/Pedestrian System

- Disrupt or interfere with existing or planned bicycle or pedestrian facilities;

In this study, all study intersections and roadway facilities have been generally analyzed using HCM-2000 recommended "suburban" Peak Hour Factor (PHF) of 0.92. Given the industrial nature of the project area and vicinity, a background traffic "heavy vehicle" factor of 5% has been used for peak hour periods, consistent with factors used in the *SR 120/ McKinley Avenue Interchange PSR* (Caltrans Approved June 2008). Under signalized conditions, the HCM-recommended suburban traffic signal default cycle length of 100 seconds has been used, with 4 seconds of "lost time" per critical signal phase. *Traffix 7.9* and *Synchro/SimTraffic 7* software have been used to implement the HCM-2000 analysis procedures for study intersections. *HCS+* software has been used for the ramp analysis. All analysis worksheets are included in the Appendix worksheets.

In order to determine whether "significance" should be associated with unsignalized intersection operating conditions, a supplemental traffic signal warrant analysis was completed. The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the need for installation of a traffic signal at an unsignalized intersection location. This study generally employs signal warrant criteria presented in the *California Manual on Uniform Traffic Control Devices 2003*, last updated in September 2006 (California MUTCD 2006). The California MUTCD signal warrant criteria are based upon several factors including volume of vehicular and pedestrian traffic, location of school areas, frequency of accidents, etc. The peak-hour-volume warrant 3 (urban areas) analysis has been completed in this study as the most indicative type of warrant analysis. California MUTCD indicates that "the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal."

EXISTING CONDITIONS' TRAFFIC OPERATIONS

INTERSECTIONS

Table 4 summarizes existing intersection operations, quantified using the existing traffic volumes (shown on Figure 3) and existing intersection lane geometrics and control (shown on Figure 4).

Table 4. Existing Conditions: Intersections Levels of Service

#	Intersection:	Control Type	AM Peak Hour			PM Peak Hour		
			Delay (Sec/Veh)	LOS	Warrant Met?	Delay (Sec/Veh)	LOS	Warrant Met?
1	I-5 SB Ramps / Roth Rd	TWSC	12.0	B	No	11.5	B	No
2	I-5 NB Ramps / Roth Rd	TWSC	11.3	A	No	11.3	B	No
3	I-5 SB Ramps / Lathrop Rd	TWSC	**203.2**	**F**	No	**139.9**	**F**	No
4	I-5 NB Ramps / Lathrop Rd	TWSC	23.2	C	Yes	**46.9**	**E**	Yes
5	Harlan Rd / Lathrop Rd	Signal	26.7	C	-	31.0	C	-
6	5th St / Lathrop Rd	Signal	20.1	B	-	19.7	B	-
7	McKinley Ave / Lathrop Rd	TWSC	25.7	D	No	25.6	D	No
8	Airport Way / Lathrop Rd	Signal	27.1	C	-	26.7	C	-
9	Union Rd / Lathrop Rd	Signal	29.0	C	-	30.9	C	-
10	I-5 SB Ramps / Louise Ave	Signal	27.7	C	-	25.4	C	-
11	I-5 NB Ramps / Louise Ave	Signal	19.8	B	-	25.5	C	-
12	Harlan Rd / Louise Ave	Signal	22.8	C	-	27.2	C	-
13	Howland Dr / Louise Ave	Signal	16.7	B	-	18.8	B	-
14	McKinley Ave / Louise Ave	Signal	23.5	C	-	21.7	C	-
15	Airport Way / Louise Ave	Signal	29.0	C	-	34.3	C	-
16	Union Rd / Louise Ave	Signal	31.4	C	-	36.0	D	-
17	Main St / Louise Ave	Signal	32.0	C	-	**58.0**	**E**	-
18	Guthmiller Rd / SR 120 EB Ramps	TWSC	9.8	B	No	13.0	B	No
19	Guthmiller Rd / SR 120 WB Ramps	TWSC	9.5	A	No	10.1	B	No
20	D'Arcy Pkwy / Yosemite Ave	Signal	21.5	C	-	21.6	C	-
21	McKinley Ave / Yosemite Ave	AWSC	9.5	A	No	10.7	B	No
22	Airport Way / Yosemite Ave	Signal	31.6	C	-	35.0	D	-
23	Union Rd / Yosemite Ave	Signal	31.1	C	-	39.3	D	-
24	Main St / Yosemite Ave	Signal	30.5	C	-	35.4	D	-
25	SR 99 SB Ramps / Yosemite Ave	Signal	27.6	C	-	30.6	C	-
26	SR 99 NB Ramps / Yosemite Ave	Signal	28.7	C	-	29.3	C	-
27	Airport Way / Daniels St	Signal	18.9	B	-	19.0	B	-
28	Airport Way / SR 120 WB Ramps	Signal	21.2	C	-	21.0	C	-
29	Airport Way / SR 120 EB Ramps	Signal	17.2	C	-	26.1	C	-
30	Union Rd / SR 120 WB Ramps	Signal	23.0	C	-	19.5	B	-
31	Union Rd / SR 120 EB Ramps	Signal	23.0	C	-	26.1	C	-
32	Main St / SR 120 WB Ramps	Signal	23.0	C	-	19.5	B	-
33	Main St / SR 120 EB Ramps	Signal	25.3	C	-	27.6	C	-

Notes:
1. TWSC = Two-Way-Stop Control, AWSC = All-Way-Stop Control
2. For TWSC intersections, worst-case movement delays (in seconds/vehicle) is indicated. "Average" control delays (in seconds/vehicle) are indicated for AWSC and signal-controlled intersections. Delays reported in above table are from Traffix 7.9 software.
3. Warrant = California MUTCD 2006 based Peak-hour-Volume Warrant #3 (Urban Areas).
4. Bold numbers and letters represent condition when intersection does not meet minimum acceptable standards.

As shown in Table 4, the I-5 SB Ramps/ Lathrop Road unsignalized intersection is currently operating at worse-case movement (southbound approach) LOS "F" under AM and PM peak hour conditions. The I-5 NB Ramps/Lathrop Road intersection is currently operating at worst-case movement (northbound right-turn) LOS "E" conditions under PM peak hour periods with the existing lane

geometrics and control. California MUTCD signal warrant 3 (urban areas) is currently met at I-5 NB Ramps / Lathrop Road intersection under both AM and PM peak hour traffic volumes. The Main Street / Louise Avenue signalized intersection is currently operating at PM peak hour LOS "E" conditions. All recommended improvements and mitigation measures are discussed in a subsequent section of this report.

ROADWAY SEGMENTS

Existing roadway operations under existing roadway capacity configurations were quantified utilizing roadway AADT-volume based LOS thresholds presented in Table 2. The results are summarized in Table 5.

Table 5. Existing Conditions: Roadway Segments Levels of Service

Roadway/ Freeway Segment	Existing Functional Capacity Configuration	AADT	LOS
Interstate 5 mainline – from I-205 I/C to SR 120 I/C	8-Lane Divided Freeway	**160,000**	**F**
Interstate 5 mainline – from SR 120 I/C to Lathrop Road I/C	6-Lane Divided Freeway	106,000	D
Interstate 5 mainline – from Lathrop Rd I/C to French Camp Rd I/C	6-Lane Divided Freeway	104,000	D
SR 120 mainline – from I-5 I/C to Yosemite Ave/Guthmiller Rd I/C	4-Lane Divided Freeway	**77,000**	**E**
SR 120 mainline – from Yosemite/Guthmiller I/C to Airport Way I/C	4-Lane Divided Freeway	63,000	D
SR 120 mainline – from Airport Way I/C to Main Street I/C	4-Lane Divided Freeway	61,000	C
SR 120 mainline – from Main Street I/C to SR 99 I/C	4-Lane Divided Freeway	70,000	D
SR 99 mainline – south of SR 120 I/C	6-Lane Divided Freeway	108,000	D
SR 99 mainline – from SR 120 I/C to East Yosemite Avenue I/C	6-Lane Divided Freeway	88,000	C
SR 99 mainline – north of East Yosemite Avenue I/C	4-Lane Divided Freeway	70,000	D
Yosemite Avenue – from SR 120 I/C to D'Arcy Parkway	Two-Lane Arterial	5,000	A
Yosemite Avenue – from D'Arcy Parkway to Airport Way	Three-Lane Arterial	6,700	A
Yosemite Avenue – from Airport Way to Union Road	Five-Lane Arterial	17,200	A
Yosemite Avenue – from Union Road to Main Street	Three-Lane Arterial	6,900	A
Yosemite Avenue – from Main Street to SR 99	Five-Lane Arterial	13,100	A
Airport Way – from SR 120 I/C to Yosemite Avenue	Three-Lane Arterial	10,100	A
Airport Way – from Yosemite Avenue to Louise Avenue	Three-Lane Arterial	14,400	A
Airport Way – from Louise Avenue to Lathrop Road	Three-Lane Arterial	6,200	A
McKinley Avenue – from Yosemite Avenue to Louise Avenue	Two-Lane Arterial	4,300	A
McKinley Avenue – from Louise Avenue to Lathrop Road	Two-Lane Arterial	1,400	A
Louise Avenue – from I-5 to 5th Street	Five-Lane Arterial	10,200	A
Louise Avenue – from 5th Street to Airport Way	Three-Lane Arterial	9,300	A

Notes: AADT = Annual Average Daily Traffic, LOS = Level of Service
"Three lane arterial" refers to a two-lane arterial with left-turn lane channelizations at key intersections or two-way median left-turn lane. Five lane arterial" refers to a four-lane arterial with left-turn lane channelizations at key intersections or two-way median left-turn lane.

As shown in Table 5, mainline segment of I-5 from I-205 to SR 120 interchange is currently operating at LOS "F" conditions on an AADT basis. The SR 120 mainline segment between I-5 interchange and Yosemite Avenue/Guthmiller Road interchange is currently operating at unacceptable LOS "E" conditions on an AADT basis. All other study roadway/freeway segments are currently operating at LOS "D" or better conditions. ***Note:*** Ramp junction LOS analysis results (for all analysis scenarios) are summarized in Appendix Table 2.

All recommended improvements and mitigation measures are discussed in a subsequent section of this report

PROJECT DESCRIPTION

The Lathrop Gateway Business Park Specific Plan project site is located in San Joaquin County, within the City of Lathrop's Sphere of Influence. The project site encompasses approximately 384 acres of currently mostly undeveloped lands bordered by Vierra Court and West Yosemite Avenue to the north, SR 120 to the south, and the Union Pacific (UP) railroad to the west and to the east. This study evaluated the proposed Lathrop Gateway Business Park Specific Plan Land Use Plan (Wood Rodgers, Inc., dated January 14, 2010) illustrated on Figure 2, for traffic impact analysis purposes. The proposed project, at full buildout, envisions development of approximately 155 acres of limited industrial, 66 acres of service commercial, and 86 acres of office and commercial retail uses. The proposed project also includes construction of supporting infrastructure, including on-site roadways and bikeway/pedestrian facilities.

TRIP GENERATION

The Specific Plan proposes three major types of land use designations (or "zoning districts") – namely Commercial Office (CO), Service Commercial (SC) and Industrial Limited (LI). Project trip generation was estimated individually for each of these use categories utilizing trip generation rates contained in the Institute of Transportation Engineers (ITE) Publication *Trip Generation (Eighth Edition)*. Table 6 summarizes the trip generation analysis. The key land use components are described as follows.

- Commercial Office (CO) – The CO zoning district provides a full range of large and small scale commercial development opportunities for the location of professional and administrative support services, administrative offices; retail sales and services; financial institutions; recreational facilities; eating establishments; lodging services, clean light industrial uses; and other uses to serve and employ the local and regional community as well as provide convenience for the public, and establish mutually beneficial relationships between users. This use category is located in the relatively closest proximity to the SR 120/Yosemite Avenue-Guthmiller Road interchange, and therefore offers the highest level of freeway access/visibility and commercial retail development potential. From a trip generation standpoint, the CO component is regarded as a mix of two ITE-based land use categories – 75% Office Park (ITE Use Code 750) and 25% Shopping Center (ITE Use Code 820). Under average floor area ratios allowable for this use, the CO component is expected to support approximately 190,000 square-foot floor area of retail commercial use and approximately 569,000 square-foot floor space of "Office Park" use.

- Limited Industrial (LI) – The LI zoning district is intended to allow for the development of a combination of a broad range of industrial, manufacturing, warehousing and distribution, office, retail sales and services, trailer and recreational vehicle sales and services, research and development, equipment and machinery repair, sales, and rental; as well as other uses, and the services necessary to support them to provide employment opportunities and services to the residents of the City and throughout the region. Any industrial building may have a single tenant/use or multiple tenants/uses, such as office and warehouse, or office, retail, and manufacturing. As indicated by the project applicants, a majority of the anticipated uses within this district are likely to be high-cube warehouses. From a trip generation standpoint, the LI component is regarded as a mix of two ITE-based land use categories – 75% High-Cube Warehouse (ITE Use Code 153) and 25% Industrial Park (ITE Code 130). Under average floor area ratios allowable for this use, the LI component is expected to support approximately 2,335,000 square feet of high-cube warehouse floor space and 778,000 square feet of "Industrial Park" floor space.

Table 6. Trip Generation Rates

Land Use Category	Trip Rate Source	ITE Use Code	Rate Unit	Daily Trip Rate/Unit	Weekday AM Peak Hour Trip Rate/Unit			Weekday PM Peak Hour Trip Rate/Unit		
					Total	In%	Out%	Total	In%	Out%
Office Park	ITE	750	KSF	11.3	1.63	89%	11%	1.42	14%	86%
Industrial Park	ITE	130	KSF	5.7	0.61	82%	18%	0.81	21%	79%
Shopping Center	ITE	820	KSF	54.3	1.18	61%	39%	5.15	49%	51%
High Cube Warehouse	ITE	152	KSF	2.2	0.11	65%	35%	0.11	33%	67%

Notes: 1. KSF = 1,000 Square Feet of Gross Area ITE = ITE Publication Trip Generation (Eighth Edition)
2. The above table indicates "average" trip rates as used in this analysis, consistent with information contained in the ITE Publication Trip Generation (Eighth Edition)

Table 7. Proposed Project Trip Generation Volumes

Land Use Category	Net Acreage	FAR Range	FAR Average	Units	Quantity	Daily Trips	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
							Total	In	Out	Total	In	Out
Service Commercial (SC)												
Office Park (25%)	20.75	0.15 to 0.66	0.43	KSF	389	4,459	657	585	72	570	80	490
Industrial Park (75%)	62.25	0.15 to 0.66	0.43	KSF	1,166	6,531	683	560	123	940	197	743
Service Commercial Subtotal	83.00					10,990	1,340	1,145	195	1,510	277	1,233
Limited Industrial (LI)												
Industrial Park (25%)	41.55	0.15 to 0.65	0.43	KSF	778	4,608	501	411	90	641	135	507
High Cube Warehouse (75%)	124.65	0.15 to 0.65	0.43	KSF	2,335	5,021	262	170	92	248	82	166
Limited Industrial Subtotal	166.20					9,629	763	581	182	889	217	673
Commercial Office (CO)												
Shopping Center (25%)	14.52	0.20 to 0.60	0.30	KSF	190	10,300	225	137	88	977	479	498
Office Park (75%)	43.58	0.20 to 0.60	0.30	KSF	569	6,343	904	805	99	791	111	680
Commercial Office Subtotal	58.10					16,643	1,129	942	187	1,768	590	1,178
Total Trips						**37,262**	**3,232**	**2,668**	**564**	**4,167**	**1,083**	**3,084**
Reduction for Trip Internalization (within the SP area)						-2,804	-70	-35	-35	-233	-116	-117
Net "External" Trip Generation						34,458	3,162	2,633	529	3,934	967	2,967
"Pass by" Trip Reduction for Retail Commercial Uses (20% of Shopping Center Trips)						-2,060	-45	-27	-18	-195	-95	-100
Total "New External" Trips						**32,398**	**3,117**	**2,606**	**511**	**3,739**	**872**	**2,867**

Note: 1. KSF = 1,000 Square Feet of Gross Floor Area, FAR = Floor Area Ratio
2. Trip generation volumes were computed using the actual mathematical rate equations shown in ITE Trip Generation (Eighth Edition)
3. Fitted Curve Equation from the ITE Trip Generation Handbook June 2004 (pg 47) is used to estimate Retail Commercial pass-by trip percentage.
4. Internal Matching trips are computed using methodologies described in ITE Trip Generation Handbook (June 2004). Refer to the Appendix Exhibit 1 for trip internalization calculations.

- Service Commercial (SC) – The SC district is intended primarily for a limited variety of establishments engaged in retail sales and services; professional and administrative support services; automotive, trailer and recreational vehicle sales and services; eating establishments; equipment and machinery repair, sales, and rental; industrial; research and development; truck sales and service; warehousing and distribution that provide employment opportunities and services to the City and regional area. From a trip generation standpoint, the SC component is regarded as a mix of two ITE land use categories – 75% Industrial Park (ITE Use Code 130) and 25% Office Park (ITE Use Code 750). Under average floor area ratios allowable for this use, the SC component is expected to support approximately 1166,000 square feet of "Industrial Park" floor space and approximately 389,000 square feet of "Office Park" floor space.

As shown in Table 7, after accounting for trip internalization and pass-by trip adjustments, the Lathrop Gateway Business Park SP project site at full buildout is projected to generate **32,398 "new" daily vehicular trips**, with **3,117 AM peak hour vehicular trips** (2,606 inbound, 511 outbound) and **3,739 PM peak hour vehicular trips** (872 inbound and 2,867 outbound), that could be characterized as incremental "new" vehicular trips on the adjacent off-site street system.

The City General Plan land use designations for the 384-acre project site are – Service Commercial (SC) on 118 acres, General Industrial (GI) on 194 acres, and Freeway Commercial (FC) on 12.5 acres. As indicated in Appendix Exhibit 2, the buildout of the proposed project site per the City GP use designations is anticipated to generate 28,617 new daily trips. Therefore, it may be observed that the proposed Lathrop Gateway Specific Plan project is projected to generate approximately 5,592 daily trips more than what buildout per current City GP land uses for the project site would generate.

PROJECT TRIP TYPES AND PURPOSES

The proposed Specific Plan project would predominantly generate two types of trips – Commuter (automobile) trips and commercial-vehicle (heavy truck) trips. The ITE Publication *Trip Generation* offers generic vehicular trip generation rates for all use types, and does not offer a breakdown of automobile and truck trip generation rates. Based on field observation of industrial regions similar to the proposed project and discussions with City of Lathrop Planning and Public Works staff, it is estimated that approximately 10% of project-generated peak hour vehicular trips would be comprised of heavy truck trips. Note that the percentage of project-generated truck trips may likely be higher (up to 20%) during the "off-peak" hours of the day.

Passenger Car Equivalents: This TIS uses 5% background peak hour truck traffic (per assumptions made in the SR 120/McKinley Avenue Interchange PSR, Caltrans Approved June 2008), and 10% project-generated peak hour truck trips (as indicated above). If a "*Passenger Car Equivalent*" (PCE) of 2.0 cars per heavy truck is used for analysis purposes, then the proposed project site trip generation can be expressed as 35,638 "new" daily PCE trips, with 3,429 AM peak hour PCE trips (2,867 inbound, 562 outbound) and 4,113 PM peak hour PCE trips (959 inbound and 3,154 outbound). Per the latest HCM-2000 based analysis procedures as implemented using *Syncho/SimTraffic 7* software, it should be noted that truck trips are factored in as percentages in the technical analysis contained herein. A comparative analysis using truck trips factored in terms of PCE units yielded similar LOS results.

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

The directional trip distribution and assignment of project-generated commuter (automobile) trips was estimated based on a review of existing and projected future travel patterns within the local/regional vicinity, available transportation corridors/routes, anticipated travel times, distribution of regional

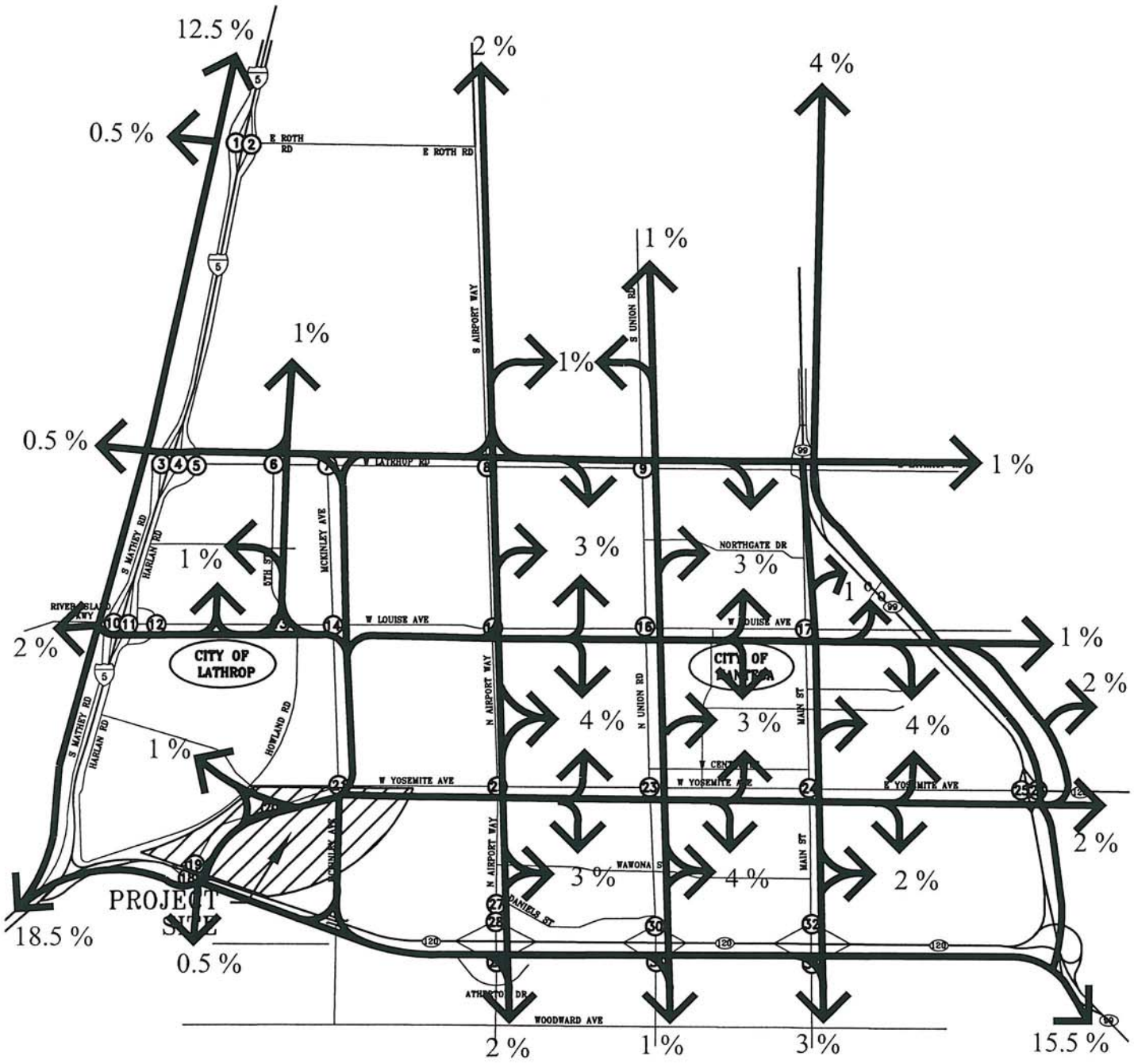
residential population in relation to the proposed Specific Plan site. Prior preliminary trip distribution estimates developed for the *South Lathrop Specific Plan ADEIR* (uncirculated draft, dated March 2008) and SJCOG regional travel demand forecast model forecasts were also reviewed. Based on these reviews, it is estimated that approximately 50% of project-generated automobile traffic would be attracted from regional population centers, and distributed via the regional travel corridors such as I-5, SR 120 and SR 99. The remaining 50% of project traffic would be attracted from within the local area that includes City of Lathrop and City of Manteca. Approximately 18.5 % of project trips are distributed to/from I-5 south, 12.5% of traffic to/from I-5 north, 15.5 % of traffic to/from SR-99 south, 4 % of traffic to/from SR 99 north and 2 % of traffic to/from SR 120 further east of SR 99. The directional trip distribution of project-generated trips is generally projected to be applicable under existing/short-term conditions as well as cumulative Year 2030 conditions, however, it should be noted that project traffic assignment/routing patterns would be somewhat different under cumulative (year 2030) conditions when the SR 120 / McKinley Avenue interchange is in place.

Heavy truck trips are projected to predominantly utilize major regional travel corridors (37% to/from I-5 south, 25% to/from I-5 north, 34% via SR 99, and 4% to/from SR 120 further east of SR 99) and their anticipated utilization of local streets (outside of the Specific Plan site) is negligible. Since the expected composition of heavy trucks during critical peak hour analysis periods is small (10%), the commute-based project trip distribution patterns are generally applied for all peak hour project-generated vehicular trips.

Figure 5 illustrates the estimated directional trip distribution patterns and assignment paths for project trips. **Figure 6** shows the estimated "Project Only" traffic volumes at all study intersections.

PROJECT SITE ACCESS AND DRIVEWAY INTERSECTIONS

As illustrated on Figure 2, four access driveways are planned/proposed along Yosemite Avenue/Guthmiller Road corridor and one along McKinley Avenue. The first driveway on Yosemite Avenue/Guthmiller Road is located approximately 1,300 feet north of the Yosemite Avenue / SR 120 WB Ramps intersection, the second driveway is located at/near D'Arcy Parkway intersection, and the third driveway is located approximately 1,000 feet west of D'Arcy Parkway intersection. The fourth driveway is located 1,400 feet east of McKinley Avenue intersection. The McKinley Avenue access driveway is located approximately 900 feet south of McKinley Avenue / Yosemite Avenue intersection. All five access driveway intersections are proposed to operate as full-access intersections. An on-site circulation system is also proposed to serve automobile, truck and bikeway/pedestrian traffic circulation within the Specific Plan area. For the SC use, it is estimated that 50% of traffic will utilize the McKinley Avenue access driveway and the other 50% will utilize the Yosemite Avenue access driveway(s). For the LI use, a 33% driveway utilization split is estimated for each of the three access driveways. For the CO use, it is estimated that 50% traffic will utilize Yosemite Court driveway located west of Guthmiller Road and the other 50% will utilize the project driveway access located east of Guthmiller Road.



NOTE: THE INDICATED TRIP DISTRIBUTION IS PRIMARILY APPLICABLE TO COMMUTE/SHOPPING TRIPS ONLY. TRUCK TRIPS MAY FOLLOW DIFFERENT DISTRIBUTION PATTERNS

LEGEND:

(1) STUDY INTERSECTION

(4%) PEAK HOUR PROJECT DISTRIBUTION

NORTH

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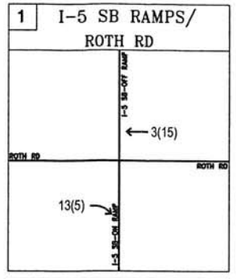
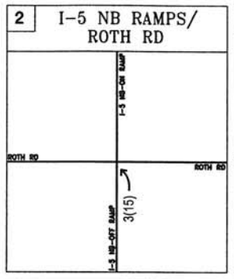
Lathrop Gateway Business Park SP Traffic Circulation Study, City of Lathrop, CA

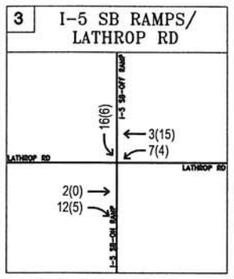
FIGURE 5

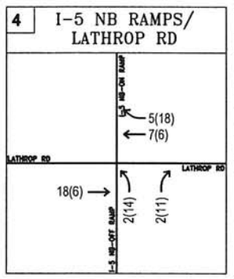
PROJECT TRIP DISTRIBUTION

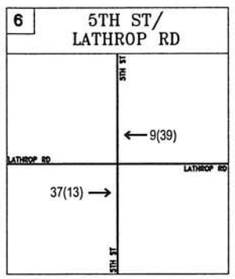
WOOD RODGERS
ENGINEERING • MAPPING • PLANNING • SURVEYING
3301 C St, Bldg. 100-B Sacramento, CA 95816
Tel 916.341.7760 Fax 916.341.7767

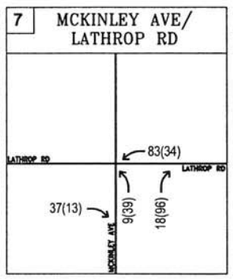


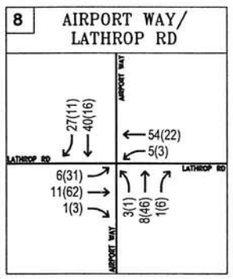


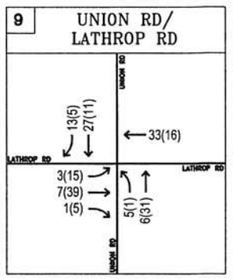


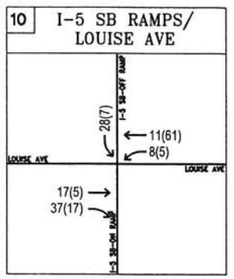


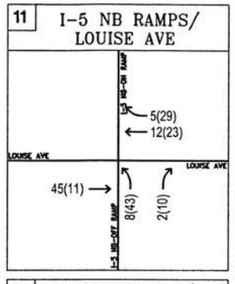


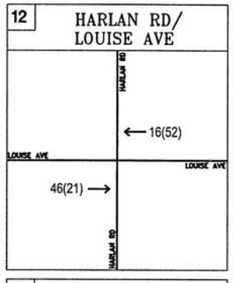


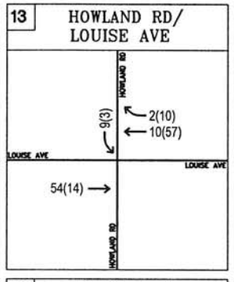


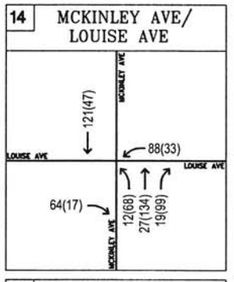


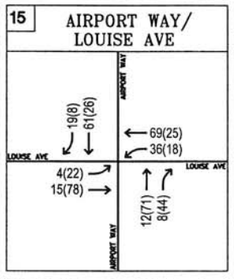


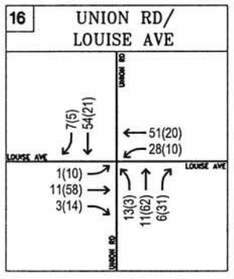


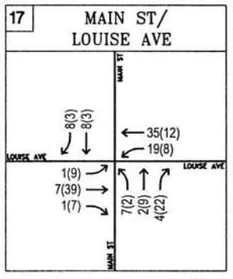


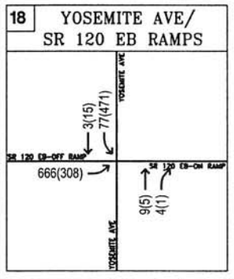


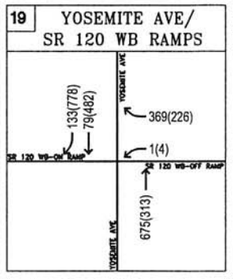


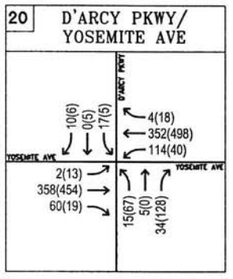


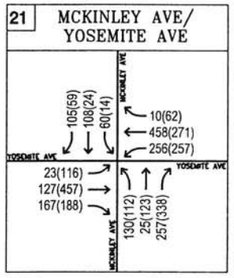


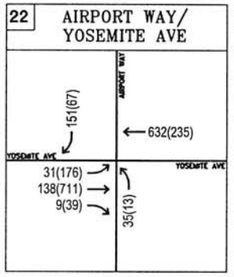


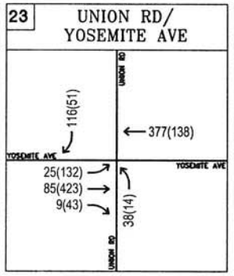


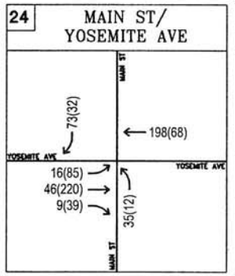


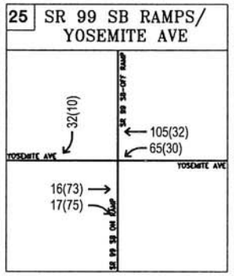


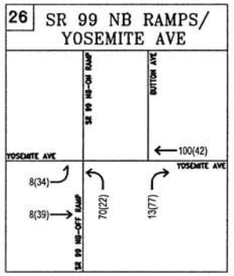


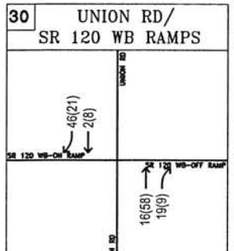


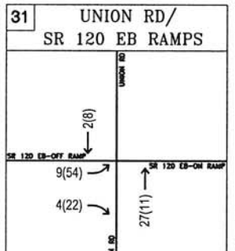


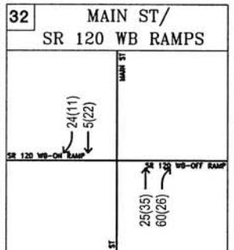


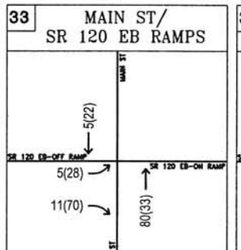


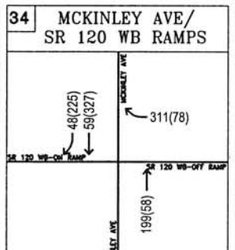


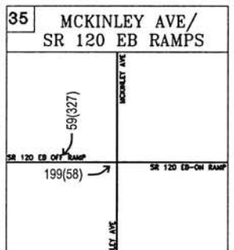


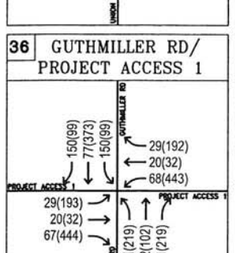


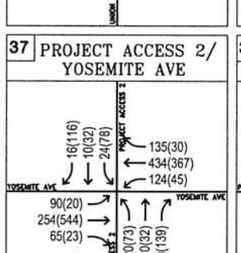


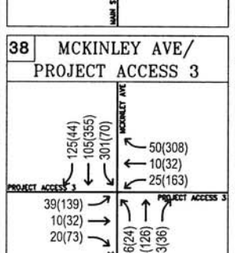


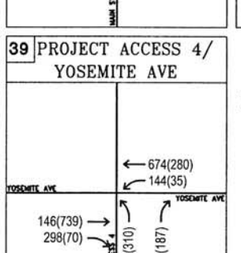












LEGEND:

XXX(XXX) – AM(PM) PEAK HOUR VOLUMES

(1) STUDY INTERSECTION

NOTE: PROJECT REFERES TO LGSP LAND USE PLAN DATED (JANUARY 14, 2010)

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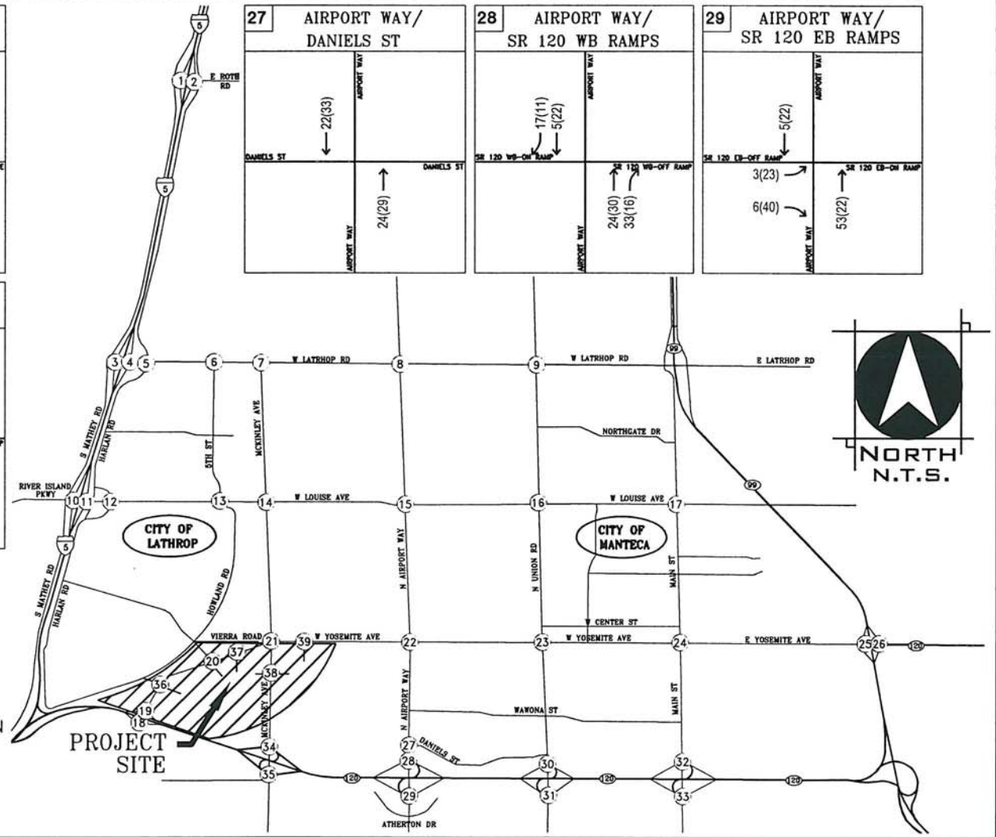

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FIGURE 6

"PROJECT ONLY" BUILD OUT TRAFFIC VOLUMES

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PROJECT PHASING

Based on discussions with the project proponents, it is known that the proposed Specific Plan project will be constructed in multiple development phases. While market factors would dictate the actual time-frame over which full Specific Plan buildout will occur, at this time the project proponents anticipate full buildout to occur within approximately 10 years subsequent to the initiation of the first development phase. This TIS quantifies near-term future conditions anticipated with the likely first development phase of the Specific Plan, and long-term/cumulative traffic impacts anticipated with the full buildout of the Specific Plan.

APPROVED/PENDING DEVELOPMENT PROJECTS

Based on discussions with City staff, there are no approved (or pending approval) development projects within the vicinity of the proposed Specific Plan site that would likely significantly impact study facilities in the near-term future. With recent downturn in regional and local economic conditions, traffic volumes within the study area and vicinity are currently experiencing a stable or even a slightly-decreasing trend. Conservatively, however, a nominal 5% growth in background traffic volumes over existing (2008-09) traffic counts was factored in, in order to project background traffic volumes foreseeable prior to the time the first development phase of the proposed Specific Plan is likely to complete construction.

"YEAR 2012" CONDITIONS

Project First Development Phase – As indicated by the project proponents, the Limited Industrial (LI) component of the Specific Plan is likely to develop and buildout first. During Project Phase 1, the Limited Industrial (LI) component is assumed to be fully built out. Traffic volume forecasts for the near-term future ("Year 2012 plus Project Phase-1") analysis were generated assuming a 5% growth in existing background traffic volumes and then superimposing traffic generated by the first phase of the project. The first phase (i.e. full buildout of the LI component) is projected to generate **9,629 daily trips**, with **763 AM peak hour trips** (581 inbound, 182 outbound) and **889 PM peak hour trips** (217 inbound, 672 outbound) that could be characterized as incremental "new" vehicular trips on the adjacent off street system.

The estimated directional trip distribution and assignment of project trips as indicated on Figure 5 was used to distribute and assign Project Phase 1-generated trips on the study area transportation system. It should be noted that the planned future construction of the SR 120/McKinley Avenue (new) interchange is *not* assumed to be completed under Phase-1 development (year 2012) conditions. The resulting "Year 2012" traffic volumes are shown on **Figure 7**.

INTERSECTIONS

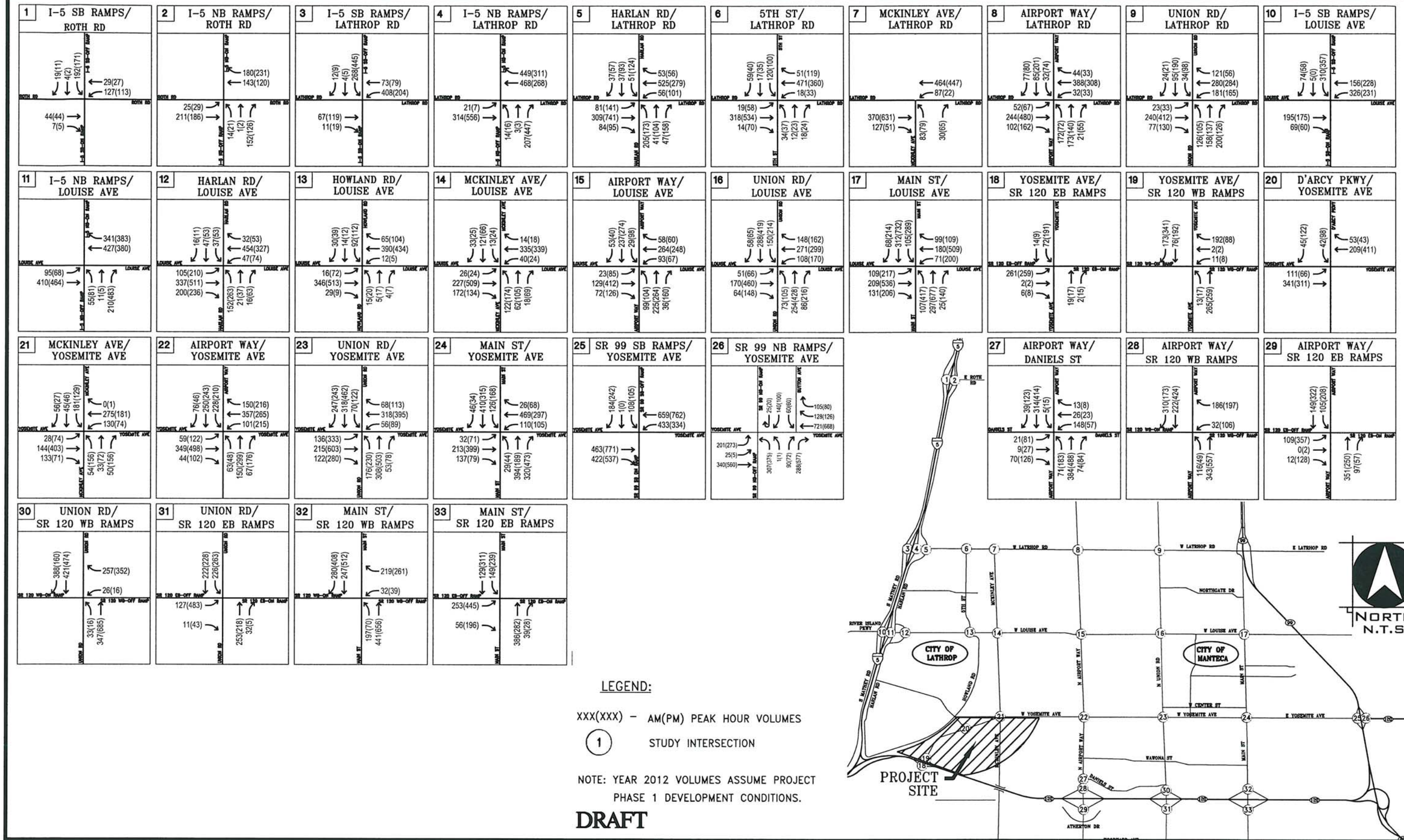
Intersection operations were quantified under "Year 2012" traffic volumes (shown on Figure 7) and existing intersection lane geometrics and control. Table 8 presents the resulting intersection LOS.

Table 8. "Year 2012" Conditions: Intersection Levels of Service

#	Intersection:	Control Type	AM Peak Hour			PM Peak Hour		
			Delay (Sec/Veh)	LOS	Warrant Met?	Delay (Sec/Veh)	LOS	Warrant Met?
1	I-5 SB Ramps / Roth Rd	TWSC	12.3	B	No	11.8	B	No
2	I-5 NB Ramps / Roth Rd	TWSC	11.5	B	No	11.5	B	No
3	I-5 SB Ramps / Lathrop Rd	TWSC	**318.4**	**F**	No	**199.5**	**F**	No
4	I-5 NB Ramps / Lathrop Rd	TWSC	25.6	D	No	**66.5**	**F**	Yes
5	Harlan Rd / Lathrop Rd	Signal	27.1	C	-	31.5	C	-
6	5th St / Lathrop Rd	Signal	19.8	B	-	19.7	B	-
7	McKinley Ave / Lathrop Rd	TWSC	34.9	D	No	**41.1**	**E**	No
8	Airport Way / Lathrop Rd	Signal	28.0	C	-	27.5	C	-
9	Union Rd / Lathrop Rd	Signal	29.3	C	-	31.2	C	-
10	I-5 SB Ramps / Louise Ave	Signal	28.3	C	-	25.6	C	-
11	I-5 NB Ramps / Louise Ave	Signal	20.1	C	-	26.5	C	-
12	Harlan Rd / Louise Ave	Signal	22.9	C	-	27.3	C	-
13	Howland Dr / Louise Ave	Signal	16.9	B	-	18.9	B	-
14	McKinley Ave / Louise Ave	Signal	26.6	C	-	24.3	C	-
15	Airport Way / Louise Ave	Signal	29.5	C	-	36.4	D	-
16	Union Rd / Louise Ave	Signal	31.6	C	-	37.7	D	-
17	Main St / Louise Ave	Signal	32.3	C	-	**67.5**	**E**	-
18	Guthmiller Rd / SR 120 EB Ramps	TWSC	12.7	B	No	21.7	C	No
19	Guthmiller Rd / SR 120 WB Ramps	TWSC	12.2	B	No	11.4	B	No
20	D'Arcy Pkwy / Yosemite Ave	Signal	15.7	B	-	18.3	B	-
21	McKinley Ave / Yosemite Ave	AWSC	15.5	B	No	**44.1**	**E**	Yes
22	Airport Way / Yosemite Ave	Signal	32.2	C	-	38.6	D	-
23	Union Rd / Yosemite Ave	Signal	32.8	C	-	49.7	D	-
24	Main St / Yosemite Ave	Signal	34.7	C	-	43.4	D	-
25	SR 99 SB Ramps / Yosemite Ave	Signal	28.5	C	-	32.0	C	-
26	SR 99 NB Ramps / Yosemite Ave	Signal	29.4	C	-	29.9	C	-
27	Airport Way / Daniels St	Signal	18.9	B	-	19.1	B	-
28	Airport Way / SR 120 WB Ramps	Signal	22.0	C	-	22.1	C	-
29	Airport Way / SR 120 EB Ramps	Signal	18.5	B	-	26.6	C	-
30	Union Rd / SR 120 WB Ramps	Signal	26.1	C	-	25.4	C	-
31	Union Rd / SR 120 EB Ramps	Signal	22.4	C	-	31.4	C	-
32	Main St / SR 120 WB Ramps	Signal	23.4	C	-	20.2	C	-
33	Main St / SR 120 EB Ramps	Signal	25.8	C	-	28.6	C	-

Notes:
1. TWSC = Two-Way-Stop Control, AWSC = All-Way-Stop Control
2. For TWSC intersections, worst-case movement delays (in seconds/vehicle) is indicated. "Average" control delays (in seconds/vehicle) are indicated for AWSC and signal-controlled intersections. Delays reported in the above table are from Traffix7.9 software.
3. Warrant = California MUTCD 2006 based Peak-hour-Volume Warrant #3 (Urban Areas).
4. Bold numbers and letters represent condition when intersection does not meet minimum acceptable standards.
5. Project Access driveway intersections are not evaluated under '2012 plus Project Phase-1" scenario. All project driveway access intersections have been evaluated under ultimate buildout (Cumulative plus Project Buildout) conditions.

As shown in Table 8, the unsignalized study intersections at I-5 SB Ramps / Lathrop Road, I-5 NB Ramps/Lathrop Road and McKinley Avenue / Lathrop Road are projected to operate at "Year 2012" AM and/or PM peak hour LOS "E" or worse conditions. The Louise Avenue signalized intersection with Main Street is projected to operate at "Year 2012" PM peak hour LOS E conditions. The Yosemite Avenue intersection with McKinley Avenue is projected to operate at "Year 2012" PM peak hour LOS E conditions. Project impacts, recommended improvements and mitigation measures are discussed in a subsequent section of this report.



LEGEND:

XXX(XXX) – AM(PM) PEAK HOUR VOLUMES

(1) STUDY INTERSECTION

NOTE: YEAR 2012 VOLUMES ASSUME PROJECT PHASE 1 DEVELOPMENT CONDITIONS.

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"YEAR 2012" TRAFFIC VOLUMES

FIGURE 7

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ROADWAY SEGMENTS

"Year 2012" roadway operations were quantified utilizing roadway AADT-based LOS thresholds presented previously in Table 2. The results are summarized in Table 9.

Table 9. "Year 2012" Conditions: Roadway Levels of Service

Roadway/ Freeway Segment	Existing Functional Capacity Configuration	AADT	LOS
Interstate 5 mainline – from I-205 I/C to SR 120 I/C	8-Lane Divided Freeway	**169,300**	**F**
Interstate 5 mainline – from SR 120 I/C to Lathrop Road I/C	6-Lane Divided Freeway	**112,200**	**E**
Interstate 5 mainline – from Lathrop Rd I/C to French Camp Rd I/C	6-Lane Divided Freeway	110,200	D
SR 120 mainline – from I-5 I/C to Yosemite Ave/Guthmiller Rd I/C	4-Lane Divided Freeway	**82,200**	**F**
SR 120 mainline – from Yosemite/Guthmiller I/C to Airport Way I/C	4-Lane Divided Freeway	67,200	D
SR 120 mainline – from Airport Way I/C to Main Street I/C	4-Lane Divided Freeway	65,000	D
SR 120 mainline – from Main Street I/C to SR 99 I/C	4-Lane Divided Freeway	74,300	D
SR 99 mainline – south of SR 120 I/C	6-Lane Divided Freeway	**114,500**	**E**
SR 99 mainline – from SR 120 I/C to East Yosemite Avenue I/C	6-Lane Divided Freeway	93,200	D
SR 99 mainline – north of East Yosemite Avenue I/C	4-Lane Divided Freeway	73,800	D
Yosemite Avenue – from SR 120 I/C to D'Arcy Parkway	Two-Lane Arterial	9,100	A
Yosemite Avenue – from D'Arcy Parkway to Airport Way	Three-Lane Arterial	10,800	A
Yosemite Avenue – from Airport Way to Union Road	Four-Lane Arterial	20,800	A
Yosemite Avenue – from Union Road to Main Street	Four-Lane Arterial	9,200	A
Yosemite Avenue – from Main Street to SR 99	Four-Lane Arterial	15,100	A
Airport Way – from SR 120 I/C to Yosemite Avenue	Three-Lane Arterial	10,800	A
Airport Way – from Yosemite Avenue to Louise Avenue	Three-Lane Arterial	11,000	A
Airport Way – from Louise Avenue to Lathrop Road	Three-Lane Arterial	6,600	A
McKinley Avenue – from Yosemite Avenue to Louise Avenue	Two-Lane Arterial	5,700	A
McKinley Avenue – from Louise Avenue to Lathrop Road	Two-Lane Arterial	2,200	A
Louise Avenue – from I-5 to 5th Street	Five-Lane Arterial	10,900	A
Louise Avenue – from 5th Street to Airport Way	Three-Lane Arterial	10,100	A

Notes: AADT = Annual Average Daily Traffic, LOS = Level of Service
"Three lane arterial" refers to a two-lane arterial with left-turn lane channelizations at key intersections
"Five lane arterial" refers to a four-lane arterial with left-turn lane channelizations at key intersections or two-way median left-turn lane

As shown in Table 9, the segments of I-5 from I-205 interchange to SR 120 interchange, and from the SR 120 interchange to Lathrop Road interchange are projected to operate at "Year 2012" LOS "E" or worse conditions on an AADT basis. The SR 120 segment from I-5 interchange to Yosemite Avenue/Guthmiller Road interchange is projected to operate at "Year 2012" LOS "E" or worse conditions on an AADT basis. All remaining study roadway/freeway segments are projected to operate at acceptable "Year 2012"LOS D or better conditions on an AADT basis.

All project impacts, recommended improvements and mitigation measures are discussed in a subsequent section of this report.

CUMULATIVE CONDITIONS

CUMULATIVE TRAFFIC FORECASTS

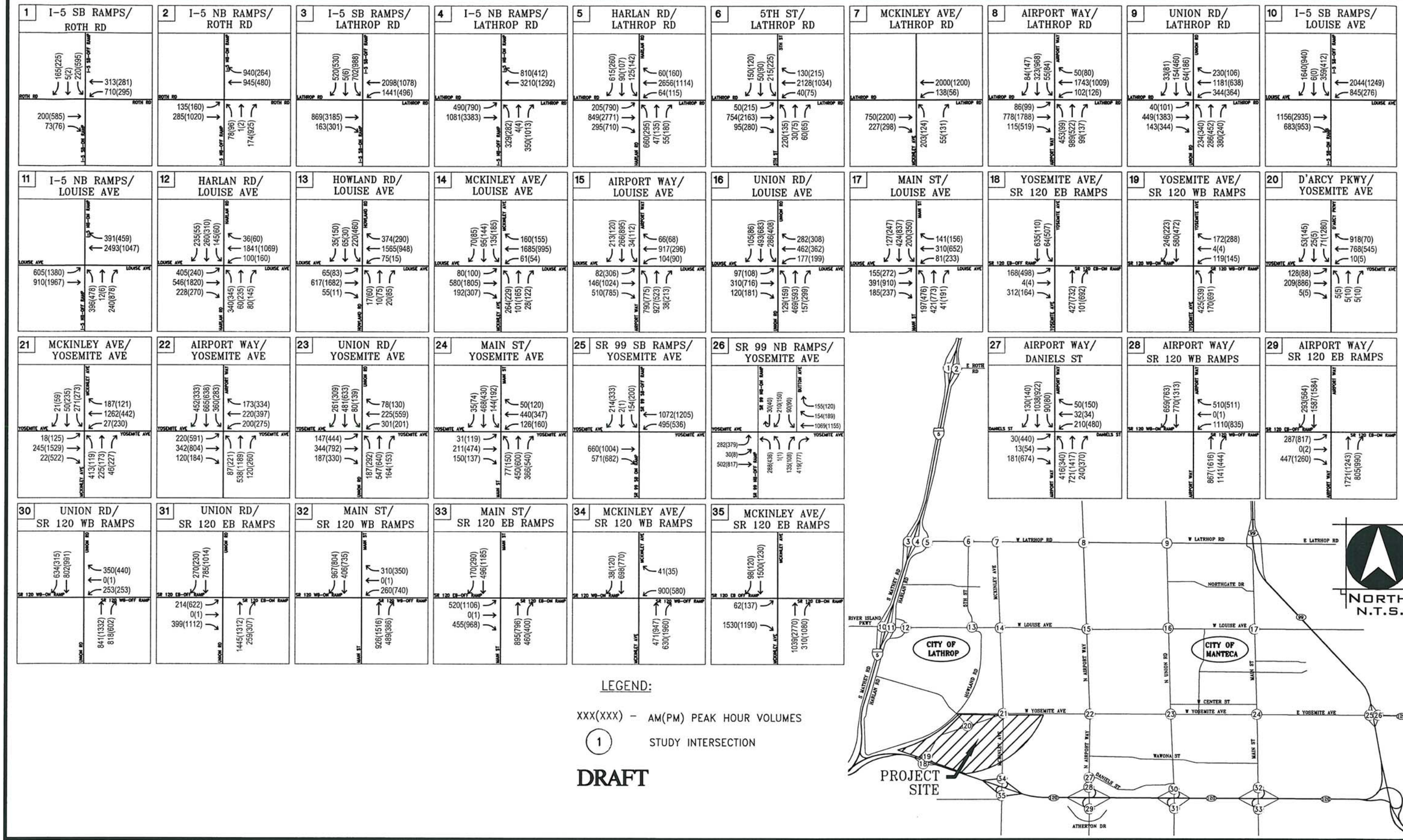
Cumulative (year 2030) traffic forecasts were developed based on a review of long-range traffic forecasts contained in agency-approved prior traffic studies completed as part of recently adopted Environmental Impact Reports (EIR's), including but not limited to – the Central Lathrop Specific Plan DEIR (July 2004), River Island EIR (dated January 2003), and West Lathrop Specific Plan EIR (dated November 1995) in the City of Lathrop, and the Evans-Pillsbury EIR (April 2009) and Union Crossing EIR (May 2009) in the City of Manteca. Additional cumulative traffic forecasts along the SR 120 study segments and interchanges as available from the *SR 120/McKinley Avenue Interchange Project Study Report* (PSR, approved by Caltrans in June 2008) were also reviewed. The SJCOG year 2030 regional travel demand model was also reviewed for long-range traffic growth rates for regional freeway corridors and key arterial segments within/through the project area and vicinity. For study facilities where the cumulative traffic forecasts were not readily available from prior studies/models, cumulative base traffic forecasts were developed by applying generalized traffic growth factors obtained from the above-noted traffic studies/models.

Two types of cumulative base conditions are evaluated in this study, which are defined as follows:

Cumulative Base (Current Project Site Condition) – This base condition assumes anticipated year 2030 development levels throughout the local and regional vicinity consistent with City of Lathrop, City of Manteca and San Joaquin County General Plans, while assuming no new development on the project site itself. This scenario essentially retains the project site at its current development condition. **Figure 8A** illustrates "Cumulative Base (Current Project Site Condition)" traffic volume forecasts for all study intersections.

Cumulative Base (City General Plan land uses on Project Site) – This base condition assumes anticipated year 2030 development levels throughout the local and regional vicinity consistent with City of Lathrop, City of Manteca and San Joaquin County General Plans, while assuming build-out of the project site per current City of Lathrop General Plan land use designations. The City General Plan (GP) land use designations for the 384-acre project site are – Service Commercial (SC) on 118 acres, General Industrial (GI) on 194 acres, and Freeway Commercial (FC) on 12.5 acres. As indicated in Appendix Exhibit 2, the buildout of the proposed project site per the City GP uses is anticipated to generate 28,617 new daily trips. **Figure 8B** illustrates the "Cumulative Base (City GP land uses on Project Site)" traffic volume forecasts for all study intersections.

"Cumulative Base plus Project" traffic volumes (described in a subsequent section) were developed by incrementally superimposing proposed Lathrop Gateway Specific Plan (full buildout) project-generated trips on top of "Cumulative Base (Current Project Site Condition)" scenario traffic volumes defined as above. It should be noted that being an SJRTP *Tier 1* (funded) improvement, the planned future SR 120 / McKinley Avenue interchange is assumed constructed under all cumulative scenarios evaluated in this study. (Note that Appendix Exhibit 3 illustrates "Cumulative Base plus Project" traffic volumes *without* the planned future SR 120 / McKinley Avenue interchange in place, for reference purposes.)



LEGEND:

XXX(XXX) – AM(PM) PEAK HOUR VOLUMES

(1) STUDY INTERSECTION

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FIGURE 8A

CUMULATIVE 2030 BASE (CURRENT PROJECT SITE CONDITION) TRAFFIC VOLUMES

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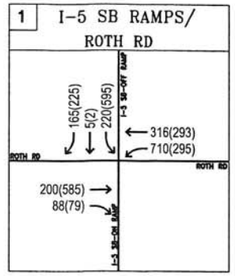
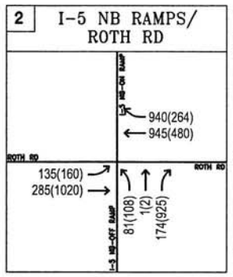
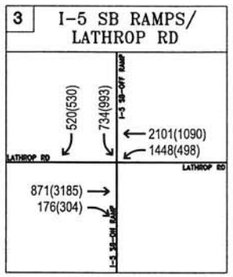
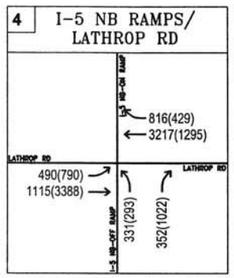
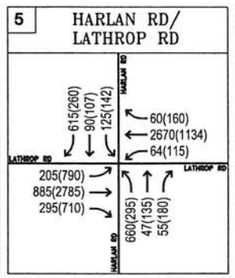
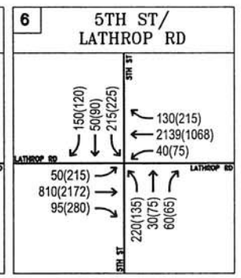


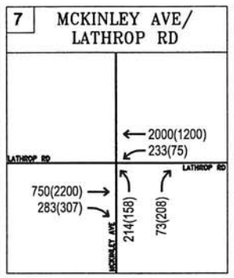


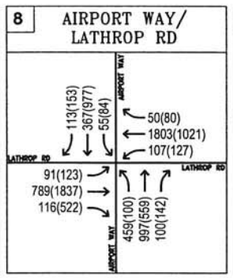


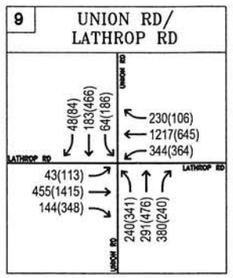


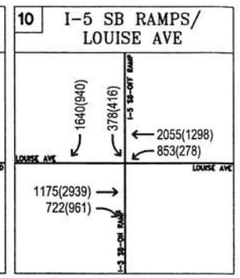


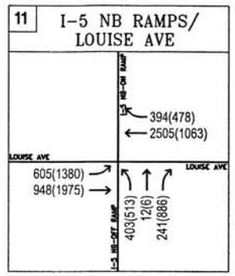


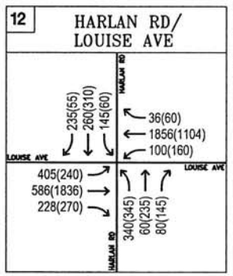


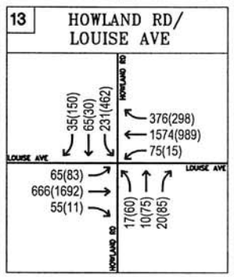


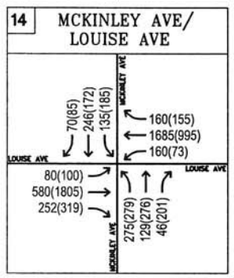


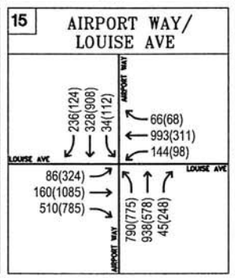


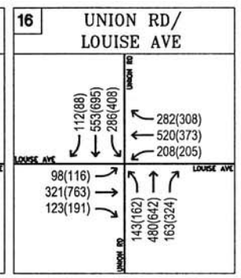


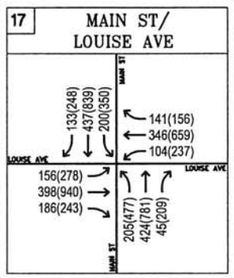


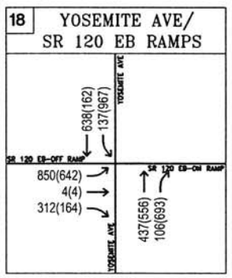


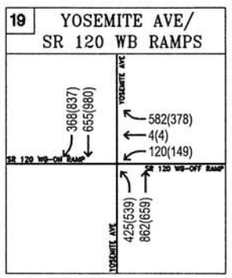


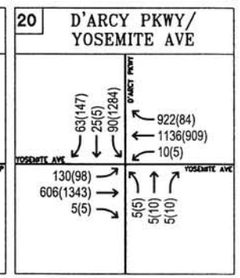


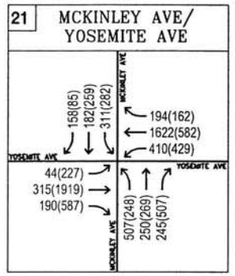


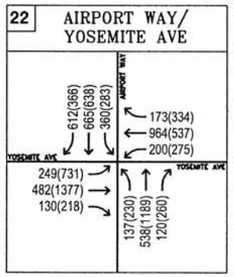


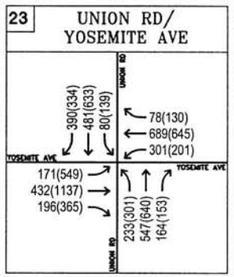


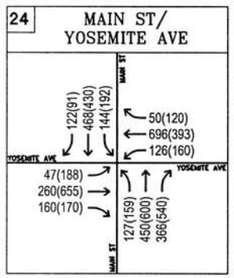


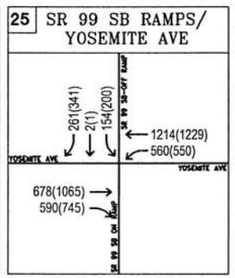


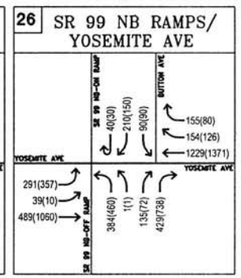


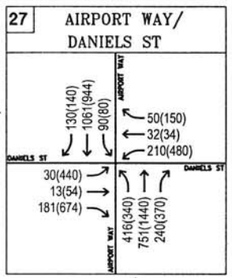


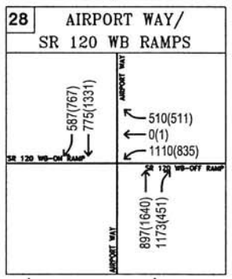


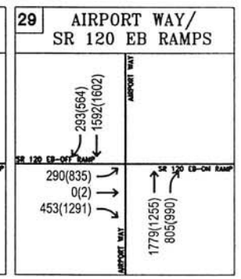


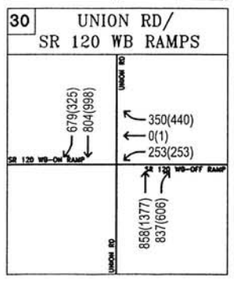


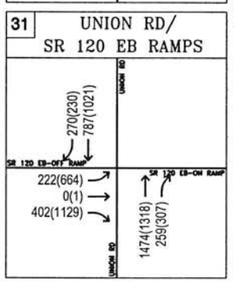


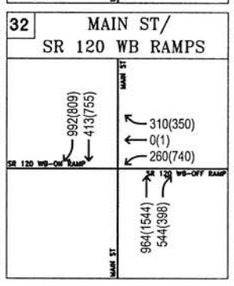


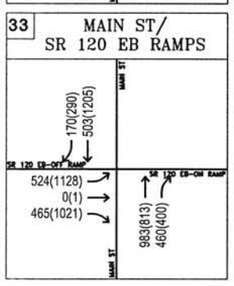


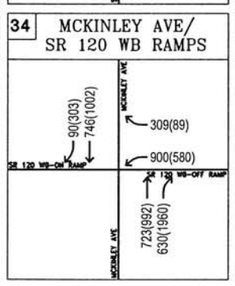


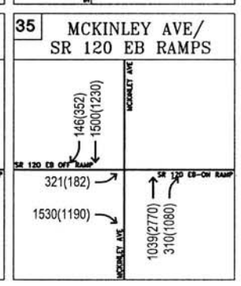


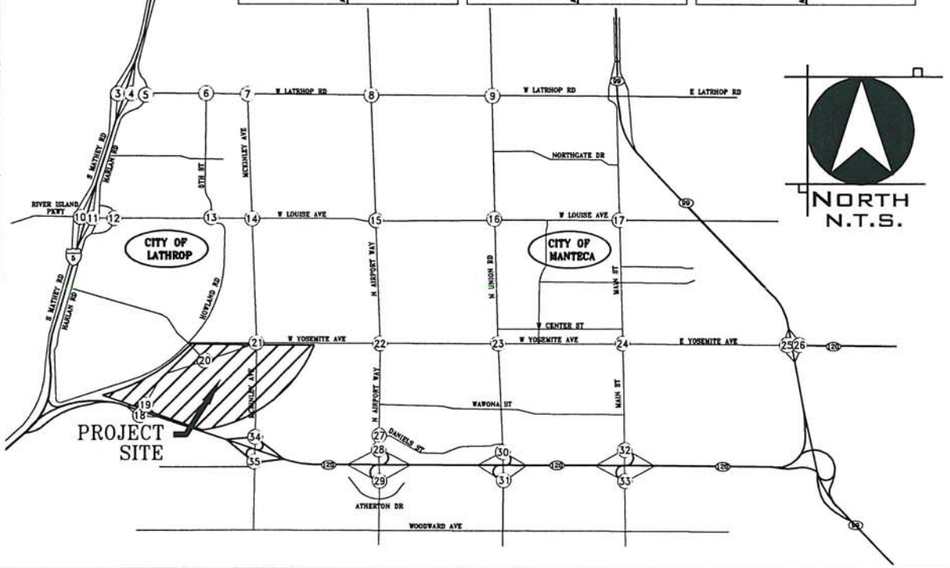












LEGEND:

XXX(XXX) – AM(PM) PEAK HOUR VOLUMES

(1) STUDY INTERSECTION

DRAFT

Lathrop Gateway Business Park SP Traffic Circulation Study, City of Lathrop, CA

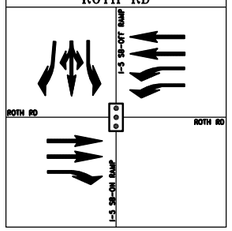
FIGURE 8B

CUMULATIVE 2030 BASE (CITY GP LAND USE ON PROJECT SITE CONDITION) TRAFFIC VOLUMES

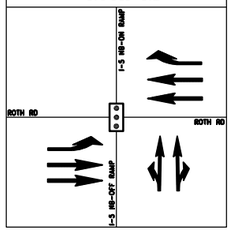
WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS
3301 C St, Bldg. 100-B Tel 916.341.7760
Sacramento, CA 95816 Fax 916.341.7767

J:\Jobs\8412_LathropGatewayEIR_TS\Traffic\Dwg\Figure08B-2030BaseVols-GP-Landuse.dwg 3/25/10 3:50pm achaukar

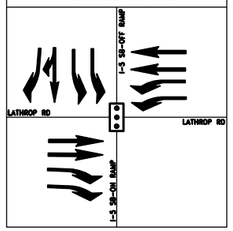
1 I-5 SB RAMPS/ ROTH RD



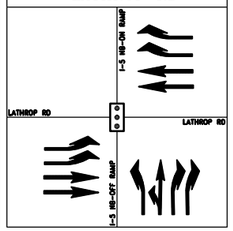
2 I-5 NB RAMPS/ ROTH RD



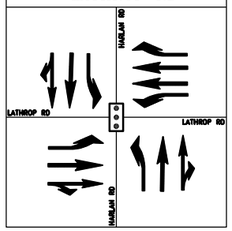
3 I-5 SB RAMPS/ LATHROP RD



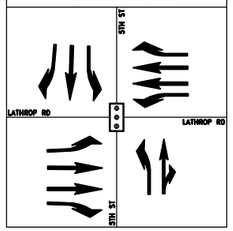
4 I-5 NB RAMPS/ LATHROP RD



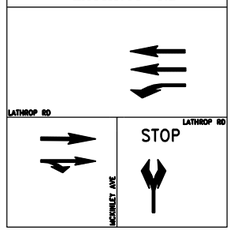
5 HARLAN RD/ LATHROP RD



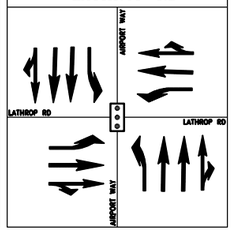
6 5TH ST/ LATHROP RD



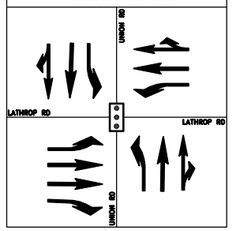
7 MCKINLEY AVE/ LATHROP RD



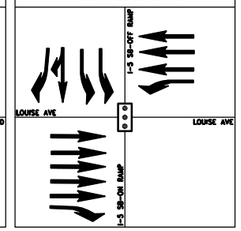
8 AIRPORT WAY/ LATHROP RD



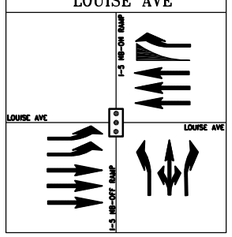
9 UNION RD/ LATHROP RD



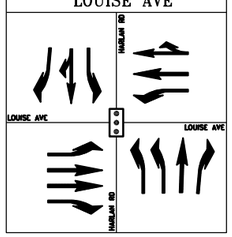
10 I-5 SB RAMPS/ LOUISE AVE



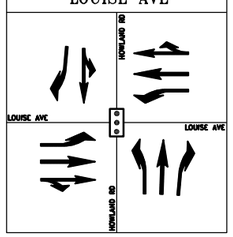
11 I-5 NB RAMPS/ LOUISE AVE



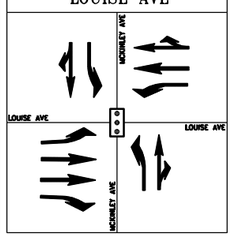
12 HARLAN RD/ LOUISE AVE



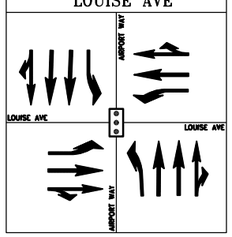
13 HOWLAND RD/ LOUISE AVE



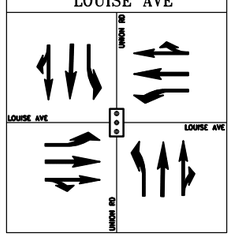
14 MCKINLEY AVE/ LOUISE AVE



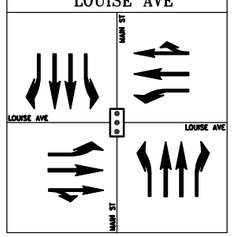
15 AIRPORT WAY/ LOUISE AVE



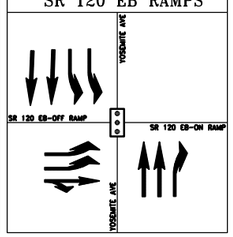
16 UNION RD/ LOUISE AVE



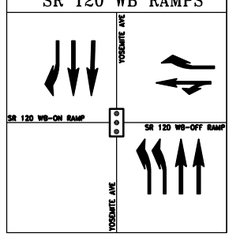
17 MAIN ST/ LOUISE AVE



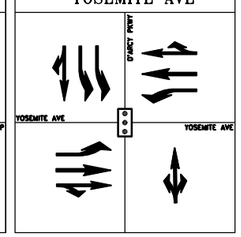
18 YOSEMITE AVE/ SR 120 EB RAMPS



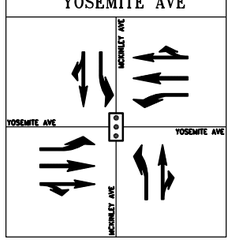
19 YOSEMITE AVE/ SR 120 WB RAMPS



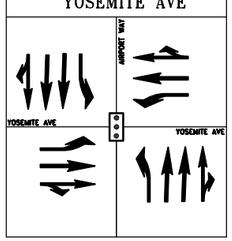
20 D'ARCY PKWY/ YOSEMITE AVE



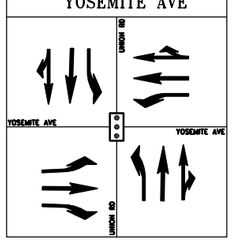
21 MCKINLEY AVE/ YOSEMITE AVE



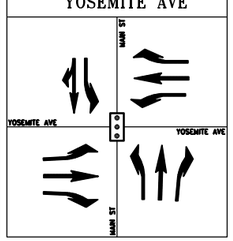
22 AIRPORT WAY/ YOSEMITE AVE



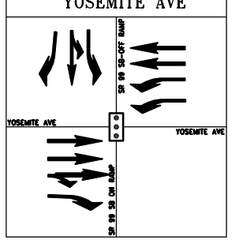
23 UNION RD/ YOSEMITE AVE



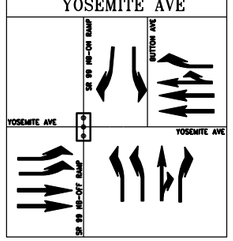
24 MAIN ST/ YOSEMITE AVE



25 SR 99 SB RAMPS/ YOSEMITE AVE



26 SR 99 NB RAMPS/ YOSEMITE AVE

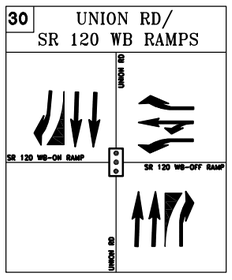


27 AIRPORT WAY/ DANIELS ST

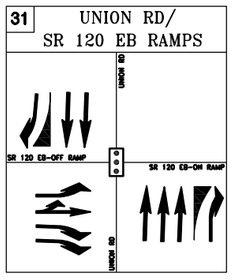
28 AIRPORT WAY/ SR 120 WB RAMPS

29 AIRPORT WAY/ SR 120 EB RAMPS

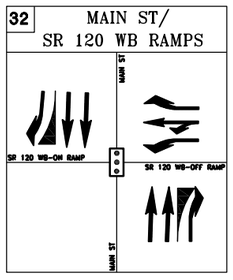
30 UNION RD/ SR 120 WB RAMPS



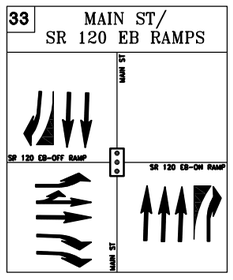
31 UNION RD/ SR 120 EB RAMPS



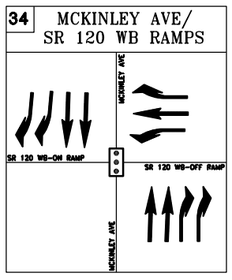
32 MAIN ST/ SR 120 WB RAMPS



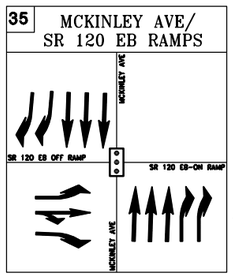
33 MAIN ST/ SR 120 EB RAMPS



34 MCKINLEY AVE/ SR 120 WB RAMPS



35 MCKINLEY AVE/ SR 120 EB RAMPS



LEGEND:

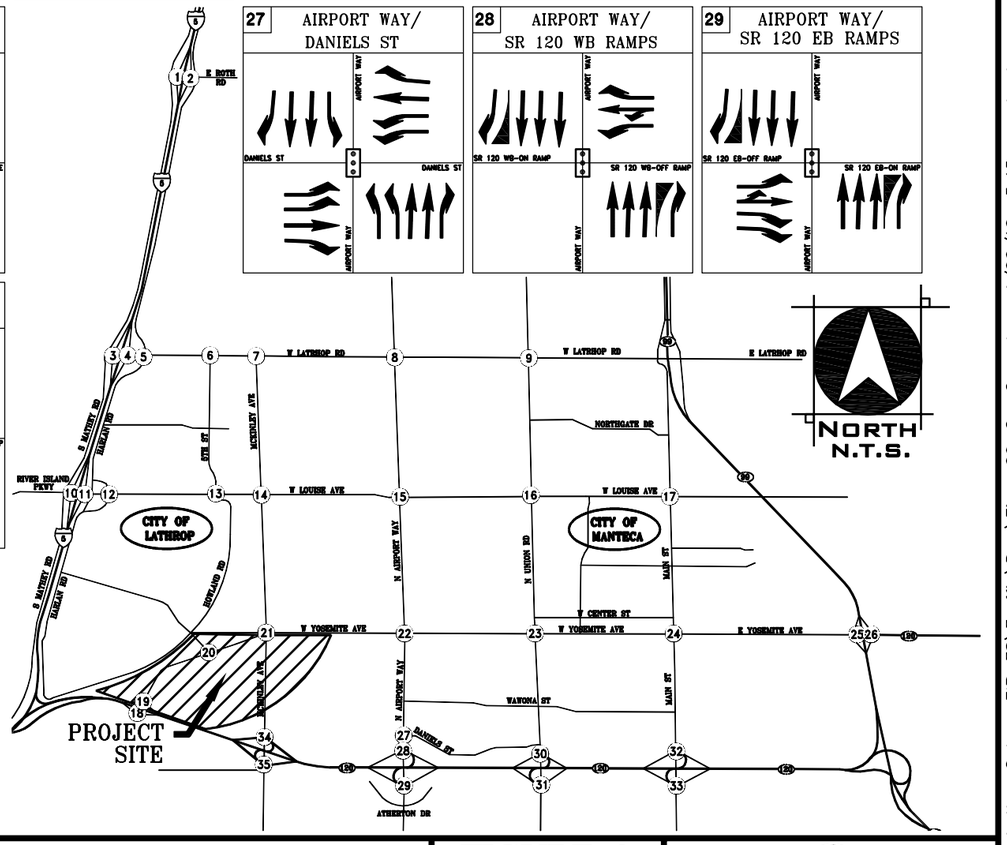
TRAFFIC SIGNAL

STOP STOP CONTROLLED MOVEMENT

FREE

1 STUDY INTERSECTION

NOTE: ONLY FUNDED/ PROGRAMMED 2030 BASELINE IMPROVEMENTS ARE ASSUMED IN THIS EXHIBIT.



Lathrop Gateway Business Park SP Traffic Circulation Study, City of Lathrop, CA

FIGURE 9

"CUMULATIVE (2030) BASE" INTERSECTION LANE GEOMETRICS AND CONTROL

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CUMULATIVE INTERSECTION LANE GEOMETRICS AND CONTROL

Prior planning studies for major development projects (as noted in the above section) have also identified/recommended cumulative/long-range transportation improvements throughout the project vicinity to accommodate traffic demands generated by planned future development. Such improvement needs have been either included in the appropriate City General Plan Circulation Element documents (and associated local impact fee programs) and/or in the relevant Specific Plan mitigation plans and financing programs. This TIS generally assumes recommended long-term improvements identified in prior studies (including Central Lathrop Specific Plan, River Islands EIR, Evans-Pillsbury EIR, and Union Crossing EIR) to be "in place" under cumulative (year 2030) baseline conditions, if such improvements are included in existing local or regional traffic impact mitigation fee programs. The cumulative base lane geometrics and control for all study intersections as used in this study, are illustrated in **Figure 9**. The following section lists the cumulative (year 2030) baseline improvements assumed to be "in place" and the planning/funding documents that pre-identified those improvements.

Planned Cumulative Base Improvements (Assumed Constructed by/before Year 2030) – The following planned improvements were assumed to be "in place" under "cumulative base" (year 2030) conditions.

Intersections / Interchanges

- Reconstruction of SR 120 / Airport Way Interchange (PM-SJ-3.32) – This improvement is identified in Caltrans' *SR 120 Transportation Concept Report* (TCR, dated 2001) and included in San Joaquin Council of Governments' (SJCOG) *Regional Transportation Plan* (SJRTP 2007) as a *Tier 1* (funded) improvement. The SR 120/Airport Way interchange reconstruction was approved in year 2008 and was scheduled to complete construction by year 2010. As indicated in the Union Crossing EIR, a partial-cloverleaf design is assumed for this interchange under cumulative baseline conditions.
- Reconstruction of SR 120 / Union Road Interchange (PM-SJ-4.11) – This improvement is identified in Caltrans' *SR 120 TCR* (dated 2001) and included in *SJRTP 2007* as *Tier I* (funded) improvement. The interchange reconstruction project was approved in year 2007. This interchange is provided with ramp terminal traffic signals, however reconstruction has not taken place to date. As indicated in the Union Crossing EIR, a partial cloverleaf design is assumed for this interchange under cumulative baseline conditions.
- Reconstruction of SR 120 / Main Street Interchange (PM-SJ-5.31) – This improvement is identified Caltrans *SR 120 TCR (dated 2001)* and included in *SJRTP 2007* as a *Tier I* (funded) improvement. The SR 120 / Main Street interchange reconstruction is scheduled for approval by year 2015 and anticipated to complete construction by year 2018. As indicated in the Union Crossing EIR, a partial cloverleaf design is assumed for this interchange under cumulative baseline conditions.
- Construction of SR 120 / McKinley Avenue (PM-SJ-2.29) – This new interchange is identified in Caltrans *SR 120 TCR* (dated March 2005) and in *SJRTP 2007* as a *Tier I* improvement. The *SR 120/McKinley Avenue Interchange Project Study Report* (PSR) was approved by Caltrans District 10 in June 2008. Per current schedule, the project is scheduled to begin construction by year 2012. Since the planned future SR 120/McKinley Avenue interchange is a *SJRTP 2007* based *Tier-1* (funded) regional improvement, this study assumes the planned future SR 120/McKinley Avenue interchange to be in place under cumulative conditions. The construction of the SR

120/McKinley Avenue new interchange is anticipated to alleviate cumulative traffic demands that would otherwise overload the SR 120/Guthmiller Road-Yosemite Avenue interchange. (*Note:* Given the proximity of this interchange to the proposed Lathrop Gateway Specific Plan project site, an evaluation of cumulative impacts without the SR 120 / McKinley Avenue interchange is provided in Appendix Table 1 for reference purposes.)

- Modification/Reconstruction of I-5 interchanges with Louise Avenue (PM R 16.4-16.8), Lathrop Road (PM R 17.51) – Caltrans' *I-5 TCR* (dated June 2001) identifies the need for I-5/Louise Avenue interchange reconstruction to a higher capacity design, as well as modification of I-5/Lathrop Road interchange with widening of Lathrop Road to four lanes under I-5. *SJRTP 2007* identifies both of these interchange modifications as *Tier I* (funded) improvements, with approval expected by year 2010 and construction scheduled to complete by year 2015. These interchange improvements are also included in the City of Lathrop's Capital Improvement Program (CIP). This study assumes both of these interchange improvement projects to be in place under cumulative baseline conditions.
- Louise Avenue / McKinley Avenue Improvements – This intersection is part of City of Lathrop CIP (year 2009-10 through 2013-14) project "*Louise Avenue / McKinley Avenue Improvements*." This study assumes this intersection improvement to be in place under cumulative baseline conditions.

Roadway/Freeway Segments

- Widening of I-5 mainline between SR 120 and Roth Road interchange – Caltrans *I-5 TCR* (dated June 2001) identifies year 2020 LOS "F" conditions for the existing section on I-5 mainline between SR 120 and Roth Road interchange and LOS "D" conditions with a year 2020 concept facility of 10-lane freeway (including possible HOV lanes). *SJRTP 2007* identifies widening of I-5 between SR-120 and French Camp Road interchange from an existing six-lane to an eight-lane freeway section as a *Tier I* (funded) improvement, scheduled for approval by year 2015 and complete construction by year 2020.
- Widening of SR 120 segment between I-5 and SR 99 (PM SJ-0.00-7.15) – Caltrans *SR 120 TCR* (dated March 2005) and the SJRTP 2007 have both identified/recommended the widening of SR 120 (segment between I-5 and SR 99) to six lanes under "Planned Projects". SJRTP 2007 identifies SR 120 widening from I-5 to SR 99 as a *Tier I* (funded) improvement, scheduled for approval by year 2012 and complete construction by year 2016. Caltrans *SR 120 TCR* (dated March 2005) also identifies that the existing four-lane facility (from PM 0.00-6.87) would operate at year 2025 LOS "F" conditions without improvements, and projects LOS "D" conditions with the year 2020 concept facility of eight-lane freeway with possible HOV lanes.
- Widening of Lathrop Road – Widening of Lathrop Road from two to four lanes for the segment between I-5 and UPRR, and from four to six lanes for the segment between UPRR and SR 99, is identified as a *Tier I* (funded) improvement in *SJRTP 2007*. This improvement is also part of City of Lathrop CIP (year 2009-10 through 2013-14) project entitled "*Lathrop Road Widening Rehab*".
- Widening of Louise Avenue – Widening of Louise Avenue from two to four lanes from 5th Street to east of Lathrop City Limit, and from east of UPRR to SR 99 is identified as a *Tier I* (funded) improvement in *SJRTP 2007*. This improvement is also part of City of Lathrop CIP (year 2009-10 through 2013-14) project entitled "*Louise Avenue Rehab Phase II*".
- Widening of Union Road – Widening of Union Road from SR 120 off-ramp to Wawona Street from two to four lanes with a continuous median left-turn lane, curb, gutter and sidewalks, and

from four to six lanes from SR 120 to Woodward Road is identified as a *Tier I* (funded) improvement in *SJRTP 2007*.

- Widening of Airport Way between SR 120 and Lathrop Road – Widening of Airport Way from four to six lanes between SR 120 and Lathrop Road (in Manteca) is identified as a *Tier I* (funded) improvement in *SJRTP 2007*. Per *SJRTP 2007*, this improvement is scheduled for approval by year 2010 and complete construction by year 2013.
- Widening of Harlan Road – This improvement is a part of City of Lathrop CIP (year 2009-10 through 2013-14) project entitled "*Harlan Road Widening and Rehabilitation Phase 1*", "*Roth Road and Harlan Road Improvements*", and "*Harlan Road Improvements Phase 1 (Storage Pro)*".
- Widening of Yosemite Avenue / Guthmiller Road from SR 120 overpass to D'Arcy Parkway – Based on review of City General Plan Circulation Element (and *South Lathrop Specific Plan, un-circulated ADEIR*, dated March 2008), Yosemite Avenue / Guthmiller Road from SR 120 overpass to D'Arcy Parkway is assumed to be widened to a six-lane arterial with signalization and modifications to the SR 120 ramp intersections with Yosemite Avenue / Guthmiller Road under cumulative baseline conditions.

Planned Cumulative Base Improvements (Assumed Not Constructed by Year 2030) – The following planned improvements have been identified in prior agency planning documents, but do not necessarily have known funding sources at this time. Therefore these improvements were *not* assumed to be in place under cumulative (year 2030) baseline conditions, but were only used as a guiding basis for improvement and mitigation recommendations identified in this study.

- Reconstruction of SR 120 Interchange with Yosemite Avenue / Guthmiller Road – Reconstruction of SR 120 / Yosemite Avenue interchange is identified as a *Tier II* improvement in *SJRTP 2007*.
- Reconstruction of SR 120 / I-5 interchange (PM-SJ-0.49) – Caltrans *SR 120 TCR* (dated March 2005) identifies the need for this improvement, but no funding sources are known at this time.
- Reconstruction of I-5 Interchange with Roth Road – Reconstruction of I-5 / Roth Road interchange is identified as a *Tier II* improvement in *SJRTP 2007*. This interchange is recommended to be improved to a signalized intersection with left/right turn channelization added to Roth Road and I-5 Ramps under the cumulative conditions evaluated in the Central Lathrop SP EIR (dated July 2004). This study does not assume this improvement to be in place under cumulative baseline conditions.
- Widening of Roth Road between I-5 and Airport Way – Widening of Roth Road between I-5 and Airport Way to four lanes is identified as a *Tier II* improvement in *SJRTP 2007*.

"CUMULATIVE BASE (CURRENT PROJECT SITE CONDITION)"

INTERSECTIONS

Table 10 summarizes "Cumulative Base (Current Project Site Condition)" intersection operations quantified using the "Cumulative Base (Current Project Site Condition)" traffic volumes (shown on Figure 8A) and programmed/planned cumulative intersection lane geometrics (shown on Figure 9).

Table 10. "Cumulative Base (Current Project Site Condition)": Intersection Levels of Service

#	Intersection:	Control Type	AM Peak Hour			PM Peak Hour		
			Delay (Sec/Veh)	LOS	Warrant Met?	Delay (Sec/Veh)	LOS	Warrant Met?
1	I-5 SB Ramps / Roth Rd	Signal	15.3	B	-	20.6	C	-
2	I-5 NB Ramps / Roth Rd	Signal	15.3	B	-	24.6	C	-
3	I-5 SB Ramps / Lathrop Rd	Signal	**93.9**	**F**	-	**319.7**	**F**	-
4	I-5 NB Ramps / Lathrop Rd	Signal	**169.9**	**F**	-	**256.9**	**F**	-
5	Harlan Rd / Lathrop Rd	Signal	**307.0**	**F**	-	**342.3**	**F**	-
6	5th St / Lathrop Rd	Signal	**85.4**	**F**	-	**65.0**	**E**	-
7	McKinley Ave / Lathrop Rd	TWSC	**439.9**	**F**	Yes	**OVFL**	**F**	Yes
8	Airport Way / Lathrop Rd	Signal	**85.2**	**F**	-	**119.2**	**F**	-
9	Union Rd / Lathrop Rd	Signal	33.9	C	-	**96.4**	**F**	-
10	I-5 SB Ramps / Louise Ave	Signal	**151.1**	**F**	-	**58.1**	**E**	-
11	I-5 NB Ramps / Louise Ave	Signal	43.6	D	-	**63.0**	**E**	-
12	Harlan Rd / Louise Ave	Signal	**124.2**	**F**	-	**66.7**	**E**	-
13	Howland Dr / Louise Ave	Signal	**74.0**	**E**	-	**67.0**	**E**	-
14	McKinley Ave / Louise Ave	Signal	**60.1**	**E**	-	35.4	D	-
15	Airport Way / Louise Ave	Signal	**73.3**	**E**	-	**189.4**	**F**	-
16	Union Rd / Louise Ave	Signal	40.9	D	**-**	**57.7**	**E**	-
17	Main St / Louise Ave	Signal	41.1	D	-	**120.1**	**F**	-
18	Guthmiller Rd / SR 120 EB Ramps	Signal	14.3	B	-	23.5	C	-
19	Guthmiller Rd / SR 120 WB Ramps	Signal	13.7	B	-	18.0	B	-
20	D'Arcy Pkwy / Yosemite Ave	Signal	15.0	B	-	30.5	C	-
21	McKinley Ave / Yosemite Ave	Signal	25.7	C	-	25.1	C	-
22	Airport Way / Yosemite Ave	Signal	29.6	C	-	**96.5**	**F**	-
23	Union Rd / Yosemite Ave	Signal	39.7	D	-	**102.5**	**F**	-
24	Main St / Yosemite Ave	Signal	29.3	C	-	**61.6**	**E**	-
25	SR 99 SB Ramps / Yosemite Ave	Signal	14.4	B	-	25.6	C	-
26	SR 99 NB Ramps / Yosemite Ave	Signal	27.6	C	-	33.6	C	-
27	Airport Way / Daniels St	Signal	18.0	B	**-**	27.1	C	-
28	Airport Way / SR 120 WB Ramps	Signal	23.8	C	-	16.0	B	-
29	Airport Way / SR 120 EB Ramps	Signal	10.0	A	-	23.3	C	-
30	Union Rd / SR 120 WB Ramps	Signal	9.5	A	-	16.2	B	-
31	Union Rd / SR 120 EB Ramps	Signal	7.6	A	-	24.0	C	-
32	Main St / SR 120 WB Ramps	Signal	6.2	A	-	13.0	B	-
33	Main St / SR 120 EB Ramps	Signal	10.4	B	-	21.4	C	-
34	McKinley Ave / SR 120 WB Ramps	Signal	18.6	B	-	13.3	B	-
35	McKinley Ave / SR 120 EB Ramps	Signal	36.0	D	-	53.7	D	-

Notes:
1. TWSC = Two-Way-Stop Control, AWSC = All-Way-Stop Control, OVFL = Overflow
2. For TWSC intersection, worst-case movement delays (in seconds/vehicle) is indicated."Average" control delays (in seconds/vehicle) are indicated for signal-controlled intersections. Delays reported in above table are fromSynchro 7 software.
3. Warrant = California MUTCD 2006 based Peak-hour-Volume Warrant #3 (Urban Areas).
4. Bold numbers and letters represent condition when intersection does not meet minimum acceptable standards.

As shown in Table 10, several signalized study intersections are projected to operate at cumulative base AM and/or PM peak hour LOS "E" or worse conditions under "Cumulative Base (Current Project Site Condition)" traffic volumes and planned/programmed cumulative base intersection lane geometrics. All recommended improvements and mitigation measures are discussed in a subsequent section of this report.

ROADWAY SEGMENTS

"Cumulative Base (Current Project Site Condition)" roadway/freeway segment operations under existing/planned roadway capacity configurations were quantified utilizing roadway AADT-based LOS thresholds presented in Table 2. The results are summarized in Table 11.

Table 11. "Cumulative Base (Current Project Site Condition)": Roadway Levels of Service

Roadway/ Freeway Segment	Existing/Planned Functional Capacity Configuration	AADT	LOS
Interstate 5 mainline – from I-205 I/C to SR 120 I/C	8-Lane Divided Freeway	**334,100**	**F**
Interstate 5 mainline – from SR 120 I/C to Lathrop Road I/C	8-Lane Divided Freeway	**265,800**	**F**
Interstate 5 mainline – from Lathrop Rd I/C to French Camp Rd I/C	8-Lane Divided Freeway	**260,800**	**F**
SR 120 mainline – from I-5 I/C to Yosemite Ave/Guthmiller Rd I/C	6-Lane Divided Freeway	**172,900**	**F**
SR 120 mainline – from Yosemite/Guthmiller I/C to Airport Way I/C	6-Lane Divided Freeway	**141,500**	**F**
SR 120 mainline – from Airport Way I/C to Main Street I/C	6-Lane Divided Freeway	**137,000**	**F**
SR 120 mainline – from Main Street I/C to SR 99 I/C	6-Lane Divided Freeway	**157,200**	**F**
SR 99 mainline – south of SR 120 I/C	6-Lane Divided Freeway	**169,100**	**F**
SR 99 mainline – from SR 120 I/C to East Yosemite Avenue I/C	6-Lane Divided Freeway	**137,800**	**F**
SR 99 mainline – north of East Yosemite Avenue I/C	6-Lane Divided Freeway	**109,600**	**E**
Yosemite Avenue – from SR 120 I/C to D'Arcy Parkway	Two-Lane Arterial	16,700	A
Yosemite Avenue – from D'Arcy Parkway to Airport Way	Four-Lane Arterial	25,300	D
Yosemite Avenue – from Airport Way to Union Road	Five-Lane Arterial	27,300	C
Yosemite Avenue – from Union Road to Main Street	Four-Lane Arterial	13,000	A
Yosemite Avenue – from Main Street to SR 99	Four-Lane Arterial	18,300	B
Airport Way – from SR 120 I/C to Yosemite Avenue	Six-Lane Arterial	22,500	A
Airport Way – from Yosemite Avenue to Louise Avenue	Six-Lane Arterial	32,800	B
Airport Way – from Louise Avenue to Lathrop Road	Six-Lane Arterial	23,700	A
McKinley Avenue – from Yosemite Avenue to Louise Avenue	Two-Lane Arterial	10,200	B
McKinley Avenue – from Louise Avenue to Lathrop Road	Two-Lane Arterial	6,100	A
Louise Avenue – from I-5 to 5th Street	Five-Lane Arterial	29,300	D
Louise Avenue – from 5th Street to Airport Way	Five-Lane Arterial	**33,100**	**E**

Notes: AADT = Annual Average Daily Traffic, LOS = Level of Service
"Three lane arterial" refers to a two-lane arterial with left-turn lane channelizations at key intersections.
"Five lane arterial" refers to a four-lane arterial with left-turn lane channelizations at key intersections or two-way median left-turn lane.

As shown in Table 11, several study roadway/freeway segments are projected to operate at "Cumulative Base (Current Project Site Condition)" AADT-based LOS "E" or worse conditions with the existing or planned/programmed cumulative baseline roadway sections. All recommended improvements and mitigation measures are discussed in a subsequent section of this report.

"CUMULATIVE BASE (CITY GP LAND USES ON PROJECT SITE)" CONDITIONS

INTERSECTIONS

Table 12 summarizes "Cumulative Base (City GP land uses on project site)" intersection operations, quantified using the "Cumulative Base (City GP land uses on project site)" traffic volumes (shown on Figure 8B) and cumulative base intersection lane geometrics (shown on Figure 9).

Table 12. "Cumulative Base (City GP Land Uses on Project Site)" Conditions: Intersection Levels of Service

#	Intersection:	Control Type	AM Peak Hour			PM Peak Hour		
			Delay (Sec/Veh)	LOS	Warrant Met?	Delay (Sec/Veh)	LOS	Warrant Met?
1	I-5 SB Ramps / Roth Rd	Signal	15.2	B	-	18.3	B	-
2	I-5 NB Ramps / Roth Rd	Signal	15.3	B	-	22.2	C	-
3	I-5 SB Ramps / Lathrop Rd	Signal	**92.3**	**F**	-	**308.6**	**F**	-
4	I-5 NB Ramps / Lathrop Rd	Signal	**144.5**	**F**	-	**255.6**	**F**	-
5	Harlan Rd / Lathrop Rd	Signal	**310.4**	**F**	-	**340.7**	**F**	-
6	5th St / Lathrop Rd	Signal	**100.6**	**F**	-	**65.2**	**E**	-
7	McKinley Ave / Lathrop Rd	TWSC	**OVFL**	**F**	Yes	**OVFL**	**F**	Yes
8	Airport Way / Lathrop Rd	Signal	**99.8**	**F**	-	**126.7**	**F**	-
9	Union Rd / Lathrop Rd	Signal	37.2	C	-	**103.9**	**F**	-
10	I-5 SB Ramps / Louise Ave	Signal	**154.4**	**F**	-	**59.9**	**E**	-
11	I-5 NB Ramps / Louise Ave	Signal	44.0	D	-	**67.7**	**E**	-
12	Harlan Rd / Louise Ave	Signal	**124.9**	**F**	-	**68.3**	**E**	-
13	Howland Dr / Louise Ave	Signal	**77.6**	**E**	-	**66.6**	**E**	-
14	McKinley Ave / Louise Ave	Signal	**71.6**	**E**	-	**70.6**	**E**	-
15	Airport Way / Louise Ave	Signal	**86.6**	**F**	-	**196.1**	**F**	-
16	Union Rd / Louise Ave	Signal	45.1	D	**-**	**68.4**	**E**	-
17	Main St / Louise Ave	Signal	44.0	D	-	**118.9**	**F**	-
18	Guthmiller Rd / SR 120 EB Ramps	Signal	21.5	C	-	23.6	C	-
19	Guthmiller Rd / SR 120 WB Ramps	Signal	25.0	C	-	19.2	B	-
20	D'Arcy Pkwy / Yosemite Ave	Signal	10.9	B	-	37.1	D	-
21	McKinley Ave / Yosemite Ave	Signal	45.4	D	-	34.7	C	-
22	Airport Way / Yosemite Ave	Signal	**61.9**	**E**	-	**163.1**	**F**	-
23	Union Rd / Yosemite Ave	Signal	47.5	D	-	**168.0**	**F**	-
24	Main St / Yosemite Ave	Signal	**59.6**	**E**	-	**70.6**	**E**	-
25	SR 99 SB Ramps / Yosemite Ave	Signal	15.4	B	-	25.9	C	-
26	SR 99 NB Ramps / Yosemite Ave	Signal	28.9	C	-	38.5	C	-
27	Airport Way / Daniels St	Signal	19.3	B	**-**	26.6	C	-
28	Airport Way / SR 120 WB Ramps	Signal	25.2	C	-	16.9	B	-
29	Airport Way / SR 120 EB Ramps	Signal	10.2	B	-	25.4	C	-
30	Union Rd / SR 120 WB Ramps	Signal	9.7	A	-	15.3	B	-
31	Union Rd / SR 120 EB Ramps	Signal	7.8	A	-	23.8	C	-
32	Main St / SR 120 WB Ramps	Signal	6.1	A	-	13.3	B	-
33	Main St / SR 120 EB Ramps	Signal	10.6	B	-	22.2	C	-
34	McKinley Ave / SR 120 WB Ramps	Signal	22.3	C	-	16.0	B	-
35	McKinley Ave / SR 120 EB Ramps	Signal	34.1	C	-	51.8	D	-

Notes:
1. TWSC = Two-Way-Stop Control, OVFL = Overflow
2. For TWSC intersection, worst-case movement delays (in seconds/vehicle) is indicated."Average" control delays (in seconds/vehicle) are indicated for signal-controlled intersections. Delays reported in above table are from Synchro 7 software.
3. Warrant = California, MUTCD 2006 based Peak-hour-Volume Warrant #3 (Urban Areas).
4. Bold numbers and letters represent condition when intersection does not meet minimum acceptable standards.

As shown in Table 12, several signalized study intersections are projected to operate at cumulative base AM and/or PM peak hour LOS "E" or worse conditions under the cumulative base (City GP land uses on project site) traffic volumes and planned/programmed cumulative baseline intersection lane geometrics. All recommended improvements and mitigation measures are discussed in a subsequent section of this report.

ROADWAY SEGMENTS

"Cumulative Base (City GP land use on project site)" roadway operations under existing/planned roadway capacity configurations were quantified utilizing roadway AADT-based LOS thresholds presented in Table 2. The results are summarized in Table 13.

Table 13. "Cumulative Base (City GP Land Uses on Project Site)" Conditions: Roadway Levels of Service

Roadway/ Freeway Segment	Existing/Planned Functional Capacity Configuration	AADT	LOS
Interstate 5 mainline – from I-205 I/C to SR 120 I/C	8-Lane Divided Freeway	**340,160**	**F**
Interstate 5 mainline – from SR 120 I/C to Lathrop Road I/C	8-Lane Divided Freeway	**270,090**	**F**
Interstate 5 mainline – from Lathrop Rd I/C to French Camp Rd I/C	8-Lane Divided Freeway	**264,890**	**F**
SR 120 mainline – from I-5 I/C to Yosemite Ave/Guthmiller Rd I/C	6-Lane Divided Freeway	**183,570**	**F**
SR 120 mainline – from Yosemite/Guthmiller I/C to Airport Way I/C	6-Lane Divided Freeway	**149,820**	**F**
SR 120 mainline – from Airport Way I/C to Main Street I/C	6-Lane Divided Freeway	**143,850**	**F**
SR 120 mainline – from Main Street I/C to SR 99 I/C	6-Lane Divided Freeway	**163,050**	**F**
SR 99 mainline – south of SR 120 I/C	6-Lane Divided Freeway	**174,160**	**F**
SR 99 mainline – from SR 120 I/C to East Yosemite Avenue I/C	6-Lane Divided Freeway	**140,310**	**F**
SR 99 mainline – north of East Yosemite Avenue I/C	6-Lane Divided Freeway	110,840	D
Yosemite Avenue – from SR 120 I/C to D'Arcy Parkway	Six-Lane Arterial	25,070	A
Yosemite Avenue – from D'Arcy Parkway to Airport Way	Six-Lane Arterial	34,590	B
Yosemite Avenue – from Airport Way to Union Road	Five-Lane Arterial	**33,310**	**E**
Yosemite Avenue – from Union Road to Main Street	Five-Lane Arterial	16,560	C
Yosemite Avenue – from Main Street to SR 99	Five-Lane Arterial	20,600	A
Airport Way – from SR 120 I/C to Yosemite Avenue	Six-Lane Arterial	28,100	C
Airport Way – from Yosemite Avenue to Louise Avenue	Six-Lane Arterial	33,920	B
Airport Way – from Louise Avenue to Lathrop Road	Six-Lane Arterial	24,270	A
McKinley Avenue – from Yosemite Avenue to Louise Avenue	Four-Lane Arterial	13,200	A
McKinley Avenue – from Louise Avenue to Lathrop Road	Two-Lane Arterial	7,480	A
Louise Avenue – from I-5 to 5th Street	Five-Lane Arterial	29,850	D
Louise Avenue – from 5th Street to Airport Way	Five-Lane Arterial	**34,040**	**E**

Notes: AADT = Annual Average Daily Traffic, LOS = Level of Service
"Three lane arterial" refers to a two-lane arterial with left-turn lane channelizations at key intersections.
"Five lane arterial" refers to a four-lane arterial with left-turn lane channelizations at key intersections or two-way median left-turn lane.

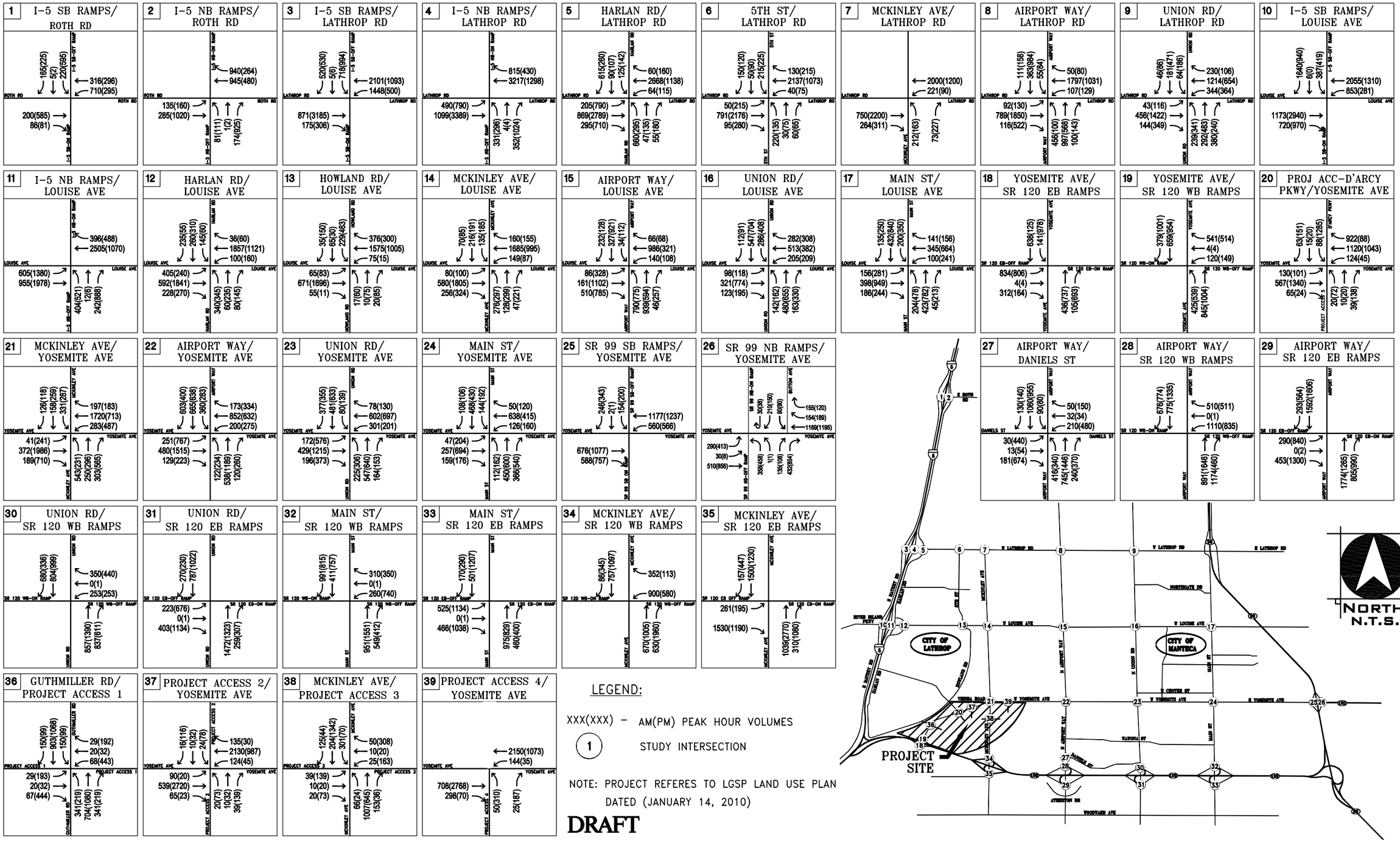
As shown in Table 13, several study roadway/freeway segments are projected to operate at cumulative base AADT-based LOS "E" or worse conditions under the cumulative base (City GP land uses on project site) traffic volumes and planned/programmed cumulative baseline roadway sections. All recommended improvements and mitigation measures are discussed in a subsequent section of this report.

"CUMULATIVE BASE PLUS PROJECT" CONDITIONS

"Cumulative Base plus Project" traffic volumes were simulated by superimposing the proposed Lathrop Gateway Specific Plan (full buildout) project traffic on top of "Cumulative Base (Current Project Site Condition)" traffic volumes shown on Figure 8A, utilizing estimated project trip distribution and assignment patterns shown on Figure 6 and Figure 7. The resulting "Cumulative Base plus Project" traffic volumes are shown on Figure 10.

INTERSECTIONS

Intersection operations were quantified under "Cumulative Base plus Project" traffic volumes (shown on Figure 10) and "Cumulative Base" intersection lane geometrics and control (shown on Figure 9). Table 14 presents the resulting intersection LOS.



Lathrop Gateway Business Park SP Traffic Circulation Study, City of Lathrop, CA

FIGURE 10

CUMULATIVE 2030 "BASE PLUS PROJECT BUILDOUT" TRAFFIC VOLUMES

WOOD RODGERS
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Table 14. "Cumulative Base plus Project" Conditions: Intersection Level of Service

#	Intersection:	Control Type	AM Peak Hour			PM Peak Hour		
			Delay (Sec/Veh)	LOS	Warrant Met?	Delay (Sec/Veh)	LOS	Warrant Met?
1	I-5 SB Ramps / Roth Rd	Signal	15.2	B	-	20.5	C	-
2	I-5 NB Ramps / Roth Rd	Signal	15.3	B	-	24.6	C	-
3	I-5 SB Ramps / Lathrop Rd	Signal	**107.9**	**F**	-	**323.3**	**F**	-
4	I-5 NB Ramps / Lathrop Rd	Signal	**189.1**	**F**	-	**264.7**	**F**	-
5	Harlan Rd / Lathrop Rd	Signal	**355.9**	**F**	-	**348.2**	**F**	-
6	5th St / Lathrop Rd	Signal	**85.0**	**F**	-	**65.4**	**E**	-
7	McKinley Ave / Lathrop Rd	TWSC	**907.6**	**F**	Yes	**OVFL**	**F**	Yes
8	Airport Way / Lathrop Rd	Signal	**90.8**	**F**	-	**128.5**	**F**	-
9	Union Rd / Lathrop Rd	Signal	34.8	D	-	**102.7**	**F**	-
10	I-5 SB Ramps / Louise Ave	Signal	**140.6**	**F**	-	**64.9**	**E**	-
11	I-5 NB Ramps / Louise Ave	Signal	44.0	D	-	**68.1**	**E**	-
12	Harlan Rd / Louise Ave	Signal	**125.6**	**F**	-	**67.9**	**E**	-
13	Howland Dr / Louise Ave	Signal	**79.4**	**E**	-	**70.4**	**E**	-
14	McKinley Ave / Louise Ave	Signal	**63.8**	**E**	-	**81.7**	**F**	-
15	Airport Way / Louise Ave	Signal	**82.6**	**F**	-	**204.1**	**F**	-
16	Union Rd / Louise Ave	Signal	43.8	D	-	**71.9**	**E**	-
17	Main St / Louise Ave	Signal	41.4	D	-	**122.0**	**F**	-
18	Guthmiller Rd / SR 120 EB Ramps	Signal	20.0	B	-	33.1	C	-
19	Guthmiller Rd / SR 120 WB Ramps	Signal	21.7	C	-	21.0	C	-
20	D'Arcy Pkwy/Yosemite Ave/Prjct Access 5	Signal	11.9	B	-	34.8	C	-
21	McKinley Ave / Yosemite Ave	Signal	28.8	C	-	50.6	D	-
22	Airport Way / Yosemite Ave	Signal	51.2	D	-	**194.0**	**F**	-
23	Union Rd / Yosemite Ave	Signal	47.2	D	-	**192.9**	**F**	-
24	Main St / Yosemite Ave	Signal	47.0	D	-	**78.9**	**E**	-
25	SR 99 SB Ramps / Yosemite Ave	Signal	16.6	B	-	22.1	C	-
26	SR 99 NB Ramps / Yosemite Ave	Signal	31.6	C	-	38.3	D	-
27	Airport Way / Daniels St	Signal	26.9	C	-	27.5	C	-
28	Airport Way / SR 120 WB Ramps	Signal	24.5	C	-	15.9	B	-
29	Airport Way / SR 120 EB Ramps	Signal	9.6	A	-	24.8	C	-
30	Union Rd / SR 120 WB Ramps	Signal	9.6	A	-	15.7	B	-
31	Union Rd / SR 120 EB Ramps	Signal	7.7	A	-	23.5	C	-
32	Main St / SR 120 WB Ramps	Signal	6.1	A	-	13.4	C	-
33	Main St / SR 120 EB Ramps	Signal	10.5	B	-	22.5	C	-
34	McKinley Ave / SR 120 WB Ramps	Signal	20.0	C	-	17.9	B	-
35	McKinley Ave / SR 120 EB Ramps	Signal	34.5	C	-	50.9	D	-
Project Access Intersections								
20	D'Arcy Pkwy/Yosemite Ave/Prjct Access 5	Signal	11.9	B	-	34.8	C	-
36	Guthmiller Road / Project Access 1	Signal	18.3	B	-	26.6	C	-
37	Yosemite Ave / Project Access 2	Signal	27.4	C	-	24.4	C	-
38	McKinley Ave / Project Access 3	Signal	20.3	C	-	20.8	C	-
39	Yosemite Ave / Project Access 4	Signal	7.9	A	-	14.3	B	-

Notes:
1. TWSC = Two-Way-Stop Control, AWSC = All-Way-Stop Control, OVFL = Overflow, Prjct = Project
2. For TWSC intersection, worst-case movement delays (in seconds/vehicle) is indicated. "Average" control delays (in seconds/vehicle) are indicated for signal-controlled intersections. Delays reported in above table are from Synchro 7 software.
3. Warrant = California MUTCD 2006 based Peak-hour-Volume Warrant #3 (Urban Areas).
4. Bold numbers and letters represent condition when intersection does not meet minimum acceptable standards.

As shown in Table 14, several signalized intersections are projected to operate at AM and/or PM peak hour LOS "E" or worse conditions under "Cumulative Base plus Project" conditions. All project impacts, recommended improvements and mitigation measures are discussed in a subsequent section of this report.

ROADWAY SEGMENTS

"Cumulative Base plus Project" roadway operations under existing/planned future roadway capacity configurations were quantified utilizing roadway AADT- based LOS thresholds presented previously in Table 2. The results are summarized in Table 15.

Table 15. "Cumulative Base plus Project" Conditions: Roadway Level of Service

Roadway/ Freeway Segment	Existing/Planned Functional Capacity Configuration	AADT	LOS
Interstate 5 mainline – from I-205 I/C to SR 120 I/C	8-Lane Divided Freeway	**342,020**	**F**
Interstate 5 mainline – from SR 120 I/C to Lathrop Road I/C	8-Lane Divided Freeway	**271,500**	**F**
Interstate 5 mainline – from Lathrop Rd I/C to French Camp Rd I/C	8-Lane Divided Freeway	**266,150**	**F**
SR 120 mainline – from I-5 I/C to Yosemite Ave/Guthmiller Rd I/C	6-Lane Divided Freeway	**187,040**	**F**
SR 120 mainline – from Yosemite/Guthmiller I/C to Airport Way I/C	6-Lane Divided Freeway	**153,040**	**F**
SR 120 mainline – from Airport Way I/C to Main Street I/C	6-Lane Divided Freeway	**146,430**	**F**
SR 120 mainline – from Main Street I/C to SR 99 I/C	6-Lane Divided Freeway	**165,210**	**F**
SR 99 mainline – south of SR 120 I/C	6-Lane Divided Freeway	**175,750**	**F**
SR 99 mainline – from SR 120 I/C to East Yosemite Avenue I/C	6-Lane Divided Freeway	**141,010**	**F**
SR 99 mainline – north of East Yosemite Avenue I/C	6-Lane Divided Freeway	111,160	D
Yosemite Avenue – from SR 120 I/C to D'Arcy Parkway	Six-Lane Arterial	27,250	A
Yosemite Avenue – from D'Arcy Parkway to Airport Way	Six-Lane Arterial	37,710	B
Yosemite Avenue – from Airport Way to Union Road	Five-Lane Arterial	**35,220**	**E**
Yosemite Avenue – from Union Road to Main Street	Five-Lane Arterial	17,570	C
Yosemite Avenue – from Main Street to SR 99	Five-Lane Arterial	21,210	A
Airport Way – from SR 120 I/C to Yosemite Avenue	Six-Lane Arterial	28,190	C
Airport Way – from Yosemite Avenue to Louise Avenue	Six-Lane Arterial	34,400	B
Airport Way – from Louise Avenue to Lathrop Road	Six-Lane Arterial	24,460	A
McKinley Avenue – from Yosemite Avenue to Louise Avenue	Four-Lane Arterial	14,190	A
McKinley Avenue – from Louise Avenue to Lathrop Road	Two-Lane Arterial	7,910	A
Louise Avenue – from I-5 to 5th Street	Five-Lane Arterial	30,050	D
Louise Avenue – from 5th Street to Airport Way	Five-Lane Arterial	**34,390**	**E**

Notes: AADT = Annual Average Daily Traffic, LOS = Level of Service
"Three lane arterial" refers to a two-lane arterial with left-turn lane channelizations at key intersections
"Five lane arterial" refers to a four-lane arterial with left-turn lane channelizations at key intersections or two-way median left-turn lane

As shown in Table 15, several study roadway/freeway segments are projected to operate at AADT based "Cumulative Base plus Project" LOS "E" or worse conditions. All project impacts, recommended improvements and mitigation measures are discussed in a subsequent section of this report.

PUBLIC TRANSIT AND BIKEWAY/PEDESTRIAN IMPACTS

Project Impacts on Public Transit

The proposed Lathrop Gateway Specific Plan project is a predominantly industrial type development

that is anticipated to be served by limited levels of public transit. A majority of project-attracted vehicular commuter trips would be automobile-based. A small number of employee carpool/vanpool trips to/from office/industrial work sites within the Specific Plan area are likely, but the overall proportion of such trips is expected to be negligible. The nearest SJRTD bus stop is within a mile of the project site near Airport Way / Yosemite Avenue intersection. This intercity SJRTD Route 95 is proposed to be extended to serve the project site. The project applicant would coordinate with SJRTD and provide bus stops to serve the core Business Park and Commercial areas of the project. The proposed project is not anticipated to disrupt any existing public transit facilities or preclude any planned new transit facilities.

Project Impacts on Bikeway/Pedestrian Facilities

The proposed Specific Plan project is planned to provide new multi-use paths along Guthmiller Road, Yosemite Avenue, McKinley Avenue, and D'Arcy Parkway within/through the Specific Plan site. Yosemite Avenue segment through the Plan area is envisioned to be provided with a separated bikeway/pedestrian shared-use facility. The internal roadways within the Plan area would be provided with on-street bike routes. Given the predominantly industrial nature of the proposed development, the proposed SP project is not projected to increase "off-site" bikeway/pedestrian trips in a significant manner.

PROJECT IMPACTS, RECOMMENDED IMPROVEMENTS AND MITIGATION MEASURES

This section summarizes project impacts as well as recommended base improvements and mitigation measures at the study intersections and roadway segments identified based on the analysis findings presented in the preceding sections of this report. It is important to note that at this environmental documentation stage, all improvements and mitigation strategies are conceptual "planning level" recommendations only.

Appendix Table 1 presents a "Mitigation Matrix" that summarizes intersection and roadway/freeway segment level of service results under all analysis scenarios, both with and without recommended improvements and mitigation measures. Appendix Table 2 summarizes ramp junction level of service results under all analysis scenarios. Appendix Table 3 and Table 4 summarize preliminary estimates of project "fair-share" percentage responsibilities for off-site study intersections and roadway segments respectively (as computed using Caltrans formula), for reference purposes. All LOS calculation worksheets are included in the Appendix.

EXISTING CONDITIONS

Intersection/Interchange Improvements:

I-5 SB Ramps / Lathrop Road – The "worst-case" (southbound shared left-through-right) movement at this unsignalized intersection is currently operating at AM and PM peak-hour LOS "F" conditions. California MUTCD based peak-hour volume traffic signal warrant 3 (urban areas) is, however, not met at this intersection under current AM and PM peak-hour volumes. It is recommended that this intersection be monitored, and a traffic signal be installed at this intersection under existing conditions for purposes of adequate progression in coordination with ramp signalization at the adjacent I-5 Northbound Ramps intersection. These signalization improvements are identified in the City of Lathrop CIP (year 2009-10 through 2013-14), and are also listed for improvement through Measure K funds. With the recommended signalization, AM and PM peak-hour operations at this intersection are projected to be at LOS "C" or better.

I-5 NB Ramps / Lathrop Road – The "worst-case" (shared left-through) movement at this intersection is currently operating at unsignalized PM peak-hour LOS "E" conditions. California MUTCD based peak-hour volume traffic signal warrant 3 (urban areas) is met at this intersection under current AM and PM peak-hour volumes. Signalization of the NB ramps intersection under existing conditions is recommended. These signalization improvements are identified in the City of Lathrop CIP (year 2009-10 through 2013-14) and are also listed for improvement through Measure K funds. With signalization, AM and PM peak-hour operations at this intersection are projected to be at LOS "C" or better.

Main Street / Louise Avenue – This signalized intersection in the City of Manteca is currently operating at PM peak-hour LOS "E" conditions. The City of Manteca's minimum acceptable LOS standard is LOS "D". This intersection is included as part of City of Manteca's traffic impact fee program. It is recommended that exclusive right-turn lanes/pockets be provided for the eastbound and westbound approaches at this intersection. With these improvements, this intersection is projected to improve operations to peak-hour LOS "D" or better.

Roadway/Freeway Improvements:

Interstate 5 mainline segments – from I-205 to SR 120 – This six-lane segment of I-5 is currently operating at AADT-based LOS "F" conditions. Caltrans' *I-5 TCR* (dated June 2001) acknowledges that the "*Facility will require 10 lanes (including possible HOV lanes) by 2004 and more than 10 lanes by 2008 to meet the concept LOS D*". Addition of northbound lanes on I-5 from I-205 to SR 120, and widening of I-5 from SR 120 to French Camp Road interchange is called for in Caltrans' *I-5 TCR*. *SJRTP 2007* identifies these as planned *Tier I* regional improvements. With these planned improvements in place, AADT based LOS D operations are expected under existing traffic volume conditions.

SR 120 mainline segments – from I-5 to Yosemite Avenue – This four-lane segment of SR 120 is currently operating at AADT-based LOS "E" conditions. Caltrans *SR 120 TCR* (dated March 2005) and the *SJRTP 2007* have both identified/recommended the widening of SR 120 (segment between I-5 and SR 99) to six lanes under "Planned Projects". *SJRTP 2007* identifies SR 120 widening from I-5 to SR 99 as a *Tier I* (funded) improvement, scheduled for approval by year 2012 and complete construction by year 2016. With these planned widening improvements in place, AADT based LOS D or better operations are expected under existing traffic volume conditions.

"YEAR 2012" CONDITIONS (PROJECT PHASE 1 TRAFFIC IMPACTS)

The "year 2012" traffic conditions as evaluated in this TIS, assume existing (2008-09) traffic volumes (plus a nominal 5% background traffic growth) plus traffic generated by Phase 1 of the proposed Lathrop Gateway SP project. The improvements identified in this section should therefore be regarded as "Project Phase 1 impacts" triggered above and beyond existing traffic conditions.

Intersection Improvements:

McKinley Avenue / Lathrop Road – The "worst-case" movement (northbound approach) at this unsignalized intersection is projected to operate at year 2012 PM peak-hour LOS "E" conditions. California MUTCD based peak-hour volume traffic signal warrant 3 (urban areas) is not projected to be met at this intersection under "Year 2012" AM and PM peak-hour volumes. The projected LOS "E" conditions for the minor side-street approach is considered acceptable per City of Lathrop LOS standards, however, since the Project Phase-1 is projected to cause degradation of PM peak hour operations from LOS D to E conditions, Project Phase-1 impacts at this intersection are considered "significant" based on City of Lathrop LOS significance policies. It is recommended that intersection be monitored for traffic growth and operations through year 2012, and exclusive right-turn lanes/pockets be provided for the eastbound and westbound approaches at this intersection under "Year 2012" conditions. With these recommended improvements, this intersection is projected to operate at "Year 2012" peak-hour LOS "D" or better operations. This intersection improvement is included as part of City of Lathrop CIP project entitled "*Lathrop Road Widening Rehab*".

McKinley Avenue / Yosemite Avenue – This all-way-stop-controlled intersection is projected to operate at "Year 2012" PM peak hour LOS "E" conditions under existing lane geometrics. California MUTCD based peak-hour volume traffic signal warrant 3 (urban areas) is projected to be met at this intersection under "Year 2012" AM and PM peak-hour volumes. The Project (Phase 1) impacts at this intersection are considered "significant", since the project is projected to cause degradation of PM peak hour operations from acceptable LOS B to unacceptable LOS E conditions. It is recommended that this intersection be monitored for traffic growth and operations through year 2012, and the proposed Phase-1 project construct a traffic signal at this intersection prior to construction. With the

recommended signalization improvements, this intersection is projected to provide acceptable "Year 2012" peak-hour LOS "D" or better operations.

Lathrop Road intersections with I-5 SB Ramps and I-5 NB Ramps – Although the proposed Phase-1 project is projected to increase traffic volumes minimally (by less than 10 peak hour project trips) at these ramp intersections, project impacts at the SB ramps intersection are considered "significant" since the proposed project is projected to increase average (unsignalized) delay by 5 seconds or more at this study intersection which is currently operating at peak hour LOS "D" or worse conditions. Since the planned signalization improvements are already included in the City of Lathrop CIP (year 2009-10 through 2013-14), and are likely to be constructed independently prior to Phase-1 of the project, no project-related mitigations are recommendable for these ramp intersections.

Roadway Improvements:

Interstate 5 mainline segment – from I-205 I/C to SR 120 I/C – This eight-lane segment of I-5 is projected to operate at LOS "F" conditions on an AADT basis under "Year 2012 (plus Project Phase 1)" conditions. Since this facility segment is currently (in 2008-10) operating at deficient LOS F conditions, any project-added traffic on this segment would be considered "significant' per Caltrans criteria. Since the widening of this I-5 segment is included in *SJRTP 2007* as a *Tier I* (funded) regional improvement, the project's contribution of regional impact fees is considered sufficient mitigation to cover project responsibility towards this freeway segment. Phase-1 project impacts on this segment will remain significant and unavoidable until the widening improvements are completed by Caltrans.

Interstate 5 mainline segment – from SR 120 I/C to Lathrop Road I/C – This six-lane segment of I-5 is projected to operate at LOS "E" conditions on an AADT basis under "Year 2012 (plus Project Phase 1)" conditions. Since the Phase-1 project is projected to degrade this segment from acceptable LOS D to unacceptable LOS E conditions, project impacts are considered "significant' per Caltrans criteria. Since the widening of this I-5 segment is included in *SJRTP 2007* as a *Tier I* (funded) regional improvement, the project's contribution of regional impact fees is considered sufficient mitigation to cover project responsibility towards this freeway segment. Phase-1 project impacts on this segment will however remain significant and unavoidable until the widening improvements are completed by Caltrans.

SR 120 mainline segment – from I-5 to Yosemite Avenue/Guthmiller Road – This four-lane segment of SR 120 is projected to operate at AADT-based LOS "F" under Year 2012 (plus Project Phase 1) conditions. Since the Phase 1 project is projected to degrade operations on this segment from existing LOS "E" conditions to LOS "F" conditions, the Project Phase 1 impacts on this segment are considered "significant" per Caltrans criteria. Since widening of this segment of SR 120 from four to six lanes is included in *SJRTP 2007* as a *Tier I* (funded) regional improvement, Project contribution towards regional traffic impact fees is considered sufficient mitigation to cover project responsibility towards this segment. Phase-1 project impacts on this segment will however remain significant and unavoidable until the widening improvements are completed by Caltrans.

SR 99 mainline segment – south of SR 120 junction – This segment of SR 99 is projected to operate at LOS "E" conditions on an AADT basis under "Year 2012 (plus Project phase 1)" conditions. Since the Phase 1 project is projected to degrade operations on this segment from existing LOS "D" conditions to LOS "E" conditions, the Project Phase 1 impacts on this segment are considered "significant" per Caltrans criteria. Widening of SR 99 mainline from SR 120 to Arch Road from 4 to 6 lanes (along with interchange modifications) is identified *SJRTP 2007* as a *Tier I* (funded)

improvement, subject to approval by year 2010. San Joaquin County General Plan (July 1992) also identifies that SR 99 north from SR 120 and through Stockton needs to be widened to six lanes and then to eight lanes, with construction/reconstruction of interchanges along the segment to accommodate planned growth over a 20-year period. With these planned baseline improvements in place, "Year 2012" AADT-based LOS D or better operations are projected. Since widening of this segment of SR 99 is included in *SJRTP 2007* as a *Tier I* (funded) regional improvement, Project contribution towards regional traffic impact fees is considered sufficient mitigation to cover project responsibility towards this segment. Phase-1 project impacts on this segment will however remain significant and unavoidable until the widening improvements are completed by Caltrans.

"CUMULATIVE BASE (CURRENT PROJECT SITE CONDITION)"

The cumulative future scenario assumed several planned future local/regional transportation improvements (that have prior-identified funding sources and/or included in existing traffic impact fee programs) to be "in place" under year 2030 baseline conditions. These improvements were described under the "**Planned Cumulative Base Improvements (Assumed Constructed by/before year 2030)**" discussion presented in a prior section of this report. This section presents incremental cumulative baseline improvements that are projected to be necessary above and beyond those planned and funded cumulative baseline improvements already identified in prior studies.

Intersection Improvements:

I-5 SB Ramps / Lathrop Road – Under "Cumulative Base (Current Project Site)" conditions, this intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "F" conditions. Caltrans' *I-5 TCR* recommends modification of this interchange with widening of Lathrop Road to four lanes underneath I-5. *SJRTP 2007* identifies the interchange improvements as a *Tier I* (funded) improvement. However, it is unknown if this program adequately covers the recommended cumulative baseline improvements indicated as follows. Above and beyond recommendations contained in the I-5 TCR, it is recommended that the southbound off-ramp approach be widened to provide for two left-turn lanes, one shared left-through lane and a free right turn lane; the eastbound approach be provided with a right-turn lane and four through lanes, the westbound approach be provided with two left-turn lanes and four through lanes. With these recommended cumulative baseline improvements, this intersection is projected to operate at cumulative base peak hour LOS "D" conditions or better.

I-5 NB Ramps / Lathrop Road – Under "Cumulative Base (Current Project Site)" conditions, this intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "F" conditions. Caltrans' *I-5 TCR* notes the modification of this interchange with widening of Lathrop Road to four lanes underneath I-5. However, it is unknown if it adequately covers the recommended cumulative baseline improvements indicated as follows. Above and beyond recommendations contained in the I-5 TCR, it is recommended that the northbound off-ramp approach be widened to provide for one left-turn lane, shared left-through lane and one free right-turn lane; and a through lane be added to eastbound approach and two through lanes be added to westbound approach. With these recommended cumulative baseline improvements, this intersection is projected to operate at cumulative base peak-hour LOS "D" or better conditions.

Harlan Road / Lathrop Road – Under "Cumulative Base (Current Project Site)" conditions, this intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "F" conditions. The following cumulative lane geometrics are recommended at this intersection:

- Northbound Approach: Three left-turn, one shared through-right lane.

- Southbound Approach: One left turn, two through lanes and, one free right-turn lane.
- Eastbound Approach: Two left turn, four through lanes, and one right-turn lane.
- Westbound Approach: One left turn, three through lanes, one shared through-right lane.

Note that this intersection is included as a part of the City of Lathrop CIP projects "*Harlan Road Rehab*" and "*Widening of Lathrop Road*". However it is unknown if this existing program adequately covers the cumulative baseline improvements indicated above. With the above recommended cumulative base improvements, this intersection is projected to operate at "Cumulative Base (Current Project Site)" peak hour LOS "D" conditions or better conditions.

5th Street / Lathrop Road – Under "Cumulative Base (Current Project Site)" conditions, this intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "E" or worse conditions. The following cumulative lane geometrics are recommended at this intersection:

- Northbound Approach: One left turn lane and one shared through-right lane.
- Southbound Approach: Two left turn lanes, one through lane and one right-turn lane.
- Eastbound Approach: One left turn lane, two through lanes, and one right-turn lane.
- Westbound Approach: One left turn, two through lanes, and one shared through-right lane.

Note that this intersection is included as a part of the SJRTP 2007 *Tier 1* (funded) improvements project entitled "*Widening of Lathrop Road*". However, it is unknown if this program adequately covers the cumulative baseline improvements indicated above. With these recommended base improvements, this intersection is projected to operate at acceptable peak-hour LOS " D" conditions under "Cumulative Base (Current Project Site)" conditions.

McKinley Avenue / Lathrop Road – This currently unsignalized intersection is projected to operate at "Cumulative Base (Current Project Site)" AM and PM peak-hour LOS "F" conditions. California MUTCD based peak-hour volume traffic signal warrant 3 (urban areas) is projected to be met at this intersection under "Cumulative Base (Current Project Site Condition)" AM and PM peak-hour volumes. It is recommended that the following intersection geometrics be implemented at this intersection along with signalization.

- Northbound Approach: One left, one right-turn lane
- Eastbound Approach: One through lane, and one shared through-right lane
- Westbound Approach: One left, two through lanes

Note that this intersection is a part of the SJRTP 2007 *Tier 1* (funded) improvements "*Widening of Lathrop Road from 2 to 4 lanes*." However, it is unknown if this program adequately covers the cumulative baseline improvements indicated above. With the above-recommended improvements, this intersection is projected to operate at acceptable peak-hour LOS "D" operations under "Cumulative Base (Current Project Site)" conditions.

Airport Way / Lathrop Road – Under "Cumulative Base (Current Project Site)" conditions, this City of Manteca intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "F" conditions. The following lane geometrics are recommended at this intersection:

- Northbound Approach: Two left turn lanes, three through lanes and one right-turn lane.
- Southbound Approach: One left turn lane, three through lanes and one right-turn lane.
- Eastbound Approach: One left turn lane, two through lanes, and one right-turn lane.
- Westbound Approach: One left turn lane, two through lanes, and one right-turn lane.

Note that this intersection is a part of the SJRTP 2007 *Tier 1* improvements "*Widening of Airport Way between SR 120 and Lathrop Road from 4 to 6 lanes*." However, it is unknown if this program

adequately covers the cumulative baseline improvements indicated above. With these recommended base improvements, this intersection is projected to operate at "Cumulative Base (Current Project Site)" peak hour LOS "D" or better conditions.

Union Road / Lathrop Road – Under "Cumulative Base (Current Project Site)" conditions, this City of Manteca intersection is projected to operate at year 2030 signalized PM peak-hour LOS "F" conditions. The following cumulative lane geometrics are recommended at this intersection:

- Northbound Approach: Two left turn lanes, two through lanes and one right-turn lane.
- Southbound Approach: One left turn lane, one through lane, one shared through-right lane.
- Eastbound Approach: One left turn lane, two through lanes, and one right-turn lane.
- Westbound Approach: Two left turn lanes, one through lane, one shared through-right lane.

With these recommended base improvements, this intersection is projected to operate at "Cumulative Base (Current Project Site)" peak hour LOS "D" or better conditions.

I-5 SB Ramps / Louise Avenue – Under "Cumulative Base (Current Project Site)" conditions, this intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "E" or worse conditions. Per improvements originally identified in Central Lathrop Specific Plan EIR (July 2004), the following cumulative lane geometrics are recommended at this intersection:

- Southbound Approach: One left turn, one shared left-through lane, one free right-turn lanes
- Eastbound Approach: Five through lanes, and one right-turn lane.
- Westbound Approach: Two left turn lanes, three through lanes.

With these recommended base improvements, this intersection is projected to operate at "Cumulative Base (Current Project Site)" peak hour LOS "D" or better conditions.

I-5 NB Ramps / Louise Avenue – Under "Cumulative Base (Current Project Site)" conditions, this intersection is projected to operate at year 2030 signalized PM peak-hour LOS "E" conditions. The following cumulative lane geometrics are recommended at this intersection:

- Northbound Approach: Two left-turn lanes, one shared left-through, one free right-turn lane.
- Eastbound Approach: Three through lanes, and two left-turn lanes.
- Westbound Approach: Three through lanes, and one free right-turn lane.

With these recommended base improvements, this intersection is projected to operate at "Cumulative Base (Current Project Site)" peak hour LOS "D" or better conditions.

Harlan Road / Louise Avenue – Under "Cumulative Base (Current Project Site)" conditions, this intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "E" or worse conditions. The following cumulative lane geometrics are recommended at this intersection:

- Northbound Approach: Two left-turn lanes, one through lane, one shared through-right-lane.
- Southbound Approach: One left turn lane, two through lanes and one right-turn lane.
- Eastbound Approach: Two left-turn lanes, two through lanes, and one right-turn lane.
- Westbound Approach: Two left-turn lanes, two through lanes, one shared through-right lane.

With these recommended base improvements, this intersection is projected to operate at "Cumulative Base (Current Project Site)" peak hour LOS "D" or better conditions.

Howland Road / Louise Avenue – Under "Cumulative Base (Current Project Site)" conditions, this intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "E" or worse conditions. Per improvements originally identified in Central Lathrop Specific Plan EIR (July 2004), the following cumulative lane geometrics are recommended at this intersection:

- Northbound Approach: One left-turn lane, one through lane and one right-turn lane.
- Southbound Approach: Two left-turn lanes, one shared through-right lane.
- Eastbound Approach: One left-turn lane, one through lane, and one shared through-right lane.
- Westbound Approach: One left-turn lane, two through lanes, one right-turn lane.

With these recommended base improvements, this intersection is projected to operate at "Cumulative Base (Current Project Site)" peak hour LOS "D" or better conditions.

McKinley Avenue / Louise Avenue – Under "Cumulative Base (Current Project Site)" conditions, this intersection is projected to operate at year 2030 signalized AM peak-hour LOS "E" conditions. Per improvements originally identified in Central Lathrop Specific Plan EIR (July 2004), the following cumulative lane geometrics are recommended at this intersection:

- Northbound Approach: One left turn lane, one through lane, one shared through-right lane.
- Southbound Approach: One left turn lane, one through lane, one shared through-right lane.
- Eastbound Approach: One left turn lane, two through lanes, and one right-turn lane.
- Westbound Approach: One left turn lane, two through lanes, and one right-turn lane.

With these recommended base improvements, this intersection is projected to operate at "Cumulative Base (Current Project Site)" peak hour LOS "D" or better conditions.

Airport Way / Louise Avenue – Under "Cumulative Base (Current Project Site)" conditions, this City of Manteca intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "F" conditions. The following cumulative lane geometrics are recommended at this intersection:

- Northbound Approach: Two left turn lanes, two through lanes, one shared through-right lane.
- Southbound Approach: One left turn lane, two through lanes, one shared through-right lane.
- Eastbound Approach: Two left turn lanes, two through lanes, one right-turn lane.
- Westbound Approach: One left turn lane, one through lane, one shared through-right lane.

With these recommended base improvements, this intersection is projected to operate at cumulative (Current Project Site) base peak hour LOS "D" or better conditions.

Union Road / Louise Avenue – Under "Cumulative Base (Current Project Site)" conditions, this City of Manteca intersection is projected to operate at year 2030 signalized PM peak-hour LOS "E" conditions. The following cumulative lane geometrics are recommended at this intersection:

- Northbound Approach: One left turn lane, one through lane, one shared through-right lane.
- Southbound Approach: Two left turn lanes, one through lane, one shared through-right lane.
- Eastbound Approach: One left turn lane, one through lane, one shared through-right lane.
- Westbound Approach: One left turn lane, one through lane, one shared through-right lane.

With these recommended base improvements, this intersection is projected to operate at "Cumulative Base (Current Project Site)" peak hour LOS "D" or better conditions.

Main Street / Louise Avenue – Under "Cumulative Base (Current Project Site)" conditions, this City of Manteca intersection is projected to operate at year 2030 signalized PM peak-hour LOS "F" conditions. The following cumulative lane geometrics are recommended at this intersection:

- Northbound Approach: Two left turn lanes, two through lanes, and one right-turn lane.
- Southbound Approach: Two left turn lanes, two through lanes, and one right-turn lane.
- Eastbound Approach: One left turn lane, two through lanes, and one right-turn lane.
- Westbound Approach: Two left turn lanes, two through lanes, and one right-turn lane.

With these recommended base improvements, this intersection is projected to operate at "Cumulative Base (Current Project Site)" peak hour LOS "D" or better conditions.

SR 120 Ramp Intersections at SR 120 /Yosemite Avenue Interchange – It is also recommended that the SR 120 / Yosemite Avenue interchange be modified to Partial Cloverleaf design. However, due to weaving issues on the SR 120 segment from SR 120 / Yosemite Avenue I/C to SR 120 / I-5 I/C, it is recommended that SR 120 Westbound On-Ramp at SR 120 / Yosemite Avenue interchange be eliminated.

D'Arcy Parkway / Yosemite Avenue – Under "Cumulative Base (Current Project Site)" conditions, this intersection is projected to operate at year 2030 signalized PM peak-hour LOS "E" conditions. Per improvements originally identified in Central Lathrop Specific Plan EIR (July 2004), the following cumulative lane geometrics are recommended at this intersection:

- Northbound Approach: One left turn lane, and one shared through-right lane.
- Southbound Approach: Two left turn lanes and one shared through-right lane.
- Eastbound Approach: One left turn lane, one through lane, one shared through-right lane.
- Westbound Approach: One left turn lane, one through lane, one shared through-right lane.

With these recommended base improvements, this intersection is projected to operate at "Cumulative Base (Current Project Site)" peak hour LOS "D" or better conditions.

McKinley Avenue / Yosemite Avenue – Under "Cumulative Base (Current Project Site)" conditions, this intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "F" conditions. The following cumulative lane geometrics are recommended at this intersection:

- Northbound Approach: One left turn lane, one through lane, one shared through-right lane.
- Southbound Approach: Two left turn lanes, one through lane, one shared through-right lane.
- Eastbound Approach: One left turn lane, two through lanes, one right-turn lane.
- Westbound Approach: Two left turn lanes, one through lane, one shared through-right lane.

With these recommended base improvements, this intersection is projected to operate at "Cumulative Base (Current Project Site)" peak hour LOS "D" or better conditions.

Airport Way / Yosemite Avenue – Under "Cumulative Base (Current Project Site)" conditions, this City of Manteca intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "F" conditions. Per Union Crossing Project Draft EIR (May 2009), the following cumulative lane geometrics are recommended at this intersection:

- Northbound Approach: Two left turn lanes, three through lanes and one right-turn lane.
- Southbound Approach: Two left turn lanes, three through lanes and one right-turn lane.
- Eastbound Approach: Two left turn lanes, three through lanes and one right-turn lane.
- Westbound Approach: Two left turn lanes, three through lanes and one right-turn lane.

With these recommended base improvements, this intersection is projected to operate at "Cumulative Base (Current Project Site)" base peak hour LOS "D" or better conditions.

Union Road / Yosemite Avenue – Under "Cumulative Base (Current Project Site)" conditions, this City of Manteca intersection is projected to operate at year 2030 signalized PM peak-hour LOS "F" conditions. Per Union Crossing Project Draft EIR (May 2009), the following cumulative lane geometrics are recommended at this intersection:

- Northbound Approach: Two left turn lanes, two through lanes and one right-turn lane.
- Southbound Approach: One left turn lane, two through lanes, one right-turn lane.
- Eastbound Approach: One left turn lane, two through lanes, one right-turn lane.

- Westbound Approach: One left turn lane, two through lanes, one right-turn lane.

With these recommended base improvements, this intersection is projected to operate at "Cumulative Base (Current Project Site)" peak hour LOS "D" or better conditions.

Main Street / Yosemite Avenue – Under "Cumulative Base (Current Project Site)" conditions, this City of Manteca intersection is projected to operate at year 2030 signalized PM peak-hour LOS "E" conditions. Per recommendations originally identified in the South Lathrop Specific Plan ADEIR dated (March 2008), the following lane geometrics are recommended at this intersection:

- Northbound Approach: One left turn lane, two through lanes and one right turn lane.
- Southbound Approach: One left turn lane, one through Lane, one shared through-right lane.
- Eastbound Approach: One left turn lane, one through lane, one right-turn lane.
- Westbound Approach: One left turn lane, one through lane, and one right turn lane.

With these recommended improvements, this intersection is projected to operate at "Cumulative Base (Current Project Site)" peak hour LOS "D" or better conditions.

Figure 11 illustrates the recommended improved cumulative baseline intersection geometrics and control.

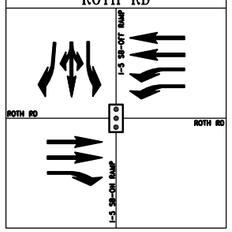
Roadway/Freeway Improvements:

I-5 Mainline from I-205 to French Camp Road – This existing six-to-eight lane segment of I-5 is projected to operate at LOS "F" under "Cumulative Base (Current Project Site)" conditions. The Caltrans *I-5 TCR* (dated July 2001) identifies that the I-5 segment from I-205 to French Camp Road needs to be widened to ten-lanes by year 2025. With this recommended improvement in place, the study segment of I-5 is projected to operate at acceptable LOS "D" under "Cumulative Base (Current Project Site)" conditions. The recommended ten-lane widening is outside of programmed improvements currently identified in the *SJRTP 2007 Tier 1* (funded) improvements. Until adequate long-range funding sources are identified and the necessary cumulative improvements are implemented, projected cumulative baseline deficiencies will remain significant and unavoidable.

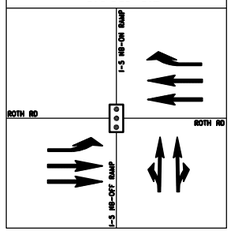
SR 120 Mainline from I-5 I/C to SR 99 I/C – This existing four-lane segment of SR 120 is projected to operate at LOS "F" under "Cumulative Base (Current Project Site)" conditions. The Caltrans *SR 120 TCR* (dated March 2005) identifies that this segment of SR 120 needs to be widened to eight-lanes (with possible HOV lanes) by year 2025. With these recommended prior improvements, this study segment of SR 120 is projected to operate at acceptable LOS "D" for "Cumulative Base (Current Project Site)" conditions. The recommended eight-lane widening is outside of programmed improvements currently identified in the *SJRTP 2007 Tier 1* (funded) improvements. Until adequate long-range funding sources are identified and the necessary cumulative improvements are implemented, projected cumulative baseline deficiencies will remain significant and unavoidable.

SR 120 Ramps and Connectors – The SR 120 WB mainline/off-ramp junctions at Guthmiller Avenue, McKinley Avenue and I-5 are projected to operate at LOS "E" or worse under Cumulative Base (Current Project Site) AM and/or PM peak hour conditions. The cumulative ramp geometrics above and beyond those assumed and evaluated in the *SR 120 / McKinley Avenue Interchange PSR*, may become necessary through year 2030 to address these projected cumulative baseline deficiencies. Until adequate long-range funding sources are identified and the necessary cumulative ramp improvements are implemented, the projected cumulative baseline deficiencies will remain significant and unavoidable.

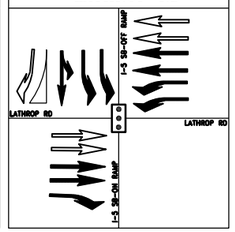
1 I-5 SB RAMPS/ ROTH RD



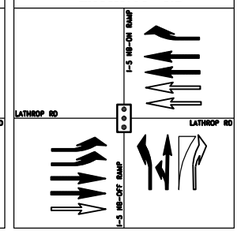
2 I-5 NB RAMPS/ ROTH RD



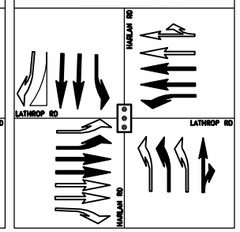
3 I-5 SB RAMPS/ LATHROP RD



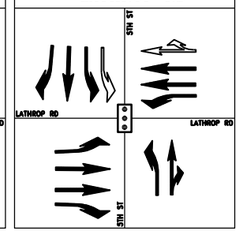
4 I-5 NB RAMPS/ LATHROP RD



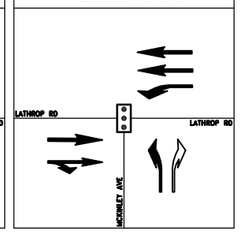
5 HARLAN RD/ LATHROP RD



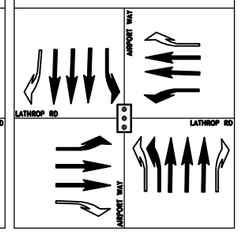
6 5TH ST/ LATHROP RD



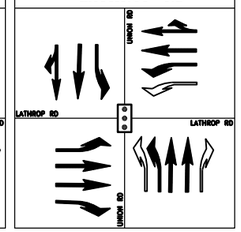
7 MCKINLEY AVE/ LATHROP RD



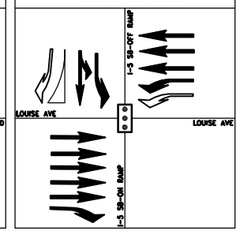
8 AIRPORT WAY/ LATHROP RD



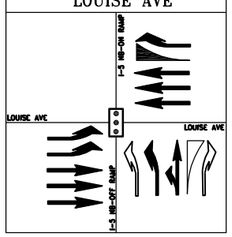
9 UNION RD/ LATHROP RD



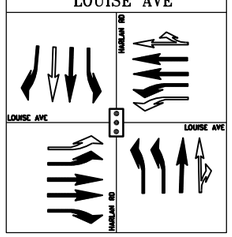
10 I-5 SB RAMPS/ LOUISE AVE



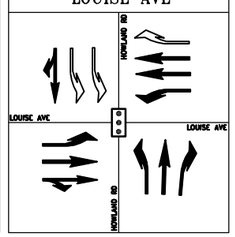
11 I-5 NB RAMPS/ LOUISE AVE



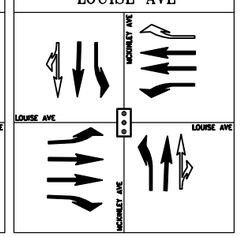
12 HARLAN RD/ LOUISE AVE



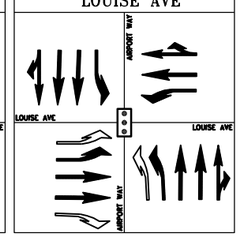
13 HOWLAND RD/ LOUISE AVE



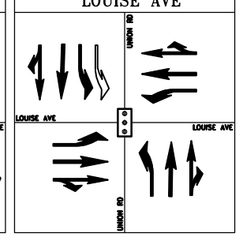
14 MCKINLEY AVE/ LOUISE AVE



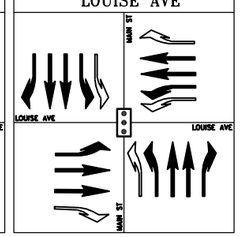
15 AIRPORT WAY/ LOUISE AVE



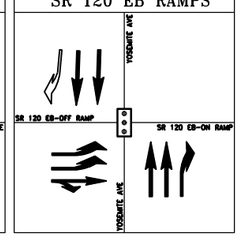
16 UNION RD/ LOUISE AVE



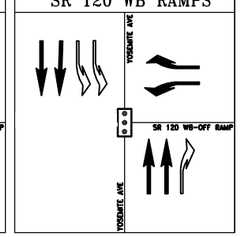
17 MAIN ST/ LOUISE AVE



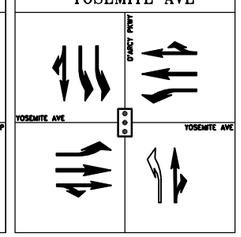
18 YOSEMITE AVE/ SR 120 EB RAMPS



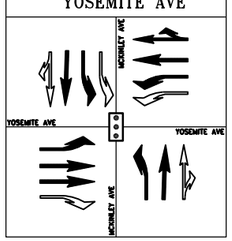
19 YOSEMITE AVE/ SR 120 WB RAMPS



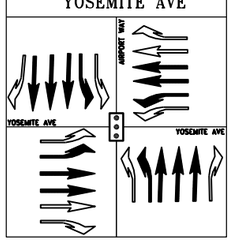
20 D'ARCY PKWY/ YOSEMITE AVE



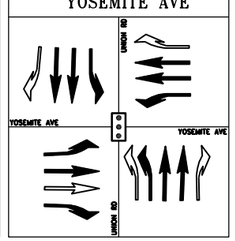
21 MCKINLEY AVE/ YOSEMITE AVE



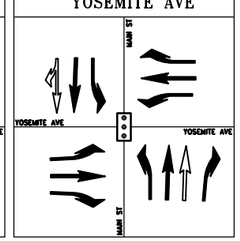
22 AIRPORT WAY/ YOSEMITE AVE



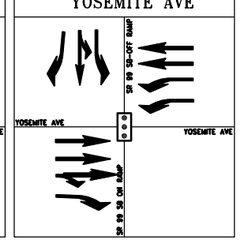
23 UNION RD/ YOSEMITE AVE



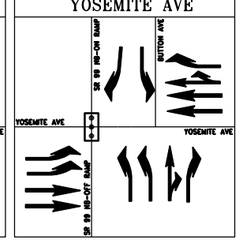
24 MAIN ST/ YOSEMITE AVE



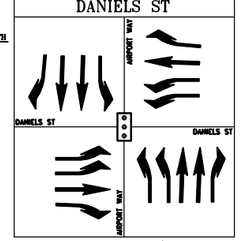
25 SR 99 SB RAMPS/ YOSEMITE AVE



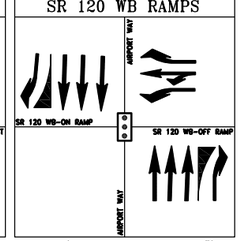
26 SR 99 NB RAMPS/ YOSEMITE AVE



27 AIRPORT WAY/ DANIELS ST



28 AIRPORT WAY/ SR 120 WB RAMPS



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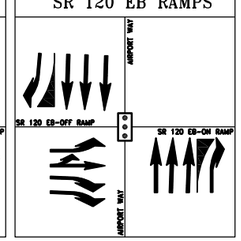
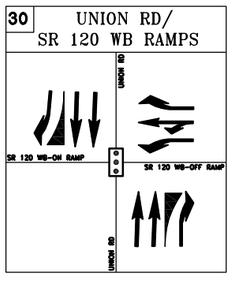


30 UNION RD/ SR 120 WB RAMPS



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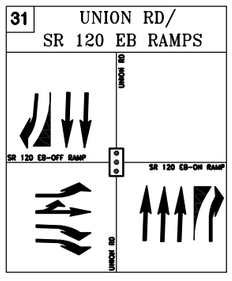
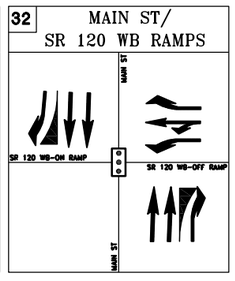


32 MAIN ST/ SR 120 WB RAMPS



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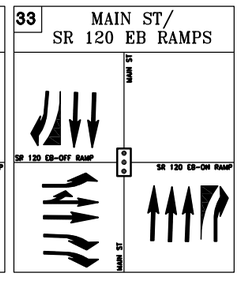
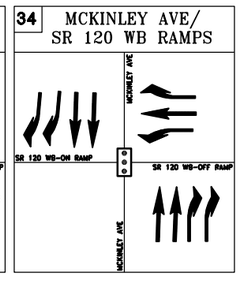
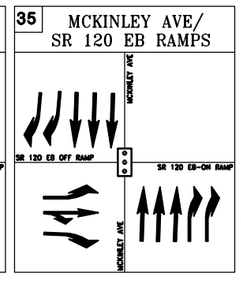
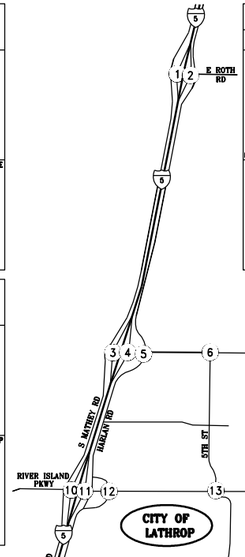


34 MCKINLEY AVE/ SR 120 WB RAMPS



35 MCKINLEY AVE/ SR 120 EB RAMPS





LEGEND:

- TRAFFIC SIGNAL
- STOP — STOP CONTROLLED MOVEMENT
- FREE
- RECOMMENDED CUMULATIVE BASELINE IMPROVEMENTS
- (1) — STUDY INTERSECTION

NOTE: CURRENT PROJECT SITE CONDITIONS ARE ASSUMED IN THIS SCENARIO

Lathrop Gateway Business Park SP Traffic Circulation Study, City of Lathrop, CA

FIGURE 11

RECOMMENDED "CUMULATIVE (2030) BASE" INTERSECTION LANE GEOMETRICS AND CONTROL

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS
3301 C St, Bldg. 100-B Tel 916.341.7760
Sacramento, CA 95816 Fax 916.341.7767

J:\Jobs\8412_LathropGatewayEIR_TS\Traffic\Dwg\Figure11-Recom-CumBaseGeos.dwg 4/06/10 3:16pm achaukar

SR 99 Mainline from south of SR 120 I/C to north of East Yosemite Avenue I/C – This existing four-to-six lane segment of SR 99 is projected to operate at LOS "E" to "F" under "Cumulative Base (Current Project Site)" conditions. Widening of SR 99 mainline from SR 120 to Arch Road from 4 to 6 lanes (along with interchange modifications) is identified in *SJRTP 2007* as a *Tier I* (funded) improvement, subject to approval by year 2010. San Joaquin County General Plan (July 1992) identifies that SR 99 north from SR 120 and through Stockton needs to be widened to six lanes and then to eight lanes, with construction/reconstruction of interchanges along the segment to accommodate planned growth over a 20-year period. The recommended cumulative widening to ten-lane widening is outside of programmed improvements currently identified in the *SJRTP 2007 Tier 1* (funded) improvements. Until adequate long-range funding sources are identified and the necessary cumulative improvements are implemented, projected cumulative baseline deficiencies will remain significant and unavoidable.

Louise Avenue from 5th Street to Airport Way – This five-lane segment of Louise Avenue is projected to operate at LOS "E" under "Cumulative Base (Current Project Site) Conditions". Widening of Louise Avenue from two to four lanes from 5th Street to east of Lathrop City Limit, and from east of UPRR to SR 99 is identified as a *Tier I* (funded) improvement in *SJRTP 2007*. This improvement is also part of City of Lathrop CIP (year 2009-10 through 2013-14) project entitled "*Louise Avenue Rehab Phase II*". However, this segment of Louise Avenue would need to be widened to six lanes under "Cumulative Base (Current Project Site) Conditions". With a six-lane section, the study segment of Louise Avenue is projected to operate at LOS "D" under "Cumulative Base (Current Project Site) Conditions". The recommended cumulative widening to a six-lane section is outside of programmed improvements currently identified in the *SJRTP 2007 Tier 1* (funded) improvements and the City's CIP. Until adequate long-range funding sources are identified and the necessary cumulative improvements are implemented, projected cumulative baseline deficiencies will remain significant and unavoidable.

"CUMULATIVE BASE PLUS PROJECT (FULL BUILDOUT)" CONDITIONS

This section describes project impacts and incremental improvements/mitigations needed with the full long-term buildout of the proposed Specific Plan project, and above and beyond improvements already recommended under "Year 2012 (plus Project Phase 1)" and "Cumulative Base (Current Project Site)" conditions.

Off-Site Facilities:

Following intersection and roadway/freeway segment improvements are projected to be needed above and beyond the cumulative baseline improvements discussed in the "Cumulative Base (Current Project Site)" section. Per agency LOS regulatory policies (as listed in a prior section of this report), project (Specific Plan full buildout) impacts are projected to be "significant" at the following facilities under cumulative conditions. The recommended "Cumulative Base plus Project Buildout" study intersection lane geometrics and control as illustrated on **Figure 12** are projected to provide adequate capacities through "Cumulative Base plus Project Buildout" conditions.

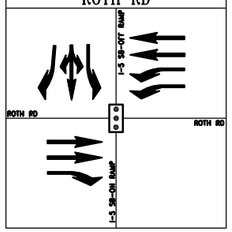
McKinley Avenue / Louise Avenue – Under "Cumulative Base plus Project" conditions, this intersection is projected to operate at year 2030 signalized PM peak-hour LOS "F" conditions. The project impact at this intersection is considered "significant", since the project is projected to worsen traffic operations from cumulative base PM peak hour LOS "D" to "cumulative base plus project" PM peak hour LOS "F" conditions. However, the project impact is projected to be "less than significant" with the implementation of recommended cumulative baseline improvements as discussed in the prior section.

Main Street / Yosemite Avenue – Under "Cumulative Base plus Project" conditions, this City of Manteca intersection is projected to operate at year 2030 signalized PM peak-hour LOS "E" conditions. The project impact is considered "significant" at this intersection, since the project is projected to increase the average delay by five seconds at this intersection under "cumulative base plus project" PM peak hour conditions. However, the project impact is projected to be "less than significant" with the implementation of recommended cumulative baseline improvements as discussed in the prior section. The project would contribute the traffic mitigation fee determined by the Joint Traffic Study for the Cities of Lathrop and Manteca as mitigation for project impact at this intersection.

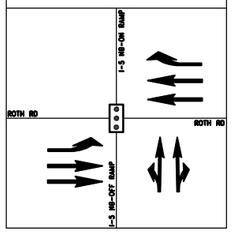
I-5 SB Ramps / Lathrop Road – Under "Cumulative Base plus Project" conditions, this intersection is projected to operate at signalized year 2030 AM and PM peak-hour LOS "F" conditions. The project impact is considered "significant" at this intersection, since the project is projected to add traffic to this Caltrans-maintained intersection already projected to operate at unacceptable LOS "F" under cumulative base AM and PM peak hour conditions. However, the project impact is projected to be "less than significant" with the implementation of recommended cumulative baseline improvements as discussed in the prior section.

I-5 NB Ramps / Lathrop Road – Under "Cumulative Base plus Project" conditions, this intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "F" conditions. The project impact is considered "significant" at this intersection, since the project is projected to add traffic to an Caltrans-maintained intersection which is already projected to operate at unacceptable LOS "F" under cumulative base AM and PM peak hour conditions. However, the project impact is projected to be "less than significant" with the implementation of recommended cumulative baseline improvements as discussed in the prior section.

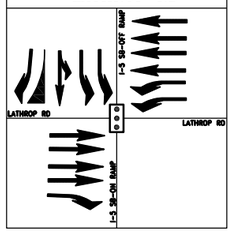
1 I-5 SB RAMPS/ ROTH RD



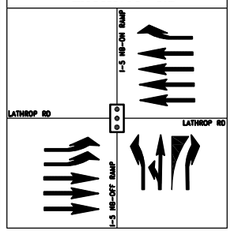
2 I-5 NB RAMPS/ ROTH RD



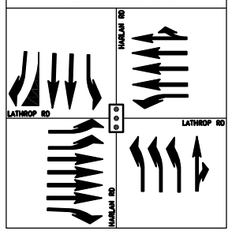
3 I-5 SB RAMPS/ LATHROP RD



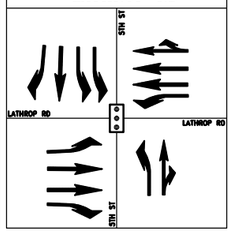
4 I-5 NB RAMPS/ LATHROP RD



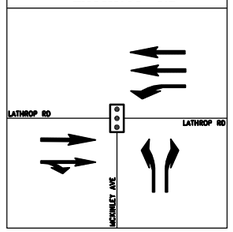
5 HARLAN RD/ LATHROP RD



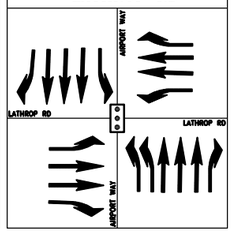
6 5TH ST/ LATHROP RD



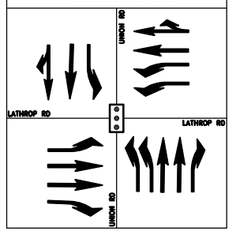
7 MCKINLEY AVE/ LATHROP RD



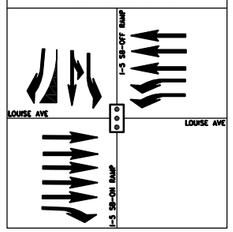
8 AIRPORT WAY/ LATHROP RD



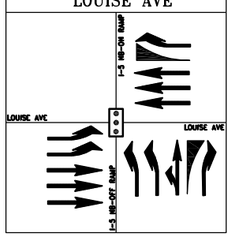
9 UNION RD/ LATHROP RD



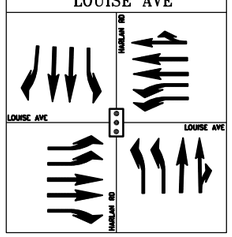
10 I-5 SB RAMPS/ LOUISE AVE



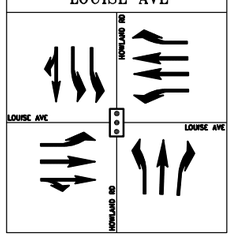
11 I-5 NB RAMPS/ LOUISE AVE



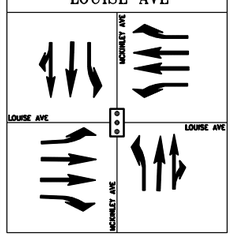
12 HARLAN RD/ LOUISE AVE



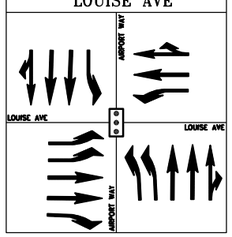
13 HOWLAND RD/ LOUISE AVE



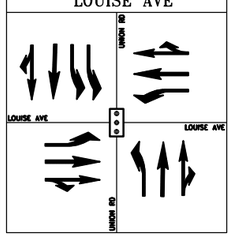
14 MCKINLEY AVE/ LOUISE AVE



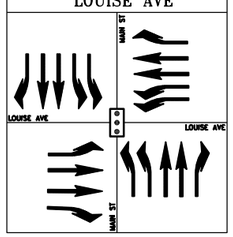
15 AIRPORT WAY/ LOUISE AVE



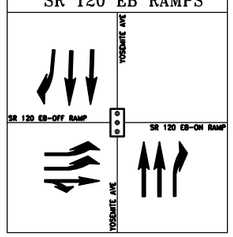
16 UNION RD/ LOUISE AVE



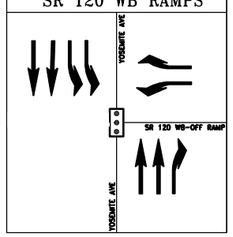
17 MAIN ST/ LOUISE AVE



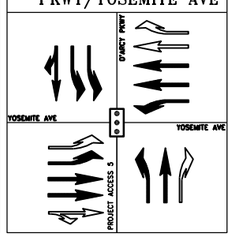
18 YOSEMITE AVE/ SR 120 EB RAMPS



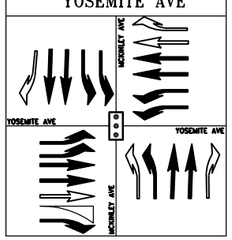
19 YOSEMITE AVE/ SR 120 WB RAMPS



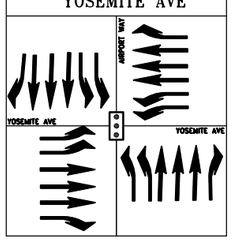
20 PROJ ACC-D'ARCY PKWY/YOSEMITE AVE



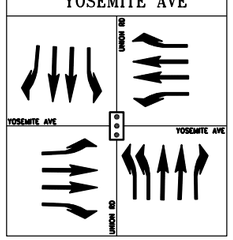
21 MCKINLEY AVE/ YOSEMITE AVE



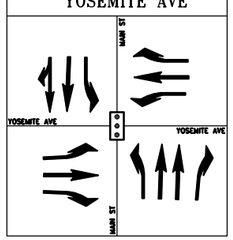
22 AIRPORT WAY/ YOSEMITE AVE



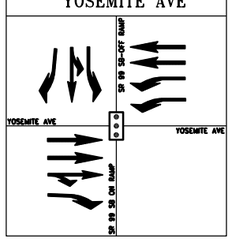
23 UNION RD/ YOSEMITE AVE



24 MAIN ST/ YOSEMITE AVE



25 SR 99 SB RAMPS/ YOSEMITE AVE



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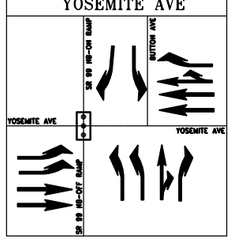
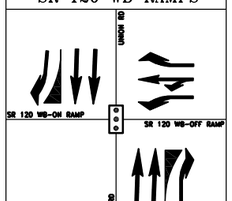


27 AIRPORT WAY/ DANIELS ST

28 AIRPORT WAY/ SR 120 WB RAMPS

29 AIRPORT WAY/ SR 120 EB RAMPS

30 UNION RD/ SR 120 WB RAMPS



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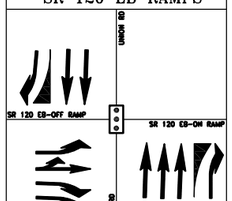

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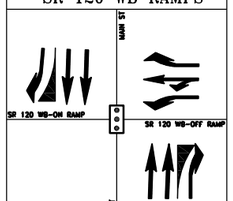

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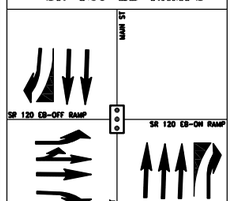
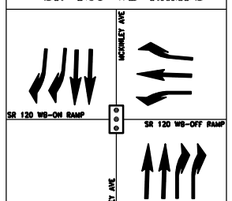


34 MCKINLEY AVE/ SR 120 WB RAMPS



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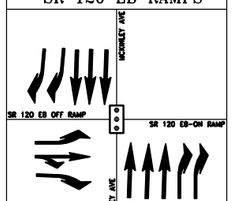
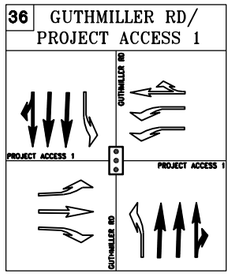
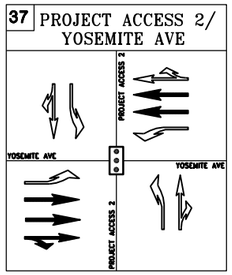


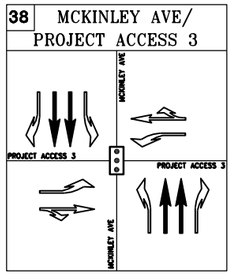
36 GUTHMILLER RD/ PROJECT ACCESS 1



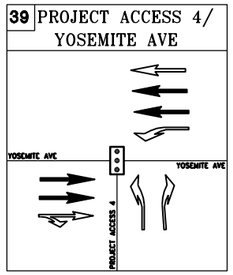
37 PROJECT ACCESS 2/ YOSEMITE AVE



38 MCKINLEY AVE/ PROJECT ACCESS 3



39 PROJECT ACCESS 4/ YOSEMITE AVE



LEGEND:

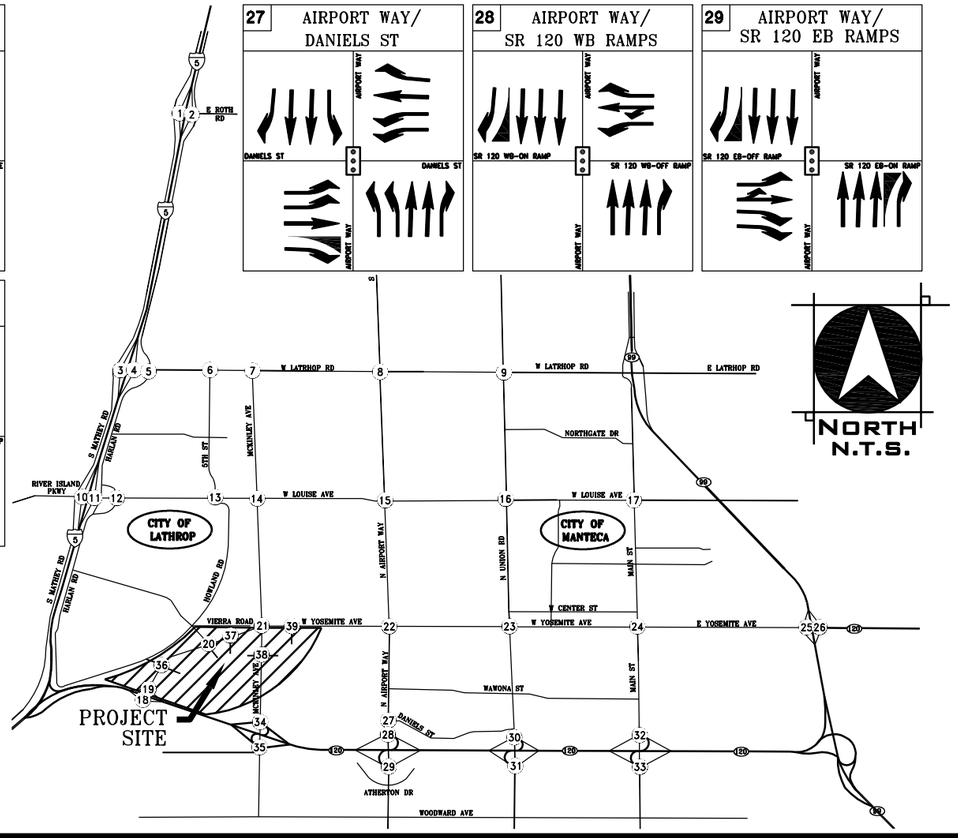
TRAFFIC SIGNAL

FREE

STOP STOP CONTROLLED MOVEMENT

1 STUDY INTERSECTION

RECOMMENDED CUMULATIVE "WITH PROJECT" IMPROVEMENTS



Lathrop Gateway Business Park SP Traffic Circulation Study, City of Lathrop, CA

FIGURE 12

RECOMMENDED "CUMULATIVE (2030) BASE PLUS PROJECT BUILDOUT" INTERSECTION LANE GEOMETRICS AND CONTROL

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS
3301 C St, Bldg. 100-B Tel 916.341.7760
Sacramento, CA 95816 Fax 916.341.7767

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Harlan Road / Lathrop Road – Under "Cumulative Base plus Project" conditions, this intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "F" conditions. The project impact is considered "significant" at this intersection, since the project traffic is projected to increase average delay by 5 or more seconds at this intersection which is projected to operate at unacceptable LOS "F" under cumulative base AM and PM peak hour conditions. However, the project impact is projected to be "less than significant" with the implementation of recommended cumulative baseline improvements as discussed in the prior section.

5th Street / Lathrop Road – Under "Cumulative Base plus Project" conditions, this intersection is projected to operate at year 2030 signalized AM peak-hour LOS "F" conditions. The project impact is considered "significant" at this intersection, since the project is projected to increase average delay by 5 or more seconds at this intersection which is projected to operate at unacceptable LOS "F" under cumulative base AM peak hour conditions. However, the project impact is projected to be "less than significant" with the implementation of recommended cumulative baseline improvements as discussed in the prior section.

McKinley Avenue / Lathrop Road – Under "Cumulative Base plus Project" conditions, this intersection is projected to operate at year 2030 unsignalized AM and PM peak-hour LOS "F" conditions. The project impact is considered "significant" at this intersection, since the project is projected to increase average delay by 5 or more seconds at this intersection which is projected to operate at unacceptable LOS "F" under cumulative base AM and PM peak hour conditions. However, the project impact is projected to be "less than significant" with the implementation of recommended cumulative baseline improvements as discussed in the prior section.

Airport Way / Lathrop Road – Under "Cumulative Base plus Project" conditions, this City of Manteca intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "F" conditions. The project impact is considered "significant" at this intersection, since the project is projected to increase average delay by 5 or more seconds at this intersection which is projected to operate at unacceptable LOS "F" under cumulative base AM and PM peak hour conditions. However, the project impact is projected to be "less than significant" with the implementation of recommended cumulative baseline improvements as discussed in the prior section.

Union Road /Lathrop Road – Under "Cumulative Base plus Project" conditions, this City of Manteca intersection is projected to operate at year 2030 signalized PM peak-hour LOS "F" conditions. The project impact is considered "significant" at this intersection, since the project is projected to increase average delay by 5 or more seconds at this intersection which is projected to operate at unacceptable LOS "F" under cumulative base AM and PM peak hour conditions. However, the project impact is projected to be "less than significant" with the implementation of recommended cumulative baseline improvements as discussed in the prior section.

I-5 SB Ramps / Louise Avenue – Under "Cumulative Base plus Project" conditions, this intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "E" or worse conditions. The project impact is considered "significant" at this intersection, since the project is projected to add traffic to a Caltrans-maintained intersection which is projected to operate at unacceptable LOS "E" or worse under cumulative base AM and PM peak hour conditions. However, the project impact is projected to be "less than significant" with the implementation of recommended cumulative baseline improvements as discussed in the prior section.

Howland Road / Louise Avenue – Under "Cumulative Base plus Project" conditions, this intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "E" conditions. The project impact is considered "significant" at this intersection, since the project is projected to increase

average delay by 5 or more seconds at this intersection which is projected to operate at unacceptable LOS "E" under cumulative base AM and PM peak hour conditions. However, the project impact is projected to be "less than significant" with the implementation of recommended cumulative baseline improvements as discussed in the prior section.

Airport Way / Louise Avenue – Under "Cumulative Base plus Project" conditions, this intersection is projected to operate at year 2030 signalized AM and PM peak-hour LOS "F" conditions. The project impact is considered "significant" at this intersection, since the project is projected to increase average delay by 5 or more seconds at this intersection which is projected to operate at unacceptable LOS "F" under cumulative base AM and PM peak hour conditions. However, the project impact is projected to be "less than significant" with the implementation of recommended cumulative baseline improvements as discussed in the prior section.

Union Road / Louise Avenue – Under "Cumulative Base plus Project" conditions, this City of Manteca intersection is projected to operate at year 2030 signalized PM peak-hour LOS "E" conditions. The project impact is considered "significant" at this intersection, since the project is projected to increase average delay by 5 or more seconds at this intersection which is projected to operate at LOS "E" under cumulative base PM peak hour conditions. However, the project impact is projected to be "less than significant" with the implementation of recommended cumulative baseline improvements as discussed in the prior section.

McKinley Avenue / Yosemite Avenue – Under "Cumulative Base plus Project" conditions, this intersection is projected to operate at year 2030 signalized AM peak-hour LOS "E" or worse conditions. The project impact at this intersection is considered "significant", since the project is projected to worsen traffic operations from cumulative base AM peak hour LOS "C" to "cumulative base plus project" AM peak hour LOS "E" conditions. The following "Cumulative Base plus Project Buildout" improvements are recommended (and assumed) to be constructed above and beyond recommended cumulative baseline improvements.

- Northbound Approach: Addition of one left turn lane and one right-turn lane.
- Southbound Approach: Addition of a right turn lane.
- Eastbound Approach: Addition of one through lane and a free right-turn lane.
- Westbound Approach: Addition of one through lane and one right turn lane.

The project impact is projected to be "less than significant" with the implementation of recommended "cumulative baseline plus project buildout" improvements shown on **Figure 12**.

Airport Way / Yosemite Avenue – Under "Cumulative Base plus Project" conditions, this City of Manteca intersection is projected to operate at year 2030 signalized PM peak-hour LOS "F" conditions. The project impact is considered "significant" at this intersection, since the project traffic is projected to increase average delay by 5 or more seconds at this intersection which is projected to operate at LOS "F" under cumulative base PM peak hour conditions. However, the project impact is projected to be "less than significant" with the implementation of recommended cumulative baseline improvements as discussed in the prior section.

Union Road / Yosemite Avenue – Under "Cumulative Base (Current Project Site)" conditions, this City of Manteca intersection is projected to operate at year 2030 signalized PM peak-hour LOS "F" conditions. The project impact is considered "significant" at this intersection, since the project is projected to increase average delay by 5 or more seconds at this intersection which is projected to operate at LOS "F" under cumulative base PM peak hour conditions. However, the project impact is projected to be "less than significant" with the implementation of recommended cumulative baseline improvements as discussed in the prior section.

The following represents a summary of project-specific "mitigation measures".

The proposed Specific Plan project shall pay towards City of Lathrop's Citywide traffic impact fee program to cover project responsibilities towards cumulative base improvements adopted for City General Plan Circulation and as included in prior Specific Plan Financing Plan studies throughout the City. The project may also be required to pay a "fair-share" of costs towards intersections (as listed above) where project impacts are deemed "significant" under cumulative conditions. Project "fair-share" responsibilities (in percentage terms) towards all study facilities (for reference purposes) are included in Appendix Table 3 and 4.

The proposed Specific Plan project shall be subject of the appropriate traffic mitigation fee determined by the Joint Traffic Study for the Cities of Lathrop and Manteca as mitigation for traffic impacts that this project has on the City of Manteca if and when the Cities of Lathrop and Manteca approve the study and adopt the fees. The project may also be required to pay a "fair-share" of costs towards City of Manteca intersections (as listed above) where project impacts are deemed "significant" under cumulative conditions.

The proposed Specific Plan project shall pay towards *SJCOG RTP 2007*-based regional traffic impact fee program to cover project responsibilities towards *Tier I* (funded) freeway/highway improvements throughout the regional vicinity. The payment of regional traffic impact fees covers project responsibilities towards the planned future construction of the SR 120/McKinley Avenue (new) interchange included in *SJCOG RTP 2007* as a *Tier 1* (funded) improvement.

The payment of regional traffic impact fees as well as project "fair-share" towards the SR 120/Guthmiller Road-Yosemite Avenue interchange covers project responsibilities towards the planned future modifications to the SR 120/Guthmiller Road-Yosemite Avenue interchange included in *SJCOG RTP 2007* as a *Tier II* improvement. Since this is a Tier II (unfunded) improvement, project's full payment towards modifications of this interchange may be necessary if adequate funding sources are not identified. Project may be subject to reimbursement of costs paid beyond project fair-share responsibilities. Project impacts to the SR 120/Guthmiller Road-Yosemite Avenue interchange will remain "significant and unavoidable" until such time that the Caltrans process for planning and design of ultimate interchange improvements is completed and approved, and Caltrans actually constructs the recommended interchange improvements.

As listed in the above sections, it should be noted that several cumulative improvements to study freeway mainline (I-5, SR 120 and SR 99) segments and ramp connectors are projected to become necessary, that may not have been explicitly identified for funding in currently adopted regional traffic impact fee programs. Until adequate long-range funding sources are identified for such improvements and those necessary cumulative improvements are actually implemented, projected cumulative deficiencies on those regional facilities will remain significant and unavoidable. The project may be subject to payment of any regional impact fee increments that may be determined subsequently when regional impact programs are expanded to include funding for such incremental cumulative improvements.

The proposed Specific Plan project shall construct the following transportation improvements prior to cumulative full buildout:

- McKinley Avenue / Yosemite Avenue: Signalization and modifications to the intersection lane geometrics (as shown in **Figure 12**).
- Widening of Guthmiller Road/Yosemite Avenue from two to six lanes from SR 120 to project eastern boundary. (*Note:* Widening from two to four lanes is an *SJRTP 2007 Tier II* unfunded

improvement. The project may be eligible for reimbursement for improvement costs that exceed project fair-share)

The proposed Specific Plan project shall fully construct the access intersections and on-site circulation improvements as described in the following section.

Project Access Intersections and On-Site Circulation

Since project access impacts and on-site impacts are directly related to the proposed project, the project's fair-share contribution is 100% for all improvements described in this section.

Guthmiller Road / Project Access 1 – Under existing conditions, this main "gateway" access intersection to the Specific Plan site does not exist. If operated as a two-way-stop-controlled intersection under "Cumulative Base plus Project (Full Buildout)" conditions, the worst-case movement at this intersection is projected to operate at AM and PM peak-hour LOS "F" conditions. California MUTCD based peak-hour volume traffic signal warrant 3 (urban areas) is projected to be met for AM and/or PM peak-hour traffic volumes. It is both recommended and assumed that this intersection be installed with a traffic signal under "Cumulative Base plus Project (Full Buildout)" conditions, and be provided with the following lane geometrics in order to sustain peak hour LOS "D" or better operations.

- Northbound Approach – One left turn lane, two through lanes, one shared through-right lane.
- Southbound Approach – One left turn lane, two through lanes, one shared through-right lane.
- Eastbound Approach – One left turn lane, one through lane, one right lane.
- Westbound Approach – Two left turn lanes, one shared through-right lane.

Due to this intersection's close proximity to the Yosemite Avenue / SR 120 interchange ramp intersections, it is recommended that appropriate signal interconnect/coordination between the two intersections be implemented.

Yosemite Avenue / Project Access 2 – This intersection is anticipated to provide primary off-site access to/from the project-proposed Limited Industrial (LI) use component. California MUTCD based peak-hour volume traffic signal warrant 3 (urban areas) is projected to be met at this future intersection. This intersection is projected to provide "Cumulative Base plus Project Build-out" AM and PM peak hour LOS "D" or better operations with the installation of a traffic signal and the following recommended intersection lane geometrics:

- Northbound approach – One left turn lane, one shared through-right lane.
- Southbound approach – One left turn lane, one shared through-right lane.
- Eastbound Approach – One left turn lane, two through lanes, one shared through-right lane.
- Westbound approach – One left turn lane, two through lanes, one shared through-right lane

McKinley Avenue / Project Access 3 – California MUTCD based peak-hour volume traffic signal warrant 3 (urban areas) is projected to be met at this future intersection. This intersection is projected to provide acceptable "Cumulative Base plus Project Build-out" AM and PM peak hour LOS "C" or better operations with the installation of a traffic signal and the following recommended intersection lane geometrics:

- Northbound approach – One left turn lane, two through lanes and one right lane.
- Southbound approach – One left turn lane, two through lanes and one right lane.
- Eastbound Approach – One left turn lane, and one shared through-right lane.
- Westbound approach – One left turn lane, and one shared through-right lane

Yosemite Avenue / Project Access 4 – California MUTCD based peak-hour volume traffic signal warrant 3 (urban areas) is projected to be met at this future intersection. This intersection is projected to provide "Cumulative Base plus Project Build-out" AM and PM peak hour LOS "C" or better operations with the installation of a traffic signal and the following recommended intersection lane geometrics:

- Northbound approach – One left turn lane, and one right turn lane.
- Eastbound Approach – One left turn lane, two through lanes, one shared through-right lane.
- Westbound approach – One left turn lane, and three through lanes.

D'Arcy Parkway / Yosemite Avenue / Project Access 5 – Under existing conditions, this project access intersection exists as a three-legged signalized intersection. The proposed project access would serve as the south leg (including the northbound approach and southbound receiving lanes). This intersection is projected to provide "Cumulative Base plus Project Build-out" AM and PM peak hour LOS "C" or better operations with the following recommended intersection lane geometrics:

- Northbound approach – One left turn lane, one through lane, and one right turn lane.
- Southbound approach – Two left turn lanes, and one shared through-right lane.
- Eastbound approach – Two left turn lanes, two through lanes, one shared through-right lane.
- Westbound approach – One left turn lane, three through lanes, one right turn lane.

Project Impacts on Public Transit

The proposed project's impact on existing public transit system is projected to be less than significant. The proposed project is not projected to increase demand for public transit service in a significant manner.

Project Impacts on Bike/Pedestrian Facilities

With the Specific Plan-proposed roadway cross-sections, the proposed project's impact on existing/proposed pedestrian/bikeway circulation facilities within project vicinity is projected to be less than significant.

"Cumulative Base (City GP Land Use on Project Site)" Conditions

No intersection or roadway/freeway improvements above and beyond those discussed in the prior sections are projected to become necessary under "Cumulative Base (City GP Land Uses on Project Site) Conditions".

APPENDIX

APPENDIX TABLE 1 – LEVEL OF SERVICE SUMMARY ("MITIGATION MATRIX")
APPENDIX TABLE 2 – RAMP JUNCTIONS LEVEL OF SERVICE SUMMARY
APPENDIX TABLE 3 & 4 – PROJECT FAIR-SHARE ESTIMATES

ATTACHMENTS
- EXHIBIT 1 – TRIP INTERNALIZATION CALCULATION WORKSHEET
- EXHIBIT 2 – TRIP GENERATION CALCULATION WORKSHEET FOR CITY GP LAND USES ON PROJECT SITE
- EXHIBIT 3 – "CUMULATIVE BASE PLUS PROJECT" TRAFFIC VOLUMES WITHOUT SR 120/MCKINLEY AVE INTERCHANGE

LEVEL OF SERVICE WORKSHEETS
SIGNAL WARRANT ANALYSIS WORKSHEETS

APPENDIX TABLE - 1
SUMMARY OF INTERSECTION LEVEL-OF-SERVICE ("MITIGATION MATRIX")

#	Intersection:	Agency Jurisdiction	2009 Base					Year 2012 Base					Year 2012 plus Project Phase 1					2030 Base (Current Project Site)					2030 Base plus Project					2030 GP Base (City GP Land Use on Project Site)					2030 Base (Current Project Site) Improved					2030 Base plus Project (Improved)					2030 Base plus Project (Without SR 120 / McKinley Interchange				
			Control Type	AM Pk Hr		PM Pk Hr		Control Type	AM Pk Hr		PM Pk Hr		Control Type	AM Pk Hr		PM Pk Hr		Control Type	AM Pk Hr		PM Pk Hr		Control Type	AM Pk Hr		PM Pk Hr		Control Type	AM Pk Hr		PM Pk Hr		Control Type	AM Pk Hr		PM Pk Hr		Control Type	AM Pk Hr		PM Pk Hr		Control Type	AM Pk Hr		PM Pk Hr	
				LOS	Delay	LOS	Delay		LOS	Delay	LOS	Delay		LOS	Delay	LOS	Delay		LOS	Delay	LOS	Delay		LOS	Delay	LOS	Delay		LOS	Delay	LOS	Delay		LOS	Delay	LOS	Delay		LOS	Delay	LOS	Delay		LOS	Delay	LOS	Delay
1	I-5 SB Ramps / Roth Rd	Caltrans	TWSC	B	12.0	B	11.5	TWSC	B	12.3	B	11.7	TWSC	B	12.3	B	11.8	Signal	B	15.3	C	20.6	Signal	B	15.2	C	20.5	Signal	B	15.2	B	18.3	Signal	B	17.4	B	18.4	Signal	B	17.3	C	20.5	Signal	B	15.2	B	18.3
2	I-5 NB Ramps / Roth Rd	Caltrans	TWSC	A	11.3	B	11.3	TWSC	B	11.5	B	11.5	TWSC	B	11.5	B	11.5	Signal	B	15.3	C	24.6	Signal	B	15.3	C	24.6	Signal	B	15.3	C	22.2	Signal	B	12.1	C	22	Signal	B	12.1	C	24.6	Signal	B	15.3	C	22.3
3	I-5 SB Ramps / Lathrop Rd	Caltrans	TWSC	**F**	**203.2**	**F**	**139.9**	TWSC	**F**	**279.8**	**F**	**189.4**	TWSC	**F**	**318.4**	**F**	**199.5**	Signal	**F**	**93.9**	**F**	**319.7**	Signal	**F**	**107.9**	**F**	**323.3**	Signal	**F**	**92.3**	**F**	**308.6**	Signal	C	20.2	D	51.0	Signal	C	21.9	D	51.5	Signal	**F**	**99.7**	**F**	**319.5**
4	I-5 NB Ramps / Lathrop Rd	Caltrans	TWSC	C	23.2	**E**	**46.9**	TWSC	C	24.9	**F**	**64.2**	TWSC	D	25.6	**F**	**66.5**	Signal	**F**	**169.9**	**F**	**256.9**	Signal	**F**	**189.1**	**F**	**264.7**	Signal	**F**	**144.5**	**F**	**255.6**	Signal	B	17.7	B	14.0	Signal	C	20.2	B	14.1	Signal	**F**	**197.3**	**F**	**254.8**
5	Harlan Rd / Lathrop Rd	Lathrop	Signal	C	26.7	C	31.0	Signal	C	27.3	C	31.6	Signal	C	27.1	C	31.5	Signal	**F**	**307.0**	**F**	**342.3**	Signal	**F**	**355.9**	**F**	**348.2**	Signal	**F**	**310.4**	**F**	**340.7**	Signal	C	25.0	D	40.1	Signal	C	25.5	D	41.7	Signal	**F**	**309.3**	**F**	**315.1**
6	5th St / Lathrop Rd	Lathrop	Signal	B	20.1	B	19.7	Signal	C	20.2	B	19.9	Signal	B	19.8	B	19.7	Signal	**F**	**85.4**	**E**	**65.0**	Signal	**F**	**85**	**E**	**65.4**	Signal	**F**	**100.6**	**E**	**65.2**	Signal	C	26.4	D	47.5	Signal	C	24.0	D	43.8	Signal	**F**	**86.6**	**E**	**65.1**
7	McKinley Ave / Lathrop Rd	Lathrop	TWSC	D	25.7	D	25.6	TWSC	D	29.0	D	28.7	TWSC	D	34.9	E	41.1	TWSC	**F**	**439.9**	**F**	**OVFL**	TWSC	**F**	**907.6**	**F**	**OVFL**	TWSC	**F**	**OVFL**	**F**	**OVFL**	Signal	A	8.6	D	46.4	Signal	A	11.5	D	49.9	TWSC	**F**	**OVFL**	**F**	**OVFL**
8	Airport Way / Lathrop Rd	Manteca	Signal	C	27.1	C	26.7	Signal	C	27.6	C	27.2	Signal	C	28.0	C	27.5	Signal	**F**	**85.2**	**F**	**119.2**	Signal	**F**	**90.8**	**F**	**128.5**	Signal	**F**	**99.8**	**F**	**126.7**	Signal	D	45.0	D	41.1	Signal	D	54.1	D	45.6	Signal	**F**	**90.1**	**F**	**131.1**
9	Union Rd / Lathrop Rd	Manteca	Signal	C	29.0	C	30.9	Signal	C	29.2	C	31.1	Signal	C	29.3	C	31.2	Signal	C	33.9	**F**	**96.4**	Signal	D	34.8	**F**	**102.7**	Signal	C	37.2	**F**	**103.9**	Signal	C	27.2	D	41.3	Signal	C	26.4	D	42.8	Signal	C	34.7	**F**	**103.2**
10	I-5 SB Ramps / Louise Ave	Caltrans	Signal	C	27.7	C	25.4	Signal	C	28.2	C	25.7	Signal	C	28.3	C	25.6	Signal	**F**	**151.1**	**E**	**58.1**	Signal	**F**	**140.6**	**E**	**64.9**	Signal	**F**	**154.4**	**E**	**59.9**	Signal	D	36.0	B	18.4	Signal	D	38.2	B	18.6	Signal	**F**	**154.2**	**E**	**64.9**
11	I-5 NB Ramps / Louise Ave	Caltrans	Signal	B	19.8	C	25.5	Signal	C	20.1	C	26.4	Signal	C	20.1	C	26.5	Signal	D	43.6	**E**	**63.0**	Signal	D	44.0	**E**	**68.1**	Signal	D	44.0	**E**	**67.7**	Signal	C	25.4	B	19.0	Signal	C	23.6	B	21.3	Signal	D	44.9	**E**	**67.9**
12	Harlan Rd / Louise Ave	Lathrop	Signal	C	22.8	C	27.2	Signal	C	22.9	C	27.4	Signal	C	22.9	C	27.3	Signal	**F**	**124.2**	**E**	**66.7**	Signal	**F**	**125.6**	**E**	**67.9**	Signal	**F**	**124.9**	**E**	**68.3**	Signal	C	27.2	D	37.4	Signal	C	28.1	D	38.3	Signal	**F**	**125.7**	**E**	**67.9**
13	Howland Dr / Louise Ave	Lathrop	Signal	B	16.7	B	18.8	Signal	B	16.8	B	19.0	Signal	B	16.9	B	18.9	Signal	**E**	**74.0**	**E**	**67.0**	Signal	**E**	**79.4**	**E**	**70.4**	Signal	**E**	**77.6**	**E**	**66.6**	Signal	C	23.6	C	26.0	Signal	B	16.7	C	23.0	Signal	**F**	**81.1**	**E**	**66.9**
14	McKinley Ave / Louise Ave	Lathrop	Signal	C	23.5	C	21.7	Signal	C	23.7	C	22.2	Signal	C	26.6	C	24.3	Signal	**E**	**60.1**	D	35.4	Signal	**E**	**63.8**	**F**	**81.7**	Signal	**E**	**71.6**	**E**	**70.6**	Signal	D	33.6	D	27.5	Signal	D	40.0	D	50.3	Signal	**E**	**63.1**	**F**	**82.2**
15	Airport Way / Louise Ave	Manteca	Signal	C	29.0	C	34.3	Signal	C	29.2	D	35.6	Signal	C	29.5	D	36.4	Signal	**E**	**73.3**	**F**	**189.4**	Signal	**F**	**82.6**	**F**	**204.1**	Signal	**F**	**86.6**	**F**	**196.1**	Signal	C	30.2	D	42.7	Signal	D	32.4	D	49.5	Signal	**F**	**82.3**	**F**	**202.3**
16	Union Rd / Louise Ave	Manteca	Signal	C	31.4	D	36.0	Signal	C	31.6	D	37.1	Signal	C	31.6	D	37.7	Signal	D	40.9	**E**	**57.7**	Signal	D	43.8	**E**	**71.9**	Signal	D	45.1	**E**	**68.4**	Signal	C	31.7	D	41.2	Signal	C	34.7	D	51.2	Signal	D	43.1	**E**	**71.1**
17	Main St / Louise Ave	Manteca	Signal	C	32.0	**E**	**58.0**	Signal	C	32.2	**E**	**66.5**	Signal	C	32.3	**E**	**67.5**	Signal	D	41.1	**F**	**120.1**	Signal	D	41.4	**F**	**122.0**	Signal	D	44.0	**F**	**118.9**	Signal	C	32.3	D	48.3	Signal	D	32.8	D	48.5	Signal	D	43.4	**F**	**124.7**
18	Yosemite Ave / SR 120 EB Ramps	Caltrans	TWSC	B	9.8	B	13.0	TWSC	A	9.9	B	12.8	TWSC	B	12.7	C	21.7	Signal	B	14.3	C	23.5	Signal	B	20.0	C	33.1	Signal	C	21.5	C	23.6	Signal	B	11.7	B	19.3	Signal	B	17.9	C	18.5	Signal	**F**	**84.5**	**F**	**398.0**
19	Yosemite Ave / SR 120 WB Ramps	Caltrans	TWSC	A	9.5	B	10.1	TWSC	A	9..6	B	10.2	TWSC	B	12.2	B	11.4	Signal	B	13.7	B	18.0	Signal	C	21.7	C	21.0	Signal	C	25.0	B	19.2	Signal	B	11.0	A	9.4	Signal	B	18.1	C	33.9	Signal	**F**	**159.5**	**F**	**313.2**
20	D'Arcy Pkwy / Yosemite Ave	Lathrop	Signal	C	21.5	C	21.6	Signal	C	21.5	C	21.6	Signal	B	15.7	C	21.7	Signal	B	15.0	C	30.5	Signal	B	12.9	C	34.8	Signal	B	10.9	D	37.1	Signal	B	13.1	C	27.5	Signal	B	12.9	C	34.8	Signal	B	16.6	**F**	**112.7**
21	McKinley Ave / Yosemite Ave	Lathrop	AWSC	A	9.5	B	10.7	AWSC	A	9.7	B	11.1	AWSC	B	15.5	**E**	**44.1**	Signal	C	25.7	C	25.1	Signal	C	28.8	D	50.6	Signal	D	45.4	C	34.7	Signal	D	49.5	C	32.9	Signal	C	28.8	D	50.6	Signal	D	43.7	**E**	**72.1**
22	Airport Way / Yosemite Ave	Lathrop	Signal	C	31.6	D	35.0	Signal	C	31.8	D	35.8	Signal	C	32.2	D	38.6	Signal	C	29.6	**F**	**96.5**	Signal	D	51.2	**F**	**194.0**	Signal	**E**	**61.9**	**F**	**163.1**	Signal	C	20.6	C	28.5	Signal	C	31.0	C	34.6	Signal	**F**	**84.9**	**F**	**313.1**
23	Union Rd / Yosemite Ave	Manteca	Signal	C	31.1	D	39.3	Signal	C	31.3	D	41.4	Signal	C	32.8	D	49.7	Signal	D	39.7	**F**	**102.5**	Signal	D	47.2	**F**	**192.9**	Signal	D	47.5	**F**	**168.0**	Signal	C	27.6	D	37.5	Signal	D	34.0	D	48.3	Signal	D	49.6	**F**	**219.1**
24	Main St / Yosemite Ave	Manteca	Signal	C	30.5	D	35.4	Signal	C	31.4	D	37.4	Signal	C	34.7	D	43.4	Signal	C	29.3	**E**	**61.6**	Signal	D	47.0	**E**	**78.9**	Signal	**E**	**59.6**	**E**	**70.6**	Signal	C	25.1	D	41.2	Signal	C	34.2	D	54.4	Signal	**E**	**64.0**	**F**	**105.1**
25	SR 99 SB Ramps / Yosemite Ave	Caltrans	Signal	C	27.6	C	30.6	Signal	C	27.9	C	31.3	Signal	C	28.5	C	32.0	Signal	B	14.4	C	25.6	Signal	B	16.6	C	22.1	Signal	B	15.4	C	25.9	Signal	B	16.0	C	20.4	Signal	C	24.1	C	26.3	Signal	C	24.5	C	22.9
26	SR 99 NB Ramps / Yosemite Ave	Caltrans	Signal	C	28.7	C	29.3	Signal	C	28.9	C	29.7	Signal	C	29.4	C	29.9	Signal	C	27.6	C	33.6	Signal	C	31.6	D	38.3	Signal	C	28.9	D	38.5	Signal	C	26.9	D	32.3	Signal	C	32.7	D	36.4	Signal	B	19.1	D	36.9
27	Airport Way / Daniels St	Manteca	Signal	B	18.9	B	19.0	Signal	B	19.0	B	19.2	Signal	B	18.9	B	19.1	Signal	B	18.0	C	27.1	Signal	C	26.9	C	27.5	Signal	B	19.3	C	26.6	Signal	B	18.3	C	27.9	Signal	C	23.8	C	28.2	Signal	C	22.5	D	36.6
28	Airport Way / SR 120 WB Ramps	Caltrans	Signal	C	21.2	C	21.0	Signal	C	22.0	C	22.0	Signal	C	22.0	C	22.1	Signal	C	23.8	B	16.0	Signal	C	24.5	B	15.9	Signal	C	25.2	B	16.9	Signal	C	23.8	B	17.9	Signal	C	26.1	B	18.0	Signal	D	39.8	B	19.8
29	Airport Way / SR 120 EB Ramps	Caltrans	Signal	C	17.2	C	26.1	Signal	B	18.6	C	26.6	Signal	B	18.5	C	26.6	Signal	A	10.0	C	23.3	Signal	A	9.6	C	24.8	Signal	B	10.2	C	25.4	Signal	A	10.0	C	25.4	Signal	A	10.8	C	26.8	Signal	B	11.2	D	54.3
30	Union Rd / SR 120 WB Ramps	Caltrans	Signal	C	23.0	B	19.5	Signal	C	25.8	C	25.3	Signal	C	26.1	C	25.4	Signal	A	9.5	B	16.2	Signal	A	9.6	B	15.7	Signal	A	9.7	B	15.3	Signal	A	8.0	B	15.4	Signal	B	10.1	B	12.9	Signal	A	9.6	B	15.6
31	Union Rd / SR 120 EB Ramps	Caltrans	Signal	B	18.5	C	26.1	Signal	C	22.4	C	31.2	Signal	C	22.4	C	31.4	Signal	A	7.6	C	24.0	Signal	A	7.7	C	23.5	Signal	A	7.8	C	23.8	Signal	A	7.3	C	22.8	Signal	A	8.0	C	22.9	Signal	A	7.6	C	23.6
32	Main St / SR 120 WB Ramps	Caltrans	Signal	C	23.0	B	19.5	Signal	C	23.4	C	20.2	Signal	C	23.4	C	20.2	Signal	A	6.2	B	13.0	Signal	A	6.1	C	13.4	Signal	A	6.1	B	13.3	Signal	A	5.1	B	13.3	Signal	A	7.0	B	13.5	Signal	A	6.4	B	14.3
33	Main St / SR 120 EB Ramps	Caltrans	Signal	C	25.3	C	27.6	Signal	C	25.8	C	28.4	Signal	C	25.8	C	28.6	Signal	B	10.4	C	21.4	Signal	B	10.5	C	22.5	Signal	B	10.6	C	22.2	Signal	B	8.6	C	20.9	Signal	B	8.4	C	22.4	Signal	B	10.4	C	24.5
34	McKinley Ave / SR 120 WB Ramps	Caltrans																Signal	B	18.6	B	13.3	Signal	C	20.0	B	17.9	Signal	C	22.3	B	16.0	Signal	C	23.1	B	16.5	Signal	C	22.4	B	17.3					
35	McKinley Ave / SR 120 EB Ramps	Caltrans																Signal	D	36.0	D	53.7	Signal	C	34.5	D	50.9	Signal	C	34.1	D	51.8	Signal	D	36.0	D	53.7	Signal	D	34.5	D	51.0					
36	Guthmiller Road / Project Access 1	Lathrop																Signal	B	18.3	C	26.6															Signal	B	18.3	C	26.6					
37	Yosemite Ave / Project Access 2	Lathrop																Signal	C	22.7	B	14.3															Signal	C	22.7	B	14.3					
38	McKinley Ave / Project Access 3	Lathrop																Signal	C	27.4	C	24.4															Signal	C	27.4	C	24.4					
39	Yosemite Ave / Project Access 4	Lathrop																Signal	A	7.9	B	14.3															Signal	A	7.9	B	14.3					

Note: **XX = Unacceptable LOS, OVFL = Overflow, Year 2012 Base = 5% growth on 2009 Base**

Appendix Table-1 (Continued)
Roadway Segments LOS Summary

Roadway/ Freeway Segment	Agency Jurisdiction	2009 Base			Year 2012 Base			Year 2012 plus Project Phase 1			2030 Base (Current Project Site)			2030 Base plus Project			2030 GP Base (City GP Land Uses on Project Site)		
		Functional Capacity Configuration	AADT	LOS	Functional Capacity Configuration	AADT	LOS	Functional Capacity Configuration	AADT	LOS	Functional Capacity Configuration	AADT	LOS	Functional Capacity Configuration	AADT	LOS	Functional Capacity Configuration	AADT	LOS
Interstate 5 mainline – from I-205 I/C to SR 120 I/C	Caltrans	8-Ln Freeway	**160,000**	**F**	8-Ln Freeway	**168,100**	**F**	8-Ln Freeway	**169,300**	**F**	8-Ln Freeway	**334,100**	**F**	8-Ln Freeway	**342,020**	**F**	8-Ln Freeway	**340,160**	**F**
Interstate 5 mainline – from SR 120 I/C to Lathrop Rd I/C	Caltrans	6-Ln Freeway	106,000	D	6-Ln Freeway	111,200	D	6-Ln Freeway	**112,200**	**E**	8-Ln Freeway	**265,800**	**F**	8-Ln Freeway	**271,500**	**F**	8-Ln Freeway	**270,090**	**F**
Interstate 5 mainline – from Lathrop Rd I/C to French Camp Rd I/C	Caltrans	6-Ln Freeway	104,000	D	6-Ln Freeway	109,100	D	6-Ln Freeway	110,200	D	8-Ln Freeway	**260,800**	**F**	8-Ln Freeway	**266,150**	**F**	8-Ln Freeway	**264,890**	**F**
SR 120 mainline – from I-5 I/C to Yosemite Ave/Guthmiller Rd I/C	Caltrans	4-Ln Freeway	**77,000**	**E**	4-Ln Freeway	**79,300**	**F**	4-Ln Freeway	**82,200**	**F**	6-Ln Freeway	**172,900**	**F**	6-Ln Freeway	**187,040**	**F**	6-Ln Freeway	**183,570**	**F**
SR 120 mainline – from Yosemite/Guthmiller I/C to Airport Way I/C	Caltrans	4-Ln Freeway	63,000	D	4-Ln Freeway	66,100	D	4-Ln Freeway	67,200	D	6-Ln Freeway	**141,500**	**F**	6-Ln Freeway	**153,040**	**F**	6-Ln Freeway	**149,820**	**F**
SR 120 mainline – from Airport Way I/C to Main St I/C	Caltrans	4-Ln Freeway	61,000	C	4-Ln Freeway	64,000	D	4-Ln Freeway	65,000	D	6-Ln Freeway	**137,000**	**F**	6-Ln Freeway	**146,430**	**F**	6-Ln Freeway	**143,850**	**F**
SR 120 mainline – from Main St I/C to SR 99 I/C	Caltrans	4-Ln Freeway	70,000	D	4-Ln Freeway	73,400	D	4-Ln Freeway	74,300	D	6-Ln Freeway	**157,200**	**F**	6-Ln Freeway	**165,210**	**F**	6-Ln Freeway	**163,050**	**F**
SR 99 mainline – south of SR 120 I/C	Caltrans	6-Ln Freeway	108,000	D	6-Ln Freeway	**113,100**	**E**	6-Ln Freeway	**114,500**	**E**	6-Ln Freeway	**169,100**	**F**	6-Ln Freeway	**175,750**	**F**	6-Ln Freeway	**174,160**	**F**
SR 99 mainline – from SR 120 I/C to East Yosemite Ave I/C	Caltrans	6-Ln Freeway	88,000	C	6-Ln Freeway	92,300	D	6-Ln Freeway	93,200	D	6-Ln Freeway	**137,800**	**F**	6-Ln Freeway	**141,010**	**F**	6-Ln Freeway	**140,310**	**F**
SR 99 mainline – north of East Yosemite Ave I/C	Caltrans	4-Ln Freeway	70,000	D	4-Ln Freeway	73,400	D	4-Ln Freeway	73,800	D	6-Ln Freeway	**109,600**	**E**	6-Ln Freeway	111,160	D	6-Ln Freeway	110,840	D
Yosemite Ave – from SR 120 I/C to D'Arcy Parkway	Lathrop	2-Ln Arterial	5,000	A	2-Ln Arterial	5,300	A	2-Ln Arterial	9,100	A	2-Ln Arterial	16,700	A	6-Ln Arterial	27,250	A	6-Ln Arterial	25,070	A
Yosemite Ave – from D'Arcy Parkway to Airport Way	Lathrop	3-Ln Arterial	6,700	A	3-Ln Arterial	8,000	A	3-Ln Arterial	10,800	A	4-Ln Arterial	25,300	D	6-Ln Arterial	37,710	B	6-Ln Arterial	34,590	B
Yosemite Ave – from Airport Way to Union Rd	Manteca	5-Ln Arterial	17,200	A	4-Ln Arterial	18,800	A	4-Ln Arterial	20,800	A	5-Ln Arterial	27,300	C	5-Ln Arterial	**35,220**	**E**	5-Ln Arterial	**33,310**	**E**
Yosemite Ave – from Union Rd to Main St	Manteca	3-Ln Arterial	6,900	A	4-Ln Arterial	8,000	A	4-Ln Arterial	9,200	A	4-Ln Arterial	13,000	A	5-Ln Arterial	17,570	C	5-Ln Arterial	16,560	C
Yosemite Ave – from Main St to SR 99	Manteca	5-Ln Arterial	13,100	A	4-Ln Arterial	13,700	A	4-Ln Arterial	15,100	A	4-Ln Arterial	18,300	B	5-Ln Arterial	21,210	A	5-Ln Arterial	20,600	A
Airport Way – from SR 120 I/C to Yosemite Ave	Lathrop	3-Ln Arterial	10,100	A	3-Ln Arterial	10,500	A	3-Ln Arterial	10,800	A	6-Ln Arterial	22,500	A	6-Ln Arterial	28,190	C	6-Ln Arterial	28,100	C
Airport Way – from Yosemite Ave to Louise Ave	Lathrop	3-Ln Arterial	10,400	A	3-Ln Arterial	6,900	A	3-Ln Arterial	11,000	A	6-Ln Arterial	32,800	B	6-Ln Arterial	34,400	B	6-Ln Arterial	33,920	B
Airport Way – from Louise Ave to Lathrop Rd	Lathrop	3-Ln Arterial	6,200	A	3-Ln Arterial	6,400	A	3-Ln Arterial	6,600	A	6-Ln Arterial	23,700	A	6-Ln Arterial	24,460	A	6-Ln Arterial	24,270	A
McKinley Ave – from Yosemite Ave to Louise Ave	Lathrop	2-Ln Arterial	4,300	A	2-Ln Arterial	4,500	A	2-Ln Arterial	5,700	A	2-Ln Arterial	10,200	B	4-Ln Arterial	14,190	A	4-Ln Arterial	13,200	A
McKinley Ave – from Louise Ave to Lathrop Rd	Lathrop	2-Ln Arterial	1,400	A	2-Ln Arterial	1,500	A	2-Ln Arterial	2,200	A	2-Ln Arterial	6,100	A	2-Ln Arterial	7,910	A	2-Ln Arterial	7,480	A
Louise Ave – from I-5 to 5th St	Lathrop	5-Ln Arterial	10,200	A	5-Ln Arterial	10,800	A	5-Ln Arterial	10,900	A	5-Ln Arterial	29,300	D	5-Ln Arterial	30,050	D	5-Ln Arterial	29,850	D
Louise Ave – from 5th St to Airport Way	Lathrop	3-Ln Arterial	9,300	A	3-Ln Arterial	9,800	A	3-Ln Arterial	10,100	A	5-Ln Arterial	**33,100**	**E**	5-Ln Arterial	**34,390**	**E**	5-Ln Arterial	**34,040**	**E**

Note: AADT = Average Annual Daily Traffic, Ln = Lane, LOS = Level of Service, **XX = Unacceptable LOS**

APPENDIX TABLE - 2

RAMP JUNCTION ANALYSIS SUMMARY

Table 2A. Existing (2009) Ramp Junction Traffic Operations

SR 101 Mainline-Ramp Junction	Junction Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
SR 120 EB Off-Ramp to Guthmiller Rd	Diverge	17.5	B	33.0	D
SR 120 EB On-Ramp from Guthmiller Rd	Merge	17.9	B	30.6	D
SR 120 WB Off-Ramp to Guthmiller Rd	Diverge	30.8	D	19.0	B
SR 120 WB On-Ramp from Guthmiller Rd	Merge	29.4	D	20.4	C
SR 120 WB Off-Ramp from I-5 NB	Diverge	32.0	D	19.7	B
SR 120 EB On-Ramp from I-5 SB	Merge	18.0	B	27.1	C
Notes: pc/mi/ln = passenger cars per mile per lane					

Table 2B. 2012 plus Project Phase 1 Ramp Junction Traffic Operations

SR 101 Mainline-Ramp Junction	Junction Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
SR 120 EB Off-Ramp to Guthmiller Rd	Diverge	18.3	B	34.6	D
SR 120 EB On-Ramp from Guthmiller Rd	Merge	19.2	B	33.3	D
SR 120 WB Off-Ramp to Guthmiller Rd	Diverge	32.3	D	19.9	B
SR 120 WB On-Ramp from Guthmiller Rd	Merge	33.2	D	22.7	C
SR 120 WB Off-Ramp from I-5 NB	Diverge	33.6	D	20.7	C
SR 120 EB On-Ramp from I-5 SB	Merge	27.5	C	28.6	D
Notes: pc/mi/ln = passenger cars per mile per lane					

Table 2C. Year 2030 Cumulative "GP-Base" Conditions' Ramp Junctions Traffic Operations

SR 101 Mainline-Ramp Junction	Junction Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
SR 120 EB Off-Ramp to Guthmiller Rd	Diverge	30.9	D	33.8	D
SR 120 EB On-Ramp from Guthmiller Rd	Merge	22.5	C	**43.0**	**F**
SR 120 WB Off-Ramp to Guthmiller Rd	Diverge	**35.9**	**E**	27.0	C
SR 120 WB On-Ramp from Guthmiller Rd	Merge	25.5	C	**30.9**	**F**
SR 120 WB Off-Ramp from I-5 NB	Diverge	**55.6**	**F**	**57.8**	**F**
SR 120 EB On-Ramp from I-5 SB	Merge	**39.3**	**E**	**44.9**	**F**
SR 120 EB Off-Ramp to McKinley Ave	Diverge	23.5	C	27.9	C
SR 120 EB On-Ramp to McKinley Ave	Merge	23.7	C	29.1	D
SR 120 WB Off-Ramp to McKinley Ave	Diverge	**28.8**	**F**	15.6	B
SR 120 WB On-Ramp to McKinley Ave	Merge	22.6	C	17.8	B
Notes: pc/mi/ln = passenger cars per mile per lane					

Table 2D. Year 2030 Cumulative "Base plus Project" Conditions' Ramp Junctions Traffic Operations

SR 101 Mainline-Ramp Junction	Junction Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
SR 120 EB Off-Ramp to Guthmiller Rd	Diverge	30.9	D	18.6	C
SR 120 EB On-Ramp from Guthmiller Rd	Merge	21.9	C	**43.2**	**F**
SR 120 WB Off-Ramp to Guthmiller Rd	Diverge	24.6	C	16.6	B
SR 120 WB On-Ramp from Guthmiller Rd	Merge	29.6	D	28.7	D
SR 120 WB Off-Ramp from I-5 NB	Diverge	**56.6**	**F**	**67.0**	**F**
SR 120 EB On-Ramp from I-5 SB	Merge	**39.1**	**E**	**46.8**	**F**
SR 120 EB Off-Ramp to McKinley Ave	Diverge	22.9	C	**54.2**	**F**
SR 120 EB On-Ramp to McKinley Ave	Merge	23.7	C	**36.9**	**E**
SR 120 WB Off-Ramp to McKinley Ave	Diverge	**29.1**	**F**	16.6	B
SR 120 WB On-Ramp to McKinley Ave	Merge	22.5	C	18.9	B
Notes: pc/mi/ln = passenger cars per mile per lane					

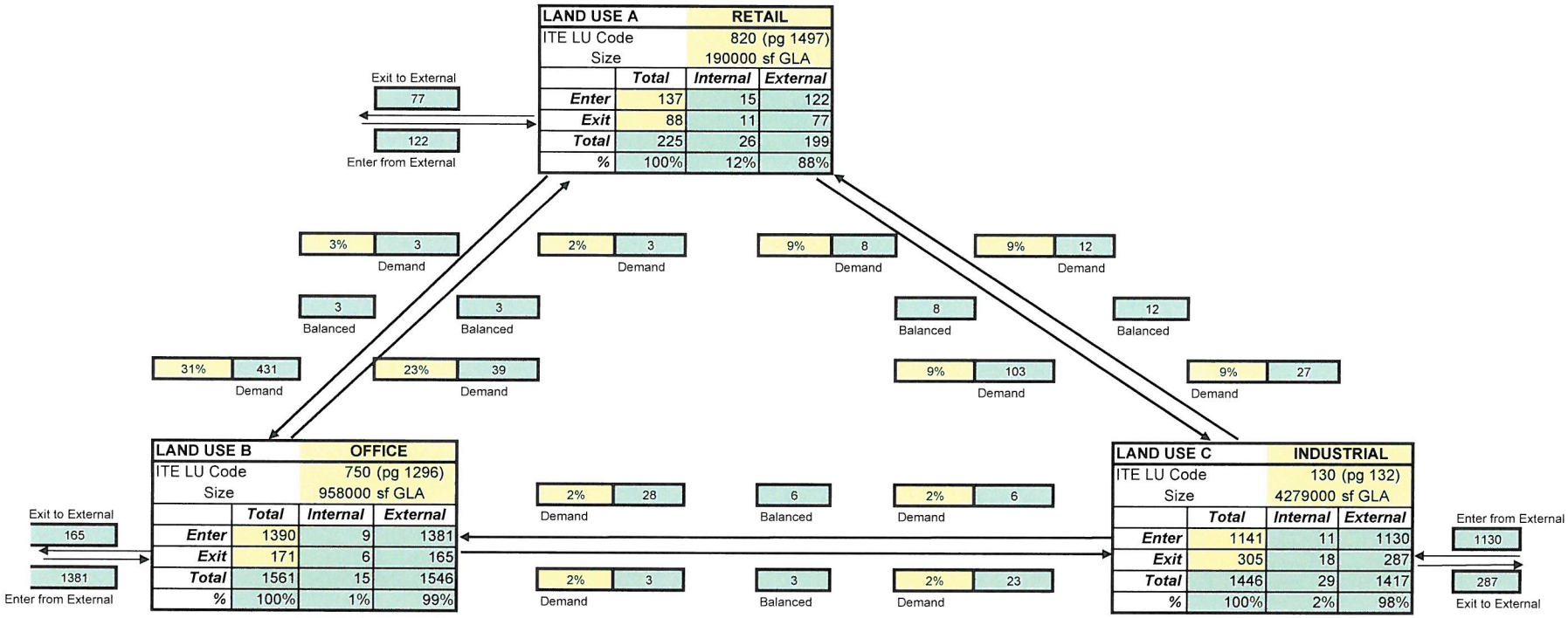
APPENDIX EXHIBIT 1
MULTI-USE TRIP GENERATION
ON-SITE TRIP CAPTURE ANALYSIS PER ITE METHODOLOGY

Analyst: A Chaukar

Date: 1/29/2010

Name of Dvlpt. Lathrop Gateway SP

Time Period AM Peak Period of Adj. Street Traffic



Net External Trips for Multi-Use Development					
	Land Use A	Land Use B	Land Use C	Total	
	RETAIL	OFFICE	INDUSTRIAL		
Enter	122	1381	1130	2633	
Exit	77	165	287	529	
Total	199	1546	1417	3162	Internal Capture
Single-Use Trip Gen. Est.	225	1561	1446	3232	2%

Source: *Institute of Transportation Engineers (ITE), Trip Generation Handbook (Chapter 7), Second Edition, June 2004*

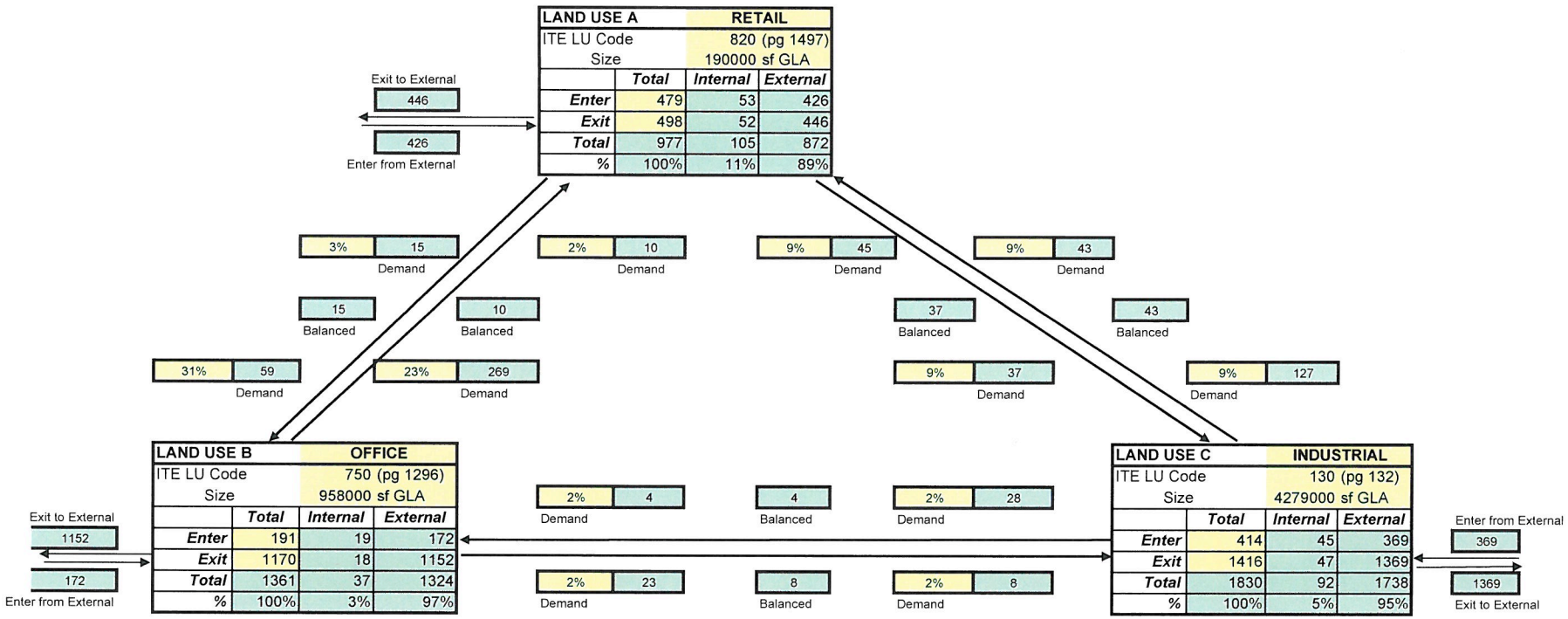
APPENDIX EXHIBIT 1 (CONTINUED)
MULTI-USE TRIP GENERATION
ON-SITE TRIP CAPTURE ANALYSIS PER ITE METHODOLOGY

Analyst: A Chaukar

Date: 1/29/2010

Name of Dvlpt. Lathrop Gateway SP

Time Period PM Peak Period of Adj. Street Traffic



Net External Trips for Multi-Use Development					
	Land Use A	Land Use B	Land Use C	Total	
	RETAIL	OFFICE	INDUSTRIAL		
Enter	426	172	369	967	
Exit	446	1152	1369	2967	
Total	872	1324	1738	3934	**Internal Capture**
Single-Use Trip Gen. Est.	977	1361	1830	4168	**6%**

Source: *Institute of Transportation Engineers (ITE), Trip Generation Handbook (Chapter 7), Second Edition, June 2004*

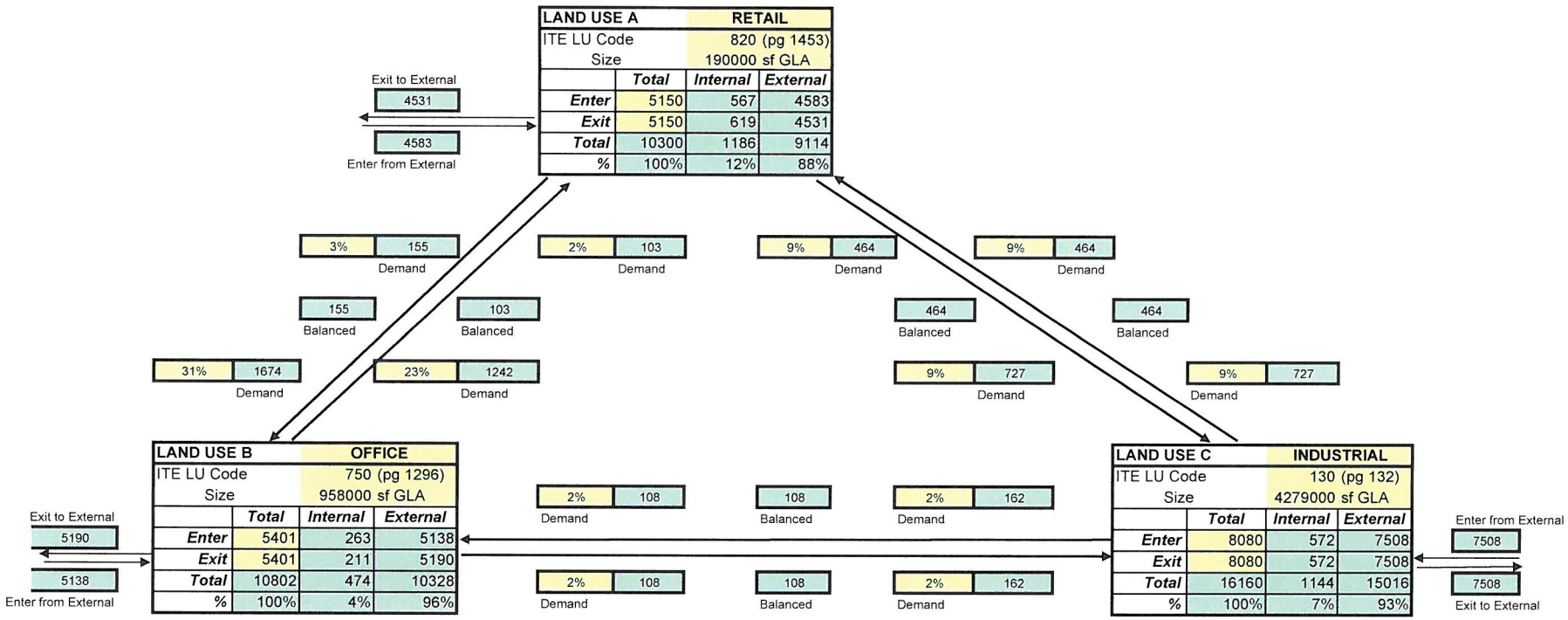
APPENDIX EXHIBIT 1 (CONTINUED)
MULTI-USE TRIP GENERATION
ON-SITE TRIP CAPTURE ANALYSIS PER ITE METHODOLOGY

Analyst: A Chaukar

Date: 1/29/2010

Name of Dvlpt. Lathrop Gateway SP

Time Period Weekday



Net External Trips for Multi-Use Development					
	Land Use A	Land Use B	Land Use C	Total	
	RETAIL	OFFICE	INDUSTRIAL		
Enter	4583	5138	7508	17229	
Exit	4531	5190	7508	17229	
Total	9114	10328	15016	34458	Internal Capture
Single-Use Trip Gen. Est.	10300	10802	16160	37262	8%

Source: *Institute of Transportation Engineers (ITE), Trip Generation Handbook (Chapter 7), Second Edition, June 2004*

APPENDIX EXHIBIT - 2
TRIP GENERATION PER
CITY OF LATHROP GENERAL PLAN LAND USES ON PROJECT SITE

Lathrop Gateway Business Park SP
TRIP GENERATION Rates

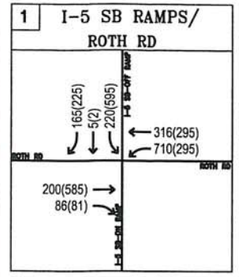
Land Use Category	Source	ITE Code	Rate Unit	Daily Trip Rate/Unit	Weekday AM Peak Hour Rate/Unit			Weekday PM Peak Hour Rate/Unit		
					Total	In%	Out%	Total	In%	Out%
Office Park	ITE	750	KSF	21.7	1.60	89%	11%	1.39	14%	86%
Industrial Park	ITE	130	KSF	5.41	0.54	82%	18%	0.80	21%	79%
Shopping Center	ITE	820	KSF	57.2	1.26	61%	39%	5.41	49%	51%
General Light Industrial	ITE	110	Acres	43.6	7.51	83%	17%	4.29	22%	78%

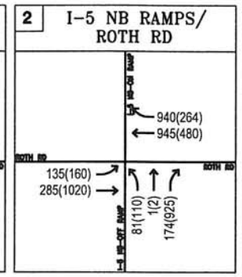
Notes: 1. KSF = 1,000 Square Feet of Gross Area
2. The above table indicates "average" trip rates as used in this analysis, consistent with information contained in the ITE Publication Trip Generation (Eighth Edition)

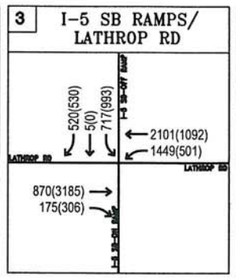
Lathrop Gateway Business Park SP
TRIP GENERATION Volumes

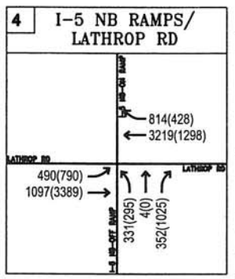
Land Use Category	Net Acerage	FAR Range	FAR Avg	Units	Quantity	Daily Trips	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
							Total	In	Out	Total	In	Out
Service Commercial (SC-GBP)												
Office Park (25%)	29.45	.15 to .66	0.43	KSF	552	6,157	880	783	97	769	108	661
Industrial Park (75%)	88.35	.15 to .66	0.43	KSF	1,655	8,956	895	734	161	1,316	276	1,040
					Subtotal	**15,113**	**1,775**	**1,517**	**258**	**2,085**	**384**	**1,701**
Freeway Commercial (FC-GBP)												
Shopping Center	12.50	.20 to .80	0.30	KSF	163	9,343	206	126	80	884	433	451
					Subtotal	**9,343**	**206**	**126**	**80**	**884**	**433**	**451**
General Industrial (IL-GBP)												
General Light Industrial	193.30			Acres	193	8,424	1,452	1,205	247	829	182	647
					Subtotal	**8,424**	**1,452**	**1,205**	**247**	**829**	**182**	**647**
Total Trips						**32,880**	**3,433**	**2,848**	**585**	**3,798**	**1,000**	**2,799**
Internal Matching trips						**-2,394**	**-207**	**-80**	**-127**	**-228**	**-115**	**-114**
Net "External" Trips						**30,486**	**3,226**	**2,768**	**458**	**3,570**	**885**	**2,685**
Pass by Trips (20% of net Retail External Trips)						**-1,869**	**-41**	**-25**	**-16**	**-177**	**-87**	**-90**
Total New "External" Trips						**28,617**	**3,185**	**2,743**	**442**	**3,393**	**798**	**2,595**

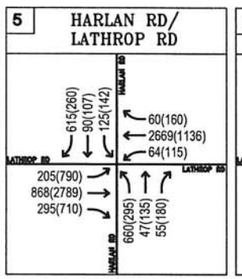
Note: 1. KSF = 1,000 Square Feet of Gross Area
2. Trip generation volumes were computed using the actual mathematical rate equations shown in ITE Trip Generation (Eighth Edition)
3. Fitted Curve Equation from the Trip Generation Handbook June 2004 (pg 47) is used to calculate Shopping Center pass-by trips.
4.Trip Internalization is calculated using the ITE Trip Generation Handbook (June 2004) methodologies. Please refer to the Appendix spreadsheets for the trip internalization calculations.

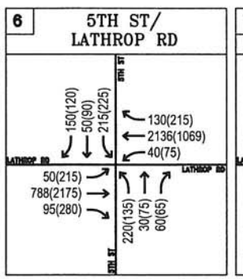


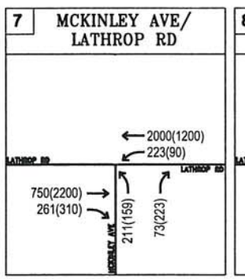


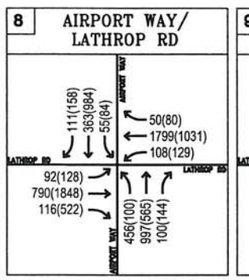


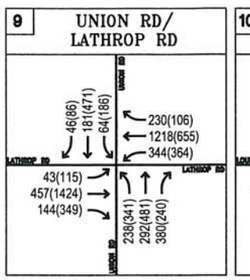


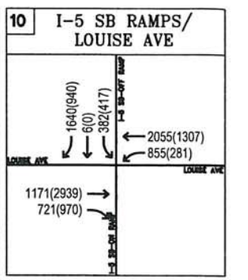


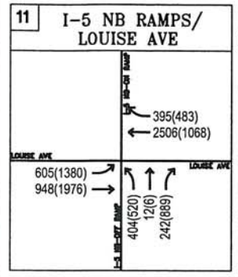


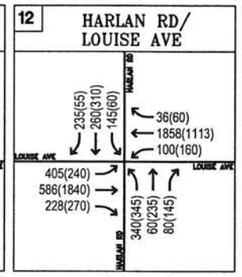


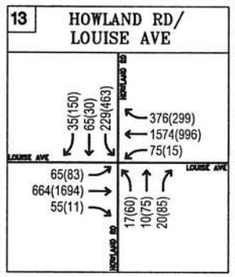


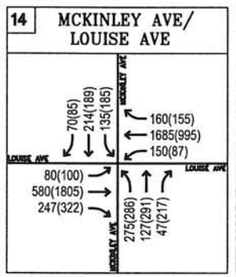


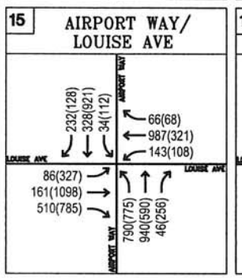


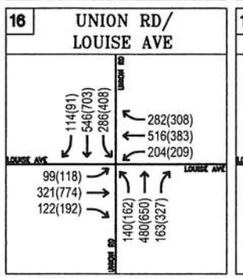


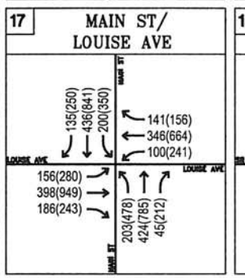


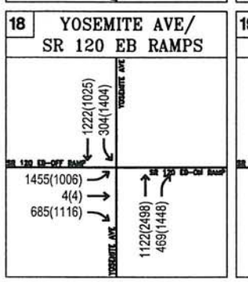


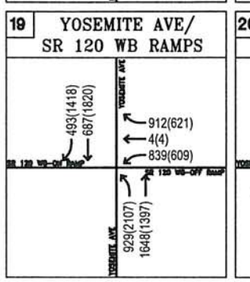


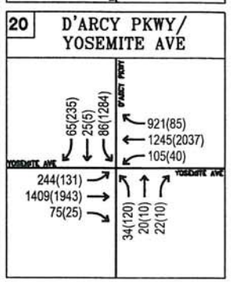


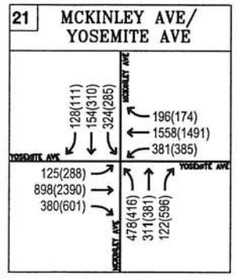


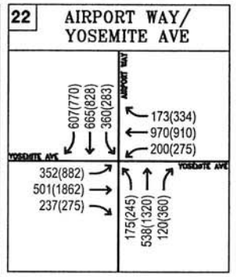


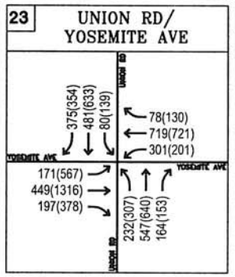


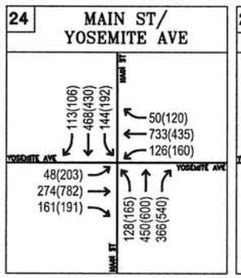


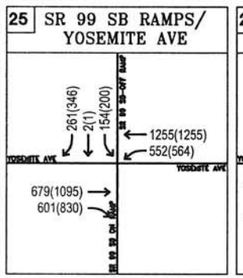


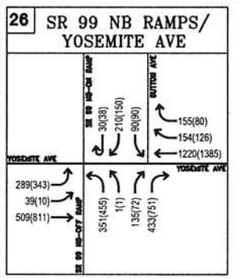


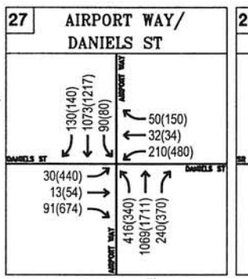


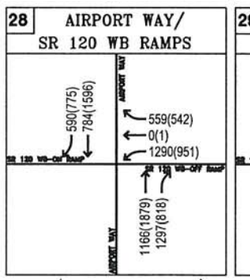


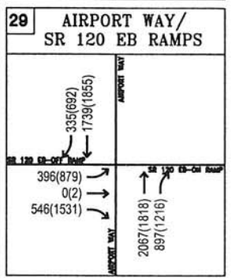


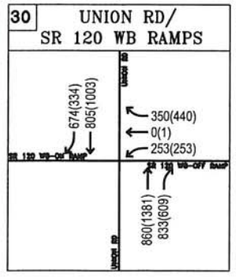


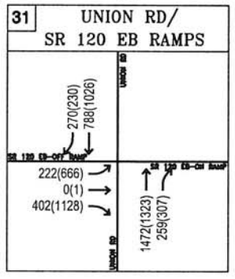


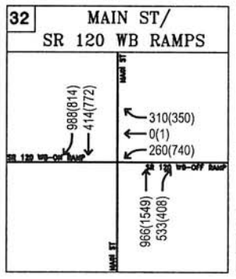


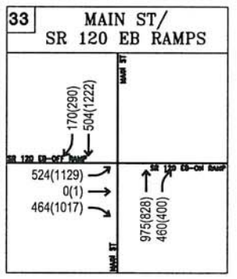


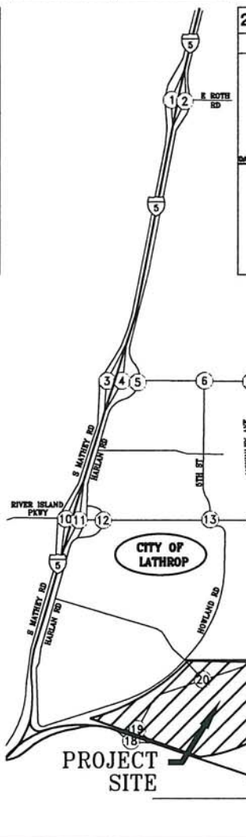












LEGEND:

XXX(XXX) – AM(PM) PEAK HOUR VOLUMES

(1) STUDY INTERSECTION

NOTE: PROJECT REFERES TO LGSP LAND USE PLAN DATED (JANUARY 14, 2010)

DRAFT

Lathrop Gateway Business Park SP Traffic Circulation Study, City of Lathrop, CA

APPX EXBT-3

CUMULATIVE 2030 "BASE PLUS PROJECT" TRAFFIC VOLUMES WITHOUT SR 120/MCKINLEY AVE I/C

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS
3301 C St, Bldg. 100-B Tel 916.341.7760
Sacramento, CA 95816 Fax 916.341.7767

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APPENDIX I
WATER SUPPLY ASSESSMENT

WATER SUPPLY ASSESSMENT
FOR

Lathrop Gateway Business Park

Specific Plan

City of Lathrop, California

Specific Plan File No: 09-012
General Plan and Map Amendment File No: 09-013
Zoning Text and Map Amendment File No: 09-014
Bicycle Transportation Plan Amendment File No: 09-015
Utility Master Plan Amendment File No: 09-016

October 16, 2009

HERUM\CRABTREE

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LIST OF ABBREVIATIONS AND ACRONYMS

AFY	Acre-foot per year
BMP	Best Management Practices
CEQA	California Environmental Quality Act
City	City of Lathrop
CV-RWQCB	Central Valley Regional Water Quality Control Board
Development Agreement	October 1, 1995, Water Supply Development Agreement
DHS	Department of Health Services
DMM	Demand Management Measures
DWR	Department of Water Resources
FAR	Floor/Area Ratio
gpd	gallons per day
MCL	Maximum Contaminant Level
mg/L	milligrams per liter
Participating Cities	Manteca, Escalon, Lathrop and Tracy
Plan	Lathrop Gateway Business Park Specific Plan
Plan Area	Property included within the Plan
RWQCB	Regional Water Quality Control Board
SCSWSP	South County Surface Water Supply Project
SSJID	South San Joaquin Irrigation District
TAF	Thousand Acre Feet
TDS	Total Dissolved Solids
µg/L	micrograms per liter
USBOR	United States Bureau of Reclamation
UWMP	Urban Water Management Plan
WDR	Waste Discharge Requirements
WRP	City of Lathrop Water Recycling Plan
WSA	Water Supply Assessment
WSAR	Water Supply Assessment Report
WSS	City of Lathrop January, 2009 Water Supply Study

INTRODUCTION

Background

The California Water Code requires coordination between land use planning lead agencies and public water suppliers to ensure that prudent water supply planning has been conducted and that planned water supplies are adequate to meet both existing and planned future project demands. Senate Bill 610 amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. The statute requires detailed information regarding water availability to be provided to the city and county decision-makers prior to approval of specified large development projects. The statute also requires this detailed information be included in the administrative record that serves as the evidentiary basis for an approval action by the city or county on such projects.

Water Code Section 10910-10915[1] requires land use lead agencies to identify the public water system that may supply water for a proposed development project and to request from said public water system a *water supply assessment* (**WSA**) for the project. The purpose of the WSA is to demonstrate that the public water system has sufficient water supplies to meet the water demands associated with the proposed project in addition to meeting the existing and planned future water demands projected for the next 20 years. This WSA will be included as an appendix to the environmental document for the project described in this WSA, and the appropriate land use approval agency will consider the conclusions reached in this document when analyzing the project's potential impacts on water supply.

Project Description

The Lathrop Gateway Business Park Specific Plan encompasses approximately 384 gross acres located in an unincorporated area of San Joaquin County (**Plan Area**), adjacent to the City of Lathrop (*see* **Figure 1**). The east and west boundaries of the Plan Area are defined by two tracks of the Union Pacific Railroad; the southern boundary is State Highway Route 120 and northern boundary is defined by Vierra Road and Yosemite Avenue, as shown on **Figure 2**. Although the Plan Area currently falls under the jurisdiction of San Joaquin County, it is within the City of Lathrop's Sphere of Influence and is included in the 2008 General Plan Update.[2]

---

[1] All references are to the California Water Code.

[2] City of Lathrop, Lathrop Gateway Business Park, Administrative Draft Specific Plan, July 2009, at p. 1-3.

Figure 1 Vicinity Map

Figure 2 REGIONAL MAP

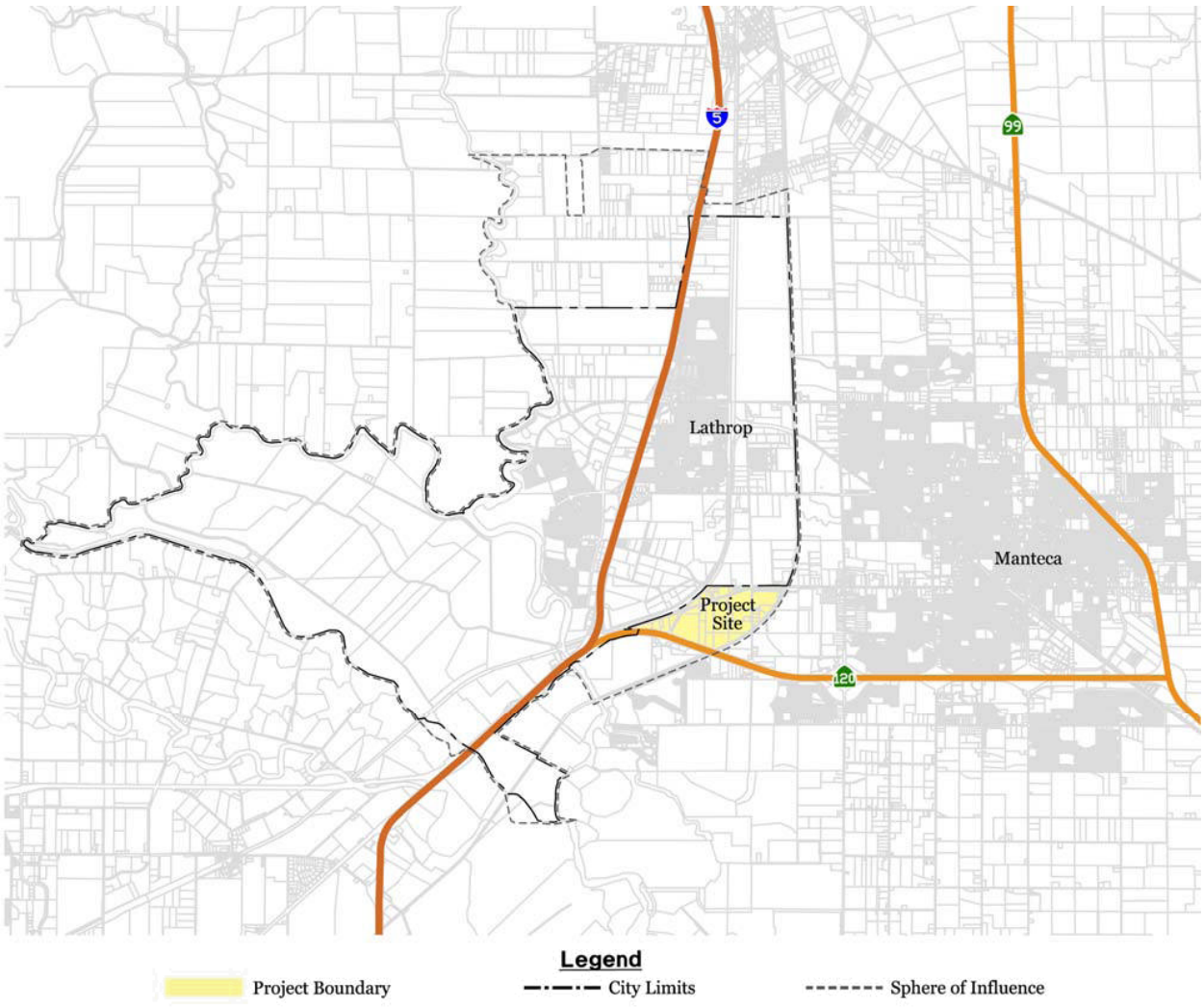


Figure 1.1: Regional Map			Date: July 2009
Lathrop Gateway Business Park Specific Plan Lathrop, California	NOT TO SCALE	N	WOOD RODGERS DEVELOPING INNOVATIVE DESIGN SOLUTIONS

The Land Use Plan proposes 67.6 net acres of new commercial office, 190.2 net acres of limited industrial uses, and 48.7 net acres of service commercial uses, which will allow for approximately 5 million square feet of developable space at typical densities throughout the site. The Plan also includes 11.2 acres net of open space, and 2.8 net acres divided between three well sites. The number of acres may vary slightly depending on more accurate survey information and the final alignment of roadways.[3]

Table 1[4] provides a summary of the land uses including a proposed FAR Average that was used to generate the maximum square footage of buildable area in the Plan Area:

Table 1. Land Use Summary

Land Use		Acreage [Net][1]	Total Sq. Ft. Per Land Use	FAR Range	FAR Average	Max. Sq. Ft.
Office/Commercial	OC	67.6	2,945,527	.20 to .60	0.30	883,658
Limited Industrial	LI	190.2	8,285,983	.15 to .65	0.43	3,562,973
Service Commercial	SC	48.7	2,121,808	.15 to .66	0.43	912,377
Well Site	W	2.8				
Detention [2]	D	3.9				
Open Space	OS	11.2				
Subtotal		324.4				
Major & Existing Roads [3]		59.4				
TOTAL		**383.9**				**5,359,008**

1 Net acreage does not include existing and major roadways.

2 Detention acreage is estimated; final acreage will be determined at time of final map.

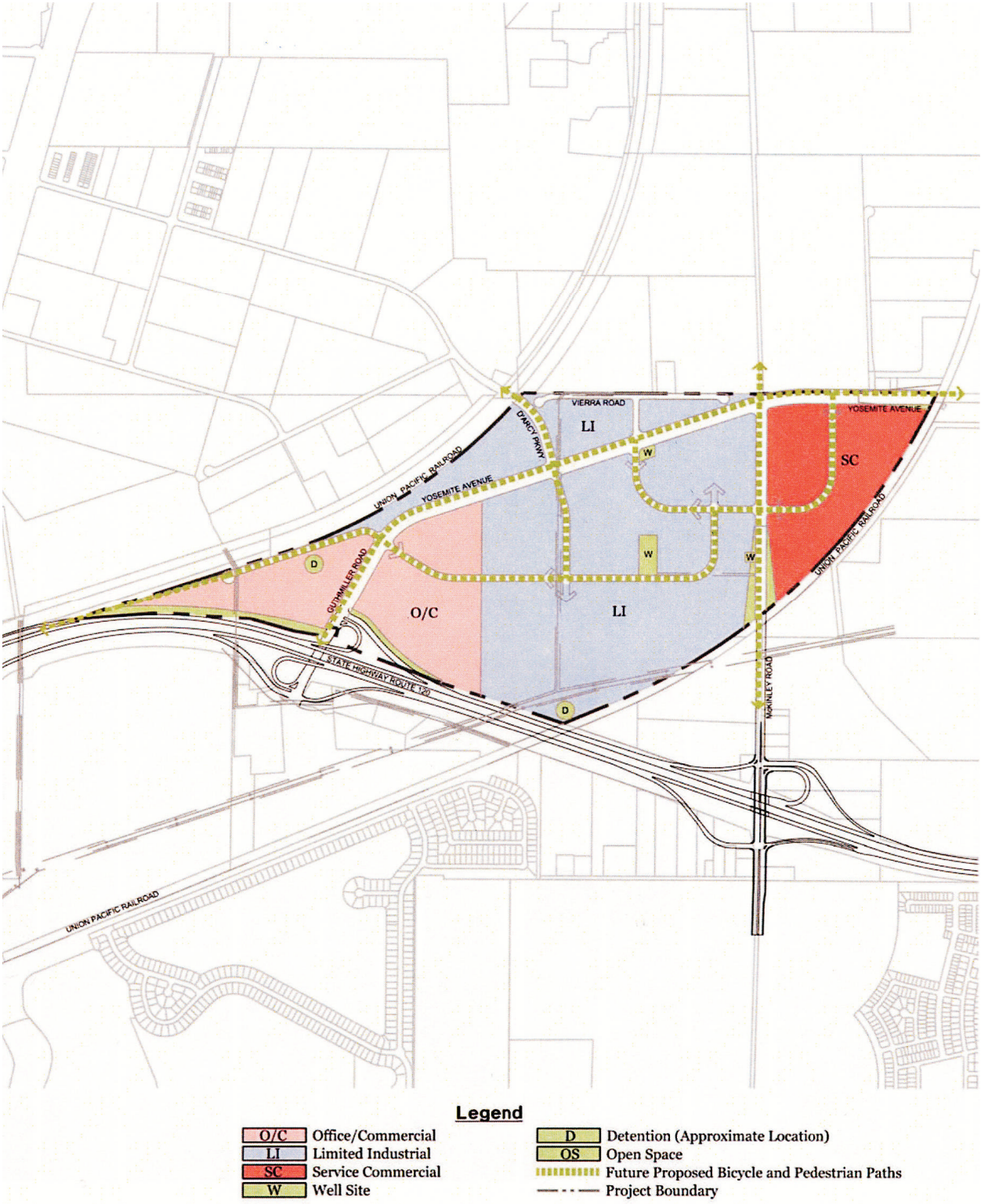
3 Major and existing roads include pedestrian and bicycle multi-use paths within the right-of-way.

The land uses for the proposed development are illustrated in **Figure 3**. The Land Use Plan depicts three public or quasi-public facilities, consisting primarily of the pedestrian/biking greenway system along Yosemite Avenue, detention and retention basins, and public easements on the site.

[3] *Id.* at p. 1-8.

[4] *Id.* at p. 1-8, Table 1.1.

Figure 3 LAND USE PLAN



Pedestrian/Biking Greenway: Within the Plan Area, and in accordance with the Citywide Lathrop Bicycle Transportation Plan, a combination Class I (10-ft. bikeway separated from roadway) is planned to traverse the project site from the southwest corner along the south side of the existing Union Pacific Railroad alignment and along Yosemite Avenue to the site's eastern boundary and beyond. This bikeway system will provide access to all main roads on the site, as well as to the Lathrop-Manteca ACE Transit station to the northeast of the Plan Area.

Detention/Retention Facilities: Land is allotted within the Plan Area for detention and/or retention facilities for the purpose of managing stormwater runoff and preventing flooding within the site and surrounding communities. Two primary areas have been designated for these facilities: 1) located within the central area (LI Land Use) to take site stormwater east and south of Yosemite Avenue/Guthmiller Road and 2) located within the western area (OC Land Use) to take stormwater west and north of Yosemite/Guthmiller. The Land Use Plan has allotted 3.9 acres for detention/retention uses; however, more precise calculations will be necessary as specific site plans are designed and reviewed in future stages of specific project development approvals.

Open Space: Within the Plan Area, open space is designated as landscape buffer and sloping banks between on-site land uses and major roadways, including SR 120. Other easements and greenways are also considered part of the opens space designation.

The City of Lathrop will be responsible for providing water service to the Plan Area. The sources of water shall be groundwater from existing wells and/or an expansion of the City's well field with the possible development of surface water sources from Phase 1/Phase 2 expansion of the South County Surface Water Supply Program (**SCSWSP**) by the South San Joaquin Irrigation District (**SSJID**). Surface water will be treated off-site at a central facility outside of the City of Lathrop. Groundwater may be treated at the existing Well #21 site within the project area or possibly at the new well heads. It is also possible that arsenic treatment of groundwater could occur at an offsite central facility. The Plan Area has included the use of reclaimed water to irrigate public open space areas and landscape corridors. A separate distribution system is proposed to allow the use of this non-potable water as a measure to conserve potable water supplies.[5]

Project Water Demand

This WSA assumes that the Project will be completed through full build-out in the future, and assesses the Project's potential water demands based on a full build-out scenario at the highest

[5] *Id.* at p. 1-12 – 1-13.

anticipated density. Based upon those assumptions, the total water needs for the Project are estimated at approximately 698.5 acre feet annually at build-out, as summarized in **Table 2**.[6]

Table 2*:*

PLAN AREA WATER DEMAND BY LAND USE SUMMARY

Land Use Designation	Average Water Demand Factor (gpd/ac)	Acres	Average Demand (gpd)
Service Commercial	1500	51.2	76,800
Office Commercial	2000	70.4	140,800
Limited Industrial	2000	203.0	406,000
Major Road	0	56.6	0
Well Site	0	2.7	0
Open Space	0	0.0	0
Total:		**383.9**	**623,600**
Acre Feet Demand:			**698.5**

Comparison of Existing Conditions and Project Conditions

The Plan Area encompasses approximately 384± gross acres and a total of 81 parcels, of which there are 2 general ownership groups: sponsoring property owners and non-sponsoring property owners. The sponsoring property owners, who control approximately 215± net acres, or 56% of the Plan Area agreed to financially sponsor the preparation of this Specific Plan document and the supporting infrastructure engineering studies.[7]

The Plan Area includes a variety of existing land uses: agricultural interspersed with rural residential, service, office, church and industrial uses. Agricultural uses are located in the southern and central Plan Area. Rural homes sites are distributed along McKinley Avenue and Yosemite Avenue in the Plan Area. Other residential and mixed light industrial uses are located on the northern site boundary along Vierra Road and Yosemite Avenue. The industrial uses are located in the western boundary Plan Area, both north and south of Yosemite Avenue. No parcels within the Plan Area are under Williamson Act contracts.[8]

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[6] *Id.* at p. 6-6, Table 6.1.

[7] *Id.* at p. 1-5.

[8] *Id.*

The Plan Area is surrounded by a variety of existing land uses. To the north, 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. To the south, within San Joaquin County and the City of Manteca, are developing lands: residential, commercial, business, and public uses. Proposed and approved projects for the area include Southwest Manteca Employment Center, an area of approximately 1,408 acres, a high-tech business industrial park, and the Oakwood Lakes Subdivision. To the east, in Manteca, new commercial development is approved for Manteca Big League Dreams Sports Park, a 30 acre City-owned recreational sports complex, with an adjacent regional commercial center. To the west are existing industrial land uses as well as Interstate 5. The current utilization of the Project Area is displayed in **Figure 4**[9].

Figure 4 Existing Land Uses

[9] *Id.* at p. 2-9, Figure 2.4.

As described above, development of the property to Project Conditions at full build-out will require 698.5 AFA. However, it is important to note that current water demands within the Plan Area are met with groundwater supplies. Development of the Plan Area will result in surface water being the primary source of supply for the land, and an overall reduction in groundwater use. The purpose of the WSA is to demonstrate that the City has planned water supplies to meet the water demands associated with the Plan, in addition to meeting the existing and planned future water demands projected for the next 20 years.

Current Water Supply Condition

The City of Lathrop will be responsible for providing water service to the Plan Area. The sources of water will be a combination of surface and groundwater. Surface water will be the primary source of water from Phase 1/Phase 2 expansion of the SCSWSP. Surface water will be supplemented with groundwater from existing wells and/or an expansion of the City's well field. Groundwater may be treated at the existing Well #21 site within the project area or possibly at the new well heads. It is also possible that arsenic treatment of groundwater could occur at an offsite central facility.

The Plan Area has included the use of reclaimed water to irrigate public open space areas and landscape corridors. A separate distribution system is proposed to allow the use of this non-potable water as a measure to conserve potable water supplies.

Overview of Project Area Future Water Demands

Potable Water

Potable water will be supplied to the Lathrop Gateway Business Park Specific Plan by the City of Lathrop. The City is expected to provide potable (1) groundwater from expansion of the City's well field, and (2) surface water from Phase 1 and/or the Phase 2 expansion of the SCSWSP. It is anticipated that 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. There is an identified need for as many as three City well sites within the Plan Area (wells Number 21 through 23). As shown on Figure 6.1, Well Number 21 is constructed and located with a water treatment facility within the Plan Area, while the City has purchased a site for future Well 22. The site for Well 23 has not yet been purchased, but has been identified.[10]

[10] *Id.* at p. 6-4.

In accordance with the requirements of the State of California, the City has prepared a citywide Urban Water Management Plan (**UWMP**) and this project-specific WSA. 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 Lathrop Gateway Business Park Specific Plan. The studies conclude that with the combined groundwater and SCSWSP surface water sources there are adequate water supplies available to serve the Plan Area.

Table 2, above, identifies Plan Area water demand per the Lathrop Gateway Business Park Specific Plan WSAR. The availability of potable water is a primary factor regulating the level of development provided for in the Plan Area.

In addition to the potable supply, the Lathrop Gateway Business Park Specific Plan plans to make 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** identifies the potential acres available for use of recycled wastewater in the Project area.[11]

Table 3: Irrigated Area

Land Use Description	Assumed Landscape Factor	Total Acres	Estimated Landscape Area
Major Road	20%	56.6	11.3
Open Space	10%	0.0	0.0
Total		56.6	11.3

Recycled Water[12]

The Plan Area 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 Regional Water Quality Control Board (**RWQCB**) and the Department of Health Services, which apply stringent water quality, treatment and disinfection standards.

[11] *Id.* at p. 6-11, Table 6.3.

[12] *Id.* at p. 6-9.

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 Lathrop Gateway Business Park Specific Plan 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.

Ponds and Disposal Fields[13]

Recycled water not utilized for on-site irrigation will be piped off-site to be held in ponds and/or used for land application disposal. One or more storage ponds 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 Lathrop Gateway Business Park Specific Plan, it is anticipated that the storage ponds 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 ponds will include a synthetic liner in order to minimize seepage into the ground and possible adverse impacts to groundwater. The required area of the ponds is dependent on their 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.

Approximately 11.3 acres of land will be irrigated within the developed portion of the Lathrop Gateway Business Park Specific Plan as listed in Table 6.3, if approved by the RWQCB. A preliminary estimate indicates that the minimum overall off-site pond area to serve full buildout of the Lathrop Gateway Business Park Specific Plan is approximately 22 acres, assuming an average pond depth of 14 feet with an additional two feet of freeboard (berms 12 feet above ground and pond bottom four feet below ground) and assuming 95 acres of off-site irrigated disposal fields. Ponds and disposal fields located in the North Lathrop area were previously approved, with the Central Lathrop Specific Plan project, by the RWQCB in the City's Report of Waste Discharge.

[13] *Id.* at p. 6-11.

Overview of City Future Water Demands

The City's UWMP identified the population for the City in January of 2009 at approximately 17,671. Based on the anticipated rate of development described in the City of Lathrop Master Plan, population projects for the City are shown in **Table 4**.[14]

Table 4

City of Lathrop Population Projects

Year	East Lathrop	Central Lathrop	Mossdale Landing	Stewart Tract	Total
2010	12,900	9,292	5,408	6,254	**33,854**
2015	13,600	13,492	5,408	12,412	**44,912**
2020	14,200	15,492	5,408	22,046	**57,146**
2025	14,800	16,891	5,408	31,680	**68,779**
2030	17,500	18,292	5,408	31,680	**71,080**

These population projections include the Plan Area population at build-out. The anticipated rate of development used in the UWMP was developed in the City of Lathrop Master Plan. The UWMP itself included the water demands of the Plan Area at build-out, based upon the evaluation in the WSS. The WSS evaluated current customer water uses and extrapolated those uses throughout the City for proposed development. The WSS anticipated the approval of the "South Lathrop" development application, which includes the Plan Area.[15] City's UWMP identified the population for the City in January of 2009 at approximately 17,671. Based on the anticipated rate of development described in the City of Lathrop Master Plan, population projects for the City are shown in **Table 4**.[16]

[14] City of Lathrop, *2005 Urban Water Management Plan* at p. 1-5, Table 1.

[15] *Id.* at p. 18, and Figure 6.

[16] *Id.* at p. 1-5, Table 1.

ELEMENTS OF A WATER SUPPLY ASSESSMENT

California Water Code section 10910 describes the specific requirements of a water supply assessment; this WSA is structured accordingly.

Determine if Project is Subject to CEQA [Section 10910(a)]

The City of Lathrop and San Joaquin County Local Agency Formation Commission have determined that the Project is subject to the requirements of the California Environmental Quality Act (CEQA), California Public Code §§21000 et seq.

Does the Project meet the definition of a Project? [Section 10912(a)]

Water Code section 10912(a) defines a "project" as:

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

Because the Project Area would include more than the required square footage of floor space at full build-out, the Specific Plan being prepared for the Project qualifies as a "project" as defined by Water Code section 10912(a).

Identify Responsible Public Water System [Section 10910(b)]

The City of Lathrop has been identified as the responsible public water system purveyor for the Project.

Is There a Current Urban Water Management Plan that Included the Project Water Demands? [Section 10910(c)]

In 2003, the City prepared its first UWMP because the number of customers served by the City water system exceeded 3,000. The City began preparing its current UWMP in 2005. Completion of the UWMP, however, was deferred while the City conducted a water supply study, which was completed in January of 2009. The final 2006 UWMP was adopted in August of 2009.

The 2005 Urban Water Management Plan adopted for the City included the projected water demand associated with the proposed Project and applied forecasted water supply conditions through 2030. Hence, the 2005 UWMP, and the information therein, is incorporated into this WSA by this reference, and can be utilized to comply with Sections 10910(d), (e), (f) and (g).

Identify Existing Water Supplies for the Project [Section 10910(d)]

Section 10910(d) requires identification of existing water supply entitlements, water rights, or water service contracts relevant to the Project and a description of the quantities of water obtained by the City of Lathrop pursuant to these water supply entitlements, water rights, or water service contracts in previous years.

Potable water supply for the City is a combination of groundwater from the City well system and surface water from the SCWSP. The SCWSP is the principal long-term water source for the City. Potable water supplies must have sufficient capacity to meet maximum day demands under various emergency conditions. Peak hour demands will be met through storage. City water storage facilities must possess capacity for equalization, fire fighting, and emergencies. The City also uses recycled municipal wastewater for limited approved agricultural and landscape applications.[17]

Surface Water [Section 10910(d)]

Surface water supplies must be documented by:

(1) describing the quantities of water received in prior years.

(2) Identifying any existing entitlements, water rights, and water service contracts held, and

(3) Providing written contracts or other proof of entitlements, water rights, and service contracts for the supplies, copies of relevant capital outlay programs, federal, state and

[17] City of Lathrop, *2005 Urban Water Management Plan* at p. 106.

local permits for construction of necessary infrastructure associated with delivering the supplies, if any, and regulatory approvals required in order to convey or deliver the supply.

The City's surface water supply is provided by the SSJID through the SCSWSP. The SCWSP is the principal long-term water source for the City. The SCSWSP consists of the Nick C. DeGroot Water Treatment Plant in Oakdale and water transmission facilities that deliver treated potable water to the cities participating in the project: Manteca, Escalon, Lathrop, and Tracy (**Participating Cities**).[18] Surface water supply is contracted in two phases. Phase I is currently in service and makes 8,007 AFY of water available to the City. The City began using surface water from the SCWSP in 2005, and plans to use the maximum amount available from Phase I (8,007 acre feet) in 2010.[19]

Phase II of the SCWSP is scheduled for completion in 2020, and will supply the City with 11,791 AFY. The maximum reduction in surface water supply has been estimated at approximately 18 percent during single and multiple hydrological dry years through review of existing surface water modeling analysis.[20]

The source of supply for the SCSWSP is SSJID's pre-1914 and post-1914 appropriative water rights on the Stanislaus River. SSJID's water rights are made more reliable by a 1988 Agreement and Stipulation with the United States Bureau of Reclamation (**USBOR**) regarding New Melones Dam Reservoir operation. On October 1, 1995, the City signed the Water Supply Development Agreement (**Development Agreement**) with SSJID as part of the SCSWSP. *See* ***ATTACHMENT 1***. The Development Agreement extends through 2029, and provides that the agreement will either be extended upon mutually agreeable terms, or the project will be transferred to the Participating Cites and SSJID will continue to supply water to the project.[21] The Development Agreement allots the City a maximum 8,007 AFY and 11,791 AFY of treated potable water during Phase I and Phase II of the project, respectively. Surface water supply provided by the SCSWSP to the Participating Cities during normal hydrologic supply is presented in **Table 5**.[22]

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[18] City of Lathrop, *Water Supply Study*, January 2009, at p. 4.

[19] City of Lathrop, *2005 Urban Water Management Plan* at p. 3-10, Table 7.

[20] City of Lathrop *Water Supply Study*, January 2009, at p. 4.

[21] 1995 Water Supply Development Agreement at p. 28.

[22] *Id.*, Exhibit A at p. A-1.

Table 5 SCSWSP Phased Water Allotments during Normal Year Supply

City	Water Supply Project Allotment (AFY)	
	Phase 1	Phase 2
Escalon	2,015	2,799
Lathrop	8,007	11,791
Manteca	11,500	18,500
Tracy	10,000	10,000

SSJID prepared an Operation Report (*AD Consultants, 1999*) to evaluate the water supply availability to the SCSWSP. The Operation Report was analyzed to determine the single and multiple dry year surface water reductions to the SCSWSP and conclusions were compiled in a 2008 memorandum.[23] This memorandum is included as ***ATTACHMENT 2***. The memorandum stated that the Operation Report evaluated the water supply availability to the SCSWSP during a 71-year historic hydrologic period to make predictions on future supplies, because it is not possible to predict future hydrologic conditions.[24] Evaluating the SCSWSP with historic hydrologic records is a reasonable way of estimating the future water supplies from the SCSWSP. The Operations Study results consist of tables containing the hydrologic modeling results. These tables present the supplies, demands, and shortages of water to SSJID's agricultural users and the Participating Cities throughout the 71-year historic hydrologic period.[25]

The largest single year water supply shortage would be similar to water year 1977. Results from the modeling indicate that in Phase I and Phase II, the largest single year water supply shortage could be 47,000 and 50,000 AF respectively[26]. The largest multiple (3 consecutive years) year water supply shortage would be similar to water years 1975 to 1977. These three years were not all classified as dry years, but represent the largest water supply shortage in any consecutive 3 year period. Results from the modeling indicate that in Phase I and Phase II the multiple year water supply shortage would be 0, 19, and 47 TAF and 0, 19, and 50 TAF respectively[27]. The total water demand in Phase I and Phase II is estimated at 263 TAF

[23] City of Lathrop, *Water Supply Study, Dry Year Surface Water Reduction Working Draft Technical Memorandum,* September 2008.

[24] *Id.* at p. 3.

[25] *Id.*

[26] *Id.*

[27] *Id.*

and 270 TAF, respectively. The results of the interpretation of the Operation Study are presented in **Table 6**.[28]

Table 6. SCSWSP Estimated Water Supply Shortages

Hydrologic Condition	Estimated Water Supply Reduction	
	Acre-Feet/Year	% of Total
Phase 1		
Single Dry Year	47,000	17.9%
Multiple Dry Year – Year 1	0	0.0%
Multiple Dry Year – Year 2	19,000	7.2%
Multiple Dry Year – Year 3	47,000	17.9%
Phase II		
Single Dry Year	50,000	18.5%
Multiple Dry Year – Year 1	0	0.0%
Multiple Dry Year – Year 2	19,000	7.0%
Multiple Dry Year – Year 3	50,000	18.5%

According to the City's contract with SSJID, the City's water supply would be reduced by the percentage of the total water supply reduction. The City's contract states:

> Allocation of Shortages. The District (SSJID) shall allocate any shortage or interruption in supply of water available for delivery by District hereunder between agricultural users and the Project (SCSWSP) Participants such that any percentage reduction in the delivery of water to the City is approximately equal to the percentage reduction in the delivery of water to the District's agricultural customers.[29]

The contracted surface water supplies to the City from the SCSWSP for Phase I and Phase II are 8,007 and 11,791 AFY respectively. The City's estimated water supply reductions and available waters supply during single and multiple dry years are presented in **Table 7**.[30]

[28] City of Lathrop, *Water Supply Study*, January 2009, at p. 6, Table 4.

[29] 1995 Water Supply Development Agreement at p. 13, Section 8(b).

[30] City of Lathrop Water Supply Study, January 2009, at p. 7, Table 5.

Table 7. Estimated Dry Year SCSWSP Supplies to City

Hydrologic Condition	Estimated Water Supply Reduction		Estimated Water Supply Reduction	
	Acre-Feet/Year	% of Total	Acre-Feet/Year	% of Total
Phase 1				
Normal Year	0	0.0%	8,007	100.0%
Single Dry Year	1,431	17.9%	6,576	82.1%
Multiple Dry Year 1	0	0.0%	8,007	100.0%
Multiple Dry Year 2	578	7.2%	7,429	92.8%
Multiple Dry Year 3	1,431	17.9%	6,576	82.1%
Phase II				
Normal Year	0	0.0%	11,791	100.0%
Single Dry Year	2,184	18.5%	9,507	81.5%
Multiple Dry Year 1	0	0.0%	11,791	100%
Multiple Dry Year 2	830	7.0%	10,961	93.0%
Multiple Dry Year 3	2,184	18.5%	9,607	81.5%

Phase II of the SCSWSP will be required to meet the City's water demands at full build-out, and will be constructed by SSJID upon request.

Section 10910(d)(2)(B) requires copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system. Generally, the financial program for development of the additional groundwater supplies has been completed at a planning level in the City's Integrated Master Plan Documents, incorporated herein by reference.[31]

Financing for Phase II of the SCSWSP. . . .

Section 10910(d)(2)(C) requires Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply. Any new wells required for full build-out supply will be added to the City's California Department of Health Services (**DHS**) permit to serve potable water supplies. The design of those facilities will require coordination with DHS. Construction of Phase II of the SCSWSP will . . . .

[31] City of Lathrop, *Integrated Master Plan Documents*, June 2000 (Rev. 2/01) (rev. 11/04).

Section 10910(d)(2)(D) requires any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply. The groundwater and surface water facilities required to serve demand at build-out will be added to the City's DHS permit to serve potable water supplies within its service area. The design of those facilities will require coordination with DHS. No other regulatory approvals are anticipated.

Groundwater [Section 10910(f)]

If the water sources that will serve the project include groundwater, specific groundwater information must be included in the assessment as set forth below. The City currently exercise (and will continue to exercise) their rights as overlying owners and groundwater appropriators to extract groundwater from the Eastern San Joaquin Sub-Basin underlying the City for delivery to its customers.

Prior to surface water becoming available from the SCSWSP, the City relied solely on local groundwater wells to meet municipal and industrial demands. The Department of Water Resources (**DWR**) has identified the local groundwater basin as in a "critical condition of overdraft due to extraction rates higher than safe yield."[32] While groundwater levels have stayed nearly constant, the shallow groundwater aquifer is experiencing an increase in salinity measured through Total Dissolved Solids (**TDS**). As part of this WSS, groundwater modeling efforts were performed that updated an existing groundwater model to reflect recent groundwater flow conditions and predict future groundwater flows and trends in water quality with regards to TDS. Groundwater modeling results indicate that TDS is expected migrate eastward, increasing groundwater concentrations in the City to levels above state mandated Maximum Contaminant Levels (**MCL**) within approximately 10 years. Furthermore, the aquifer contains naturally occurring arsenic that are above the state mandated MCL. The amount of groundwater supply is determined by the number of groundwater wells and pumps the City utilizes. Currently, the City has 4 groundwater wells (wells 6, 7, 8 and 9) with a maximum capacity of 8,064 AFY. A fifth groundwater well, well 10, is under construction and planned to become operational by 2010.[33]

The City will manage groundwater for long term sustainability and use through conjunctive use with the surface water supplies described above. Conjunctive use implies that groundwater will be preserved as the last source of supply that is used if surface water supplies are insufficient to meet water demands. In wet years, when surface water is more plentiful, the

[32] California Department of Water Resources, Bulletin 118, *California's Groundwater,* 2003 Update.

[33] City of Lathrop, *Water Supply Study*, January 2009.

groundwater basin is allowed to recover through in-lieu recharge (i.e., allowing natural recharge to occur from streams and rivers by pumping at lower extraction amounts), and in the dry years, groundwater is extracted at higher amounts to meet the shortfall of surface water supplies in meeting M&I water demands. The result is that groundwater levels are managed at or near current levels. This WSA recognizes the need to protect the groundwater resource that is already threatened by salinity intrusion, and to provide a plan to protect the groundwater resources indefinitely.

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

The City's UWMP (based upon the calculations in the WSS) calculated past, current and projected supplies of groundwater and surface water, which are summarized in **Table 8**.[34]

Table 8

PAST, CURRENT, AND PROJECTED WATER SUPPLY (1990-2030)

FOR THE CITY OF LATHROP

Year	Groundwater pumping AFA	Surface Water Deliveries AFA	Total
1990	1,638	--	1,638
2000	2,538	--	2,518
2005	**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

In addition, the UWMP sets forth the current and projected water supply and demand through 2030, set forth in **Table 9.**[35]

[34] City of Lathrop, *2005 Urban Water Management Plan* at p. 3-10, Table 7.

[35] *Id.* at p. 6-1, Table 22.

Table 9

PROJECTED SUPPLY AND DEMAND COMPARISION (AFY)

FOR THE CITY OF LATHROP

	2010	2015	2020	2025	2030
Supply Totals	14,055	16,071	20,103	23,887	23,887
Demand Totals	9,884	14,112	18,043	20,511	20,867
Difference	4,171	1,959	2,060	3,376	3,020

Water demands for the existing City and other anticipated developments can be compared to available supply under various delivery conditions. In **Table 10**[36], combined water demands are listed versus supply during hydrologic normal, single-dry, and multi-dry years. Surface water supply is reduced proportionally with subsequent entitlements and increased groundwater pumping is used to make up the difference. The projections suggest that such a strategy would be reliable in terms of water quantity but saltwater intrusion could impact water quality. Table 11 assumes a reduction in supply during single-dry year and multiple-dry year events with no change in demand.[37]

In order to address long-term issues of water quality in dry years, the City intends to implement Demand Management Measures (**DMM**), which are the same as the 14 BMPs outlined by the California Urban Water Conservation Council, and other consumption-reduction methods. During the next two to five years, the City intends to fully implement all of the DMMs described in the UWMP, which are incorporated herein by this reference. The City has the authority to implement programs as they are adopted as part of City ordinances. In addition, the City will require developer-implemented conservation measures as presented in the UWMP. **Table 11**[38] shows combined water demands versus supply during hydrologic normal, single-dry, and multi-dry years, with a 20 percent reduction in demand under multiple-dry year conditions. This analysis demonstrates that the use of conservation measures can reduce demand levels to significantly less than available water supply during multiple-dry years.[39]

[36] *Id.* at p. 6-2, Table 23.

[37] *Id.* at p. 6-1.

[38] *Id.* at p. 6-3, Table 24.

[39] *Id.* at p. 6-1.

Table 10

SUMMARY OF WATER DEMAND VERSUS SUPPLY DURING HYDROLOGIC NORMAL, SINGLE-DRY, AND MULTI-DRY YEARS FOR CITY OF LATHROP WITH NO CHANGE IN DEMAND[40]

		AVAILABLE WATER SUPPLY									DIFFERENCE		
		Normal Year AFY			Single-Dry Year Drought			Multi-Dry Year Drought					
Year	Projected Demand	Groundwater Pumping	Surface Water Deliveries	Total	Groundwater Pumping	Surface Water Deliveries	Total	Groundwater Pumping	Surface Water Deliveries	Total	Normal Year	Single Dry-Year	Multi-Dry Year
2010	9,884	6,048	8,007	14,055	6,048	6,574	12,622	6,048	6,574	12,622	4,171	2,738	2,738
2015	14,112	8,064	8,007	16,071	8,064	6,574	14,638	8,064	6,574	14,638	1,959	526	526
2020	18,043	12,096	8,007	20,103	12,096	6,574	18,670	12,096	6,574	18,670	2,060	627	627
2025	20,511	12,096	11,791	23,887	12,096	9,610	21,706	12,096	9,610	21,706	3,376	1,195	1,195
2030	20,876	12,096	11,791	23,887	12,096	9,610	21,706	12,096	9,610	21,706	3,020	839	839

[40] *Id.* at p. 6-2, Table 23.

Table 11

SUMMARY OF PROJECTED WATER DEMAND VERSUS SUPPLY DURING HYDROLOGIC NORMAL, SINGLE-DRY, AND MULTI-DRY YEARS FOR CITY OF LATHROP WITH REDUCTION IN DEMAND FOR MULTI-DRY YEARS[41]

			AVAILABLE WATER SUPPLY			DIFFERENCE		
			Normal Year AFY	Single-Dry Year Drought	Multi-Dry Year Drought			
Year	Projected Demand[42]	**Projected Demand[43]**	Total	Total	Total	Normal Year	Single Dry Year	Multi Dry Year
2010	9,884	**9,884**	14,055	12,622	12,622	4,171	2,738	4,715
2015	14,112	**14,112**	16,071	14,638	14,638	1,959	526	3,348
2020	18,043	**18,043**	20,103	18,670	18,670	2,060	627	4,236
2025	20,511	**20,511**	23,887	21,706	21,706	3,376	1,195	5,297
2030	20,876	**20,876**	23,887	21,706	21,706	3,020	839	5,012

[41] *Id*. at p. 6-3, Table 24

[42] Existing City baseline demand plus anticipated additional future growth for Normal Year and Single-Dry Year Condition.

[43] Existing City baseline demand plus anticipated additional future growth for Multi-Dry Year condition, with 20% demand reduction.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

Description of the Groundwater Basin

The City's groundwater supply is from the Eastern San Joaquin Sub-Basin of the Eastern San Joaquin County Groundwater Basin as defined by the Department of Water Resources' Bulletin 118, and shown on **Figure 5**[44]. The basin is located in the Sacramento-San Joaquin Delta sub-region, a part of the Central Valley aquifer system that occupies most of the large basin in central California between the Sierra Nevada and the Coastal Range Mountains. Most of the fresh groundwater is estimated to be located at depths of less than 1,000 feet and most of the shallow groundwater is unconfined. Groundwater elevations in the fall, after high-use summer months, average about three feet lower than groundwater elevations in the spring. Historically, the use of groundwater throughout the Eastern San Joaquin County Groundwater Basin has created an overdraft condition in the groundwater aquifer. Overdraft occurs when the rate of groundwater extraction exceeds the rate of groundwater recharge. According to DWR Bulletin 118, the Eastern San Joaquin County Groundwater Basin is in a critical condition of overdraft due to extraction rates higher than the aquifer safe yield. However, groundwater overdraft is not typically a problem in the southern portion of the basin, particularly in areas within SSJID, which has sufficient surface water supplies and conveyance facilities and have historically not relied heavily on groundwater for irrigation.[45] As shown on **Figure 6**[46], groundwater levels in the Lathrop area are not as seriously impacted by overdraft as in the eastern areas of the county. The safe yield of an aquifer is defined as the maximum rate of groundwater extraction that can be regularly withdrawn without causing adverse impacts to groundwater levels and quality. The estimated safe yield of the groundwater basin is

[44] Northeastern San Joaquin County Groundwater Banking Authority, *Eastern San Joaquin Groundwater Basin Groundwater Management Plan,* September 2004, at p. 23.

[45] San Joaquin County Water Management Plan, October 2001, Volume 1 at p. 2-2.

[46] Northeastern San Joaquin County Groundwater Banking Authority, *Eastern San Joaquin Groundwater Basin Groundwater Management Plan*, September 2004, at p. 63, Figure 2-20.

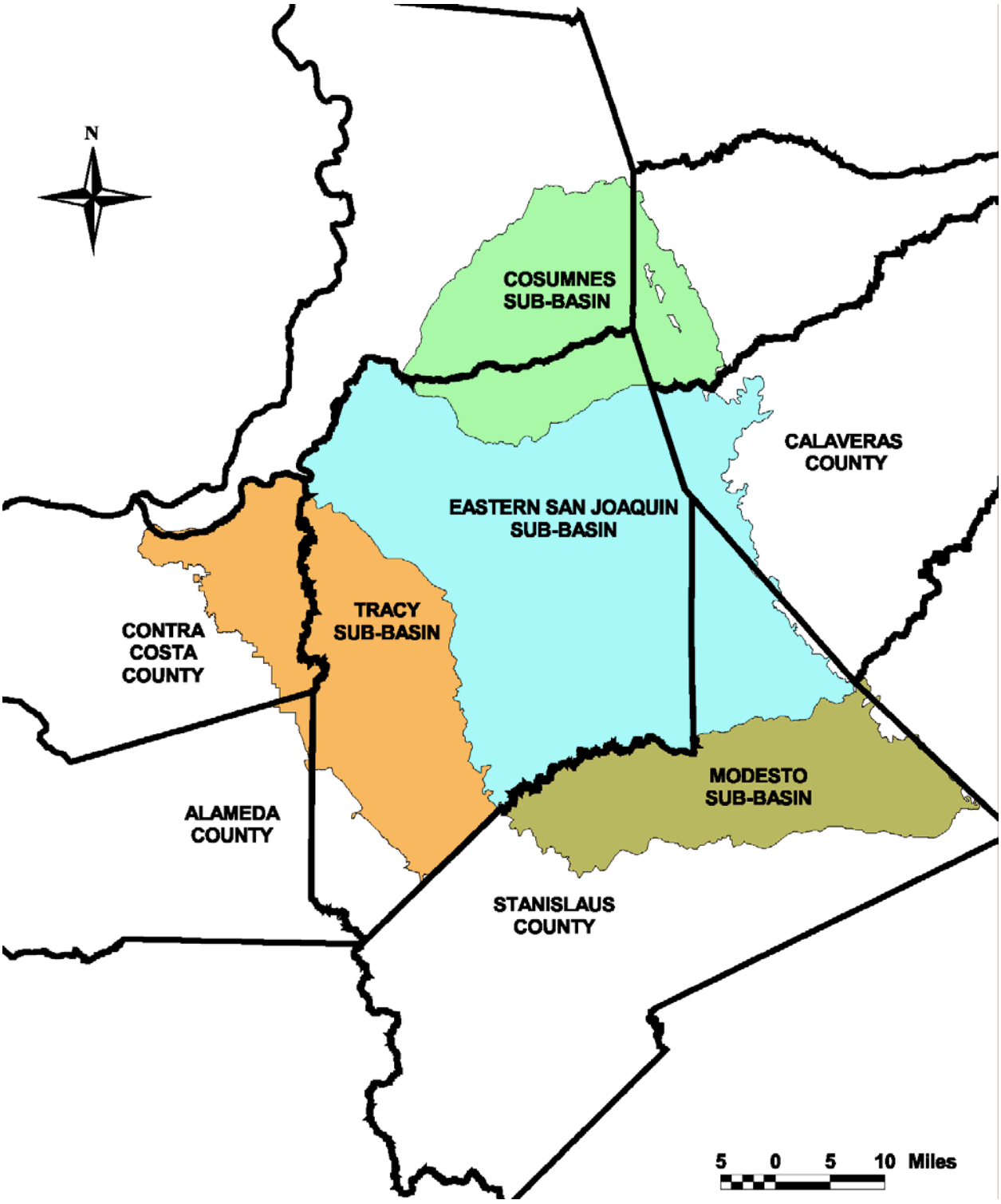

Figure 5. Groundwater Sub-Basins of San Joaquin County

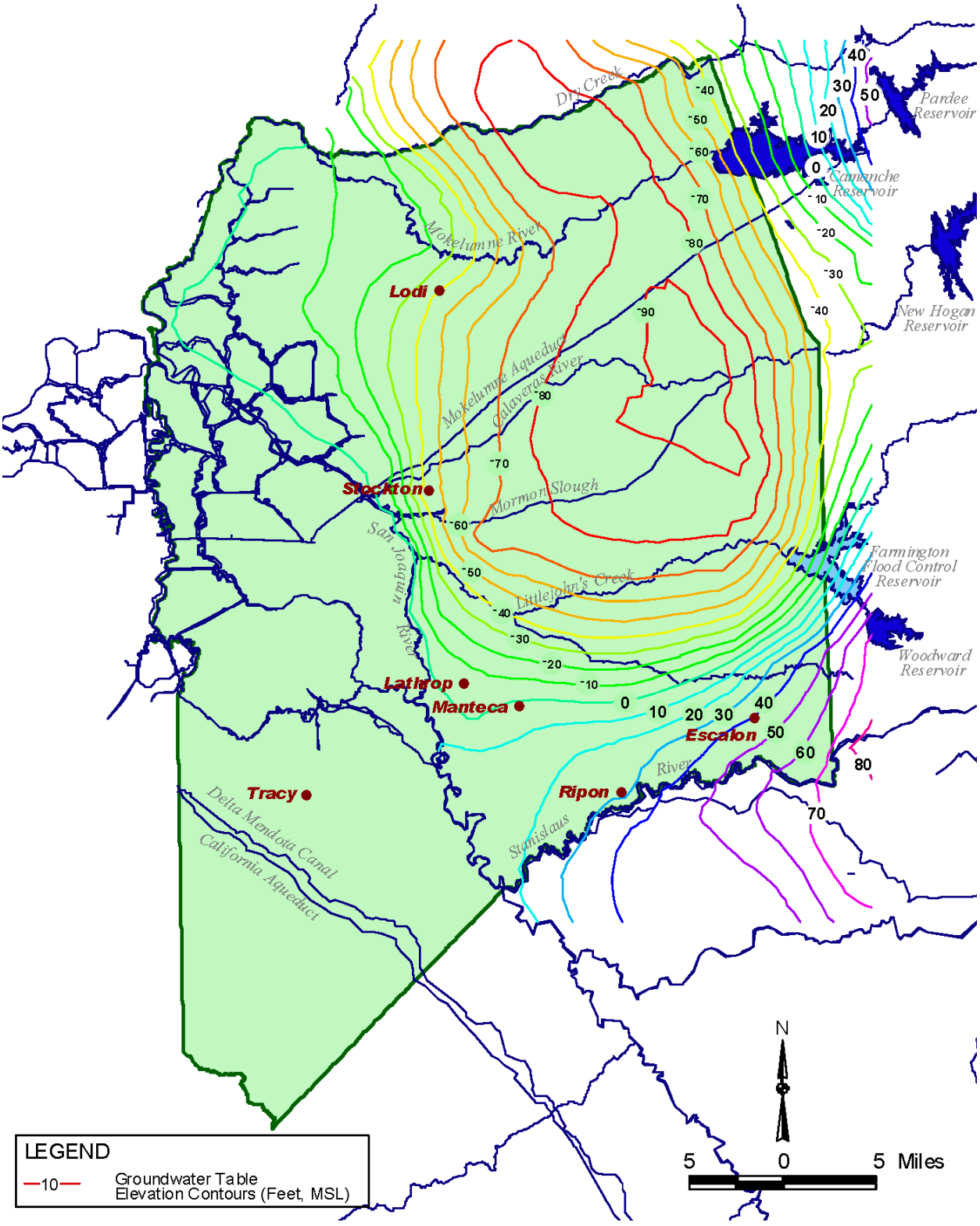

Figure 6. Simulated Groundwater Levels Under Baseline Conditions

approximately 618,000 AFY, resulting in an average 0.87 AFY/acre across the entire basin.[47] However, in the groundwater analysis undertaken by SSJID in its 1999 Environmental Impact Report for the SCSWSP, SSJID concluded that the estimated safe yield for the basin is 1.00 AFY/acre.[48] This is the yield that is used in the City's UWMP. The City's conclusion is that the 1.00 AFY/acre yield is more appropriate to the southern portion of the basin, due to a variety of factors, such as groundwater pumping, groundwater quality, aquifer transmissivity, and proximity to basin boundaries.[49] The total available groundwater storage capacity of the basin is about 42,400,000 AF and the groundwater in storage in the aquifer is roughly on the order of one to two hundred years if present pumping trends and overdraft of the basin continue based on existing studies.[50]

Estimated Overdraft and Safe Yield

The estimated overdraft of the groundwater basin is approximately 113,000 AFY (*DWR, 2006*). Groundwater levels have declined in the basin since the 1960's with the groundwater levels found in eastern San Joaquin County, east of the City of Stockton. The City's groundwater levels, however, have remained stable the past two decades when taking into account seasonal variations and

Figure 7 Location of Monitoring Well M

[47] City of Lathrop, *2005 Urban Water Management Plan*, at p. 3-3.

[48] South San Joaquin Irrigation District, *South County Surface Water Supply Project,* Environmental Impact Report, July 1999, at p. 5-15.

[49] City of Lathrop, *Water Supply Study*, January 2009 at p. 9.

[50] DWR, 2006; San Joaquin County Department of Public Works, 2004.

drought[51], as shown on Figures 7 and 8. **Figure 7**[52] shows the location of Monitoring Well M in the City of Lathrop. **Figure 8**[53] shows the hydrograph for Well M, illustrating the groundwater level trend under the City. This figure illustrates a historically modest drop in groundwater levels, even though the City's historic sole source of supply was groundwater.

The moderate downward trend in groundwater levels underlying the City is expected to decrease or disappear as a result of implementation of the SCSWSP. Full implementation of the SCSWSP will provide a net reduction of groundwater pumping from the Basin of approximately 30,000 AFA. While historically the City's pumping has exceeded the 1.0 AF per acre safe yield of the Basin, use of surface water from the SCSWSP will allow the City to pump groundwater within the safe yield.[54] Full utilization of surface water supplied by the SCSWSP by all Participating Cities will not only improve groundwater levels underlying the City, but are anticipated to increase groundwater levels in the Stockton area by approximately 14 percent, and by 3 percent in the eastern area of the county where groundwater levels are lowest.[55]

Basin Boundaries, Soils, Storage Capacity

City wells are located in the Eastern San Joaquin County Groundwater Basin. The basin is located in the Sacramento-San Joaquin Delta sub-region, a part of the Central Valley aquifer system that occupies most of a large basin in central California between the Sierra Nevada and the Coastal Range Mountains.[56] The basin is not adjudicated; however, a basin management plan has been created. The Eastern San Joaquin Groundwater Basin Groundwater Management Plan (ESJGB-GMP) was prepared in September 2004 by the Northeastern San Joaquin County Groundwater Banking Authority. 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."

The available groundwater supply for the City is projected to increase by 2020.[57] 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

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[51] City of Lathrop, *2005 Urban Water Management Plan*, at p. 3-3.

[52] Northeastern San Joaquin County Groundwater Banking Authority, *Eastern San Joaquin Groundwater Basin Groundwater Management Plan*, at p. 50.

[53] *Id.* at p. 63

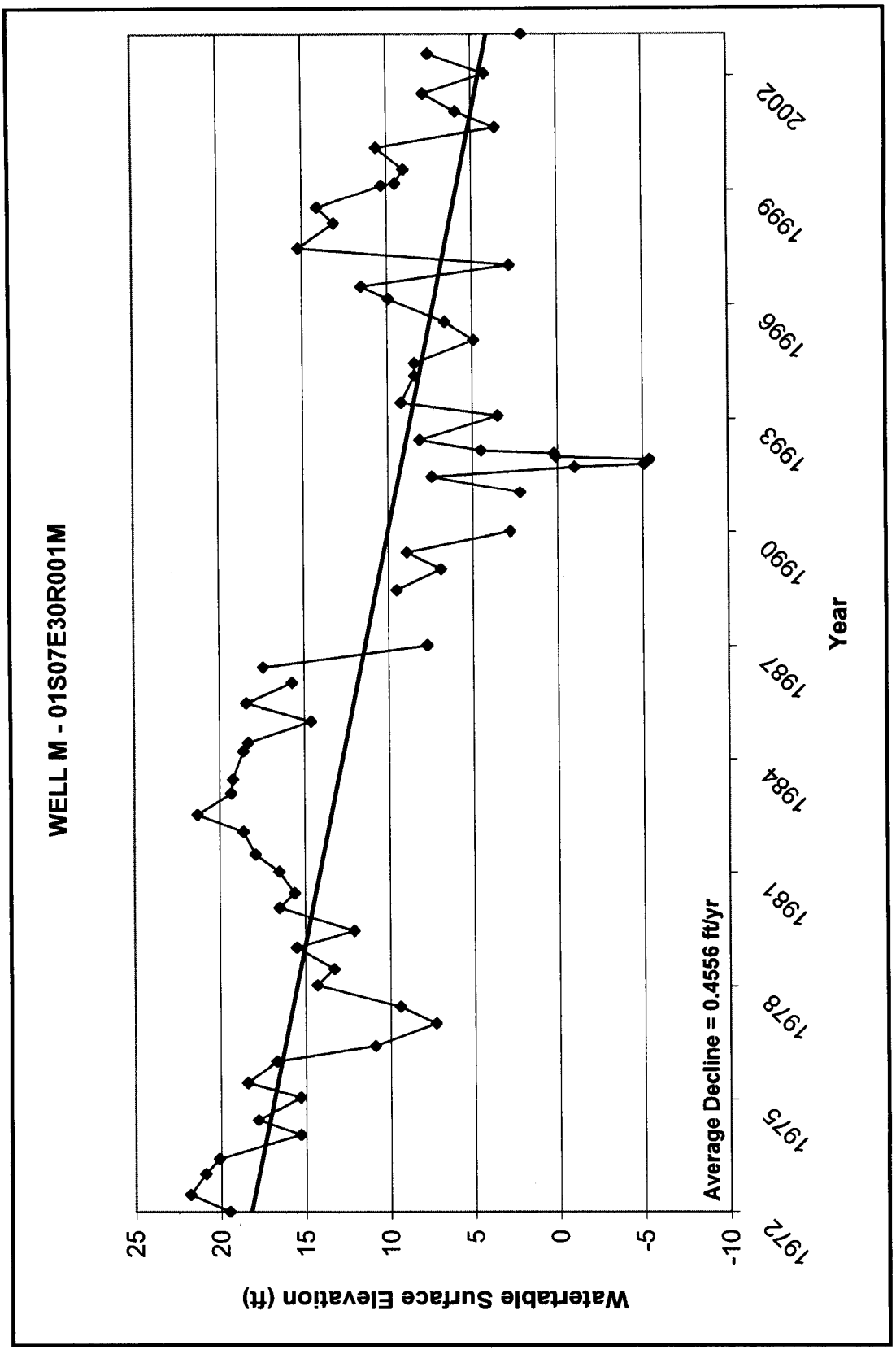
[54] *Id.* at p. 127.

[55] San Joaquin County Flood Control and Water Conservation District, *Water Management Plan*, Volume 1 at p. 5-37.

[56] City of Lathrop, *2005 Urban Water Management Plan*, at p. 3-3.

[57] *Id.* at p. 3-3 and 3-7, Table 5.

Figure 8 Hydrograph of Well M



Hydrograph Well M

Source: California Department of Water Resources, Water Data Library at http://well.water.ca.gov/

remained stable for the past two decades when taking into account seasonal variations and droughts.[58] 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. Several hydrologic formations underlie the Lathrop area; however, only the top two, the Victor and the Laguna formations, are currently being used as a source of fresh water.[59] 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.[60]

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. Historically, the quantity of water pumped from municipal wells and used by the City for the period from 1988 through 2008 is summarized in Table 14, below. During 2008, the City pumped 3,117 ac-ft of groundwater.[61]

In addition to the City potable water supply wells, there are water wells in the service area that serve private industrial facilities, Defense Distribution Depot San Joaquin (DDJC) Sharpe Site, and agriculture. Two of the largest private industrial facilities are Pilkington and Simplot. Based on data from November 2004 through November 2005, Pilkington pumps

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[58] *Id.* at p. 3-3.

[59] *Id.* at p. 304.

[60] *Id.*

[61] *Id.*

approximately 0.14 mgd (154 ac-ft/yr) from its private supply well.[62] Simplot estimates its usage at 0.5 mgd (560 ac-ft/yr).[63] DDJC Sharpe pumps approximately 1.0 mgd from wells and allows approximately 0.6 mgd of treated water to percolate back into the groundwater basin, for a net groundwater extraction of approximately 0.4 mgd (450 ac-ft/yr). There are also 83 private agricultural wells within or near the City. Water usage for these wells is projected at 150 to 250 ac-ft/yr considering typical agricultural operations. Combining municipal, industrial, and private (agricultural) demands results in an annual groundwater pumping range of approximately 4,430 to 4,530 ac-ft/yr.[64]

Over the long-term planning horizon, however, the quantity of water pumped from private wells is expected to decrease. While pumping from the private industrial facilities and the DDJC Sharpe Site will likely remain constant, the amount of groundwater pumped from private agricultural wells is expected to decrease. The 1996 estimated agricultural water demand for the City was 21,225 AFA.[65] That amount is expected to decrease to zero at 2030.[66] Consequently, the demand amount calculated for the City of Lathrop at 2030 in the UWMP reflects all water pumped from that portion of the groundwater basin underlying the City's sphere of influence.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system for the past five years from any groundwater basin from which the proposed project will be supplied.

Past Groundwater Pumping

Prior to surface water supplies becoming available from the SCSWSP, the City relied solely on local groundwater wells to meet municipal and industrial water demands. Currently, four groundwater supply wells supply potable water to City residents: Wells No. 6, 7, 8 and 9. Well No. 10 has been drilled and is awaiting a significant number of improvements and tie-in to the distribution system before being operational. Well No. 10 improvements include the construction of a masonry building, installation of a pump, water monitoring and telemetry,

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[62] *Id.* at p. 3-6.

[63] *Id.*

[64] *Id.*

[65] Northeastern San Joaquin County Groundwater Banking Authority, *Eastern San Joaquin Groundwater Basin Groundwater Management Plan*, at p. 76.

[66] *Id.*

chlorine injection system, fencing, and site security. It is recommended that Well No. 10 become operational in the near future to meet water demands. Well No. 21 is not permitted to be used as a potable groundwater well by the California Department of Public Health due to the presence of coliform bacteria. Further investigations will be required prior to the use of Well No. 21 as a groundwater source. Groundwater well capacities for existing and planned wells are shown in **Table 12**.[67]

Table 12 CITY OF LATHROP WELL CAPACITIES

Well Name	Well Status	Capacity (MGD)
Well No. 6	Existing	2.0
Well No. 7	Existing	1.8
Well No. 8	Existing	1.8
Well No. 9	Existing	1.8
Well No. 10	Under Construction	1.8
Well No. 21	Existing (not in service)	1.8
Well No. 22	Proposed	1.8
Well No. 23	Proposed	1.8
Well No. 24	Proposed	1.8

The volumes of groundwater pumped at each well location by the City since 1997 are presented in **Table 13**.[68] Groundwater wells typically operate less than their theoretical maximum capacities due to demand and storage constraints. Groundwater capacity is based on one well out of service and one pump on standby to meet peaking demand and emergencies with operating wells capable of achieving maximum capacity. Groundwater pumping decreased in 2005 because the City began receiving surface water from SSJID during this year.

Table 13 GROUNDWATER PUMPING 1988 THROUGH 2007 (AFY)

Year	Well No. 4	Well No. 5	Well No. 6	Well No. 7	Well No. 8	Well No. 9	Total
1988	296	313	936	--	--	--	**1,545**
1989	--	24	1,084	--	--	--	**1,108**
1990	104	2	563	969	--	--	**1,638**
1991	--	38	292	916	--	--	**1,246**
1992	--	23	299	715	215	--	**1,252**

[67] City of Lathrop, *Water Supply Study*, at p. 8, Table 6.

[68] City of Lathrop, *2005 Urban Water Management Plan* at p. 3-6, Table 4.

1993	--	45	378	932	112	--	**11,467**
1994	--	13	118	256	398	917	**1,702**
1995	--	--	385	297	63	1,116	**1,861**
1996	--	--	445	169	159	849	**1,622**
1997	--	--	130	451	452	873	**1,906**
1998	--	--	273	157	872	639	**1,941**
1999	--	--	69	656	1,021	588	**2,334**
2000	--	--	135	639	882	862	**2,518**
2001	--	--	248	812	963	666	**2,689**
2002	--	--	436	803	892	975	**3,105**
2003	--	--	484	791	862	1,189	**3,326**
2004	--	--	339	995	969	1,168	**3,471**
2005	--	--	308	651	827	731	**2,527**
2006	--	--	227	514	599	727	**2,066**
2007	--	--	410	566	720	366	**2,063**
2008	--	--	521	571	841	1,184	**3,117**

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system from any basin from which the proposed project will be supplied.

Projected Groundwater Pumping

The Project water demands of approximately 698.5 AFA at build out will be met using a combination of surface and groundwater. Even with a full supply of surface water form the SCSWSP, groundwater pumping is projected to increase by the year 2030. Projected groundwater extractions are summarized in **Table 14**.[69] These projections are based upon the following: 1) findings of the WSS for normal hydrologic years; and 2) commissioning of Phase II SCWSP facilities at the end of 2020. In terms of groundwater development, Well No. 10 is under construction, and Well No. 21 has been constructed and will soon be in use. Beyond Well No. 21, three additional wells are planned: Well No. 22, Well No. 23 and Well No. 24. Water usage for these wells is projected at 150 to 250 AFY considering typical agricultural operations. Combing municipal, industrial, and private (agricultural) demand results in an annual groundwater pumping range of approximately 4,430 to 4,530 AFY.

[69] *Id.* at p. 3-7, Table 5.

TABLE 14

PROJECTED GROUNDWATER PUMPING FOR THE CITY OF LATHROP

ACRE FEET

Year	Projected Groundwater Pumping	Year	Projected Groundwater Pumping
2009	3,120	**2020**	10,036
2010	3,219	**2021**	6,709
2011	3,796	**2022**	7,212
2012	4,373	**2023**	7,715
2013	4,950	**2024**	8,218
2014	5,527	**2025**	8,720
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

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project.

Groundwater extractions will be maintained within the safe yield of the groundwater basin. A localized groundwater model was developed as part of the Master Plan development process. Additional groundwater modeling results and groundwater quality data were gathered and reviewed for the WSS. The WSS findings indicate that TDS concentrations at City wells will increase with increasing extractions in the City and in Manteca.[70]

The City wells are located immediately east of groundwater with TDS concentrations exceeding the recommended secondary MCL of 500 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. TDS concentrations at City wells range from 270 mg/l at Well 10 sampled on August 14, 2007 to 440 mg/l at Well 6 sampled on April 5, 2004 and higher at Well 21. Additional data has shown that deeper groundwater (240-260 feet below surface) includes lower concentrations of TDS. The TDS migration is expected to increase concentrations in the City groundwater to levels above the recommended secondary

[70] City of Lathrop, *2005 Urban Water Management Plan*, at p. 3-7.

MCL of 500 mg/L within approximately ten years. The southern portion of the City's well field was found to be most vulnerable to degradation.[71]

Higher TDS groundwater located west of the City supply wells would likely be drawn to the wells over time and the water supply quality would be degraded as a result. This conclusion was based on a flow and particle tracking model which synthesized many types of information about the hydrogeologic system of the City. Utilized information included the following:

- Hydrogeologic features of the greater Lathrop area, such as stratigraphy, historic water level variations, prevailing direction of groundwater flow, precipitation and land use contributions to recharge,
- Proximity of the higher TDS groundwater to the City supply wells, and
- Current and projected pumping activity of the City, the City of Manteca, and private pumpers in the area.[72]

Groundwater contamination has been identified at several locations in the City due to industrial processes. These contamination plumes are associated with pollution from Sharpe Army Depot and Occidental Chemical Corporation. Contamination of groundwater at the Sharpe Army Depot consists primarily of trichloroethylene, tetrachloroethene, and cis-1, 2-dichloroethene and is located at depths of approximately 50 to 150 feet below ground surface. Groundwater contamination that allegedly migrated from Sharpe led to the City abandoning former City well No. 5. Three groundwater extraction and treatment systems located at the depot site contain and treat existing groundwater contamination.[73]

The Occidental Chemical Corporation plume consists primarily of subsurface contamination by the pesticides 1, 2-dibromo-3-chloropropane and ethylene dibromide, and the chemical solvent sulfolane. The Occidental Chemical Corporation has been conducting investigation and remediation activities at the site since 1979, and implemented a Remedial Pumping Optimization Program at the site in October of 2006. Monitoring wells have been drilled in order to observe the location and movement of these plumes.[74]

The City faces contamination to its groundwater supply in the form of arsenic. Arsenic is a metal that can cause skin damage or problems with circulatory systems and may increase risk of cancer. The MCL was lowered from 50 micrograms per liter (µg/L) to 10 µg/L by the United States Environmental Protection Agency to protect public health. Compliance for water systems such as the City had been set for January 2006. The California Department of Public Health

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[71] *Id.* at p. 3-8.

[72] *Id.*

[73] City of Lathrop, *Water Supply Study*, January 2009 at p. 9.

[74] *Id.*

adopted the arsenic drinking water state standard of 10 µg/L in November 2008. Arsenic levels above the adopted federal drinking water limit were found at all the City's groundwater wells. The City plans to install a treatment system to remove arsenic in all the drinking water supply wells.[75]

Several treatment alternatives have been compared for treatment effectiveness and costs. A centralized arsenic treatment facility for the City's four current groundwater wells (6, 7, 8, and 9) and fifth well under construction (well 10) provides adequate treatment at the lowest cost compared to other alternatives analyzed. The City plans to use a Safe Drinking Water State Revolving Fund to fund the design and installation of arsenic treatment facilities. The fund only applies to the existing groundwater wells. Arsenic treatment for proposed wells will need to be determined when they come online. The arsenic treatment facilities should be constructed and operational as soon as possible so the City is compliant with the state and federal drinking water regulations. The City plans to have a water treatment facility at Well No. 21 to treat arsenic as additional groundwater wells (21, 22, 23, and 24) become operational.[76]

The WSS evaluates the impact of water quality concerns on the City's future groundwater supply, and concludes that in order to reliably depend on groundwater as a potable water supply, the City will need to implement blending and treatment processes to address TDS contamination. Coordinating groundwater pumping practices with nearby groundwater pumpers, such as the City of Manteca and industrial users such as Simplot (formerly Occidental Chemical Corporation) will postpone the need for the City to implement TDS treatment.[77]

With groundwater pumping projected to increase in the City and in Manteca, absolute preservation of groundwater quality does not appear possible. 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.[78]

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[75] *Id.*

[76] *Id.* at p. 11.

[77] *Id.* at p. 14.

[78] *Id.* at p. 3-8.

DETERMINATION OF SUFFICIENCY

The City has undertaken rigorous master planning and water supply study processes to ensure that projected water demands will be met for the next twenty years. The City's water supply strategy is predicated upon continued groundwater extractions and SCWSP water deliveries. Implementation of the Master Plan is on-going with the City initiating the design and construction process for new wells while at the same time increasing use of water from the SCWSP. Groundwater and surface water supplies are projected to meet or exceed projected water demands even during extended drought conditions. With this conjunctive water supply strategy, the City has determined that future water supply will be adequate to satisfy future water demands.

Future estimates of potable water demand for the City do not account for the use of recycled water to offset potable water demands. Recycled water treatment, storage, and distribution systems will require years to design, construct, and fully implement. Currently, few recycled water use projects have been implemented in Central Valley communities. Therefore, only estimates of potential recycled water use are available for the City. When a recycled water system is fully operational in Lathrop actual reuse potential can be quantified and taken into consideration in reevaluating future potable water system requirements.

As demonstrated in Table 10, above, the City will have more than sufficient water to effectively meet water demands during multiple dry water years even if planned demand reduction strategies are not implemented. Policies and plans are in place for conserving water to ensure sufficient future supplies are available for Lathrop and its neighboring communities in a manner that protects groundwater quality.

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