City of Manteca Water Master Plan

Draft Environmental Impact Report, Final Environmental Impact Report, and Addendum to the Environmental Impact Report

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Draft Environmental Impact Report

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Executive Summary

This executive summary presents the major findings of this draft Environmental Impact Report (EIR) for the City of Manteca (City) 2005 Water Master Plan (WMP). The 2005 Water Master Plan is the proposed program in this draft EIR.

Program Overview

The City developed the proposed program to guide improvement and expansion of the City's water system to meet current and future needs for a safe, reliable water supply and distribution system. The proposed program addresses the water requirements of the City of Manteca 2023 General Plan (City of Manteca 2003b) and recommends capital improvements to support existing infrastructure and customer demands as well as planned new development.

The City is proposing to construct and operate new wells and wellhead treatment facilities, blending facilities, storage tanks, pipelines, and associated facilities. All of these facilities are needed to provide adequate municipal and industrial water supply within the City's service area.

Program Location

Manteca is situated in San Joaquin County, in central California. Figure ES-1 shows the City's regional location. With historical roots as an agricultural center, the City's economic base has become more diversified with the development of industries and the influx of Bay Area workers seeking affordable housing (City of Manteca 2003a). The California Department of Finance (2005) estimated the City's population at approximately 62,000 residents in 2005.

Background

The City of Manteca 2023 General Plan (2023 General Plan) expanded its Primary Urban Service Area (PUSA) by 4.5 square miles, which will require water services by City infrastructure once buildout is completed. Figure ES-2 shows the City's PUSA boundaries. The total gross area within the PUSA is now 21.5 square miles (13,790 acres). Ultimate water demand calculations are based on the PUSA at full buildout using the 2023 General Plan population projections. Ultimate buildout of the PUSA could reach approximately 132,600 residents, a

potential increase in population of 114%, resulting in a water demand at buildout of approximately 32,865 acre-feet per year (af/yr). The City's available water supply totals 32,240 acre-feet (11,500 acre-feet of surface water in Phase 1 and 18,500 acre-feet of surface water in Phase II). A sustainable supply estimate of 29,340 acre-feet is based on maintaining a 53/47% surface water to groundwater ratio which limits surface water to 15,500 acre-feet (based on PUSA acreage). Although this sustainable supply estimate is used for planning purposes, 18,500 are-feet of surface water supply are available by agreement with SSJID. Actual growth may exceed the sustainable supply of 29,340 acre-feet per year and result in the need for adjustment of the supply ratio, aggressive conservation, and/or use of recycled water supplies.

The land use planning area associated with the larger 2023 General Plan boundary is 40.6 square miles (25,975 acres). However, the proposed program does not address water supply requirements or infrastructure needs for the land area outside of the PUSA. This document assumes that new development within the expanded PUSA would become annexed to the City after gaining approval from the Local Agency Formation Commission (LAFCO). However, construction of water supply infrastructure prior to annexation would require compliance with appropriate County regulations.

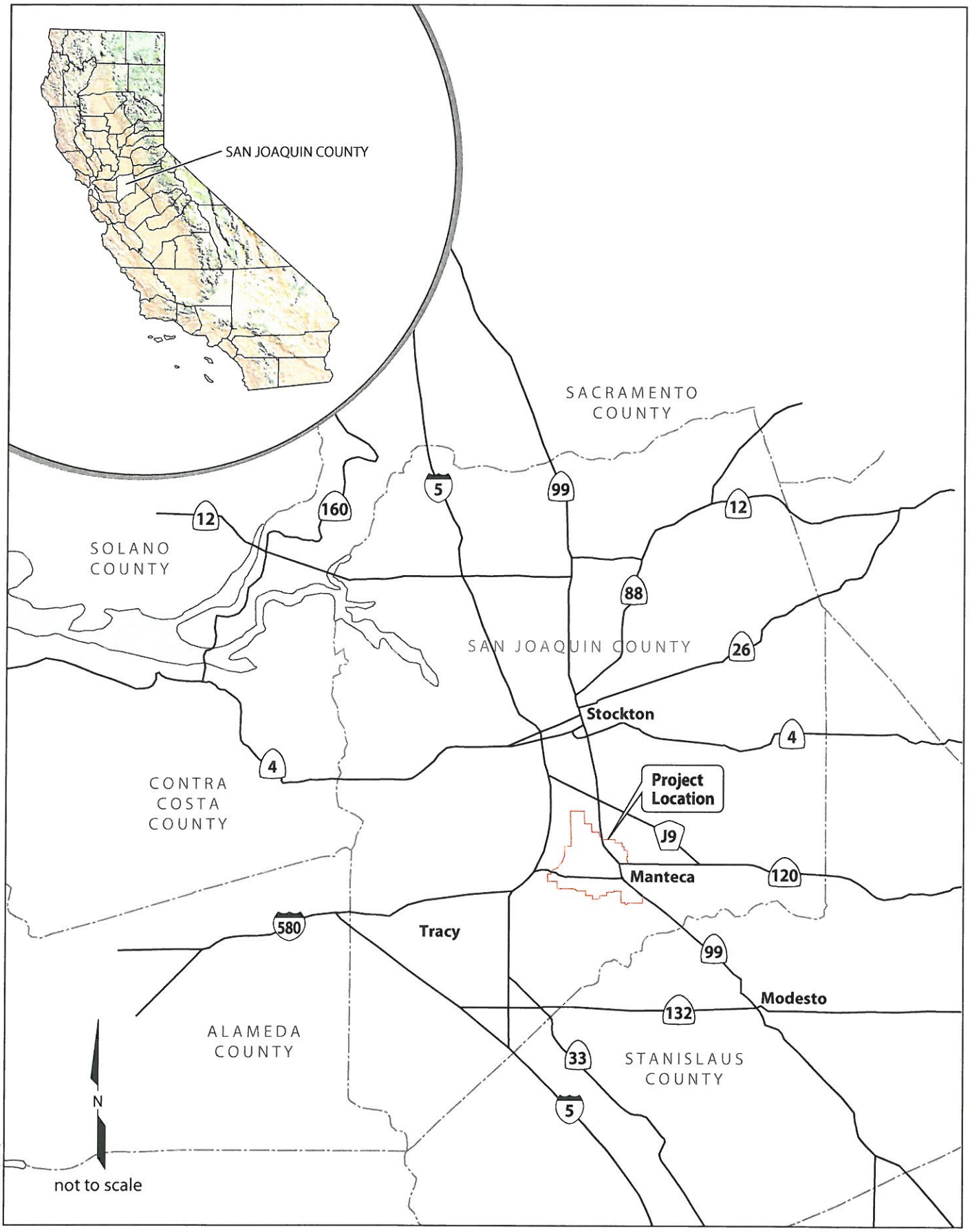
South County Surface Water Supply Project

The *South County Surface Water Supply Project (SCSWSP) EIR* is incorporated by reference in its entirety into this draft EIR (Environmental Science Associates 1999). The SCSWSP EIR is on file with the City of Manteca at the following location.

City of Manteca
Community Development Department
1001 West Center Street
Manteca, CA 95337

Historically, the City has relied on groundwater as its sole source of potable water supply. However, as urban development has expanded, the groundwater basin has exhibited overdraft and declining water tables throughout San Joaquin County. South San Joaquin Irrigation District (SSJID), in conjunction with the City of Manteca, City of Tracy, City of Lathrop, and City of Escalon, has undertaken construction of a surface water supply project to address basin overdraft.

The South County Surface Water Supply Project (SCSWSP) was developed to address future water needs through construction of a Water Treatment Plant, transmission mains, surface storage reservoirs, and booster pump stations. The SCSWSP was the subject of a separate EIR prepared by SSJID (SCH# 98022018), and the City began receiving deliveries of water from the SCSWSP in July 2005. The SCSWSP is not a part of the proposed program, although some of the WMP facilities would convey and/or store water supplied by the SCSWSP.



05013.03 EIR (8-05)

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Figure ES-1
Project Vicinity Map

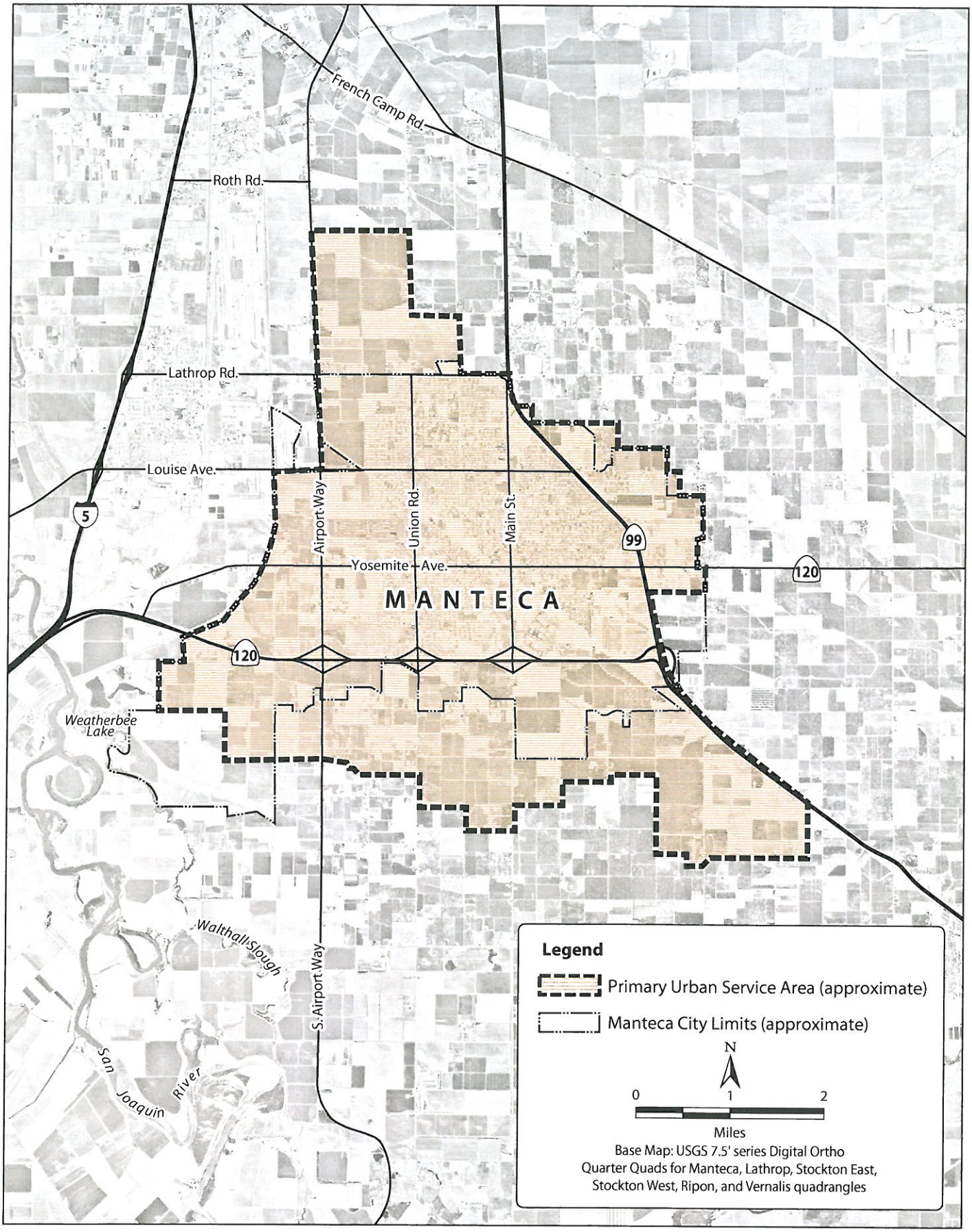

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Figure ES-2
Primary Urban Service Area

The impact analysis of the SCSWSP project relates to the WMP EIR due to the nexus between potable water supply and distribution systems. Specifically, the SCSWSP EIR addressed the impacts of diverting, storing, treating, and conveying surface water to the City of Manteca. The SCSWSP EIR is incorporated by reference so that the potential environmental effects of the SCSWSP project do not have to be revisited in the WMP EIR. A summary of the SCSWSP EIR findings is included in Chapter 1, *Introduction* of this draft EIR.

Mitigation measures were identified to reduce all of the impacts of the SCSWSP to a level of less-than-significant, with one exception. The secondary effects of growth were found to be significant and unavoidable impacts of the SCSWSP. The Executive Summary of the SCSWSP EIR is included as Appendix B in this document.

Program Purpose and Objectives

The purpose of the proposed program (City of Manteca 2005b) is to provide a comprehensive planning document to guide improvement and expansion of the City of Manteca's water system to meet current and future needs for a safe, reliable water supply and distribution system. The proposed program addresses the water requirements of the 2023 General Plan and recommends capital improvements to support existing infrastructure and customer demands, as well as planned new development.

The objectives of the proposed program include the following.

- Provide a strategic approach to compliance with the new maximum contaminant level (MCL) for arsenic that will take effect next year.
- Evaluate planned water system improvements to facilitate delivery of the SSJID's surface water supply to the combined service area.
- Develop a groundwater supply and storage plan to meet a conjunctive groundwater/surface water use approach by the City without exceeding the aquifer's safe yield.
- Prepare a time-phased capital improvement project (CIP) for the water system.
- Implement the goals and objectives of the City of Manteca 2023 General Plan.
- Identify water use conservation programs and recycled water use options.

Program Characteristics

The City developed the 2005 WMP to guide improvement and expansion of the City's water system to meet current and future needs for a safe, reliable water supply and distribution system. The proposed program will include the following aspects:

- implementation of a conjunctive use program, using groundwater wells in the City along with deliveries of treated surface water from the SSJID;
- consideration of groundwater recharge and recycled water use;
- construction of wellhead treatment systems for arsenic;
- construction of additional groundwater wells and/or storage tanks and associated pump stations for existing wells;
- construction of blending facilities for blending of groundwater with SSJID surface water supplies;
- expansion of the City's water distribution system (which includes two turnouts, water storage tanks, and associated pump stations), with the potential future construction of an additional turnout, water storage tank, and associated pump station;
- upgrades to existing distribution mains; and
- construction of additional distribution mains associated with new development.

Construction of these facilities will be staged over time as the need develops. A more detailed program description is provided in Chapter 2, *Program Description*.

Areas of Known Controversy

Following issuance of a Notice of Preparation (NOP), a scoping meeting held on August 24, 2005 and informal outreach, responsible agencies, interested organizations, and individuals were provided the opportunity to submit both written and oral comments concerning the scope of this EIR, the alternatives to be considered, and issues of concern and controversy. All comments provided were considered during the development of the EIR and consideration of alternatives.

The NOP is presented in Appendix A. In summary, discussions to date suggest the public and resource agencies are largely supportive of the proposed program. However, comments received during the scoping period indicate a number of topics of public concern. Key issues include:

- potential cumulative transportation impacts due to growth;
- potential impacts to transportation during construction;

- potential short and long term impacts to air quality;
- potential cumulative impacts to groundwater supply for users outside of the program area; and
- potential impacts to the groundwater aquifer from operation of additional wells.

Key Issues and Significant Impacts

This section discusses key issues of concern relative to the proposed program and the conclusions of this EIR regarding those issues, as well as any significant impacts that were identified. This is not a comprehensive discussion of impacts of the proposed program; for that the reader is directed to Table ES-1, Summary of Impacts and Mitigation Measures, at the end of this chapter.

Environmental factors potentially affected by the proposed program include:

- aesthetics,
- agricultural resources,
- air quality,
- biological resources,
- cultural resources,
- geology, minerals, and soils,
- hazards and hazardous materials,
- hydrology and water resources,
- noise,
- population and housing,
- public services, utilities, and recreation, and
- transportation.

Chapter 3, *Environmental Setting and Impact Analysis*, and Chapter 4, *Alternatives Analysis,* of this EIR document address each of the environmental factors and impacts of the proposed program.

Specific issues determined in this EIR to have significant and unavoidable impacts relate to noise, transportation, population and housing, and growth inducement, as summarized below. See Sections 3.10, *Noise*; 3.13, *Transportation*; and 5, *Other CEQA Findings (Growth-Inducing Impacts)* for a detailed discussion of these impacts.

Noise

Construction of individual program elements was found to have cumulatively significant and unavoidable impacts due to generation of short-term noise and vibrations levels near sensitive land uses. Program-related construction noise and vibration would occur in City rights-of-way (ROWs) during burial of water transmission mains. Potential construction noise would be reduced to the extent feasible by the implementation of construction time limits, noise-reducing construction practices, preparation of a Noise Control Plan, and construction information dissemination; however, these measures would not be able to fully eliminate construction-related noise. Potential vibration impacts would be reduced to the extent feasible through vibration-reducing construction practices; however, these measures would not fully eliminate vibration impacts.

Transportation

Construction of individual program elements was found to have cumulatively significant and unavoidable impacts due to increases in areas traffic volumes and degradation of roadway level of service. Program-related construction traffic and delays would occur in City rights-of-way during burial of water transmission mains. Potential traffic impacts would be reduced to the extent feasible by the preparation of a Traffic Control Plan; however, this measure would not be able to fully eliminate construction-related traffic delays.

Population and Housing/Growth Inducement

Construction of the proposed program area would remove a primary obstacle to growth within the City of Manteca, namely, a reliable source of water supply. For this reason, the proposed program is considered to have significant and avoidable impacts to the City by inducing substantial population growth. The growth associated with the proposed program would be in accordance with the 2023 General Plan. The EIR for the 2023 General Plan also found the growth to be significant and unavoidable. It bears noting that the California Environmental Quality Act (CEQA) does not consider growth to be either a positive or negative impact. Additionally, the proposed program would not result in disorderly growth, as it is being conducted in accordance with the 2023 General Plan.

Alternatives Considered

Two alternatives and a No-Project Alternative were selected for analysis in this EIR. The alternatives analyzed in this EIR are different from those listed in the 2005 WMP. The alternatives listed in the 2005 WMP were considered in development of the Plan. Additional alternatives are required under CEQA to address reduction in the potential environmental impacts of the proposed program, while still meeting program objectives.

The proposed program and two alternatives provide a continuum of conjunctive use options for the City of Manteca. The proposed program relies most heavily on wellhead treatment of groundwater. Alternative 1, Maximize Blending of Surface Water for Arsenic Reduction, depends most heavily on new blending facilities. Alternative 2, Maximize Distribution of Surface Water Supplies, relies most heavily on direct transmission of SSJID water. Each alternative contains all water infrastructure components, yet each supports a different water supply strategy.

These alternatives were selected for analysis in the EIR because they represent feasible options for provision of adequate water supply infrastructure in the City of Manteca.

Alternative 1: Maximize Blending with Surface Water for Arsenic Reduction

Under Alternative 1, low arsenic concentration surface water supplies would be blended with higher arsenic concentration groundwater for a resulting compliant drinking water supply. This alternative provides minimum arsenic treatment by removal and would result in highest average annual arsenic dosage to the City population. This approach requires a significant capital investment in pipelines, tanks, and booster pumping, but results in a lower operation and maintenance cost over the wellhead treatment option included in the proposed program.

Alternative 2: Maximize Distribution of Surface Water Supplies

Under Alternative 2, surface water supplies would be directly distributed to water consumers within the Manteca PUSA whenever possible. In addition to construction of transmission pipelines for direct distribution, some surface supplies would also be blended with groundwater supplies to dilute arsenic concentrations for distribution to remaining consumers. This alternative reduces the number of wellhead treatment plants identified in the proposed program.

No-Project Alternative

CEQA requires analysis of the No-Project Alternative. For this project, the No-Project Alternative would consist of continued use of existing water supply and conveyance facilities in the case that the proposed program is not approved.

Under the No-Project Alternative, there would be no construction of new water supply and distribution facilities. No additional wells, wellhead arsenic treatment facilities, or water storage or distribution pipeline improvements would be constructed. Provision of potable supplies compliant with new federal arsenic concentration standards to the City's existing residents would be constrained, as would continued buildout of the 2023 General Plan.

Environmentally Superior Alternative

The No-Project Alternative was initially identified as the environmentally superior alternative because it would reduce or eliminate many of the impacts associated with the proposed program. Because CEQA requires selection of another environmentally superior alternative if the No-Project Alternative is initially selected, Alternative 2 was identified as environmentally superior for the purposes of this EIR. Alternative 2 would reduce potential environmental impacts related to aesthetics, agricultural resources, air quality, hazards and hazardous materials, and noise.

Summary of Impacts and Mitigation Measures and Levels of Significance

The impacts of the proposed program, proposed mitigation, and significance conclusions are discussed in detail in Chapter 3, *Environmental Setting and Impact Analysis*, and Chapter 4, *Alternatives Analysis*. Table ES-1 summarizes the impacts, mitigation measures, and levels of significance identified in this document.

Table ES-1. Summary of Impacts and Mitigation Measures

Potential Environmental Impacts	CEQA Significance Determination	Mitigation Measures	CEQA Significance Determination After Mitigation
3.1. Aesthetics			
Impact AES-1: Adverse Effect on a Scenic Vista Resulting from Program Elements	Less than significant	No mitigation is required.	–
Impact AES-2: Temporary Visual Disturbances on Program Sites and Surroundings Resulting from Program Construction	Potentially significant	Mitigation Measure AES-2a: Siting and Screening of Construction Staging Areas Mitigation Measure AES-2b: Landscaping of Disturbed Areas	Less than significant with mitigation
Impact AES-3: Degradation of the Existing Visual Character or Quality of Program Sites and Surroundings by Storage Tanks	Potentially significant	Mitigation Measure AES-3a: Siting and Design of Storage Tanks Mitigation Measure AES-3b: Landscaping of Storage Tanks Mitigation Measure AES-3c: Burial of Storage Tanks in Sensitive Areas	Less than significant with mitigation
Impact AES-4: New Sources of Light or Glare That Would Adversely Affect Daytime or Nighttime Views in the Area	Significant	Mitigation Measure AES-4a: Surface Treatment to Reduce Daytime Glare Mitigation Measure AES-4b: Shielding of Nighttime Lights	Less than significant with mitigation
3.2. Agricultural Resources			
Impact AG-1: Direct Conversion of Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Other Farmland to Non-Agricultural Use	Less than significant	No mitigation is required.	–
Impact AG-2: Conflict with Existing Zoning for Agricultural Use or a Williamson Act Contract	Significant and unavoidable	Mitigation Measure AG-2: Prevent the Premature Conversion of Agricultural Land in the Program Area	Less than significant with mitigation
3.3. Air Quality			
Impact AQ-1: Temporary Increase in Construction-Related Emissions during Construction Activities	Potentially significant	Mitigation Measure AQ-1a: Prepare and Implement a Dust Control Plan Mitigation Measure AQ-1b: Use ARB Certified Engines	Less than significant with mitigation
Impact AQ-2: Construction-Related Diesel Health Risk	Less than significant	No mitigation is required.	–

Potential Environmental Impacts	CEQA Significance Determination	Mitigation Measures	CEQA Significance Determination After Mitigation
Impact AQ-3: Generation of Operation-Related Emissions in Excess of SJVAPCD Thresholds	Potentially significant	Mitigation Measure AQ-3: Ensure All Emergency Backup Generators and Diesel Engines Meet EPA Tier 2 and ATCM Standards	Less than significant with mitigation
3.4. Biological Resources			
Impact BIO-1: Potential Disturbance or Loss of Special-Status Plant Populations as a Result of Construction of Program Elements	Significant	Mitigation Measure BIO-1a: Document Special-Status Plant Populations	Less than significant with mitigation
		Mitigation Measure BIO-1b: Avoid or Minimize Impacts on Special-Status Plant Populations by Redesigning the Program Elements, Protecting Special-Status Plant Populations, and/or Developing a Transplantation Plan (If Necessary)	
Impact BIO-2: Potential Introduction or Spread of Noxious Weeds	Significant	Mitigation Measure BIO-2a: Conduct a Noxious Weed Survey and Document Noxious Weed Infestation	Less than significant with mitigation
		Mitigation Measure BIO-2b: Avoid the Dispersal of Noxious Weeds into Uninfested Areas	
Impact BIO-3: Loss or Disturbance of Riparian Habitats	Significant	Mitigation Measure BIO-3a: Identify and Document Riparian Habitat	Less than significant with mitigation
		Mitigation Measure BIO-3b: Avoid and Minimize Disturbance of Riparian Habitats	
		Mitigation Measure BIO-3c: Compensate for the Loss of Riparian Habitat	
Impact BIO-4: Disturbance or Loss of Waters of the United States (Including Wetlands)	Significant	Mitigation Measure BIO-4a: Identify and Delineate Waters of the United States (Including Wetlands)	Less than significant with mitigation
		Mitigation Measure BIO-4b: Avoid and Minimize Disturbance of Waters of the United States, Including Wetland Communities	
		Mitigation Measure BIO-4c: Compensate for the Loss of Wetland Habitat	

Potential Environmental Impacts	CEQA Significance Determination	Mitigation Measures	CEQA Significance Determination After Mitigation
Impact BIO-5: Potential Disturbance or Loss of Special-Status Wildlife Species and Their Habitat	Potentially significant	Mitigation Measure BIO-5a: Document Special-Status Wildlife Species and Their Habitats Mitigation Measure BIO-5b: Avoid and Minimize Impacts on Special-Status Wildlife Species by Redesigning Program Elements, Protecting Special-Status Wildlife Habitat, and Developing a Mitigation Monitoring Plan (If Necessary) Mitigation Measure BIO-5c: Coordinate with Resource Agencies and Develop Appropriate Compensation Plans for State- and Federally-Listed Wildlife Species	Less than significant with mitigation
Impact BIO-6: Conflict with Local Policies or Ordinances Protecting Biological Resources	Less than significant	Mitigation Measures BIO-1a—BIO-5c	Less than significant with mitigation
3.5. Cultural Resources			
Impact CR-1: Disturbance or Destruction of Cultural Resources	Significant	Mitigation Measure CR-1: Conduct Cultural Resource Studies	Less than significant with mitigation
Impact CR-2: Potential Destruction of Buried Archeological or Paleontological Resources	Significant	Mitigation Measure CR-2: Stop Work in Case of Accidental Discovery of Buried Archeological or Paleontological Resources	Less than significant with mitigation
3.6. Geology, Minerals, and Soils			
Impact GEO-1: Potential for Damage to New Water Supply Infrastructure as a Result of Surface Fault Rupture	Less than significant	No mitigation is required.	Less than significant
Impact GEO-2: Potential for Damage to New Water Supply Infrastructure as a Result of Seismic Groundshaking	Potentially significant	Mitigation Measure GEO-2a: Adherence to California Building Standards Code (CBSC) and American Water Works Requirements Mitigation Measure GEO-2b: Adherence to Recommendations Developed from Site-Specific Geotechnical Studies for Program Elements	Less than significant with mitigation

Potential Environmental Impacts	CEQA Significance Determination	Mitigation Measures	CEQA Significance Determination After Mitigation
Impact GEO-3: Potential for Damage to New Water Supply Infrastructure as a Result of Seismically Induced Liquefaction or Other Ground Failure	Potentially significant	Mitigation Measures GEO-2a and GEO-2b	Less than significant with mitigation
Impact GEO-4: Risks to New Water Supply Infrastructure from Expansive Soils	Potentially significant	Mitigation Measures GEO-2a and GEO-2b	Less than significant with mitigation
Impact GEO-5: Potential for Proposed Project to Result in Accelerated Soil Erosion	Potentially significant	Mitigation Measure HWQ-1a	Less than significant with mitigation
Impact GEO-6: Potential for Proposed Project to Interfere with Extraction of Aggregate Resources	No impact	No mitigation is required.	–
3.7. Hazards and Hazardous Materials			
Impact HAZ-1: Expose the Public or the Environment to Hazardous Concentrations of Arsenic or Other Constituents of Concern	Significant	Mitigation Measure HAZ-1a: Containment of Hazardous Materials Used during Wellhead Treatment Operations Mitigation Measure HAZ-1b: Development and Implementation of Plans to Reduce Risk of Exposure of People and the Environment to Hazardous Materials during Wellhead Treatment Operations	Less than significant with mitigation
Impact HAZ-2: Significant Hazard to the Public or the Environment through the Routine Disposal of Arsenic during Wellhead Treatment Operations	Potentially significant	Mitigation Measure HAZ-2: Proper Disposal of Hazardous Materials	Less than significant with mitigation

Potential Environmental Impacts	CEQA Significance Determination	Mitigation Measures	CEQA Significance Determination After Mitigation
Impact HAZ-3: Significant Hazard to the Public or the Environment through Reasonably Foreseeable Upset and Accident Conditions Involving the Release of Hazardous Materials	Potentially significant	Mitigation Measure HAZ-3a: Develop and Implement Plans to Reduce Exposure of People and the Environment to Hazardous Conditions during Construction Activities	Less than significant with mitigation
		Mitigation Measure HAZ-3b: Follow City of Manteca Fire Department and Other Guidelines for Storage and Handling of Hazardous Materials	
		Mitigation Measure HAZ-3c: Immediately Contain Spills, Excavate Spill-Contaminated Soil, and Dispose of It at an Approved Facility	
		Mitigation Measure HAZ-3d: Perform Hazards Records Search Prior to Development of All Program Sites and Implement Necessary Remediation	
		Mitigation Measure HAZ-3e: Screen Surface Soils in the Program Area for Residuals from Agricultural Chemicals (Fertilizers and Pesticides)	
Impact HAZ-4: Emit Hazardous Emissions or Handle Hazardous or Acutely Hazardous Materials, Substances, or Waste within 0.25 Mile of an Existing or Proposed School	Potentially significant	Mitigation Measures HAZ-1a—HAZ-1b, HAZ-2, and HAZ-3a—HAZ-3e	Less than significant with mitigation
Impact HAZ-5: Impair Implementation of or Physically Interfere with an Adopted Emergency Response Plan or Emergency Evacuation Plan	Potentially significant	Mitigation Measure HAZ-5: Incorporate Emergency Access Routes During Construction	Less than significant with mitigation
Impact HAZ-6: Expose People or Structures to a Significant Risk of Loss, Injury, or Death Involving Wildland Fires	Potentially significant	Mitigation Measure HAZ-6a: Before Construction Begins, Clear Materials That Could Serve as Fire Fuel from Areas Slated for Construction Activities	Less than significant with mitigation
		Mitigation Measure HAZ-6b: Require That Spark-Generating Construction Equipment Be Equipped with Manufacturers' Recommended Spark Arresters	
Impact HAZ-7: Be Located within an Airport Land Use Plan Area or within Two Miles of a Public Airport or Private Airstrip	No impact	No mitigation is required.	–

Potential Environmental Impacts	CEQA Significance Determination	Mitigation Measures	CEQA Significance Determination After Mitigation
3.8. Hydrology and Water Resources			
Impact HWQ-1: Construction-Related Erosion, Sedimentation, and Potential Release of Hazardous Materials.	Significant	Mitigation Measure HWQ-1a: Implement Erosion and Sediment Control Measures Mitigation Measure HWQ-1b: Develop and Implement a Spill Prevention, Control, and Countermeasure Program for Construction Activities Mitigation Measure HWQ-1c: Develop and Implement a Frac-Out Contingency Plan for Jack and Bore Activities	Less than significant with mitigation
Impact HWQ-2: Water Quality Degradation Due to Construction in Surface Waters and/or Groundwater	Significant	Mitigation Measure HWQ-2a: Use Trenchless Technology. Mitigation Measure HWQ-2b: Dry-Season Construction. Mitigation Measure HWQ-2c: Implement Measures to Maintain Water Quality. Mitigation Measure HWQ-2d: Provisions for Dewatering.	Less than significant with mitigation
Impact HWQ-3: Process Discharge Water Associated with Construction of Wells	Potentially significant	Mitigation Measure HWQ-2d.	Less than significant with mitigation
Impact HWQ-4: Release of Hazardous Materials during Operation of Wellhead Treatment Units	Significant	Mitigation Measure HWQ-1b and HAZ-1a—HAZ-1b, HAZ-2, and HAZ-3a—HAZ-3e.	Less than significant with mitigation
Impact HWQ-5: Process Discharge Water Associated with Operation of Distribution Pipelines, Storage Tanks, and Wells	Significant	Mitigation Measure HWQ-2d.	Less than significant with mitigation
Impact HWQ-6: Increased Amounts of Surface Runoff and Associated Impacts to Water Quality, Drainage Facilities, and Groundwater Recharge	Less than significant	No mitigation is required.	–
Impact HWQ-7: Groundwater Overdraft	Beneficial	No mitigation is required.	–

Potential Environmental Impacts	CEQA Significance Determination	Mitigation Measures	CEQA Significance Determination After Mitigation
Impact HWQ-8: Provision of Surface Water Supply	No impact	No mitigation is required.	–
Impact HWQ-9: Flooding Hazards	Less than significant	No mitigation is required.	–
Impact HWQ-10: Seiche, Tsunami, and Mudflow Hazards	Less than significant	No mitigation is required.	–
3.9. Land Use and Planning			
Impact LU-1: Disruption or Division of an Established Community during Construction Activities	Less than significant	No mitigation is required.	–
Impact LU-2: Conflicts with Applicable Land Use Plan, Policy, or Regulation	No impact	No mitigation is required.	–
Impact LU-3: Incompatibility with Existing or Future Adjacent Land Uses	Less than significant	No mitigation is required.	–
Impact LU-4: Conflicts with Applicable Habitat Conservation Plan or Natural Community Conservation Plan	Less than significant	No mitigation is required.	–
3.10. Noise			
Impact NOI-1: Exposure of Noise-Sensitive Land Uses to Short-Term Construction Noise in Excess of City Standards	Significant and unavoidable	Mitigation Measure NOI-1a: Limit Hours of Construction. Mitigation Measure NOI-1b: Prepare a Noise Control Plan. Mitigation Measure NOI-1c: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking Program.	Significant and unavoidable
Impact NOI-2: Exposure of Sensitive Land Uses to Short-Term Construction-Related Vibration Levels in Excess of City Standards	Significant and unavoidable	Mitigation Measure NOI-2: Employ Vibration-Reducing Construction Practices	Significant and unavoidable
Impact NOI-3: Exposure of Noise-Sensitive Land Uses to Operational Noise in Excess of City Standards	Significant	Mitigation Measure NOI-3: Design Pump Stations, Other Noise-Generating Facilities, and Building Enclosures to Meet Local Noise Standards	Less than significant with mitigation

Potential Environmental Impacts	CEQA Significance Determination	Mitigation Measures	CEQA Significance Determination After Mitigation
Impact NOI-4: Exposure of Noise-Sensitive Land Uses to Substantial Noise Increases	Potentially significant	Mitigation Measures NOI-1a—NOI-1d and NOI-3	Less than significant with mitigation
3.11. Population and Housing			
Impact POP–1: Displace a Substantial Number of Existing Housing Units or People	No impact	No mitigation is required.	–
Impact POP–2: Substantial Induction of Population Growth in the City of Manteca	Significant and unavoidable	No mitigation is available.	Significant and unavoidable
3.12. Public Services, Utilities, and Recreation			
Impact PSU-1: Program Wastewater Disposal Would Require Expansion or Construction of New Wastewater Treatment Facilities	Less than significant	No mitigation is required.	–
Impact PSU-2: Landfill Permitted Capacity Would be Insufficient to Accommodate Construction Waste from Program Elements	Less than significant	No mitigation is required.	–
Impact PSU-3: Pipeline Construction Could Result in Temporary, Planned, or Accidental Disruption to Utility Services	Significant	Mitigation Measure PSU-3a: Identify and Relocate Existing Utilities Where Necessary	Less than significant with mitigation
Impact PSU-4: Construction Activities Could Temporarily Block Access Routes and Reduce Adopted Response Times for Police, Fire, and Emergency Services	Less than significant	No mitigation is required.	–
Impact PSU-5: Increase Use or Require Construction or Expansion of Existing Neighborhood and Regional Parks or Other Recreational Facilities	No impact	No mitigation is required.	–

Potential Environmental Impacts	CEQA Significance Determination	Mitigation Measures	CEQA Significance Determination After Mitigation
3.13 - Transportation			
Impact TR-1: Short-Term Increase in Area Traffic Volumes and Degradation of LOS Due to Construction-Generated Traffic	Significant and unavoidable	Mitigation Measure TR-1: Develop and Implement a Traffic Control Plan	Significant and unavoidable
Impact TR-2: Increase in Area Traffic Volumes and Degradation of LOS Due to Operations-Generated Traffic	Less than significant	No mitigation is required.	–
Impact TR-3: Increase in Safety Hazards Due to Construction-Generated Traffic	Potentially significant	Mitigation Measure TR-1	Less than significant with mitigation
Impact TR-4: Interference with Emergency Access and Circulation Due to Construction-Generated Traffic	Potentially significant	Mitigation Measure TR-1	Less than significant with mitigation
Impact TR-5: Increase in Parking Demand Due to Facility Construction and/or Operation	Potentially significant	Mitigation Measure TR-1	Less than significant with mitigation
Impact TR-6: Potential Conflict with Transit Service during Construction	Potentially significant	Mitigation Measure TR-1	Less than significant with mitigation

Chapter 1
Introduction

This document is a draft environmental impact report (EIR), analyzing the potential effects of the 2005 Water Master Plan (WMP) proposed by the City of Manteca (City). The City developed the proposed program to guide improvement and expansion of the City's water system to meet current and future needs for a safe, reliable water supply and distribution system. The proposed program addresses the water requirements of the City of Manteca 2023 General Plan (City of Manteca 2003b) and recommends capital improvements to support existing infrastructure and customer demands as well as planned new development.

As required by the California Environmental Quality Act (CEQA) (Public Resource Code 21000 et seq.), this draft EIR examines the proposed program's individual ("incremental") impacts as well as its potential contribution to cumulative impacts in the program region. It also identifies mitigation measures to avoid or minimize impacts evaluated as potentially significant. Consistent with CEQA requirements, this EIR analyzes a range of feasible alternatives to the proposed program, including the No-Program Alternative, under which no new water supply infrastructure would be planned for construction. The City will serve as the lead agency for CEQA compliance.

Program Background

The City is situated in San Joaquin County, in central California. With historical roots as an agricultural center, the City's economic base has become more diversified with the development of industries and the influx of Bay Area workers seeking affordable housing (City of Manteca 2003b). The California Department of Finance (2005) estimated the City's population at approximately 62,000 residents in 2005.

The City's 2023 General Plan expanded its PUSA by 4.5 square miles, which will require water services from City infrastructure as buildout proceeds. The total gross area within the PUSA is now 21.5 square miles (13,790 acres). Ultimate water demand calculations are based on the PUSA at full buildout using the 2023 General Plan population projections. Ultimate buildout of the PUSA could reach approximately 132,600 residents, a potential increase in population of 114%, resulting in a water demand at buildout of approximately 32,865 acre-feet per year. The City's available water supply totals 32,240 acre-feet (11,500

acre-feet of surface water in Phase 1 and 18,500 acre-feet of surface water in Phase II). A sustainable supply estimate of 29,340 acre-feet is based on maintaining a 53/47% surface water to groundwater ratio which limits surface water to 15,500 acre-feet (based on PUSA acreage). Although this sustainable supply estimate is used for planning purposes, 18,500 are-feet of surface water supply are available by agreement with SSJID. Actual growth may exceed the sustainable supply of 29,340 acre-feet per year and result in the need for adjustment of the supply ratio, aggressive conservation, and/or use of recycled water supplies.

The land use planning area associated with the larger 2023 General Plan boundary is 40.6 square miles (25,975 acres). However, the proposed program does not address water supply requirements or infrastructure needs for the land area outside of the PUSA. This document assumes that new development within the expanded PUSA would become annexed to the City after gaining approval from LAFCO. However, construction of water supply infrastructure prior to annexation would require compliance with appropriate County regulations.

Program Characteristics

The City developed the 2005 WMP to guide improvement and expansion of the City's water system to meet current and future needs for a safe, reliable water supply and distribution system. The proposed program will include the following aspects:

- implementation of a conjunctive use program, using groundwater wells in the City along with deliveries of treated surface water from the SSJID;
- consideration of groundwater recharge and recycled water use;
- construction of wellhead treatment systems for arsenic;
- construction of additional groundwater wells and/or storage tanks and associated pump stations for existing wells;
- construction of blending facilities for blending of groundwater with SSJID surface water supplies;
- expansion of the City's water distribution system, including the installation of two turnouts, water storage tanks, and associated pump stations, with the potential future construction of an additional turnout, water storage tank, and associated pump station;
- upgrades to existing distribution mains; and
- construction of additional distribution mains associated with new development.

Construction of these facilities will be staged over time as the need develops.

CEQA Requirements

Overview

CEQA is the cornerstone of environmental law and policy in California. CEQA's primary objectives are to:

- ensure that the significant environmental effects of proposed activities are disclosed to decision makers and the public;
- identify ways to avoid or reduce environmental damage; prevent environmental damage by requiring implementation of feasible alternatives and/or mitigation measures;
- make public the reasons for agency approval of projects with significant environmental effects;
- foster multidisciplinary interagency coordination in the review of projects; and
- enhance public participation in the planning process.

With certain strictly limited exceptions, CEQA requires all state and local government agencies to consider the environmental consequences of projects over which they have discretionary[1] authority before taking action on those projects. It establishes both procedural and substantive requirements that agencies must satisfy to meet CEQA's objectives. For instance, the agency with decision-making authority (the lead agency) must first assess whether a proposed project would result in significant environmental impacts. If the project could result in significant environmental impacts, CEQA requires the agency to prepare an EIR, analyzing both the proposed project and a range of feasible alternatives.

As described in the CEQA Guidelines, Section 15121(a), an EIR is a public information document that assesses potential environmental effects of a proposed project as well as identifies mitigation measures and alternatives to the project that could reduce or avoid adverse environmental impacts (14 CCR 15121[a]). Other key requirements include developing a plan for implementing and monitoring the success of the identified mitigation measures, and carrying out specific noticing and distribution steps to facilitate public involvement in the environmental review process.

Program EIR Definition

When an agency proposes a program of related activities that are geographically linked, would take place as logical parts of a series of events, or would be carried out under the same authorizing statutory or regulatory authority, the agency can

[1] *Discretionary* describes a project over which an agency has decision-making jurisdiction.

choose to prepare a **program EIR**. The program EIR, sometimes described as the "first tier" of a multi-tiered CEQA analysis, analyzes the program as a whole, including all of its constituent activities. Depending on the level of detail available at this stage in the analysis, the program analysis may be sufficiently detailed to permit implementation of any of the program activities. More commonly, limited information is available at this planning stage, and the program-level analysis is overarching and generalized. In this case, a "second-tier" environmental review is required at the project level to implement individual program components or activities.

Scope and Intent of This Document

This draft EIR has been prepared in accordance with CEQA, and provides a broad, program-level analysis of the 2005 WMP. The City will use the analyses presented in this draft EIR, and public response to them, to evaluate the proposed program's environmental impacts and to further modify, approve, or deny approval of the proposed program based on the analysis provided herein. If it becomes clear after certification of this program EIR, as the program is implemented, that potential exists for significant impacts as a result of any of the program elements, the City will conduct additional tiered environmental review, consistent with CEQA.

Incorporation by Reference

The *South County Surface Water Supply Project (SCSWSP) EIR* is incorporated by reference in its entirety into this draft EIR (Environmental Science Associates 1999). Per CEQA Guidelines Section 15150, a brief summary of the document is provided, as well as its relationship to the current EIR and the State Clearinghouse Number of the document. The SCSWSP EIR is on file with the City of Manteca at the following location.

City of Manteca
Community Development Department
1001 West Center Street
Manteca, CA 95337

South County Surface Water Supply Project

Historically, the City has relied on groundwater as its sole source of potable water supply. However, as urban development has expanded, the groundwater basin has exhibited overdraft and declining water tables throughout San Joaquin County. SSJID, in conjunction with the City of Manteca, City of Tracy, City of Lathrop, and City of Escalon, has undertaken construction of a surface water supply project to address basin overdraft.

The SCSWSP was developed to address future water needs through construction of a Water Treatment Plant, transmission mains, surface storage reservoirs, and booster pump stations. The SCSWSP was the subject of a separate EIR prepared by SSJID (SCH# 98022018), and the City began receiving deliveries of water from the SCSWSP in July 2005. The SCSWSP is not a part of the proposed program, although some of the WMP facilities would convey and/or store water supplied by the SCSWSP. Figure 1-1 illustrates the SCSWSP facilities as a point of reference.

The impact analysis of the SCSWSP project relates to the WMP EIR due to the nexus between potable water supply and distribution systems. Specifically, the SCSWSP EIR addressed the impacts of diverting, storing, treating, and conveying surface water to the City of Manteca. Key significant impacts discussed in the SCSWSP EIR included the following.

- Impacts to wetlands/vernal pools, grassland habitats, sensitive tree resources, and associated special-status species due to construction associated with the pipelines, water treatment plant, and Tracy Pump Station.
- Construction-related impacts resulting from traffic/access disruption, noise, dust generation, and stormwater runoff during construction of pipelines.
- Restricted access for farming vehicle traffic due to construction and operation of the pipeline along the portions of the alignment across farmland.
- Water quality and public health impacts associated with use of Woodward Reservoir for raw water storage due to existing uses within the reservoir watershed, including recreation and agriculture/livestock.
- Hazardous materials impacts during construction of project facilities and operation of the water treatment plant.
- Impacts to recreation uses at Woodward Reservoir to comply with Department of Health Services requirements for drinking water sources. The EIR identified the potential need for seasonal prohibition of body contact recreation activities.
- Secondary impacts from development within Manteca and other cities served by the SCSWSP, consistent with buildout of their respective General Plans. These include traffic congestion, and the loss of agricultural land, open space, and habitat.

Mitigation measures were identified to reduce all of the impacts of the SCSWSP to a level of less-than-significant, with one exception. The secondary effects of growth identified under the final bullet above were found to be significant and unavoidable impacts of the SCSWSP.

The Executive Summary of the SCSWSP EIR is included as Appendix B in this document.

Public Involvement Process

As described above, public disclosure and dialogue are priorities under CEQA. Accordingly, CEQA mandates two periods during the EIR process when public and agency comments on the proposed project (or program) and draft document are solicited: during the scoping comment period and during the review period for the draft EIR. CEQA and the state's CEQA implementation guidelines also encourage lead agencies to hold public meetings or hearings to review both the draft and final versions of an EIR. Brief descriptions of these milestones are provided below, as they apply to this document.

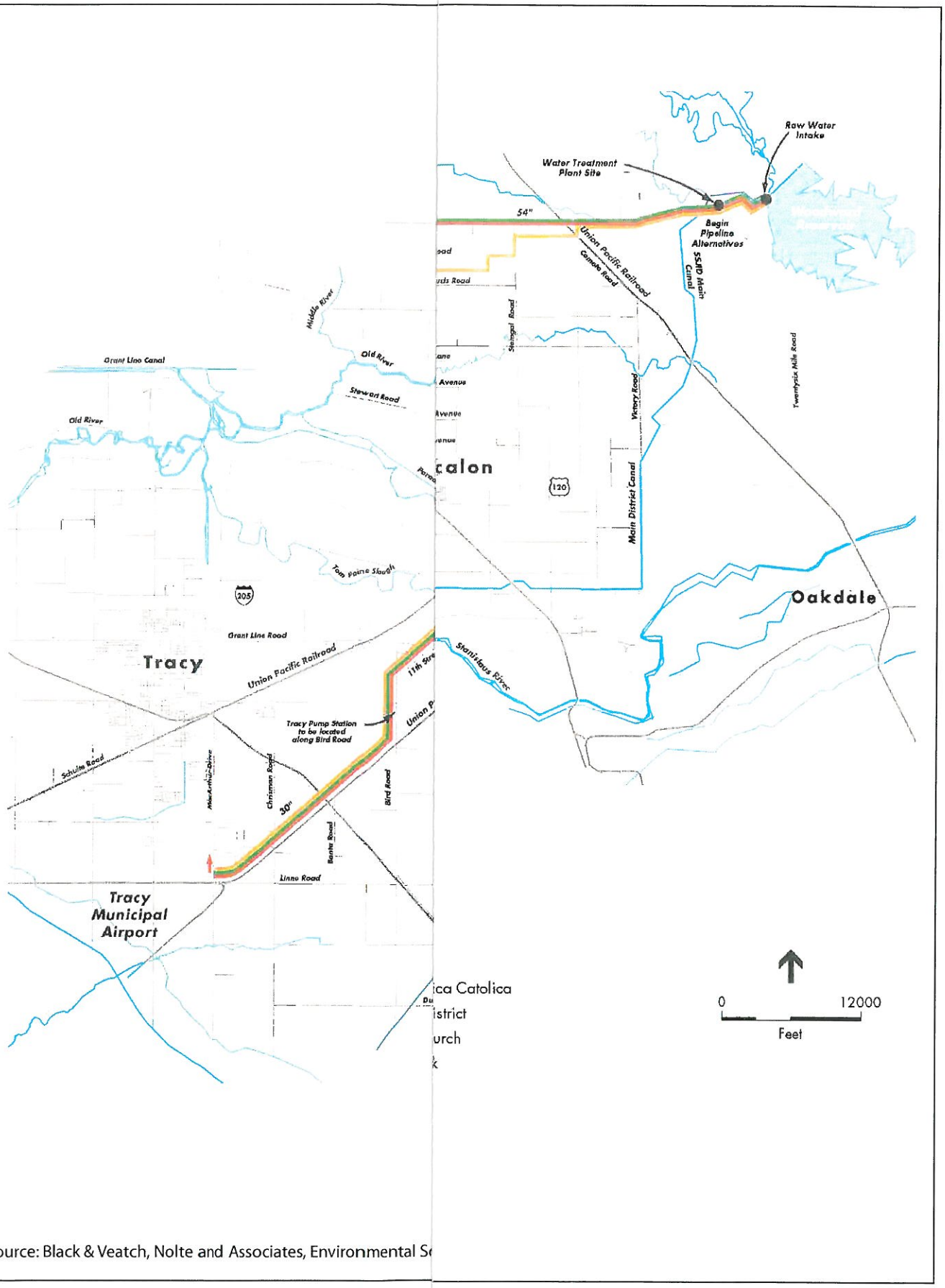
Scoping Comment Period

Scoping refers to the public outreach process used under CEQA to determine the coverage and content of an environmental impact report. The scoping comment period offers an important opportunity for public review and comment in the early phases of a project. The scoping process for an EIR is typically initiated by publication of the NOP required by CEQA, which provides formal notice to the public and to interested agencies and organizations that an EIR is in preparation. During the scoping period, agencies and the public are invited to comment on the program, the approach to environmental analysis, and any issues of concern. CEQA does not require public meetings during the scoping phase, but many lead agencies opt to hold meetings because they provide good opportunities for face-to-face dialogue about public perceptions, needs, and concerns.

The City distributed an NOP for this EIR on August 17, 2005, initiating the scoping period. An initial 30-day public comment period was provided for agencies and the public to review the NOP and provide input. A public scoping meeting was convened on August 24, 2005, at 4:30 p.m. in the City Council Chambers, 1001 West Center Street, Manteca, CA 95337. However, no members of the public or agency representatives attended the scoping meeting. The NOP is presented in Appendix A.

Draft EIR Comment Period

Once a draft EIR is complete, the lead agency must issue a notice of availability, giving agencies and the public formal notification that the document is available for review. The notice is sent to all responsible and trustee agencies, any person or organization requesting a copy, and the county clerk's office for posting and must also be published in a general-circulation newspaper, posted on and off the project site, or directly mailed to residents of properties adjacent to the project site. CEQA then requires a minimum 45-day public review period, during which the lead agency receives and collates public and agency comments on the project and the document.



Source: Black & Veatch, Nolte and Associates, Environmental S

05013.05 EIR (8-05)

Jones & Stokes

Figure 1-1
SCSWSP Project Facilities

The City is now circulating this draft EIR for a 45-day public review and comment period and will also conduct a public hearing to present the results of the draft EIR and solicit comments in person. *The public review period for this draft EIR is from Friday, October 27, 2006 – Tuesday, December 12, 2006. The public hearing will be held on November 30, 2006, at 3:00 p.m. in the City Council Chambers, 1001 West Center Street, Manteca, CA 95337.* The purpose of public circulation and the public hearing is to provide agencies and interested individuals with opportunities to comment on or express concerns regarding the contents of the draft EIR.

Final EIR and Public Hearing

CEQA requires the lead agency to prepare a final EIR addressing all substantive comments received on the draft EIR before approving a project. The final EIR must include a list of all individuals, organizations, and agencies that provided comments and must contain copies of all comments received during the draft EIR's public review period, along with the lead agency's responses.

The City will include written responses to comments in the final EIR and will hold a second public hearing to discuss comments received and present responses before certifying the final EIR and approving the project. Agencies and the public will have the opportunity to provide additional comments on issues raised in the document during this hearing.

Known Issues of Concern

The full text of all scoping comments is presented in Appendix A. In summary, discussions to date suggest that the public and resource agencies are largely supportive of the proposed program. However, comments received during the scoping period indicate a number of topics of public concern. Key issues include the following.

- Potential cumulative transportation impacts due to growth.
- Potential impacts to transportation during construction.
- Potential short and long term impacts to air quality.
- Potential cumulative impacts to groundwater supply for users outside of the program area.
- Potential impacts to the groundwater aquifer from operation of additional wells.

Organization of This EIR

This draft EIR contains the following components.

- *Executive Summary.*
- *Chapter 1, Introduction.*
- *Chapter 2, Program Description,* provides a description of the 2005 WMP and summarizes the program alternatives analyzed in this document.
- *Chapter 3, Environmental Setting and Impact Analysis,* describes existing environmental conditions and evaluates the proposed program's anticipated environmental impacts for the following resource topics:

  3.1 Aesthetics.

  3.2 Agricultural Resources.

  3.3 Air Quality.

  3.4 Biological Resources.

  3.5 Cultural Resources.

  3.6 Geology. Minerals. and Soils.

  3.7 Hazards and Hazardous Materials.

  3.8 Hydrology and Water Resources.

  3.9 Land Use and Planning.

  3.10 Noise.

  3.11 Population and Housing.

  3.12 Public Services. Utilities. and Recreation. and

  3.13 Transportation.

  These sections also identify mitigation strategies and/or measures, where feasible, to address all impacts evaluated as significant.

- *Chapter 4, Alternatives Analysis,* describes the process through which alternatives to the proposed program were developed and screened, describes the program alternatives analyzed in this EIR, evaluates their likely environmental impacts, and identifies the environmentally superior alternative.
- *Chapter 5, Other CEQA Findings,* addresses the proposed program's potential to contribute to cumulative impacts in the program region; outlines the proposed program's potential to induce growth; identifies significant, irreversible environmental changes resulting from the program; and lists items found not to be significant.
- *Chapter 6, List of Preparers,* lists the individuals involved in preparing this EIR and their responsibilities.

- *Chapter 7, References,* provides a bibliography of printed references, web sites, and personal communications used in preparing this EIR.
- *Chapter 8, DEIR Distribution List,* provides a list of persons and agencies sent a copy of this EIR.
- *Appendix A* contains the NOP issued by the City and the text of all scoping comments received.
- *Appendix B* contains the Executive Summary of the SCSWSP EIR.
- *Appendix C* contains the USFWS special-status species list for the Manteca region.

Terminology Used in This EIR

The following terminology is used to evaluate the level of significance of impacts discussed in this EIR.

- A finding of *no impact* is made when the analysis concludes that the project would not affect the particular environmental issue.
- An impact is considered *less than significant* if the analysis concludes that there would be no substantial adverse change in the environment and that no mitigation is needed.
- An impact is considered *less than significant with mitigation* if the analysis concludes that there would be no substantial adverse change in the environment with the inclusion of the mitigation measure(s) described.
- An impact is considered *significant* or *potentially significant* if the analysis concludes that there could be a substantial adverse effect on the environment.
- An impact is considered *significant and unavoidable* if the analysis concludes that there could be a substantial adverse effect on the environment and no feasible mitigation measures are available to reduce the impact to a less-than-significant level.
- An impact is considered *beneficial* if the analysis concludes that there would be a positive change in the environment.

Mitigation refers to specific measures or activities adopted to avoid an impact, reduce its severity, or compensate for it.

Chapter 2

Program Description

Introduction

This chapter describes the proposed program's purpose, regional and local setting, objectives, and specific characteristics. A more detailed description of the program elements can be found in the 2005 Water Master Plan document (City of Manteca 2005b).

Program Purpose

The purpose of the 2005 Water Master Plan (City of Manteca 2005b) is to provide a comprehensive planning document to guide improvement and expansion of the City of Manteca's water system to meet current and future needs for a safe, reliable water supply and distribution system. The proposed program addresses the water requirements of the City of Manteca 2023 General Plan (City of Manteca 2003a) and recommends capital improvements to support existing infrastructure and customer demands, as well as planned new development.

Program Location

Manteca is situated in San Joaquin County, in central California. Figure 2-1 shows the City's regional location. With historical roots as an agricultural center, the City's economic base has become more diversified with the development of industries and the influx of Bay Area workers seeking affordable housing (City of Manteca 2003a). The California Department of Finance (2005) estimated the City's population at approximately 62,000 residents in 2005.

Background

Historically, the City has utilized separate planning documents to define required capital improvements for different geographic zones within the City: Zone 11

(2002 Water Master Plan) and Zone 12 (1993 Public Facilities Implementation Plan). Zone 11 includes heavily developed portions of Manteca and growth in this area is generally limited to infill development and redevelopment. Zone 12 is characterized as agricultural lands with significant urban development potential. The proposed program provides planning, evaluation, and recommendations for the entire PUSA, including both Zones 11 and 12.

Primary Urban Service Area

The City's 2023 General Plan expanded its PUSA by 4.5 square miles, which will require water services by City infrastructure once buildout is completed. Figure 2-2 shows the City's PUSA boundaries. The total gross area within the PUSA is now 21.5 square miles (13,790 acres). Ultimate water demand calculations are based on the PUSA at full buildout using the 2023 General Plan population projections. Ultimate buildout of the PUSA could reach approximately 132,600 residents, a potential increase in population of 114%, resulting in a water demand at buildout of approximately 32,865 acre-feet per year. The City's available water supply totals 32,240 acre-feet (11,500 acre-feet of surface water in Phase 1 and 18,500 acre-feet of surface water in Phase II). A sustainable supply estimate of 29,340 acre-feet is based on maintaining a 53/47% surface water to groundwater ratio which limits surface water to 15,500 acre-feet (based on PUSA acreage). Although this sustainable supply estimate is used for planning purposes, 18,500 are-feet of surface water supply are available by agreement with SSJID. Actual growth may exceed the sustainable supply of 29,340 acre-feet per year and result in the need for adjustment of the supply ratio, aggressive conservation, and/or use of recycled water supplies.

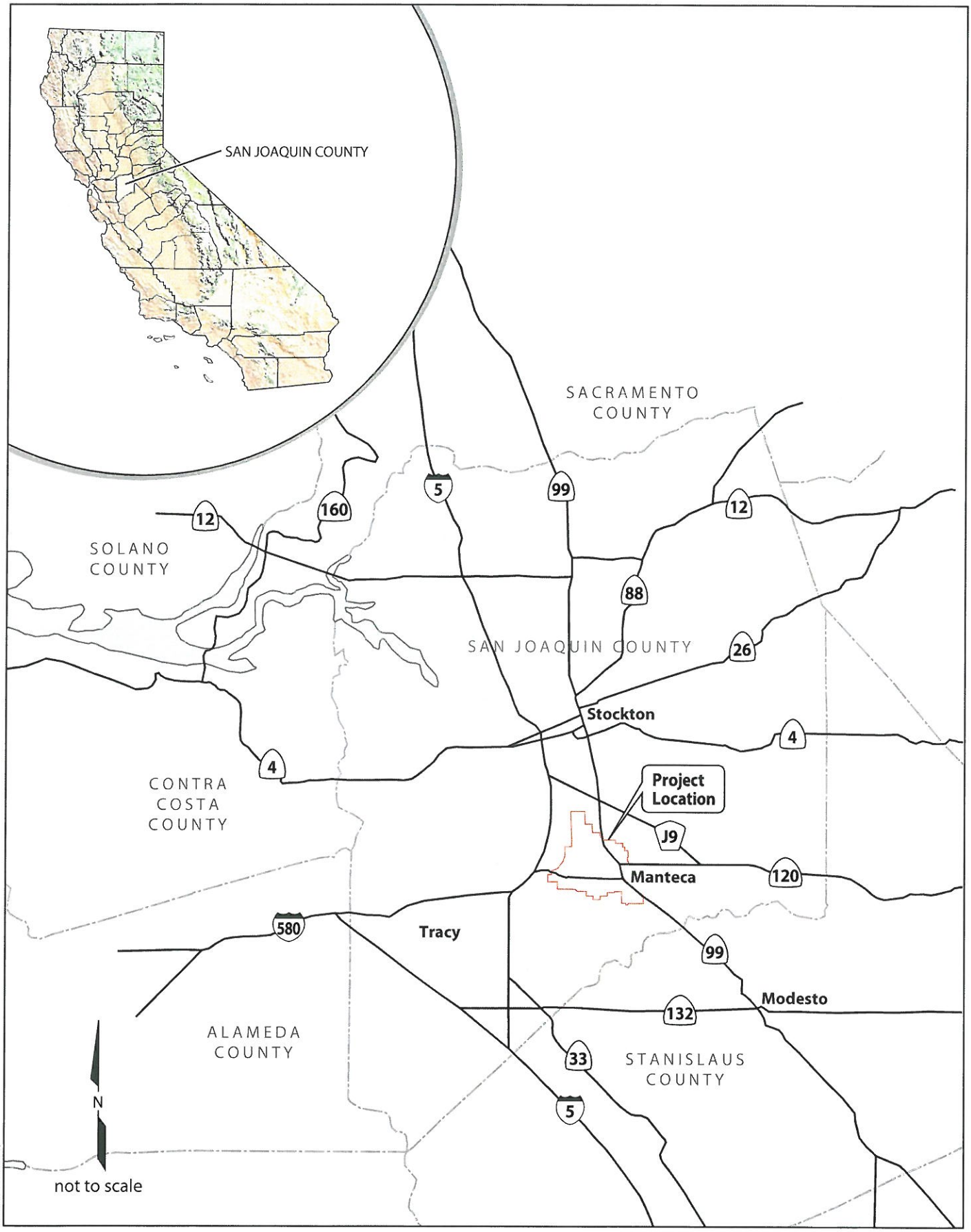
The land use planning area associated with the larger 2023 General Plan boundary is 40.6 square miles (25,975 acres). However, the proposed program does not address water supply requirements or infrastructure needs for the land area outside of the PUSA. This document assumes that new development within the expanded PUSA would become annexed to the City after gaining approval from LAFCO. However, construction of water supply infrastructure prior to annexation would require compliance with appropriate County regulations.

Program Objectives

The proposed program evaluates and provides capital improvement recommendations through 2035 and includes general recommendations for water utility infrastructure improvements through buildout of the 2023 General Plan.

The objectives of the proposed program include the following:

- Provide a strategic approach to compliance with the new maximum contaminant level (MCL) for arsenic that will take effect in 2006.



05013.05 EIR (3-05)

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Figure 2-1
Project Vicinity Map

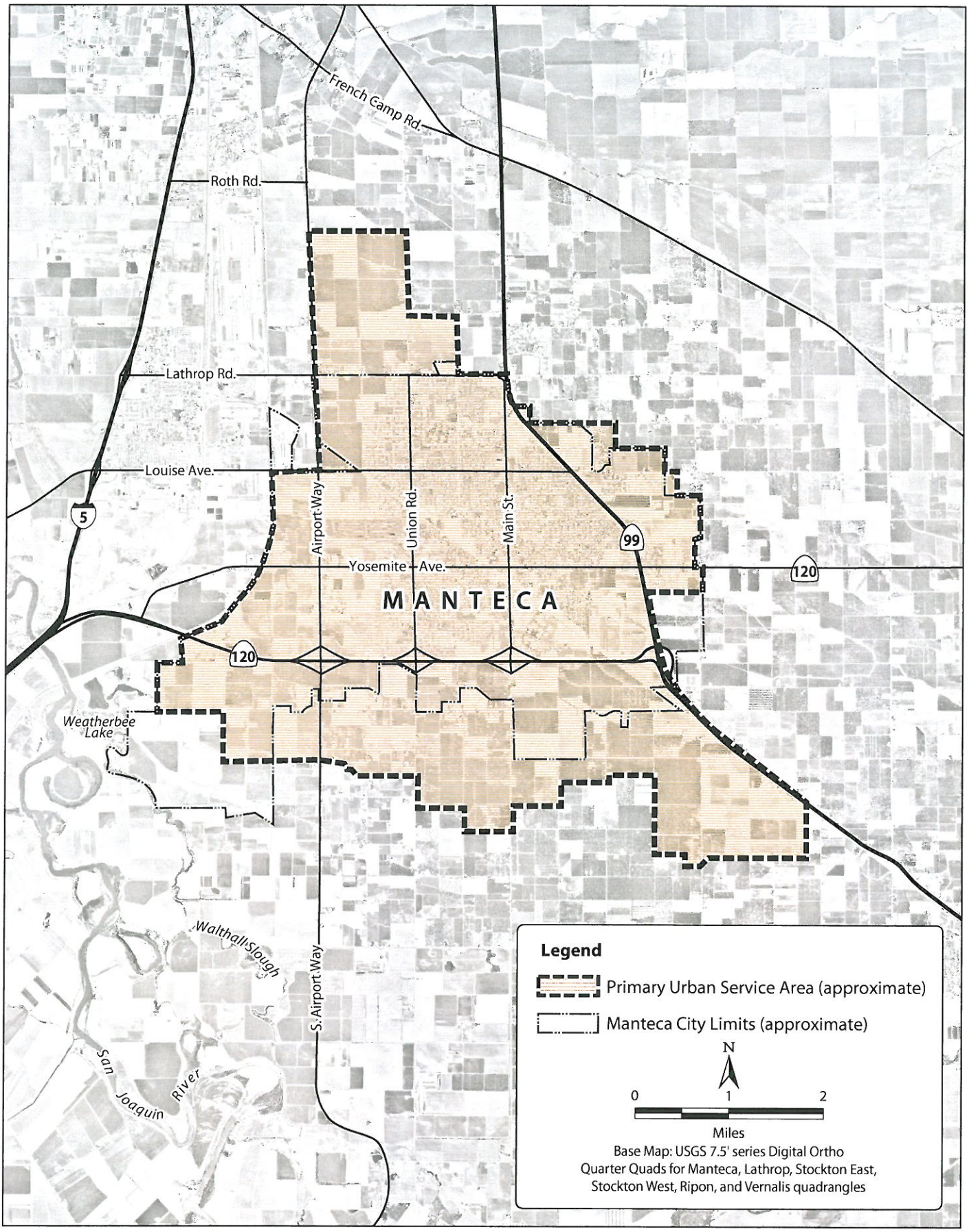

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Figure 2-2
Primary Urban Service Area

- Evaluate planned water system improvements to facilitate delivery of the SSJID's surface water supply to the combined service area.
- Develop a groundwater supply and storage plan to meet a conjunctive groundwater/surface water use approach by the City without exceeding the aquifer's safe yield.
- Prepare a time-phased capital improvement project (CIP) for the water system.
- Implement the goals and objectives of the City of Manteca 2023 General Plan.
- Identify water use conservation programs and recycled water use options.

South County Surface Water Supply Project

Historically, the City has relied on groundwater as its sole source of potable water supply. However, as urban development has expanded, the groundwater basin has exhibited overdraft and resulted in declining water tables through San Joaquin County. SSJID, in conjunction with the City of Manteca, the City of Tracy, the City of Lathrop, and the City of Escalon, has undertaken construction of a surface water supply project to address basin overdraft.

The SCSWSP was developed to address future water needs through construction of a water treatment plant, transmission mains, surface storage reservoirs, and booster pump stations. The SCSWSP was the subject of a separate EIR prepared by SSJID (SCH# 98022018), and the City began receiving deliveries of water from the SCSWSP in July 2005. The SCSWSP is not a part of the proposed program, although some of the WMP facilities would convey and/or store water supplied by the SCSWSP.

Conjunctive Use

Construction of the SCSWSP was initiated in 2004, and delivery of water to the City began in July 2005. The 2005 WMP assumes that the City continues to receive surface water deliveries, and all future City water supply scenarios include a conjunctive use balance of groundwater (47%) and treated surface water (53%) based on a groundwater extraction limited to 1 acre-foot per acre per year. The SCSWSP will provide the additional supply required to meet City water demands given an overall decrease in groundwater pumping compared to existing conditions. Table 2-1 lists criteria used in assessing adequacy of supply projections and delivery alternatives.

Table 2-1. Water Supply Criteria

Description	Criteria
Reliable Existing Groundwater Supply	Maximum Annual Extraction – 13,790 af/yr (PUSA gross area)
	Existing Wells Meeting Water Quality Standards: Wells 8, 14, 18. Capacity – 6,610 af/yr, 5.9 million gallons per day (mgd), 4,100 gallons per minute (gpm)
	Existing Wells Not Meeting Water Quality Standards: Wells 5, 9, 10, 12–17, and 19–25. Capacity – 37,860 af/yr, 33.8 mgd, 23,475 gpm
	Total Existing Pumping Capacity – 44,460 af/yr, 39.7 mgd, 27,575 gpm
	Reliable Existing Groundwater Supply – 15% reduction (2 wells)
Reliable Surface Water Supply	Total SSJID Planning Area – 18,500 af/yr. Net PUSA Planning Area – 15,550 af/yr.
	Phase 1: Annual Delivery – 11,500 af/yr. Drought Delivery (14% reduction)[a] – 9,890 af/yr. Maximum Delivery (1.1 Peak) – 13,740 af/yr, 12.27 mgd, 8,520 gpm. Turnouts – M2 and M3.
	Phase 2: Annual Delivery – 18,500 af/yr. Drought Delivery (14% reduction)[a] – 10,739 af/yr. Maximum Delivery (1.1 Peak) – 20,350 af/yr, 18.17 mgd, 12,614 gpm. Turnouts – M1, M2, M3.
	Drought reduction identified as 14% reduction in deliveries without stipulations as to schedule in the South County Surface Water Supply Project EIR.
	A: Negotiate drought-year delivery reduction schedule stipulating winter reductions first, spring/fall reductions second, and summer reductions last. City would rely on temporary supplemental use of groundwater both within SSJID and the City to make up the difference.[b]
	B: Implement conservation measures to achieve a minimum 14% reduction in use.
Reliable Water Storage	City Storage: Elevated Tank Volume 300,000. Maximum Withdrawal – 700 gpm.
	SSJID Storage: Phase 1: Two (2) 1-million-gallon tanks. Not available for peak supply. Phase 2: One (1) 1-million-gallon tank additional, Three (3) 1-million-gallon tanks total. Not available for peak supply.

[a] Reduction based on Section 5.4.3 of South County Surface Water Supply Project EIS, July 1999, Table 5-6 Expected Surface Water Supply Shortages – SSJID, Based on a 71-year Hydrologic Sequence. Reductions assumed Case 5 Year 1015 six-year drought.

[b] Temporary supplemental use of groundwater during drought is addressed under Impact 5.4.6, Cumulative Groundwater Impacts of South County Surface Water Supply Project EIS, July 1999.

Source: City of Manteca. Prepared by Kennedy/Jenks Consultants. 2005b. Draft 2005 Water Master Plan. City of Manteca, CA (Table 4-1).

Program Characteristics

The proposed program includes recommendations for groundwater supply and storage, groundwater treatment, and water distribution infrastructure through 2025. The following sections discuss CIP projects under each of these components.

Groundwater Supply and Storage

As discussed previously, water supply assumptions for planned growth include a combination of surface water (53%) and groundwater (47%) conjunctive use. The proposed program assumes that additional groundwater supply will be constructed to meet peak-hour demand of planned growth. The total groundwater supply needed per equivalent dwelling unit (edu) identified in buildout projections to meet peak-hour demand is 1.09 gpm.

The proposed program identifies specific, volumetric, and instantaneous water supply requirements. In reality, the water supply facilities that are ultimately constructed will depend, in part, on land development nature and type, developer financing, and site size and availability. Based on the projected growth rates presented in the 2023 General Plan, the City will require 19,218 gpm (16,711 gpm plus 15% redundancy) of additional groundwater production capacity from 2011 to 2025. This is equivalent production capacity to thirteen 1,500 gpm wells. Alternatively, the City could meet the same capacity objective by constructing nine production wells and two 1.3-million-gallon storage tanks with 6,000 gpm total booster pumping capacity. The minimum number of wells with redundancy is nine wells. Although specific well sites have not yet been established, multiple alternative sites are shown in Figures 2-9–2-12b (later in this chapter), illustrating the proposed water system extension.

Construction of new wells and wellhead treatment facilities would involve construction of the following.

- Drilling of the well.
- Concrete pads and foundations for the well, wellhead treatment unit, backwash pump(s), and standby engine generator.
- Either skid-mounted treatment unit or welded-steel media-filtration pressure vessel(s).
- Backwash reclaim pump(s).
- Masonry block building to house the well, well equipment, and process piping.
- Buried concrete blending vault.
- Above- and belowground process piping and valving.

- Electrical and control systems housed in secure enclosures.
- Backwash, process, and/or brine tanks.
- Standby emergency engine generator for backup power supply to maintain water supply during a power outage.
- Site paving and fencing.

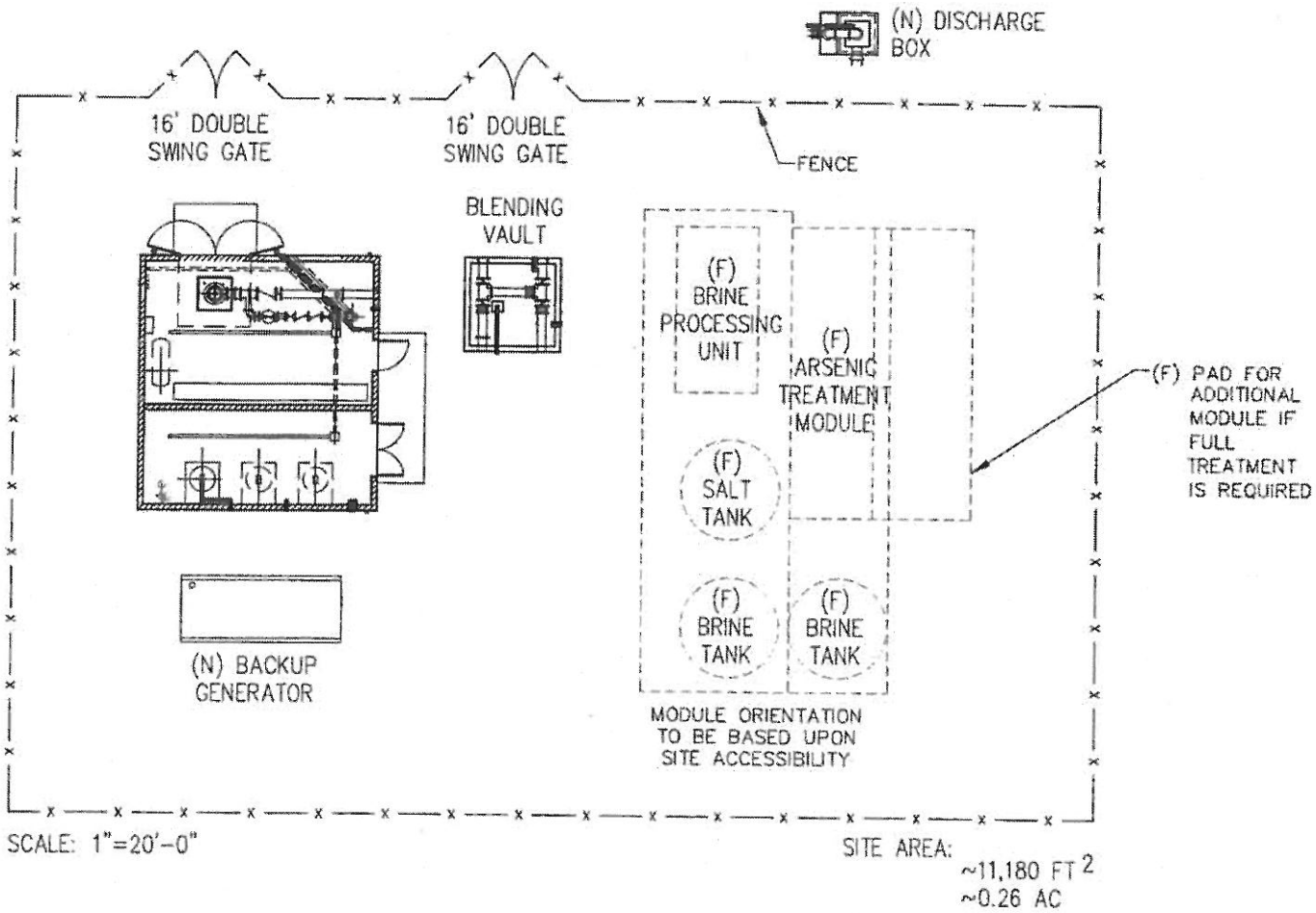
The typical well site would range from approximately 0.25 to 0.40 acre in size. Figures 2-3 through 2-6 illustrate the concrete pad, piping, tank, and facility layout on typical well sites using different treatment methods.

The City is currently undecided as to what type of wellhead treatment unit would be used to treat groundwater supplies. There are many different types of treatment technologies that could potentially be used. At the time of well site selection and design, the City will select a treatment method that will reduce arsenic concentrations to 8 ug/l.

Table 2-2 provides a list of estimated water supply and storage improvements for the proposed program. Construction of additional wells would be based on actual annual growth and planned development.

Elevated Storage Tank

The City's elevated storage tank was last inspected in 2001 and reported to be in generally good condition, with the painting and coating system intact and limited corrosion observed. Based on the history of favorable maintenance records, there is no indication that the structure is significantly compromised from its original design condition. The proposed program recommends periodic testing of the coating system and all structural elements of the tank, followed by recoating of the entire tank at 25 years.



NOTES:
1. ASSUMES USE OF FULL CAPACITY TREATMENT APPROACH.
2. BACKWASH TANK SIZED ON FULL BED FLUIDIZATION OF ALL FILTERS SIMULTANEOUSLY. (CASE 1)

Source: Kennedy/Jenks Consultants 2004

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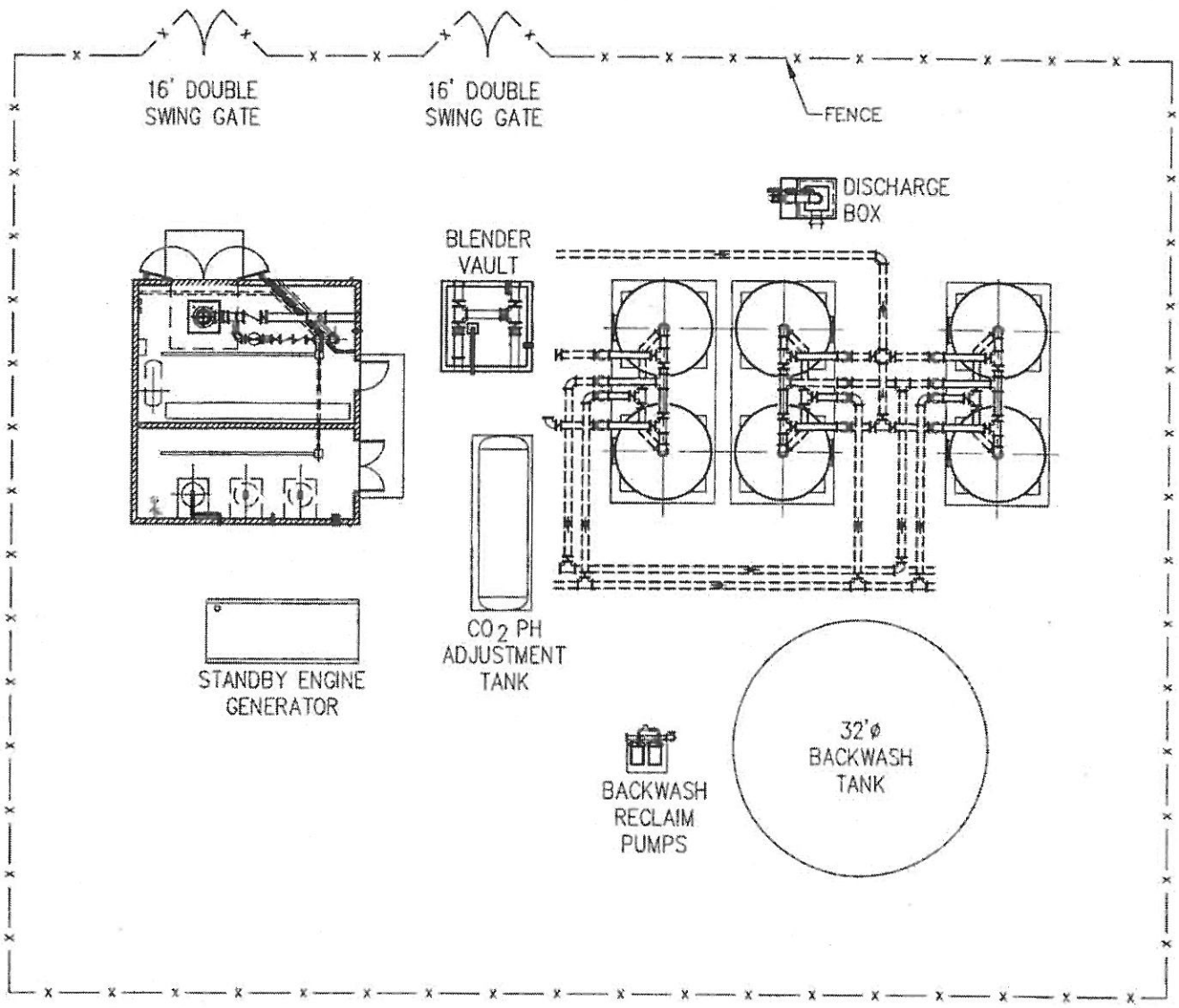
Figure 2-3
Typical Well Site with Basin Water Anion Exchange Arsenic Treatment with Side Stream



SCALE: 1"=20'-0"

SITE AREA: ~16,965 FT^2 ~0.39 AC

NOTES:
1. ASSUMES USE OF FULL CAPACITY TREATMENT APPROACH.
2. BACKWASH TANK SIZED ON FULL BED FLUIDIZATION OF ALL FILTERS SIMULTANEOUSLY. (CASE 1)

Source: Kennedy/Jenks Consultants 2004

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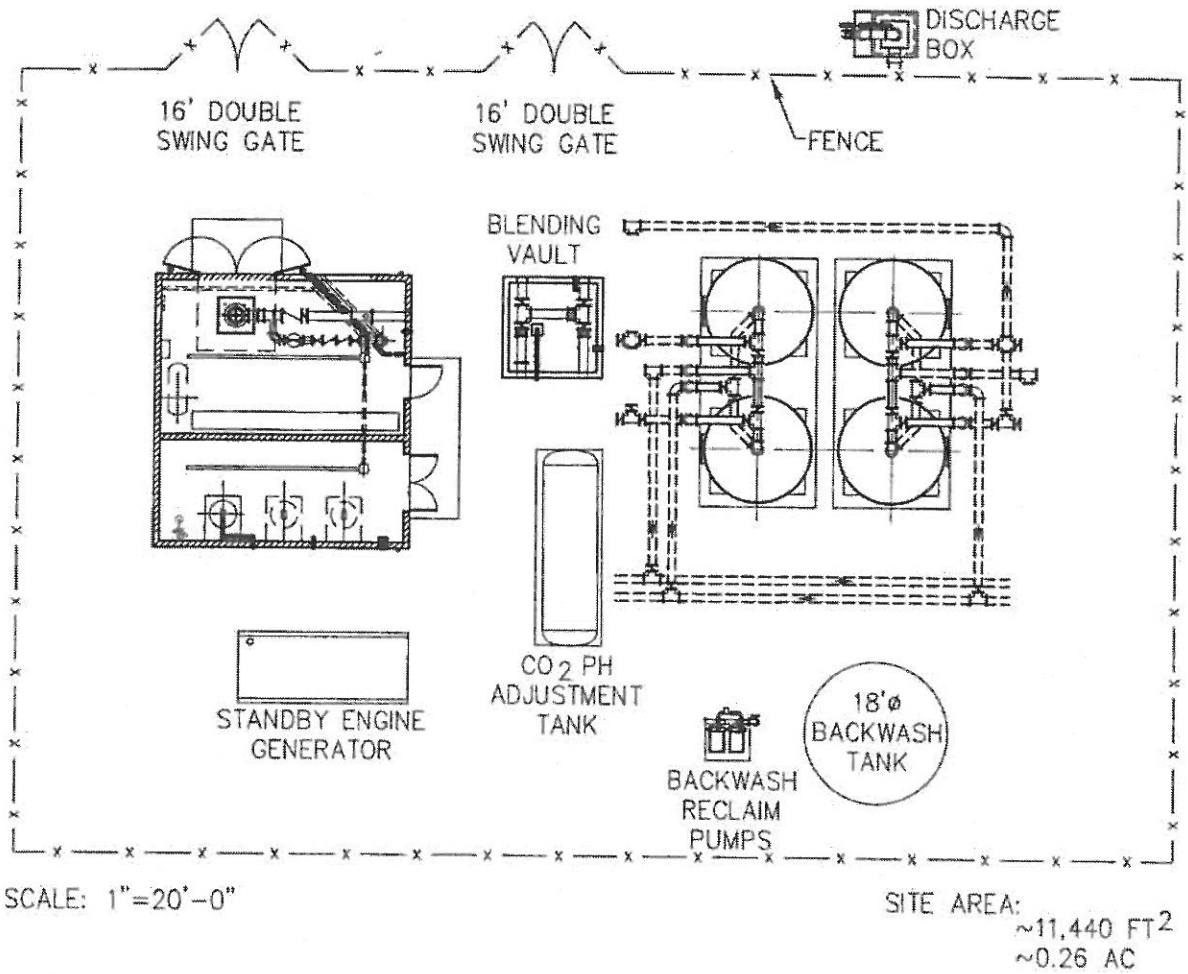
Jones & Stokes

Figure 2-4
Typical Well Site with Adsorption Media Arsenic Treatment with No Side Stream



NOTES:
1. ASSUMES USE OF SIDES STREAM TREATMENT APPROACH.
2. ASSUMES USE OF BACKWASH CASE 2 (BACKWASH OF ONE LEAD-LAG FILTER PAIR AT A TIME).

Source: Kennedy/Jenks Consultants 2004

05013.05 EIR (8-05)

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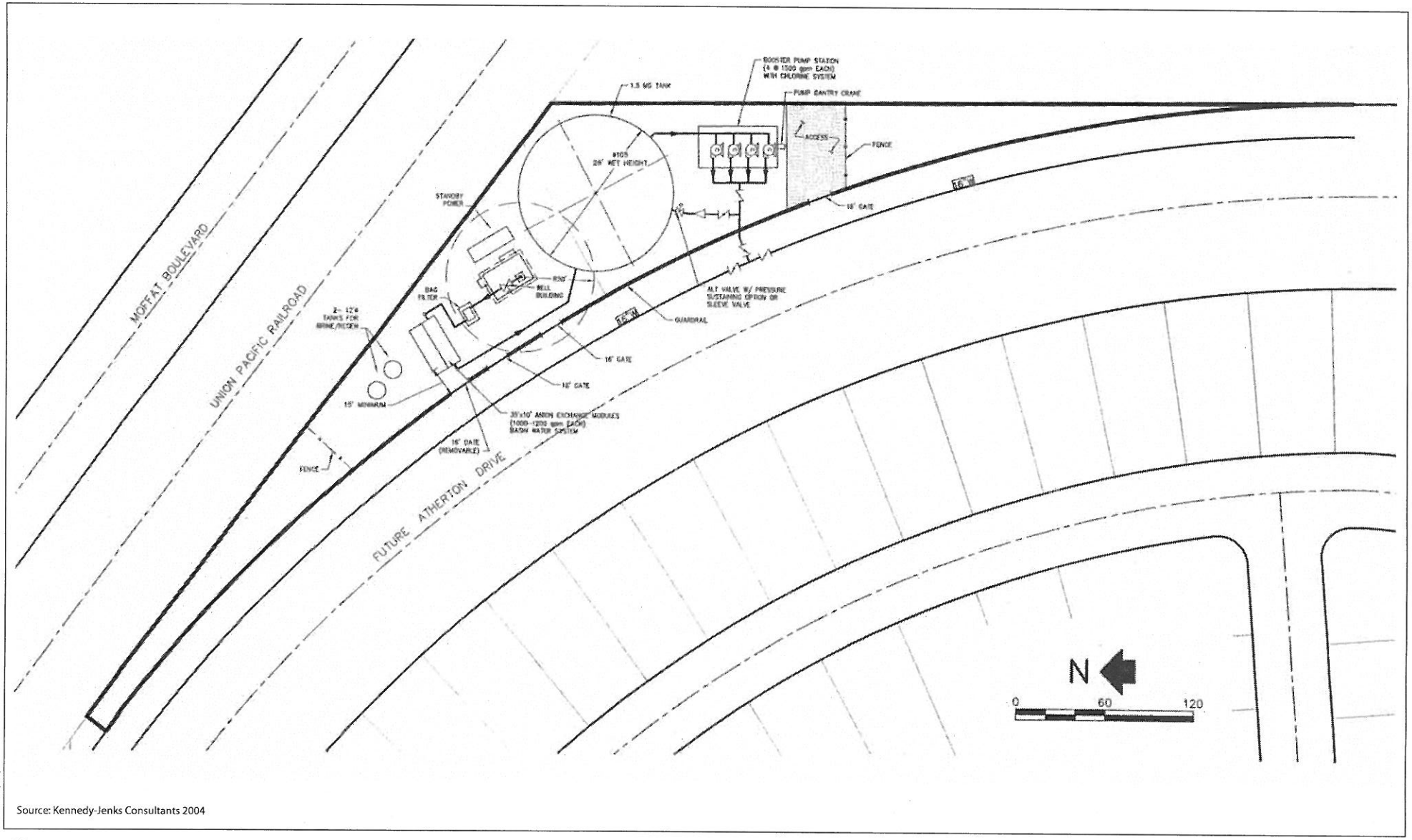
Figure 2-5
Typical Well Site with Adsorption Media Arsenic Treatment with Side Stream



Source: Kennedy-Jenks Consultants 2004

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Figure 2-6
Well Site with Anion Exchange WTP

Table 2-2. Water Supply and Storage Improvements for Planned Growth

Program Components	Description	Implementation Schedule
Groundwater Wells		
Construct up to six new wells	Six new 1,500 gpm wells with standby power for a combined additional pumping capacity of 9,000 gpm, four with arsenic treatment.	2005 – 2010
Construct up to 13 new wells	Thirteen new 1,500 gpm wells with standby power for a combined additional pumping capacity of 19,500 gpm, 10 with arsenic treatment.	2011 – 2025
Storage Tanks		
Structural system testing and tank coating	Conduct non-destructive testing of all structural elements on existing elevated tank and evaluate for seismic upgrade prior to recoating. Remove and recoat entire tank at 25 years.	2012
Construct 1.3-million-gallon storage tank and booster pump station	1.3-million-gallon welded-steel ground-level storage tank with three 1,750 gpm booster pumps (two duty, one standby). 2,000 gpm peak booster pumping capacity.	2013 – 2014
Construct 1.0-million-gallon storage tank and booster pump station at or near M1 or M3 turnout site	1.0-million-gallon welded-steel ground-level storage tank with two 1,500 gpm booster pumps (one duty, one standby). 1,500 gpm peak booster pumping capacity.	2011 – 2016 (in conjunction with planning and design for M1 turnout)

Source: City of Manteca. Prepared by Kennedy/Jenks Consultants. 2005b. Draft 2005 Water Master Plan. City of Manteca, CA (Sections 6.3 and 6.4).

Ground-Level Water Storage

Ground-level water storage tanks equipped with booster pumps for delivery of peak-demand supply will be constructed in lieu of additional wells. This strategy will utilize a well pumping directly into the system and indirectly filling ground-level storage during off-peak periods. The tanks would then be pumped during the peak demand periods using a booster pump station, thereby reducing the need for wells. This approach will reduce the required installed wellhead treatment capacity to match the maximum day demand and supporting peak hour from the storage tanks.

The recommended minimum tank size for surface storage is 1.3 million gallons and must be supported by a minimum of two wells operating at 1,500 gpm during the entire 24-hour maximum day period. The minimum installed pumping capacity is 3,500 gpm for fire flow and is estimated based on three pumps at 1,750 gpm each; two are duty pumps and one is standby.

Water storage using ground-level welded steel storage tanks would involve construction of the following.

- Concrete pads and foundations for the steel tank, booster pump station, and standby engine generator.
- Welded steel tank ranging from 100 feet in diameter for a 1.0 million gallon tank to 136 feet in diameter for a 3.0 million gallon tank. The tanks will be approximately 30-32 feet in height.
- Masonry block building to house water system booster pumps and process piping.
- Above- and below-ground process piping.
- Electrical and control systems housed in secure enclosures.
- Standby emergency engine generator for backup power supply to maintain water supply during a power outage.
- Site paving and fencing.

The typical tank site would be approximately 0.75 acres in size. Figure 2-7 illustrates a typical storage tank site.

Groundwater Treatment

The groundwater basin beneath the City contains both naturally occurring and introduced contaminants that can exceed federal and state drinking water standards. Naturally occurring contaminants include manganese and arsenic, while introduced contaminants include nitrate and DBCP.

Recent changes in the Federal Drinking Water Standard have lowered the maximum contaminant level for arsenic in drinking water from 50 µg/l to 10 µg/l. Manteca's wells average about 12.4 µg/l and will require treatment for reduction of arsenic. Sixteen of the existing 18 wells exceed the new arsenic standard and will need treatment to continue operation. The proposed program assumes that all new wells constructed through 2025 will require treatment for arsenic.

Groundwater treatment of the wellheads will reduce the arsenic concentration to 8 µg/l. The proposed program uses wells and storage for meeting peak flows and provides the greatest reduction in arsenic in the drinking water supply and the lowest annual arsenic dosage to the City population as compared to other alternatives considered. The following is a summary of the groundwater supply improvements required to meet existing demands and urban growth through the year 2035 using wellhead treatment. (City of Manteca 2005b.)

- Implement filter improvements (ferric-chloride chemical feed system) at Well No. 14 (1,800 gpm max day capacity).

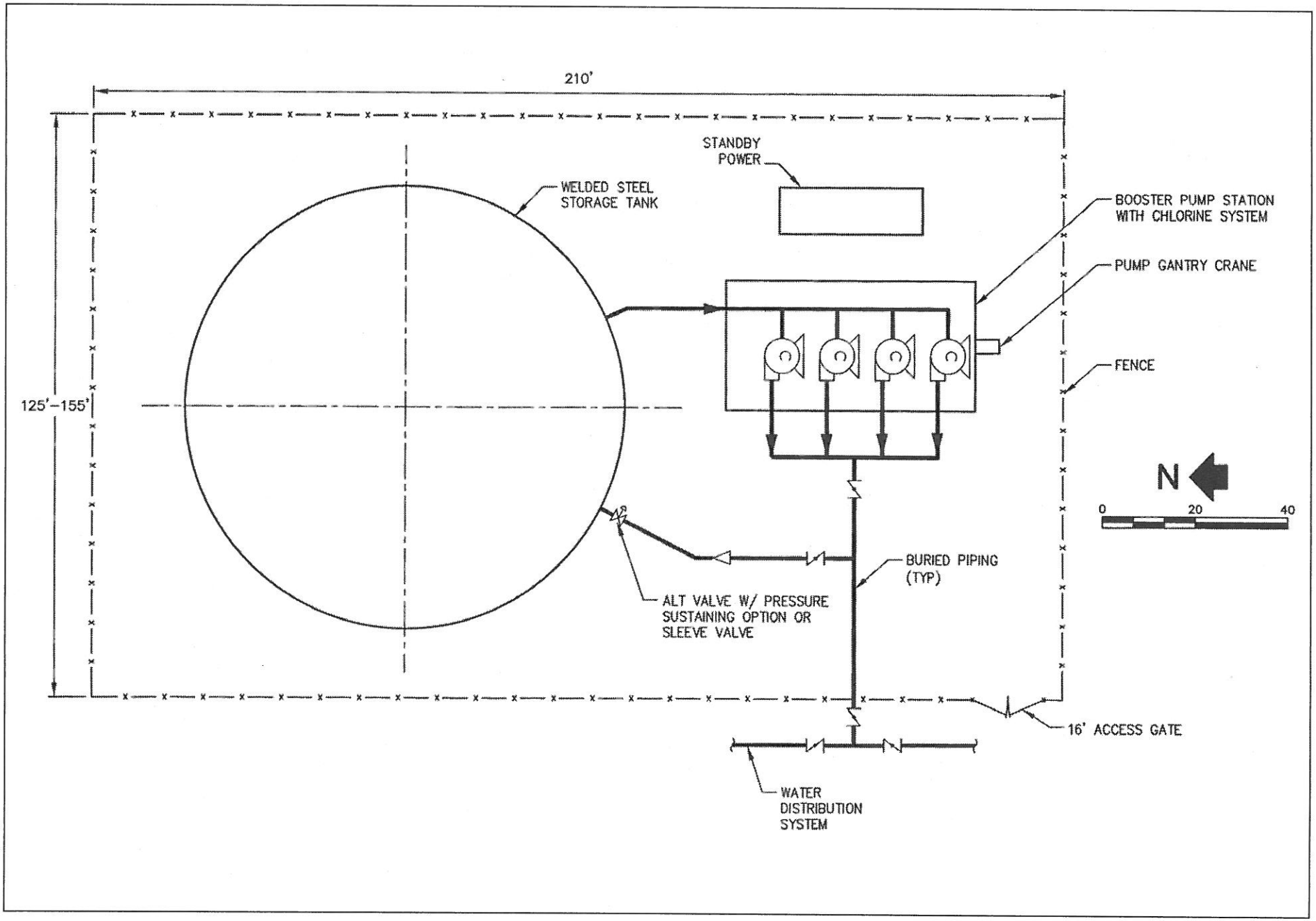

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Figure 2-7
Typical Storage Tank and Booster Pump Station Site

- Construct wellhead treatment facilities for arsenic removal at Well No. 12, 15–17, 19–20, and 23–25 (17,200 gpm max day capacity).[1]
- Maintain and operate existing Well No. 8 and 18 (1,800 gpm max day capacity).
- Abandon Well No. 10 and 13.
- Convert Well No. 9 to irrigation supply for City parks.
- Redundancy – 15% of production capacity (4,035 gpm minimum); Equip Well No. 21 and 22 with arsenic treatment; Construct replacement Well No. 5 and equip with arsenic treatment (4,200 gpm max day capacity).

Future wells, especially in the eastern portion of the City, may also have concentrations of organic compounds that exceed drinking water standards. In these cases, groundwater treatment facilities would be required with well construction. The proposed program assumes that 20% of the new wells through 2025 will require groundwater treatment facilities.

Water Supply Blending

The primary function of a water supply blending facility is to mix higher quality water with lesser quality water to produce potable water supplies meeting the minimum arsenic standard. This approach to arsenic compliance is considered in the proposed program for the following applications:

a. *Groundwater Wellhead Sidestream Treatment and Blending Approach* – The approach would limit installed treatment capacity to allow for treatment on a portion of the well production to very low arsenic levels followed by blending with the remaining production to result in a blended water meeting drinking water standards for arsenic. The treated water flow is referred to as the sidestream volume.

b. *Groundwater/Surface Water Blending Approach* – This approach would blend groundwater from City wells with surface water originating from the SSJID surface water supply project to result in blended water that meets drinking water standards for arsenic.

The blending facility would include a buried vault with piping, valves and flow monitoring equipment coupled with telemetry to a Supervisory Control and Data Acquisition (SCADA) controller. The SCADA provides for monitoring and adjustment of the blending operation from a remote location. The SCADA controller would be monitored by the City at an existing central City facility.

[1] Wells 17, 19, and 20 are recommended to be used as peak-only facilities due to higher overall average reported arsenic concentrations.

The blending station(s) would be located within the typical footprint of both existing and future City wells for wellhead treatment for both sidestream and surface water applications. Surface water applications will require conveyance piping to bring the surface water to existing well sites. Water pipelines would be routed within the public right of way and follow City improvement standards with regard to design and construction.

An additional consideration, if feasible, would include construction of new wells near or at the location of the SSJID surface water supply turnouts. This type of application may result in the addition of an above ground storage tank and booster pump station to take best advantage of the blending capacity and reduce the required peak hour treatment capacity required.

Water Distribution

The City water distribution system has been evaluated for two differing criteria: (1) existing condition and replacement liability over the next 10 years and (2) expansion to address planned growth. The existing liability has been addressed through 10 grouped projects to replace existing steel pipelines up to 6 inches in diameter and cast iron pipelines with known condition problems. Table 2-4 identifies these 10 grouped projects for the staged replacement of aging infrastructure. In addition, hydraulic improvement projects have been developed to address pipelines with insufficient diameters that exist between existing larger diameter water mains and areas with inadequate pressures and flows during peak-use periods. Table 2-5 lists hydraulic improvement projects. Figure 2-8 illustrates planned system maintenance projects.

It is assumed that water system expansion to accommodate new growth would include new wells, tanks, and booster pump stations constructed as projected demand approaches capacity. The final location and configuration of these facilities would be based on future development patterns in the City and could not be definitively determined at this time; however, Table 2-6 lists a preliminary capital improvement program schedule using the buildout projections presented in the 2005 WMP. Figures 2-9 to 2-12b illustrate potential water system expansion projects within currently undeveloped portions of the PUSA.

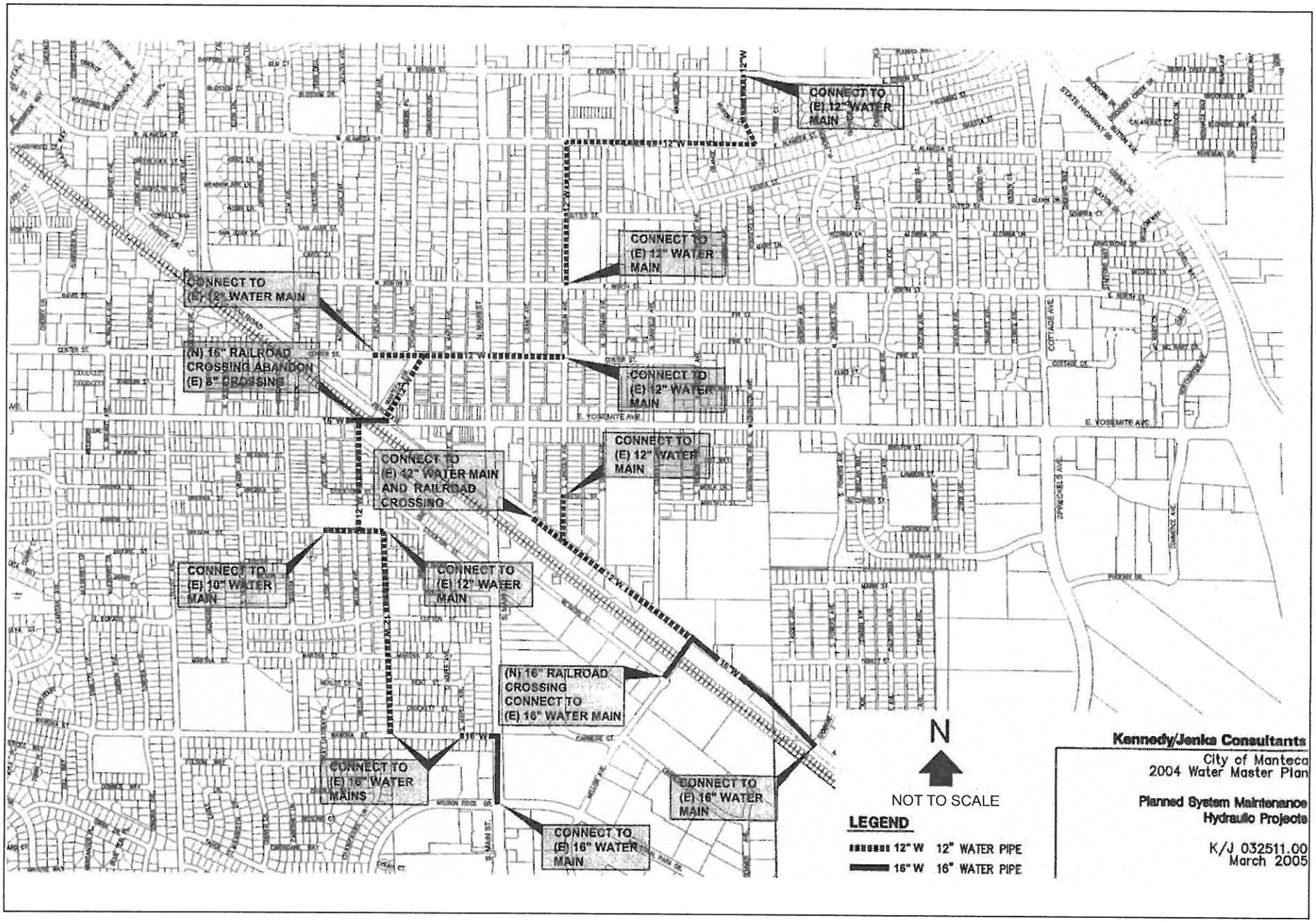

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Figure 2-8
Planned System Maintenance Hydraulic Projects

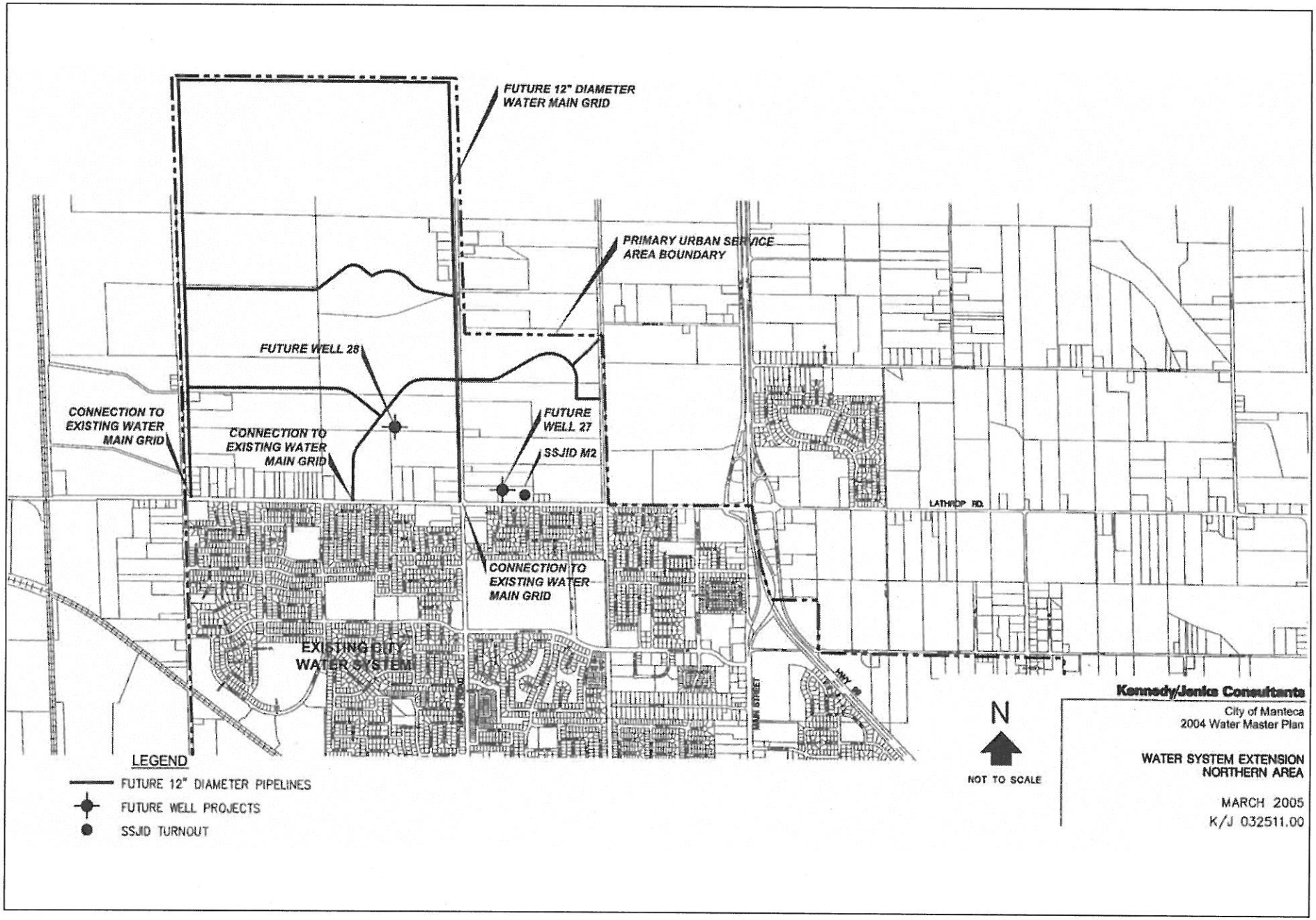

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Figure 2-9
Water System Extension – Northern Area

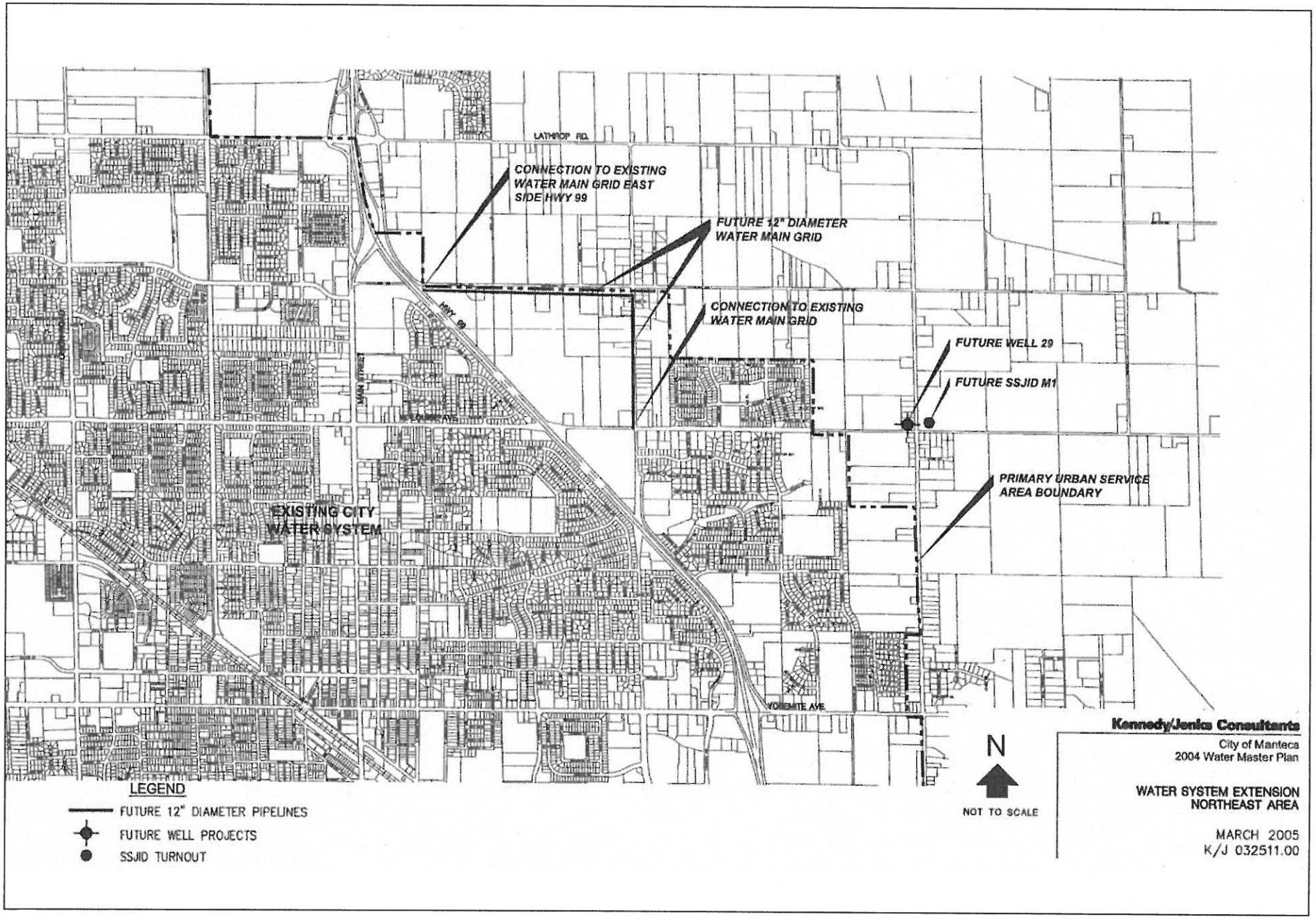

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Figure 2-10
Water System Extension – Northeast Area

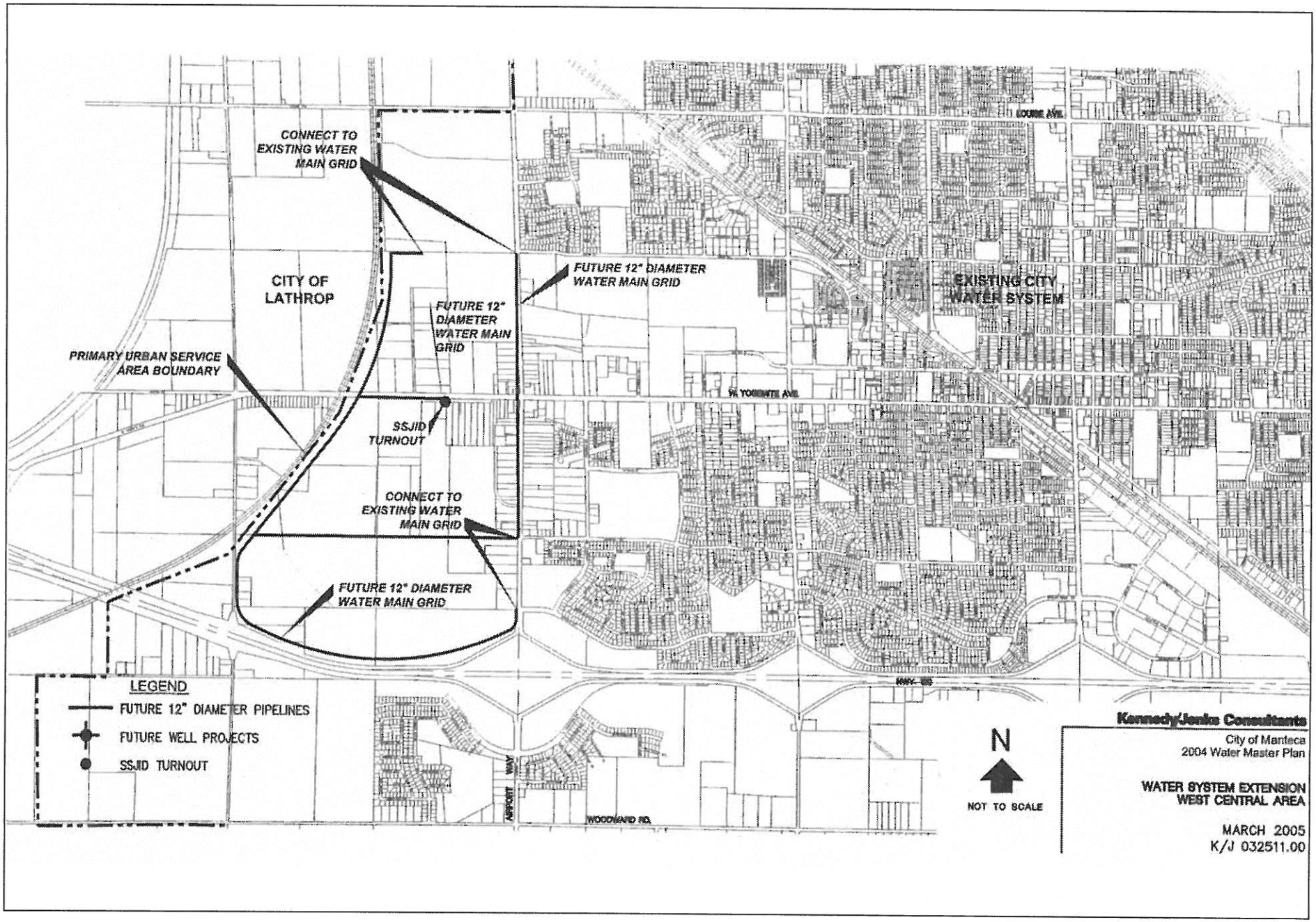

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Figure 2-11
Water System Extension – West Central Area

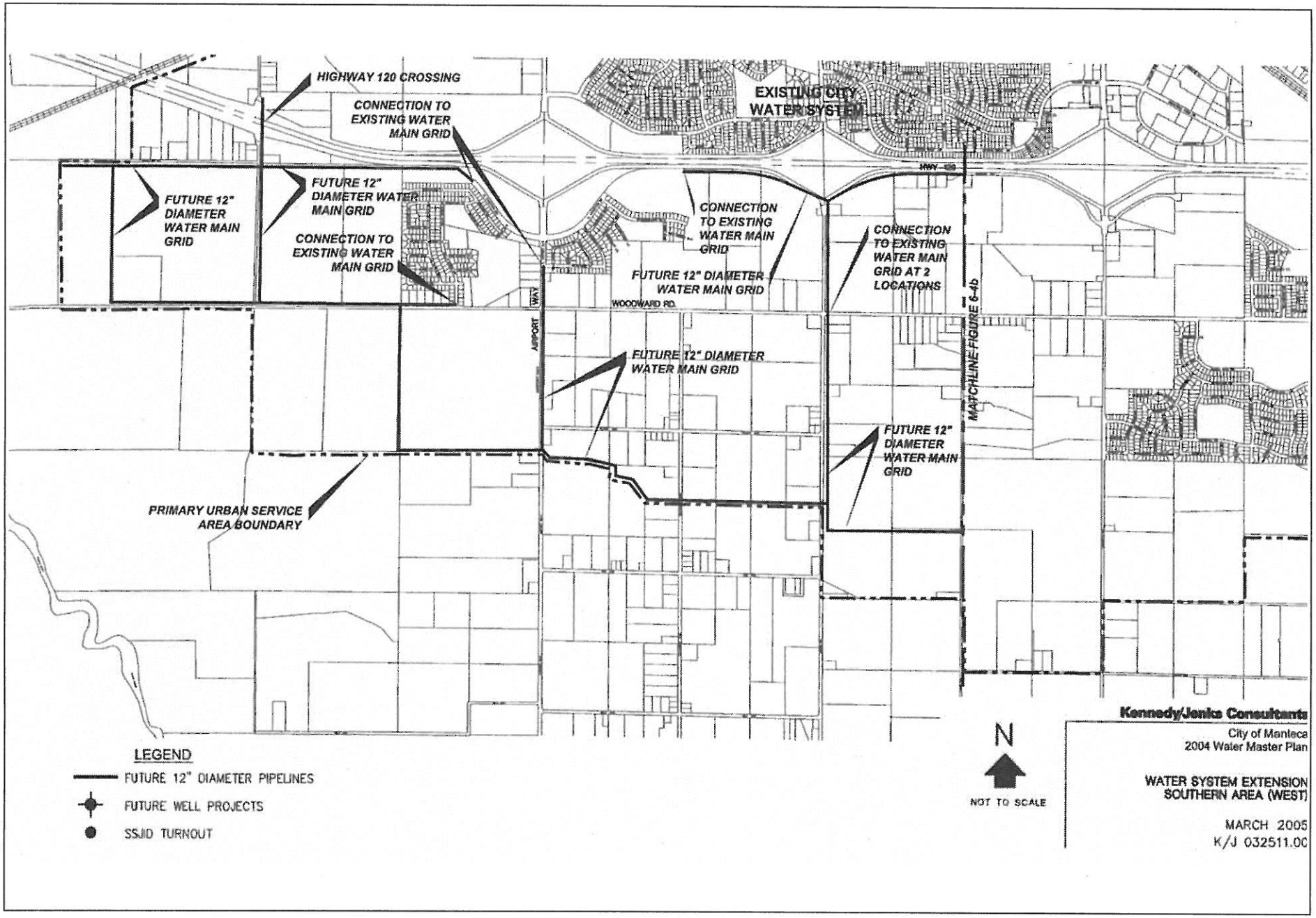

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Figure 2-12a
Water System Extension – Southern Area (West)

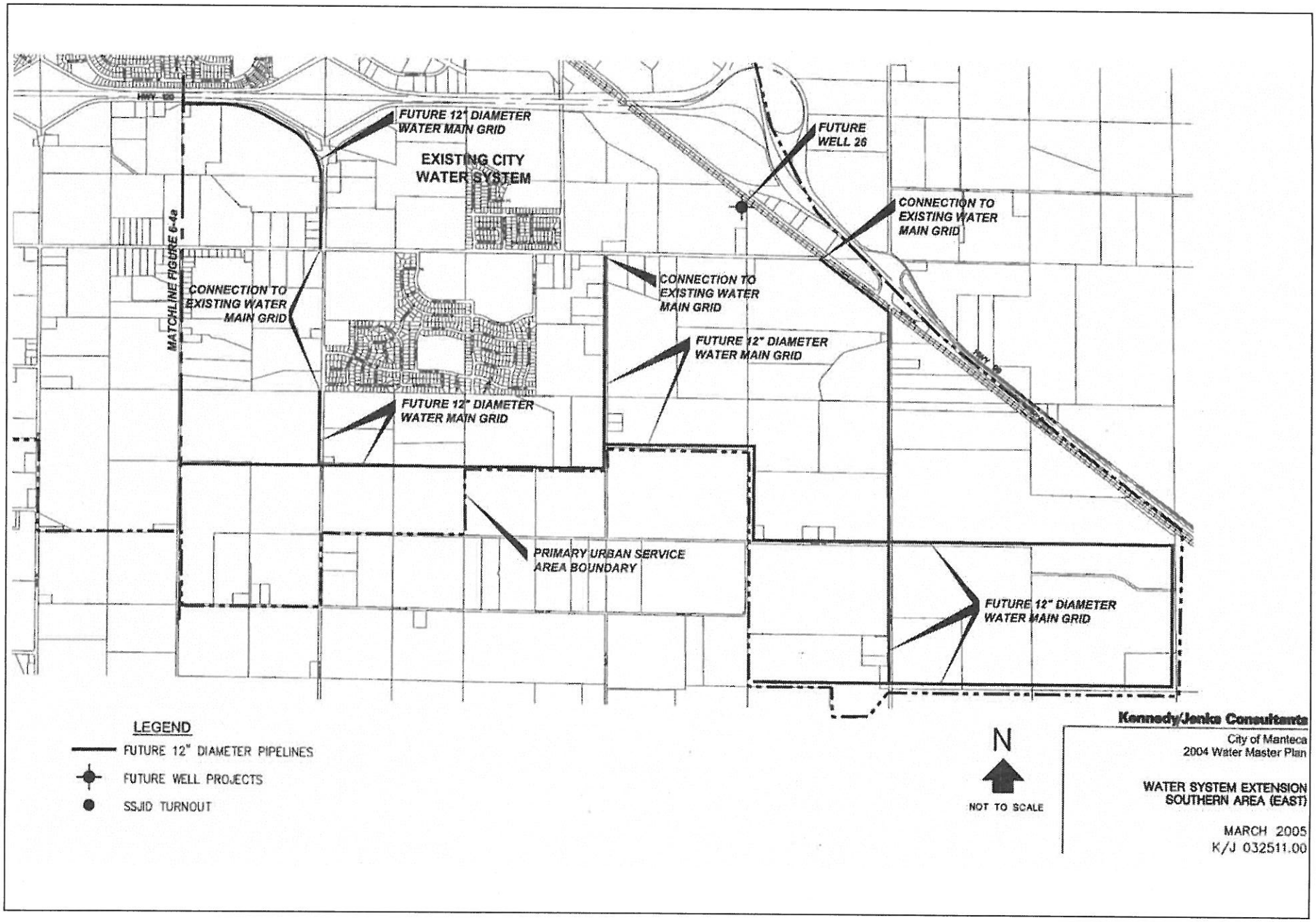

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Figure 2-12b
Water System Extension – Southern Area (East)

Table 2-4. Distribution System Maintenance

Program Area	Pipeline Infrastructure to Be Abandoned	Pipeline Replacement Infrastructure	Services	Implementation Schedule
1	4-inch and smaller – 700 linear feet (lf) 6-inch – 850 lf	6-inch – 1,500 lf 8-inch – 850 lf Services:	Replacement – 34 each	2005 – 2007
2	4-inch and smaller – 3,600 lf 6-inch – 2,350 lf	4-inch – 200 lf 6-inch – 1,450 lf 8-inch – 6,900 lf	Replacement – 85 each Relocation – 134 each	2006 – 2008
3	4-inch and smaller – 5,400 lf		Relocation – 155 each	2007 – 2009
4	4-inch and smaller – 900 lf	8-inch – 700 lf	Relocation – 35 each	2008 – 2010
5	4-inch and smaller – 6,100 lf		Relocation – 144 each	2009 – 2011
6	Pipelines: 4-inch and smaller – 1,050 lf	4-inch – 150 lf 6-inch – 550 lf	Replacement – 31 each	2010 – 2013
7	4-inch and smaller – 3,450 lf 6-inch – 1,440 lf	8-inch – 7,400 lf	Replacement – 50 each Relocation – 84 each	2011 – 2013
8	4-inch and smaller – 1,500 lf 6-inch – 950 lf	6-inch – 1,500 lf 8-inch – 850 lf	Replacement – 34 each	2012 – 2014
9	4-inch and smaller – 700 lf 6-inch – 950 lf	6-inch – 450 lf 8-inch – 750 lf	Replacement – 45 each	2013 – 2015
10	4-inch and smaller – 1,850 lf	6-inch – 300 lf 8-inch – 850 lf	Relocation – 80 each	2014 – 2016

Note: Service relocation reflects relocating the service from the street to the back of the lot and abandoning the existing service condition. Service replacement reflects replacement of a front lot service with a front lot service.

Source: City of Manteca. Prepared by Kennedy/Jenks Consultants. 2005b. Draft 2005 Water Master Plan. City of Manteca, CA (Table 5-1).

Table 2-5. Distribution System Hydraulic Improvements

Description	Infrastructure	Implementation Schedule
12-inch extension, N. Lincoln Ave, E. North Ave to W. Alameda St	3,850 lf 12-inch main	2006 – 2008
12-inch extension, W. Alameda St, N. Lincoln Ave to Dawn Dr		
12-inch extension, Dawn Dr, W. Alameda St to E. Edison St		
12-inch extension, Manteca Ave, Yosemite Ave to Center St	2,600 lf 12-inch main	2007 – 2009
12-inch extension, Center St, Poplar Ave to N. Lincoln Ave		
16-inch extension, Moffat Blvd	2,100 lf 16-inch main	2008 – 2010
16-inch railroad crossing with extension to Wetmore St	200 lf railroad crossing with 24-inch jack and bore	
12-inch extension to S. Grant Ave	2,300 lf 12-inch main	
12-inch extension S. Lincoln to Mikesell St.		
Yosemite Ave railroad crossing; replacement of old 8-inch pipe with 16-inch crossing	400 lf 16-inch main 200 lf railroad crossing with 24-inch jack and bore	2009 – 2011
12-inch extension, Park Ave, Wawona Ave to Oregon St	3,500 lf 12-inch main	2010 – 2012
12-inch extension, Oregon St to Willow Ave and up to W. Yosemite Ave		

Source: City of Manteca. Prepared by Kennedy/Jenks Consultants. 2005b. Draft 2005 Water Master Plan. City of Manteca, CA (Table 5-2).

Table 2-6. Distribution System Extension for Planned Growth

Description	Estimated Infrastructure
Northern Area within the PUSA north of Lathrop Rd, west of Highway 99, and east of Airport Rd	41,600 lf of 12-inch pipeline to support total buildout
West Central Area within the PUSA north of Highway 120 and west of Airport Rd	18,700 lf of 12-inch pipeline to support total buildout
East Central Area within the PUSA each of Highway 99 and north of Louise Ave	7,000 lf of 12-inch pipeline to support total buildout
Southern Area within the PUSA south of Highway 120	102,100 lf of 12-inch pipeline to support total buildout

Source: City of Manteca. Prepared by Kennedy/Jenks Consultants. 2005b. Draft 2005 Water Master Plan. City of Manteca, CA (Table 5-4).

Construction Methods

Types of construction activities typically involved in construction of new wells and wellhead treatment facilities, distribution pipelines, storage tanks, and booster pump stations under the proposed program may include the following:

- site preparation and earthwork (grading, excavation, backfill);
- pipeline delivery and placement (concrete delivery, forming, placement, and rebar placement);
- structural steel work (assembly, welding);
- electrical/instrumentation work;
- masonry construction; and
- installation of mechanical equipment and piping.

The various distribution pipelines would be installed generally in existing public ROWs and would be completely buried. If necessary, additional construction easements may be acquired from adjacent properties. Pipeline construction would progress at a rate of 175 to 500 linear feet per day, depending upon local conditions.

Staging areas would be needed to store pipe, construction equipment, and other construction-related material. The precise locations of staging areas are not known at this time but would be determined just prior to construction. Staging areas would be established along the pipeline routes where space is available, such as vacant lots, parcels, or parking lots.

Construction Phasing

Construction of the proposed program would occur on an as-needed basis from 2005 through 2025. Distribution system maintenance would occur on a planned schedule (Tables 2-4 and 2-5), while additional well construction would be timed with urban expansion.

Program Alternatives

CEQA and State CEQA Guidelines require that a lead agency evaluate alternatives to a proposed program, including the No-Program Alternative. The reasonable range of alternatives that could reduce or avoid the impacts associated with the proposal and still meet the program's basic objectives include the following.

- **Alternative 1: Maximize Blending with Surface Water for Arsenic Reduction** was developed to consider varying conjunctive use programs for the proposed program. Low-arsenic-concentration surface water supplies would be blended with higher arsenic concentration groundwater for a resulting compliant drinking water supply.
- **Alternative 2: Maximize Distribution of Surface Water Supplies** strongly supports delivery of SSJID surface water to the PUSA, while minimizing construction of wellhead treatment facilities and/or construction of blending facilities.
- **No-Program Alternative**, which comprises continued use of existing water supply and conveyance facilities.

These alternatives are evaluated in Chapter 4, *Alternatives*.

Required Permits and Approvals

During program implementation, as specific program components are implemented, the EIR will be evaluated by the City to determine whether there is substantial evidence that the program will create significant environmental impacts that were not considered in the EIR and, if necessary, document the potential impacts and determine whether the impacts could be mitigated to less-than-significant levels. The City is the lead agency for the proposed program.

The EIR may also be used by regulatory and responsible agencies, which are responsible for issuing permits and approvals that may be needed to proceed with the proposed program or regulate the implementation of best management practices. Subsequent permits and approvals may include the following:

- San Joaquin County: encroachment permit (county roadways); grading permit; approval of road closures, detours, and traffic control plan;

- California Occupational Safety and Health Administration: Preliminary Gas Classification (microtunnelling); excavation/trenching permit;
- California Department of Fish and Game (DFG): Streambed Alteration Agreement;
- California Department of Transportation (Caltrans): encroachment permit (state highways);
- U.S. Army Corps of Engineers: Section 404 permit;
- Regional Water Quality Control Board (RWQCB): 401 Certification; NPDES Stormwater General Construction Permit;
- U.S. Fish & Wildlife Service: incidental take permit under Section 10 of the federal Endangered Species Act (ESA); consultation under Section 7 of the federal ESA;
- State Historic Preservation Office: compliance with Section 106 of the National Historic Preservation Act; and
- California Air Resources Board: authority to construct.

Related Programs

As described above, the SCSWSP led by SSJID is a separate program related to the City of Manteca 2005 WMP. Potential environmental impacts of the SCSWSP were addressed in a separate EIR on that project, and the analysis in that EIR has been incorporated by reference into the WMP EIR as described in Chapter 1. For this reason, potential environmental impacts of the SCSWSP are not discussed in this EIR.

Chapter 3.0

Environmental Analysis

Introduction to the Analysis

Chapter 3 of this draft EIR contains individual sections that describe the potential environmental impacts of the proposed program. Each topical section (3.1 through 3.13) describes the existing setting and background information to help the reader understand the conditions that could be affected by the program. In addition, each section includes a discussion of the criteria used in determining the significance levels of the program's environmental impacts. Finally, each section recommends mitigation measures, where possible, for significant impacts identified.

Significance of Environmental Impacts

According to CEQA, an EIR should define the threshold of significance and explain the criteria used to determine whether an impact is above or below that threshold. Significance criteria are identified for each environmental category to determine whether implementation of the project will result in a significant environmental impact when evaluated against the environmental setting baseline conditions. The significance criteria vary depending on the environmental category. In general, effects can be either significant (above threshold) or less than significant (below threshold). In some cases a significant impact may be identified as significant and unavoidable if no feasible mitigation measure(s) is/are available to reduce the impact to a less-than-significant level. In such cases, CEQA requires the lead agency to prepare and disclose a statement of overriding considerations describing the social, economic, and other reasons that the project is adopted despite the significant impacts that will result from the project.

Section 3.1
Aesthetics

This chapter analyzes the proposed program's effects on aesthetics and visual resources. Key sources of data used in the preparation of this chapter include the following.

- The City's *2023 General Plan* (City of Manteca 2003a).
- The City's *2005 Draft Water Master Plan* (City of Manteca 2005b).
- Federal Highway Administration, *Visual Impact Assessment for Highway Projects* (Federal Highway Administration 1983).
- U.S. Department of Agriculture (USDA) Forest Service, *National Forest Landscape Management Volume 2* (U.S. Department of Agriculture Forest Service 1974).
- U.S. Bureau of Land Management (BLM), *Visual resource management program* (U.S. Bureau of Land Management 1980).
- U.S. Soil Conservation Service (SCS), *Procedure to establish priorities in landscape architecture* (U.S. Soil Conservation Service 1978).

Growth-inducing impacts and cumulative impacts are discussed in Chapter 5.0, *Other CEQA Findings*.

Concepts and Terminology

Identification of a program area's existing visual resources and conditions involves three steps.

- Objective identification of the visual features (visual resources) of the landscape.
- Assessment of the character and quality of those resources relative to overall regional visual character.
- Determination of the importance to people, or sensitivity, of views of visual resources in the landscape.

The aesthetic value of an area is a measure of its visual character and quality, combined with the viewer response to the area (Federal Highway Administration 1983). The scenic quality component can best be described as the overall

impression that an individual viewer retains after driving through, walking through, or flying over an area (U.S. Bureau of Land Management 1980). Viewer response is a combination of viewer exposure and viewer sensitivity. Viewer exposure is a function of the number of viewers, the number of views seen, the distance of the viewers, and the viewing duration. Viewer sensitivity relates to the extent of the public's concern for a particular viewshed. These terms and criteria are described in detail below.

Visual Character

Both natural and artificial landscape features comprise the character of an area or view. Visual character is influenced by a combination of geologic, hydrologic, botanical, wildlife, and urban features. Urban features include those associated with landscape settlements and development, including roads, utilities, structures, earthworks, and the results of other human activities. The perception of visual character can vary significantly seasonally and even hourly as weather, light, shadow, and the elements that comprise the viewshed change. The appearance of the landscape is described in terms of the dominance of these various features.

Judgments of visual character must be made based in a regional frame of reference (U.S. Soil Conservation Service 1978). The same landform or visual resource appearing in different geographic areas could have a different degree of visual quality and sensitivity in each setting. For example, a small hill may be a significant visual element on a flat landscape but have very little significance in mountainous terrain.

Visual Quality: Vividness, Intactness, and Unity

For this project, visual quality was evaluated using an approach employing the concepts of vividness, intactness, and unity. These terms are defined below.

- *Vividness* is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.
- *Intactness* is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, as well as in natural settings.
- *Unity* is the visual coherence and compositional harmony of the landscape considered as a whole; unity frequently attests to the careful design of individual components in the landscape. (Federal Highway Administration 1983).

The visual quality of a landscape is a function of its relative degree of vividness, intactness, and unity. High quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

Viewer Response: Exposure and Sensitivity

Viewer response is the psychological reaction of a person to visible changes in the viewshed, and is based on the sensitivity and exposure of the viewer to a given viewshed. *Sensitivity* relates to the magnitude of the viewer's concern for a viewshed. *Exposure* is a function of the number of viewers, the type of view seen, and the distance, perspective, and duration of the view.

The measure of the quality of a view must be tempered with the overall sensitivity of the viewer. Viewer sensitivity or concern is based on the visibility of resources in the landscape, the proximity of viewers to the visual resource, the elevation of viewers relative to the visual resource, the frequency and duration of views, the number of viewers, and the type and expectations of individuals and viewer groups. The importance of a view is related in part to the position of the viewer relative to the resource; therefore, visibility and visual dominance of landscape elements are dependent on their placement within the viewshed. A *viewshed* is defined as all of the surface area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., a roadway or trail) (Federal Highway Administration 1983).

Visual sensitivity is dependent on the number and type of viewers and the frequency and duration of views. Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the number of viewers and viewing duration. For example, visual sensitivity is generally higher for views seen by people who are driving for pleasure; people engaging in recreational activities such as hiking, biking or camping; and homeowners. Sensitivity tends to be lower for views seen by people driving to and from work or as part of their work (U.S. Department of Agriculture Forest Service 1974), Federal Highway Administration 1983, U.S. Soil Conservation Service 1978). Commuters and non-recreational travelers have generally fleeting views and tend to focus on commute traffic and not on surrounding scenery, and therefore are generally considered to have low visual sensitivity. Residential viewers typically have extended viewing periods and are concerned about changes in the views from their homes; therefore, they generally are considered to have high visual sensitivity. Viewers using recreation trails and areas, scenic highways, and scenic overlooks are usually assessed as having high visual sensitivity.

Environmental Setting

This section discusses the existing conditions related to aesthetics in the project area. Federal, state, and local regulations related to aesthetics and visual resources that would apply to the proposed project are discussed under Regulatory Context, below.

Existing Conditions

Visual Character

The following sections describe the visual character of the program area. The regional and local setting set the context for analysis of visual quality and viewer response.

Regional Setting

Manteca is located at the center of California's Central Valley and near the north end of the San Joaquin Valley. Typical of the Central Valley, the Manteca area is virtually flat, a quality that determines how the city is perceived. With the exception of highway overpasses that provide brief panoramic views, the entire cityscape and surrounding landscape are viewed from the ground level perspective. On particularly clear days, however, there are distant views of the Sierra Nevada Mountains to the east and the Coast Range to the west. Mount Boardman and Eagle Mountain to the southwest are the most prominent of these background features (City of Manteca 2003a).

Manteca is located in the northwest quadrant of the intersection between State Routes (SR) 99 and 120. The Union Pacific Railroad (UPRR) bisects the City in generally from the northwest to the southeast. Interstate 5 (I-5) is located approximately 2.5 miles to the west of the City. Although no major watercourse lies within or contiguous to Manteca, the San Joaquin River flows 0.5 mile to the west of I-5.

The lands surrounding Manteca are largely rural or agricultural in character, featuring wide undeveloped parcels, orchards, field crops, and/or grazing lands. However, growth of both the City (21% between 1990 and 2000) and adjacent communities, including Tracy (70%), Lathrop (53%), and Ripon (36%), is quickly reducing the amount of agricultural land in the region (California Department of Finance 2002).

Local Setting

Residential neighborhoods in the City are typically composed of single-family dwellings in a mix of one and two story structures. Many neighborhoods include a small park and detention basin (approximately 5 acres or larger) that serves the local neighborhood. Commercial development is clustered along highway interchanges and arterial roadways (such as Main Street, Union Road, and Yosemite Avenue), while industrial uses are generally clustered along the UPRR tracks.

Views from within the PUSA are generally centered on buildings and uses along roadway rights-of-way. View corridors are available from ground level along

arterial roadways, generally lined with commercial development. The City's downtown is well defined, due to its historic architectural style. Some of the historic warehouse structures, such as the brick Spreckels Sugar Company building, also provide architectural interest within the City.

Visual Quality

The visual quality of the City lies in its historic downtown, typical residential neighborhoods, and commercial arterials. Structures within these areas generally do not exceed two stories, and combined with the flat topography of the region, lead to minimal view corridors. Landmarks within the PUSA include East Union Cemetery (1872), the Spreckels Sugar Company factory (1916), Archille Bacilieri's old winery (1905), and the former Kraft Cheese factory (1937).

The City's proximity to agricultural lands provides a distinct relief along the urban edges. The vividness of the outlying program area lies in its agricultural landscape, comprised of orchards, field crops, and agricultural service facilities. A major element of visual quality in Manteca is the concentration of urban uses within the PUSA, and a sharp delineation between the City and surrounding farmland.

The visual character of the program area displays moderate intactness and unity throughout the PUSA. Agricultural lands visible from freeways and overpasses along the edges transition to roadways and residential development within the PUSA. Neighborhoods in newer sections of the City (i.e., along the highways) generally appear unified through use of recurring single-family home design and building materials. These residential neighborhoods are generally inwardly focused, with sound walls providing a sense of boundary around the neighborhood; as such, views from within neighborhoods are generally limited to streetscapes and parklands.

Viewer Response

Viewer groups in the PUSA consist of the full range of activities within a town, including: residents; employees at commercial, office or industrial sites; parks and recreation users; pedestrians, bicyclists, and drivers using roadways in the City; and shoppers at retail establishments. Residences within the Manteca city limits are the primary viewer group with direct views of the potential program elements (i.e., wells and wellhead treatment facilities, blending stations, booster pumps, and storage tanks). Although many of the proposed program elements would be located in currently undeveloped areas (see Figures 2-9 to 2-12), growth of the City will result in construction of new residential neighborhoods surrounding those sites. The viewer groups analyzed in this study, therefore, include residents of semi-rural homes located outside of the existing City limits, farmers and other agricultural users, and homeowners in new residential subdivisions on the fringes of the City.

Manteca residents in the homes surrounding the potential program elements are likely to have moderate sensitivity to visual changes. Construction and operation of above-ground water supply infrastructure (namely storage tanks) would result in moderate changes in landscape quality upon program implementation.

Existing homeowners and drivers along roadway ROWs planned for distribution pipelines would also be subject to changes in views during construction of program elements. Residents and drivers along the pipeline alignments will have moderate, though temporary, sensitivity to visual changes associated with construction.

Regulatory Context

There are no specific federal or state regulations that apply to aesthetics and visual resources associated with this program.

Local Regulations and Programs

City of Manteca 2023 General Plan

The City of Manteca 2023 General Plan identifies the community's land use, transportation, environmental, economic, and social goals and policies as they relate to land use, conservation, and development. The 2023 General Plan goals and policies that may relate to the proposed program include the following.

Policy LU-P-3: The City shall encourage a pattern of development that promotes the efficient and timely development of public services and facilities.

Policy CD-P-11: Establish a landscaping program and design standards that will provide an attractive view of Manteca along SR 99 and SR 120. This would include trees, shrubs, wildflowers, and other landscaping appropriate to the Manteca climate along the highway right-of-way and within interchanges.

Policy CD-I-5: Work with Caltrans to include landscape improvements and maintenance utilizing recycled wastewater within the highway rights-of-way and highway interchanges.

Policy CD-I-9: The City should provide landscaping to screen views of the electrical substation (located at the intersection of North Street and Elm Avenue) from Center Street.[1]

[1] Although General Plan policy CD-I-9 specifically addresses an electrical substation, the City's preference for screening of public utility structures is implied.

Policy CD-P-45: Provide directional lighting for all exterior lighting to minimize the annoyance of direct or indirect glare.

Impact Analysis

Methodology for Impact Analysis

This section describes the CEQA impact analysis relating to aesthetics for the proposed program. It describes the methods used to determine the proposed project's impacts and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Significance Criteria

For the purposes of this analysis, an impact was considered to be significant and to require mitigation if it would result in any of the following.

- Create a substantial adverse effect on a scenic vista.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

Significance criteria addressing visual resources within a state scenic highway, as listed in Appendix G of the CEQA Guidelines, are not included here because they are not applicable to the proposed program.

Impacts and Mitigation Measures

Impact AES-1: Adverse Effect on a Scenic Vista Resulting from Program Elements (Less than Significant).

Due to its flat topography, the City's PUSA does not provide scenic vistas that would be adversely impacted by the proposed program elements. All potential above-ground-level views in the PUSA are located on highway interchanges for SR 99 and SR 120. General Plan policies (specifically CD-P-11 listed above) dictate a landscaping program along these highways to provide an attractive view of Manteca. Program wells, treatment facilities, blending stations, booster pumps, and storage tanks would not affect views of the City from the highways.

Although views of the Sierra Nevada and Coastal Range from roadways adjacent to program sites may be temporarily blocked by the storage tanks, these instances

would be so brief as to render them less than significant. No mitigation is required.

Impact AES-2: Temporary Visual Disturbances on Program Sites and Surroundings Resulting from Program Construction (Less Than Significant With Mitigation).

Construction of water supply infrastructure would result in temporary visual disturbances due to presence of large machinery, construction trucks, and grading and excavation activities. These activities would be visible to residences in the neighborhoods surrounding the program sites. Views from adjacent properties and drivers along adjacent roadways would be affected by construction activities, particularly during construction of water distribution pipelines within public ROWs. Construction activities, equipment, and staging areas associated with the program would affect visual characteristics and amenities of the City. Those viewer groups with the highest level of sensitivity to changes in scenic views would be residents in neighborhoods adjacent to potential storage tank sites.

Construction activities associated with distribution pipelines would temporarily change the visual character along planned alignments. Construction activities would temporarily introduce heavy machinery, associated vehicles (e.g., bulldozers, graders, cranes, and various trucks), and dust. This alteration of existing visual character would be visible to the various viewer groups along the alignment, including residences. However, these short-term disruptions would be limited by mitigation measures included in this draft EIR (i.e., dust controlled by air quality mitigation), and likely only last a maximum of several weeks for each individual adjacent parcel.

The sensitivity of City residents to aesthetics impacts on stationary sites would be moderate. The well and storage tank sites would be cleared of vegetation, graded for roadway construction, and concrete pads prepared for wellhead treatment facilities, blending stations, booster pumps, and/or storage tanks.

While construction activities and staging areas would be visible for some viewer groups in the City, these disruptions would be temporary during the construction period only. This impact would be potentially significant, but implementation of the following mitigation measures would reduce this impact to a less-than-significant level.

> **Mitigation Measure AES-2a: Siting and Screening of Construction Staging Areas.** The City shall require all program contractors to site construction staging areas for equipment, personal vehicle parking, and material storage to minimize visual impacts to surrounding parcels. Prior to and during use of construction staging areas, screening, berming, and vegetation will be installed as appropriate for the zoning at the site. Screening will be maximized in residential areas, while lower levels are appropriate in commercial, industrial, or rural districts. The locations and screening methods to be used at the staging areas will be reflected in contract documents.

Mitigation Measure AES-2b: Landscaping of Disturbed Areas. The City shall require all program contractors to replace all existing landscaping that is removed or damaged during construction. Following completion of construction at each site, the contractor will replant landscape vegetation and replace irrigation hardware. Undeveloped lands without landscaping that are disturbed by construction will be allowed to return to a natural vegetated state. Standard erosion control practices will be implemented in compliance with current state regulations to ensure restoration is successful (see additional mitigation in Section 3.8, *Hydrology and Water Resources*). The landscaping to be replaced/planted at program element sites will be reflected in contract documents.

Impact AES-3: Degradation of the Existing Visual Character or Quality of Program Sites and Surroundings by Storage Tanks (Less than Significant with Mitigation).

Operation of water supply infrastructure would result in changes to existing visual character within the City. Surface features that would be visible above-grade may include utility boxes associated with the booster pumps, water storage tanks, blending stations, and wellhead treatment facilities. These features would vary in height and location within the City. Typical wellhead treatment facilities include concrete pads, above- and belowground process piping and valving, electrical and control system improvements, backwash/process tanks, and either skid-mounted treatment units or welded-steel media filtration pressure-vessels (see Figures 2-3 to 2-6). These units would comprise sites 0.25 to 0.40 acre in size, and would not block views within the PUSA.

Typical water storage tank sites include concrete pads, welded steel storage tanks, masonry block buildings to house water system booster pumps and process piping, electrical and control systems, and an emergency standby generator. The storage tanks will range from 100 feet in diameter for a 1.0 million gallon tank to 136 feet in diameter for a 3.0 million gallon tank. The storage tanks will be approximately 30-32 feet in height (see Figure 2-7). Although these storage tanks are large structures, they are approximately the same height as single-family residences (maximum allowable height 30 feet) and would not block views within the PUSA.

It is currently unknown whether planned developable lands surrounding the program sites would have been developed with new residential uses at the time of construction of planned water system improvements. The size of storage tanks (approximate to a single family residence) may render them visible from adjacent properties and/or passersby on adjacent roadways. Although these structures may degrade the visual character of the area by interrupting the agricultural landscape, no views or scenic vistas would be blocked.

Viewer sensitivity to these changes within the PUSA would be variable. Because the visual quality (vividness, intactness, and unity) of the program area is moderate, a residential viewer living on an adjacent parcel would have a more acute response to construction and operation of the storage tanks. However,

drivers on adjacent roadways would only view the storage tanks for a brief moment in passing, and would be much less affected by their presence.

Long-term operation of water storage tanks would disrupt the visual character of the neighborhood for adjacent residences. This impact would be potentially significant, but implementation of the following mitigation measures would reduce this impact to a less-than-significant level.

Mitigation Measure AES-3a: Siting and Design of Storage Tanks. During design and planning of storage tanks, the City and its contractor shall adhere to the following design guidelines:

- To reduce visibility from roads and sensitive land uses, storage tanks will be placed well away from the parcel boundaries, and be designed to conform to the existing character of the surrounding land use through use of matching paint colors, fencing materials, and landscaping.
- The painting palette for each storage tank will be selected to match the colors and tones of the surrounding neighborhood. Building materials used in the tanks will be selected to match the character of surrounding land uses.
- Gates and fencing that are visible from public roadways will be similar to those existing in nearby residential neighborhoods.

The City shall be responsible for ensuring that design of all storage tanks conforms to these guidelines.

Mitigation Measure AES-3b: Landscaping of Storage Tanks. The City shall require all program contractors to provide a combination of earth berms, landscaping, and/or tree screening along the perimeter of the storage tank sites. The City's Landscape Standards will be used for storage tank sites. The primary goal of the landscaping along public roadways and around new facilities will be to screen views, minimize exposed surface area, and maintain consistency with the surrounding character. Species selection should reflect and respect the existing mature vegetation associated with the area. Plant variety will increase the effectiveness of the screen by providing multiple layers, seasonality, more diverse habitat, and reduced susceptibility to disease. The landscaping to be planted at the storage tank sites will be reflected in contract documents. The City will be responsible for maintenance of vegetation on the storage tank sites.

Mitigation Measure AES-3c: Burial of Storage Tanks in Sensitive Areas. If, at the time of storage tank construction, the land surrounding the selected tank site is already developed with residential uses, the City shall consider partial or full burial of storage tanks where feasible, taking into account high groundwater levels and other factors (e.g., cost).

Impact AES-4: New Sources of Light or Glare That Would Adversely Affect Daytime or Nighttime Views in the Area (Less than Significant with Mitigation).

Construction and operation of water supply infrastructure would result in new sources of light and glare that would adversely affect views in the area. Night lighting would be used to ensure safety and security of groundwater wells and storage tanks. These sources of light would disrupt nighttime views for surrounding residences. Glare would result from wide surfaces on the water storage tanks, and would affect daytime views for adjacent residents and drivers on surrounding roadways.

This impact would be significant, but implementation of the following mitigation measures would reduce this impact to a less-than-significant level.

> **Mitigation Measure AES-4a: Surface Treatment to Reduce Daytime Glare.** To minimize any effects from introduced light sources and reflected light, the City shall consider finishing structures and hardware surfaces with paint or other treatments that minimize daytime glare and reflectivity, including components such as grates, railings, piping, roofs, and other metal fixtures. The City will evaluate each new facility on a case-by-case basis with regard to surrounding land uses, and cover appropriate facilities with non-glare surfacing.
>
> **Mitigation Measure AES-4b: Shielding of Nighttime Lights.** To reduce the effects of night illumination, the City shall consider shielding nighttime lights and direct them away from sensitive uses and the sky as appropriate for the zoning at the site. Shielding will be maximized in residential areas, while lower levels are appropriate in commercial, industrial, or rural districts. Lighting will be internally directed with low-level intensity, sufficient only to detect movement within facility grounds. The quantity of lights used will be the minimum required for property security to minimize incidental light. Lights will be cutoff-type fixtures that cast low-angle illumination to minimize incidental spillover of light onto adjacent properties and open space. All lights will provide good color rendering and natural light qualities. The City will annually check that nighttime lighting at program element sites conforms to these guidelines.

Section 3.2

Agricultural Resources

This section analyzes the proposed program's effects on agricultural resources. Key sources of data used in the preparation of this section include the following:

- The City's *2023 General Plan* (City of Manteca 2003a),
- The *San Joaquin County General Plan 2010* (San Joaquin County 1992),
- *Farmland Mapping and Monitoring Program: San Joaquin County* (California Department of Conservation 2002), and
- *Williamson Act Contracts: San Joaquin County* (California Department of Conservation 2005).

Cumulative impacts are discussed in Chapter 5.0, *Other CEQA Findings*.

Environmental Setting

This section discusses the existing conditions related to agricultural resources in the program area. Federal, state, and local regulations related to agricultural resources that would apply to the proposed program are discussed in the subsection *Regulatory Context*.

Existing Conditions

Existing conditions information was compiled by reviewing the City of Manteca 2023 General Plan (City of Manteca 2003a), Farmland Mapping and Monitoring Program (FMMP) data for San Joaquin County (County) (California Department of Conservation 2002), and Williamson Act contract data for San Joaquin County (California Department of Conservation 2005).

The City of Manteca has historical roots as an important agricultural center. For much of the 20th century, the Manteca area was predominantly an agricultural area due to the quality of soil, mild climate, and access to clean water. While agriculture still plays an important role in Manteca's economy, the City's economic base has become more diversified with the development of industries and the influx of Bay Area workers seeking affordable housing (City of Manteca 2003b).

The majority of the proposed program area consists of urban and built-up land within the City of Manteca city limits (California Department of Conservation 2002). However, some areas currently in agricultural operation are located in the PUSA, including several parcels subject to current Williamson Act contracts (California Department of Conservation 2005). Additionally, areas of prime farmland, farmland of statewide importance, and farmland of local importance are located within the program area (California Department of Conservation 2002).

Regulatory Context

Federal Regulations

There are no federal regulations associated with agricultural resources that may be affected by the proposed program.

State Regulations

California Farmland Mapping and Monitoring Program

The goal of the FMMP is to provide consistent and impartial data to decision makers for use in assessing present status, reviewing trends, and planning for the future of California's agricultural land resources. The FMMP produces updated Important Farmland maps, which are a hybrid of resource quality (soils) and land use information, every 2 years. These maps identify prime farmland, unique farmland, farmland of statewide importance, farmland of local importance, urbanized land, and other lands. Data are also released in statistical formats, principally the biennial California Farmland Conversion Report.

California Land Conservation Act of 1965 (Williamson Act)

The California Land Conservation Act of 1965 (California Government Code [CGC] 51200–51295), commonly known as the Williamson Act, provides incentives, through reduced property taxes, to deter the early conversion of agricultural and open space lands. In return for the preferential tax rate, the landowner signs a contract with the county or city agreeing not to convert the land to non-agricultural uses for a minimum 10-year period. Contracts are automatically renewed annually unless a party to the contract files a notice of nonrenewal or petitions for cancellation. All lands defined by the state as "prime farmland, other than prime farmland, and open space land" are eligible for coverage by a Williamson Act contract. Land classified as other than prime farmland or open space land can be placed under contract if it is located in an area designated by the county or city as an agricultural preserve.

Local Regulations and Programs

City of Manteca 2023 General Plan

The City of Manteca 2023 General Plan (City of Manteca 2003a) identifies the community's land use, transportation, environmental, economic, and social goals and policies as they relate to land use, conservation, and development. The 2023 General Plan goals and policies that may relate to the proposed program include the following.

Policy LU-P-7: All lands within the Primary and Secondary Urban Service Boundary lines to be ultimately developed to urban standards should be developed under the jurisdiction of the City of Manteca. Pending annexation to the City, all such lands should remain in agricultural, open space, or other low-intensity uses. The City shall work cooperatively with the County to ensure that development approved by the County on unincorporated lands within the Primary and Secondary Urban Service Boundary lines is developed according to standards consistent with those of the City of Manteca. The City shall request all proposals for development on unincorporated lands within the Primary and Secondary Urban Service boundary lines be referred to the City for review and comment prior to formal consideration by the County.

Policy LU-P-41: The City shall encourage the continuation of agricultural uses on lands within the Primary and Secondary Urban Services Boundary lines pending their development as urban uses consistent with the General Plan.

Policy LU-P-42: The City will encourage the continuation of small, specialty agricultural operations and demonstration or educational agricultural operations that are compatible with the adjacent urban uses.

San Joaquin County General Plan

The San Joaquin County General Plan (San Joaquin County 1992) and Zoning Ordinance regulates land use in the unincorporated area adjacent to the Manteca city boundary. Manteca has historically annexed land as it develops, which has created the demand for urban services. Therefore, the boundary of the incorporated area of Manteca very closely follows the existing developed area. The predominant land use designation in the County is agriculture.

Impact Analysis

Methodology for Impact Analysis

This section describes the CEQA impact analysis relating to agricultural resources for the proposed program. It describes the methods used to determine the proposed program's impacts and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Significance Criteria

For the purposes of this analysis, an impact was considered to be significant and to require mitigation if it would result in any of the following:

- convert prime farmland, unique farmland, or farmland of statewide importance, as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use;
- conflict with existing zoning for agricultural use or a Williamson Act contract; or
- involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to non-agricultural use.

Impacts and Mitigation Measures

Impact AG-1: Direct Conversion of Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Other Farmland to Non-Agricultural Use (Less than Significant).

While the majority of the potential program area is considered urban and built-up land, agricultural land is present within the PUSA, including prime farmland, farmland of statewide importance, and farmland of local importance (California Department of Conservation 2002). As currently described, the locations of individual program elements are generally identified in the 2005 WMP (see Figures 2-9 to 2-12), but specific siting is not yet determined. Program elements (i.e., wells and wellhead treatment facilities, blending stations, booster pumps, storage tanks, and distribution pipelines) would represent a minimal change in existing land uses, including agriculture. Above-grade surface features may include utility boxes associated with the booster pumps, water storage tanks, standby emergency generators, blending stations, and wellhead treatment facilities.

Implementation of 2023 General Plan Policy LU-P-41 (listed above) would preserve existing agricultural uses within the PUSA pending their development as urban uses. However, water supply infrastructure is a necessary component of urban development.

The proposed program has the potential to directly convert prime farmland, farmland of statewide importance, and farmland of local importance to non-agricultural use through the development of water infrastructure facilities on such lands. Projects under the proposed program could disturb up to a maximum total of 6.7 acres of land within the PUSA, 3.3 to 5.2 total acres for wells (13 wells each on 0.25 to 0.40 acres of land) and 1.2 to 1.5 acres for water storage tanks and booster pump station sites (2 sites each on 0.6 to 0.75 acres). Were all of the program sites to be located on prime farmland, farmland of statewide importance, and farmland of local importance, a maximum of 6.7 acres would be directly converted to non-agricultural uses, with the largest single site being no more than 1.5 acres. Given that projects in implementation of the proposed program would be built to serve urban development as it occurs, it is likely that such farmland would have already been taken out of production prior to construction of the water infrastructure improvements. For this reason, and because of the small site sizes, this is considered to be a less-than-significant impact. No mitigation is required.

Impact AG-2: Conflict with Existing Zoning for Agricultural Use or a Williamson Act Contract (Less than Significant with Mitigation).

Several current Williamson Act contracts are located within the PUSA (California Department of Conservation 2005). Additionally, much of the land outside the City of Manteca city limits and within the program area is zoned for agricultural use. The program has the potential to affect land currently zoned for agricultural use or under a Williamson Act contract. The 2023 General Plan EIR concluded that buildout of the 2023 General Plan would result in a potentially significant impact with zoning for agricultural use or a Williamson Act contract (Wade Associates 2003). The EIR provides mitigation measures (see below) to reduce the impacts and concludes that while the impacts would be reduced within the PUSA boundary, the impact would be significant and unavoidable in the study area. The following mitigation measure would reduce this impact to a less-than-significant level.

> **Mitigation Measure AG-2: Prevent the Premature Conversion of Agricultural Land in the Program Area.** The City of Manteca will limit the premature conversion of agricultural land, including land under Williamson Act contract, by avoiding active farmland during construction of program elements. The City will follow all legal requirements for farmland conversion if development on agricultural land is necessary during WMP implementation.

Section 3.3

Air Quality

This section analyzes the proposed program's effects on air quality. Key sources of data used in the preparation of this section include the following:

- The City's *2023 General Plan* (City of Manteca 2003a);
- The City's *Draft Water Master Plan* (City of Manteca 2005b);
- San Joaquin Valley Air Pollution Control District's *Guide for Mitigation Air Quality Impacts* (San Joaquin County Valley Air Pollution Control District 2002);
- California Air Resources Board's (ARB) web site, *ARB Databases: Aerometric Data Analysis and Management System* (ADAM) (California Air Resources Board 2003); and
- U.S. Environmental Protection Agency's (EPA) *Air Data web site* (U.S. Environmental Protection Agency 2005).

Cumulative impacts are discussed in Chapter 5.0, *Other CEQA Findings*.

Environmental Setting

This section discusses the existing conditions related to air quality in the program area. Federal, state, and local regulations related to air quality that would apply to the proposed program are discussed in detail below.

The program site is located within San Joaquin County, which is located in the San Joaquin Valley Air Basin (SJVAB). Air quality conditions in the SJVAB are regulated by the San Joaquin Valley Air Pollution Control District (SJVAPCD). The region is classified as a nonattainment area for several air pollutants, as described below.

Existing Conditions

Regional Climate and Meteorology

The area's climate is characterized by warm, dry summers and cool winters. Wind speed and direction data indicate that summer winds usually originate at the north end of the SJVAB and flow in a south–southeasterly direction through the SJVAB and Tehachapi pass into the Mojave Desert Air Basin. During the winter, winds occasionally originate from the south end of the SJVAB and flow in a north–northwesterly direction. The predominant winds in the program area blow from the northwest. The SJVAB has light, variable winds (less than 10 miles per hour [mph]) during the winter months. Those low wind speeds, combined with low inversion layers in the winter, create a climate conducive to high concentrations of carbon monoxide (CO) and particulate matter 10 microns or less in diameter (PM_{10}). The SJVAB's warm summers contribute to high concentrations of O_3, or ozone.

Criteria Pollutants and Local Air Quality

Description of Pollutants

The federal and state governments have established ambient air quality standards for six criteria pollutants: ozone, CO, NO_2, SO_2, particulate matter, and lead. Ozone, NO_2, and particulate matter are generally considered to be "regional" pollutants, because these pollutants or their precursors affect air quality on a regional scale. Pollutants such as CO, SO_2, lead, and particulate matter are considered to be local pollutants that tend to accumulate in the air locally. Particulate matter is considered to be a localized pollutant as well as a regional pollutant. In the area where the proposed program is located, ozone, CO, and particulate matter are of particular concern. Brief descriptions of these pollutants are provided below.

Ozone

Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Ozone is a severe eye, nose, and throat irritant. Ozone also attacks synthetic rubber, textiles, plants, and other materials. Ozone causes extensive damage to plants by leaf discoloration and cell damage.

Ozone is not emitted directly into the air, but is formed by a photochemical reaction in the atmosphere. Ozone precursors, which include reactive organic gases (ROG) and oxides of nitrogen (NO_X), react in the atmosphere in the presence of sunlight to form ozone. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. The ozone precursors, ROG and NO_X, are emitted by mobile sources and by stationary combustion equipment.

State and federal standards for ozone have been set for an 8-hour averaging time. The state 8-hour standard is 0.070 ppm, not to be exceeded, while the federal 8-hour standard is 0.08 ppm, not to be exceeded more than three times in any 3-year period. The state has established a 1-hour ozone standard of 0.09 parts per million (ppm), not to be exceeded, while the federal 1-hour ozone standard of 0.12 ppm has recently been replaced by the 8-hour standard. State and federal standards are summarized in Table 3.3-1.

Carbon Monoxide

CO is essentially inert to plants and materials but can have significant effects on human health. CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. Effects on humans range from slight headaches to nausea to death.

Motor vehicles are the dominant source of CO emissions in most areas. High CO levels develop primarily during winter when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

State and federal CO standards have been set for both 1-hour and 8-hour averaging times. The state 1-hour standard is 20 ppm by volume, and the federal 1-hour standard is 35 ppm. Both state and federal standards are 9 ppm for the 8-hour averaging period. State and federal standards are summarized in Table 3.3-1.

Inhalable Particulate Matter

Particulates can damage human health and retard plant growth. Health concerns associated with suspended particulate matter focus on those particles small enough to reach the lungs when inhaled. Particulates also reduce visibility and corrode materials.

The federal and state ambient air quality standard for particulate matter applies to two classes of particulates: PM_{10} and particulate matter 2.5 microns or less in diameter ($PM_{2.5}$). The state PM_{10} standards are 50 micrograms per cubic meter (μ/m^3) as a 24-hour average and 20 μ/m^3 as an annual geometric mean. The federal PM_{10} standards are 150 μ/m^3 as a 24-hour average and 50 μ/m^3 as an annual arithmetic mean. The federal $PM_{2.5}$ standards are 15 μ/m^3 for the annual average and 65 μ/m^3 for the 24-hour average. The state $PM_{2.5}$ standard is 12 μ/m^3 as an annual geometric mean. State and federal standards are summarized in Table 3.3-1.

Toxic Air Contaminants

Toxic air contaminants (TACs) are pollutants that may be expected to result in an increase in mortality or serious illness or that may pose a present or potential hazard to human health. Health effects of TACs include cancer, birth defects, neurological damage, damage to the body's natural defense system, and diseases that lead to death. ARB has identified diesel exhaust particulate matter as a TAC.

Sensitive Land Uses

For the purposes of this analysis, sensitive land uses are defined as locations where people reside or where the presence of pollutant emissions could adversely affect the use of the land. Typical sensitive receptors include residents, school children, hospital patients, and the elderly. Existing sensitive land uses, including residences, schools, hospitals, convalescent and adult health care facilities, and day care facilities, are located throughout the program area.

Existing Air Quality Conditions

The existing air quality conditions in the program area have been characterized based on monitoring data collected in the region. The nearest air quality monitoring station in the vicinity of the proposed program area is located at Hazelton Street in Stockton. Air quality monitoring data from the Hazelton Street monitoring station are summarized in Table 3.3-2. The data represent air quality monitoring data for the last 3 years (2002–2004) in which complete data are available.

As indicated in Table 3.3-2, the Hazelton Street monitoring station has experienced six violations of the state 1-hour ozone standard, one violation of the federal 8-hour ozone standard, and no violations of the federal and state CO standard, federal $PM_{2.5}$ standard, and federal PM_{10} standard during the last 3 years in which complete data are available. Table 3.3-2 also indicates that the state 24-hour PM_{10} standard was violated approximately 5% of the time during the last 3 years.

Table 3.3-1. Ambient Air Quality Standards Applicable in California

Pollutant	Symbol	Average Time	Standard (parts per million)		Standard (micrograms per cubic meter)		Violation Criteria	
			California	National	California	National	California	National
Ozone*	O_3	1 hour	0.09	NA	180	NA	If exceeded	NA
		8 hours	0.070	0.08	137	157	If exceeded	If fourth highest 8-hour concentration in a year, averaged over 3 years, is exceeded at each monitor within an area
Carbon monoxide	CO	8 hours	9.0	9	10,000	10,000	If exceeded	If exceeded on more than 1 day per year
		1 hour	20.0	35	23,000	40,000	If exceeded	If exceeded on more than 1 day per year
(Lake Tahoe only)		8 hours	6	NA	7,000	NA	If equaled or exceeded	NA
Nitrogen dioxide	NO_2	Annual average	NA	0.053	NA	100	NA	If exceeded on more than 1 day per year
		1 hour	0.25	NA	470	NA	If exceeded	NA
Sulfur dioxide	SO_2	Annual average	NA	0.03	NA	80	NA	If exceeded
		24 hours	0.04	0.14	105	365	If exceeded	If exceeded on more than 1 day per year
		1 hour	0.25	NA	655	NA	If exceeded	NA
Hydrogen sulfide	H_2S	1 hour	0.03	NA	42	NA	If equaled or exceeded	NA
Vinyl chloride	C_2H_3Cl	24 hours	0.01	NA	26	NA	If equaled or exceeded	NA
Inhalable particulate matter	PM_{10}	Annual geometric mean	NA	NA	20	NA	If exceeded	NA
		Annual arithmetic mean	NA	NA	NA	50	NA	If exceeded at each monitor within area
		24 hours	NA	NA	50	150	If exceeded	If exceeded on more than 1 day per year
	$PM_{2.5}$	Annual geometric mean	NA	NA	NA	NA	If exceeded	NA
		Annual arithmetic mean	NA	NA	12	15	NA	If 3-year average from single or multiple community-oriented monitors is exceeded
		24 hours	NA	NA	NA	65	NA	If 3-year average of 98th percentile at each population-oriented monitor within an area is exceeded
Sulfate particles	SO_4	24 hours	NA	NA	25	NA	If equaled or exceeded	NA
Lead particles	Pb	Calendar quarter	NA	NA	NA	1.5	NA	If exceeded no more than 1 day per year
		30-day average	NA	NA	1.5	NA	If equaled or exceeded	NA

Notes: All standards are based on measurements at 25°C and 1 atmosphere pressure.
National standards shown are the primary (health effects) standards.
NA = not applicable.

* The U.S. Environmental Protection Agency recently replaced the 1-hour ozone standard with an 8-hour standard of 0.08 part per million. EPA issued a final rule that will revoke the 1-hour standard on June 15, 2005. However, the California 1-hour ozone standard will remain in effect.

Source: California Air Resources Board 2003

Table 3.3-2. Ambient Air Quality Monitoring Data Measured at the Stockton Hazelton Street Monitoring Station

Pollutant Standards	2002	2003	2004
Ozone			
Maximum 1-hour concentration (ppm)	0.102	0.104	0.096
Maximum 8-hour concentration (ppm)	0.081	0.088	0.080
Number of days standard exceeded[a]			
NAAQS 1-hour (>0.12 ppm)	0	0	0
CAAQS 1-hour (>0.09 ppm)	2	3	1
NAAQS 8-hour (>0.08 ppm)	0	1	0
Carbon Monoxide (CO)			
Maximum 8-hour concentration (ppm)	3.21	3.14	2.51
Maximum 1-hour concentration (ppm)	6.0	5.8	3.7
Number of days standard exceeded[a]			
NAAQS 8-hour (≥9.0 ppm)	0	0	0
CAAQS 8-hour (≥9.0 ppm)	0	0	0
NAAQS 1-hour (≥35 ppm)	0	0	0
CAAQS 1-hour (≥20 ppm)	0	0	0
Particulate Matter (PM_{10})[b]			
National[c] maximum 24-hour concentration ($\mu g/m^3$)	87.0	88.0	60.0
National[c] second-highest 24-hour concentration ($\mu g/m^3$)	78.0	63.0	56.0
State[d] maximum 24-hour concentration ($\mu g/m^3$)	91.0	90.0	61.0
State[d] second-highest 24-hour concentration ($\mu g/m^3$)	82.0	64.0	57.0
National annual average concentration ($\mu g/m^3$)	35.5	28.1	28.6
State annual average concentration ($\mu g/m^3$)[e]	36.1	28.4	29.4
Number of days standard exceeded[a]			
NAAQS 24-hour (>150 $\mu g/m^3$)[f]	0	0	0
CAAQS 24-hour (>50 $\mu g/m^3$)[f]	58.4	17.3	18.0
Particulate Matter ($PM_{2.5}$)			
National[c] maximum 24-hour concentration ($\mu g/m^3$)	64.0	45.0	41.0
National[c] second-highest 24-hour concentration ($\mu g/m^3$)	55.0	44.0	39.0
State[d] maximum 24-hour concentration ($\mu g/m^3$)	64.0	45.0	41.0
State[d] second-highest 24-hour concentration ($\mu g/m^3$)	55.0	44.0	39.0
National annual average concentration ($\mu g/m^3$)	16.7	13.6	132
State annual average concentration ($\mu g/m^3$)[e]	16.7	13.6	132
Number of days standard exceeded[a]			
NAAQS 24-hour (>65 $\mu g/m^3$)	0	0	0

Notes: CAAQS = California ambient air quality standards.
NAAQS = national ambient air quality standards.
NA = insufficient data available to determine the value.

[a] An exceedance is not necessarily a violation.

[b] Measurements usually are collected every 6 days.

[c] National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.

[d] State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data. In addition, state statistics are based on California approved samplers.

[e] State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

[f] Mathematical estimate of how many days concentrations would have been measured as higher than the level of the standard had each day been monitored.

Sources: California Air Resources Board 2005; U.S. Environmental Protection Agency 2005.

Attainment Status

If monitored pollutant concentrations meet state or federal standards over a designated period of time, the area is classified as being in attainment for that pollutant. If monitored pollutant concentrations violate the standards, the area is considered a nonattainment area for that pollutant. If data are insufficient to determine whether a pollutant is violating the standard, the area is designated unclassified.

The EPA has classified the County as being an extreme nonattainment area for the 1-hour ozone standard and a serious nonattainment area for the 8-hour ozone standard. For the CO standard, the EPA has classified the Stockton Urbanized Area (5/16/84, 49 FR 20651; this does not include the program area) as a moderate (≤ 12.7 ppm) maintenance area, while the rest of the County is classified as an unclassified/attainment area. The EPA has classified the County as a serious nonattainment area for the PM_{10} standard, while the County is classified as a nonattainment area for the $PM_{2.5}$ standard. The ARB has classified the County as being a severe nonattainment area for ozone. For the CO standard, the ARB has classified the County as being an attainment area. The ARB has classified the County as being a nonattainment area for the PM_{10} and $PM_{2.5}$ standards. The County's attainment status for each of these pollutants relative to the NAAQS and CAAQS is summarized in Table 3.3-3.

Table 3.3-3. 2004 San Joaquin County Attainment Status for State and Federal Standards

Pollutant	State	Federal
1-hour O_3	Severe nonattainment	Extreme non-attainment
8-hour O_3	NA[1]	Serious non-attainment
CO	Attainment	Moderate (≤ 12.7 ppm) maintenance area for the Stockton Urbanized Area (5/16/84, 49 FR 20651), unclassified/attainment area for rest of the County
PM_{10}	Nonattainment	Serious nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment

a. The Air Resources Board approved the 8-hour ozone standard on April 28, 2005. It is expected to become effective in early 2006.
Source: California Air Resources Board (2005).

Regulatory Context

Federal and State Ambient Air Quality Standards

The federal government and California have established standards for several different pollutants. For some pollutants, separate standards have been set for different measurement periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). The pollutants of greatest concern in the program area are carbon monoxide,

ozone, and particulate matter 2.5 and 10 microns or less in diameter ($PM_{2.5}$ and PM_{10}, respectively), which are inhalable. Table 3.3-1 shows the state and federal standards for a variety of pollutants.

Federal Regulations

The federal Clean Air Act, promulgated in 1970 and amended twice thereafter (including the 1990 amendment), establishes the framework for modern air pollution control. The Act directs the EPA to establish ambient air standards for six pollutants: ozone, carbon monoxide, lead, nitrogen dioxide, particulate matter, and sulfur dioxide. The standards are divided into primary and secondary standards; the former are set to protect human health within an adequate margin of safety and the latter to protect environmental values, such as plant and animal life.

The primary legislation that governs federal air quality regulations is the Clean Air Act Amendments of 1990 (CAAA). The CAAA delegates primary responsibility for clean air to the EPA. The EPA develops rules and regulations to preserve and improve air quality and delegates specific responsibilities to state and local agencies.

State Regulations

Responsibility for achieving California's standards, which are more stringent than federal standards, is placed on the ARB and local air districts, and is to be achieved through district-level air quality management plans that will be incorporated into the State Implementation Plan (SIP). In California, the EPA has delegated authority to prepare SIPs to the ARB, which, in turn, has delegated that authority to individual air districts

The ARB has traditionally established state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and approving state implementation plans.

Responsibilities of air districts include overseeing stationary-source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality–related sections of environmental documents required by CEQA.

The California Clean Air Act (CAA) of 1988 substantially added to the authority and responsibilities of air districts. The California CAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The California CAA focuses on attainment of the state ambient air quality standards, which, for certain pollutants and averaging periods, are more stringent than the comparable federal standards.

The California CAA requires designation of attainment and nonattainment areas with respect to state ambient air quality standards. The California CAA also requires that local and regional air districts expeditiously adopt and prepare an air quality attainment plan if the district violates state air quality standards for carbon monoxide, sulfur dioxide, nitrogen dioxide, or ozone. These Clean Air Plans are specifically designed to attain these standards and must be designed to achieve an annual 5 percent reduction in district-wide emissions of each nonattainment pollutant or its precursors. No locally prepared attainment plans are required for areas that violate the state PM_{10} standards.

The California CAA requires that the state air quality standards be met as expeditiously as practicable but, unlike the federal CAA, does not set precise attainment deadlines. Instead, the act established increasingly stringent requirements for areas that will require more time to achieve the standards.

Local Regulations and Programs

At the local level, air quality is managed through land use and development planning practices. These practices are implemented in San Joaquin County through the general planning process. The SJVAPCD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws. The proposed program may be subject to the following district rules. In addition, the program may be subject to additional rules.

Rule 2201 (New and Modified Stationary-Source Review Rule): This rule applies to all new stationary sources and all modifications of existing stationary sources that are subject to the district permit requirements and after construction emit or may emit one or more affected pollutant.

SJVAPCD Rule 2020 (Exemptions, Permits): This rule exempts laboratory testing equipment used for chemical and physical analysis from permit requirements in the SJVAPCD provided that they emit no hazardous air pollutants and less than 2.0 pounds per day (75 pounds per year) of any other pollutant. This means that laboratories that emit even small quantities of hazardous air pollutants would be required to apply for and obtain permits from the SJVAPCD.

SJVAPCD Rule 3110 (Air Toxic Fees): This is a program for facilities that emit toxic air contaminants. It is noted here that hospitals that do not use ethylene oxide for sterilizers are defined as de minimus facilities and are not subject to fee requirements.

Rule 4002 (National Emission Standards for Hazardous Air Pollutants): This rule applies to any portion of an existing building that will be renovated, partially demolished, or removed. Prior to any demolition activity, an asbestos survey of existing structures on the program site may be required to identify the presence of any asbestos-containing building material (ACBM).

Any identified ACBM having the potential for disturbance must be removed by a certified asbestos contractor in accordance with California Division of Occupational Safety and Health (CAL-OSHA) requirements.

Rule 4101 (Visible Emissions): This rule prohibits emissions of visible air contaminants to the atmosphere and applies to any source operation that emits or may emit air contaminants.

Rule 4102 (Nuisance): This rule applies to any source operation that emits or may emit air contaminants or other materials. In the event that the program or construction of the program creates a public nuisance, it could be in violation and be subject to SJVAPCD enforcement action.

SJVAPCD Rule 4306 (Boilers, Steam Generators, and Process Heaters – Phase 3): This rule requires all boilers and steam generators with a heat input rating greater than 5 million British thermal units per hour (mmBtu/hr) to achieve certain exhaust limits for NOx and CO. This rule was established in 2003 as part of the strategy for achieving ozone attainment.

Rule 4601 (Architectural Coatings): This rule limits volatile organic compounds (VOC) from architectural coatings. This rule specifies architectural coatings storage, cleanup, and labeling requirements.

Rule 4641 (Cutback, Slow-Cure, and Emulsified Asphalt, Paving, and Maintenance Operations): If asphalt paving will be used, paving operations will be subject to this rule. This rule applies to the manufacture and use of cutback asphalt, slow-cure asphalt, and emulsified asphalt for paving and maintenance operations.

SJVAPCD Rule 4663 (Organic Solvent Cleaning, Storage, and Disposal): This rule includes restrictions on the types of solvents that may be used and restrictions on the organic content of solvents used for cleaning, especially for cleaning related to medical devices and pharmaceuticals.

Rule 4701 (Internal-Combustion Engines – Phase 1): This rule limits the emissions of NOx, CO, and VOC from internal-combustion engines. These limits are not applicable to standby engines as long as they are used fewer than 200 hours per year (e.g., for testing during non-emergencies).

Rule 4702 (Internal-Combustion Engines – Phase 2): This rule limits the emissions of NOx, CO, and VOC from spark-ignited internal-combustion engines.

Regulation VIII (Fugitive PM_{10} Prohibitions): A series of rules (Rules 8011–8081) designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction, road construction, bulk materials storage, landfill operations, etc. Specifically:

- Rule 8011: General Requirements.

- Rule 8021: Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities.
- Rule 8031: Bulk Materials.
- Rule 8041: Carryout and Trackout.
- Rule 8051: Open Areas.
- Rule 8061: Paved and Unpaved Roads.
- Rule 8071: Unpaved Vehicle/Equipment Traffic Areas.
- Rule 8081: Agricultural Sources.

City of Manteca Municipal Code

In addition to SJVAPCD rules and regulations, Title 17 from the City's municipal code establishes policies within the City relating to odors. Title 17 requires that no emission of odors shall be permitted in such quantities as to be readily detectable when diluted in the ratio of one volume of odorous air to four volumes of clean air, as measured at the lot line of any establishment or use for all districts, except M-1 and M-2 districts. For M-1 and M-2 districts, this standard applies at the district boundary of 500 feet to the exterior wall of the establishment or use, whichever is less. Any process that may involve the creation or emission of any odors shall be provided with a secondary safeguard system so that control will be maintained if the primary safeguard system should fail.

City of Manteca 2023 General Plan

The Air Quality Element to the City's 2023 General Plan requires that all construction activity plans include a dust management plan to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or violation of an ambient air standard.

Impact Analysis

Methodology for Impact Analysis

This section describes the CEQA impact analysis relating to air quality for the proposed program and alternatives. It describes the methods used to determine the proposed program's impacts and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Approach and Methodology

Construction-Related Emissions

A review of the SJVAPCD *Guide for Assessing and Mitigating Air Quality Impacts* (2002), indicates that the SJVAPCD considers PM_{10} to be the primary pollutant of concern from construction activities and that compliance with district Regulation VIII is considered by the district to constitute sufficient mitigation to reduce PM_{10} emissions to less-than-significant levels. For the CEQA analysis, construction emission estimates were not quantified, because the SJVAPCD requires implementation of effective and comprehensive control measures rather than detailed quantification of emissions (San Joaquin Valley Air Pollution Control District 2002). The amount of PM_{10} emitted during construction activities varies greatly depending on the level of activity, the specific operations taking place, the equipment being operated, soil characteristics, and weather conditions. Despite this variability in emissions, experience has shown that several feasible control measures can be reasonably implemented to reduce PM_{10} emissions during construction.

The SJVAPCD has determined that compliance with its Regulation VIII Fugitive PM_{10} Prohibitions, including implementation of all feasible control measures specified in its *Guide for Assessing and Mitigating Air Quality Impacts* (San Joaquin Valley Air Pollution Control District 2002), is sufficient mitigation to minimize adverse air quality effects from construction. All construction projects must abide by this regulation. Since the publication of the SJVAPCD's guidance manual, the district has revised some of the rules that compose Regulation VIII. Guidance from district staff indicates that implementation of a Dust Control Plan would satisfy all of the requirements of SJVAPCD Regulation VIII (Cadrett pers. comm.). This analysis assumes that the program applicant would comply with Regulation VIII through implementation of a Dust Control Plan, which would be sufficient to eliminate any potentially substantial adverse air quality effects generated by construction activities.

Operation-Related Emissions

Facility equipment would be connected to the local power grid and would operate on electricity; consequently, no emissions or odors are expected to result from operation of facility equipment. However, relatively minor emissions are anticipated to result from the emergency diesel generators and vehicle trips and equipment used for routine maintenance of facility components. However, because the operation of the emergency diesel generators would be infrequent and would be subject to the ARB's Airborne Toxic Control Measure (ATCM) for stationary compression-ignition engines (17 California Code of Regulations 93115), and emissions associated with maintenance would be short-term and periodic, operational emissions are addressed qualitatively.

Significance Criteria

For this analysis, an impact pertaining to air quality was considered significant if it would result in any of the following, which are based on CEQA Guidelines Appendix G (14 CCR 15000 et seq.) and SJVAPCD standards:

- violate any air quality standard due to construction- and/or operation-related emissions, or
- expose sensitive receptors to substantial pollutant concentrations and, therefore, health risks.

Impacts and Mitigation Measures

Impact AQ-1: Temporary Increase in Construction-Related Emissions during Construction Activities (Less than Significant with Mitigation).

The SJVAPCD considers PM_{10} emissions to be the greatest pollutant of concern when assessing construction-related air quality impacts. The SJVAPCD has determined that compliance with its Regulation VIII, including implementation of all feasible control measures specified in its *Guide for Assessing and Mitigating Air Quality Impacts* (San Joaquin Valley Air Pollution Control District 2002), constitutes sufficient mitigation to reduce construction-related PM_{10} emissions to less-than-significant levels and minimize adverse air quality effects.

All construction projects must abide by Regulation VIII. Consequently, this air quality analysis assumes that the program applicant will comply with Regulation VIII through implementation of a Dust Control Plan and that such compliance will be sufficient to eliminate any potentially significant air quality effects generated by construction activities. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level

Mitigation Measure AQ-1a: Prepare and Implement a Dust Control Plan. To control the generation of construction-related PM_{10} emissions, the City will require program contractors to prepare and submit a Dust Control Plan to the SJVAPCD at least 10 working days prior to any earthmoving or construction activities; the plan shall be reviewed and approved by the SJVAPCD prior to onset of any construction activities. The City's dust control requirements will be reflected in contract documents.

Requirements of the Dust Control Plan for construction activities can include the following.

- Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.

- Limit area subject to excavation, grading, and other construction activity at any one time.
- Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).
- Apply idling time limits or require that all diesel engines be shut off when not in use on the premises to reduce emissions from idling.
- Curtail construction during periods of high ambient pollutant concentrations. This may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways, and "Spare the Air Days" declared by the SJVAPCD.
- Implement activity management (e.g., rescheduling activities to reduce short-term impacts).
- During the smog season (May through October), lengthen the construction period to minimize the number of vehicles and equipment operating at the same time.
- Equip off-road trucks with on-road engines when possible.
- Minimize obstruction of traffic on adjacent roadways.

Mitigation Measure AQ-1b: Use ARB Certified Engines. The City will require construction equipment engines that meet the current off-road engine emission standard (as certified by the ARB), or be re-powered with an engine that meets this standard. Tier I and Tier 11 engines have significantly less NOx and PM emissions compared to uncontrolled engines. Additionally, the City will require use of ARB-certified alternative fueled engines in construction equipment, where practicable, to reduce ROG, NOx, and PM emissions. Alternative fueled equipment may be powered by Compressed Natural Gas (CNG), Propane (LPG), electric motors, or other ARB certified off-road technologies. Program contractors will follow all SJVAPCD requirements and regulations for engine emission standards. Use of ARB-certified engines and/or alternative fueled engines will be reflected in contract documents.

Impact AQ-2: Construction-Related Diesel Health Risk (Less than Significant).

Conversation with SJVAPCD staff indicates that the district does not consider diesel construction equipment-related cancer risks to be an issue because of the short-term nature of construction activities (Guerra pers. comm.). The assessment of cancer risk is typically based on a 70-year exposure period. Construction activities are sporadic, transitory, and short-term in nature, and once construction activities have ceased, so too have emissions from construction. Because exposure to diesel exhaust would be well below the 70-year exposure period, construction of the proposed program is not anticipated to result in an elevated cancer risk to exposed persons. Consequently, the estimation of diesel

risks associated with construction activities is considered to be less than significant. No mitigation is required.

Impact AQ-3: Generation of Operation-Related Emissions in Excess of SJVAPCD Thresholds (Less than Significant with Mitigation).

As previously discussed, facility operations are not anticipated to use equipment that would generate pollutant emissions, because facility pumps and motors would be powered by electricity. The primary facility components that would generate operational emissions include emergency diesel generators and vehicle trips and operation of equipment used for routine maintenance of facility components. Because routine maintenance is anticipated to be sporadic and short-term in nature, it is not anticipated that routine maintenance activities would result in significant air quality impacts.

Diesel engines would be used to power emergency generators at the facilities in the event of an electrical power failure. The generators would be subject to SJVAPCD Rules 4701 and 4702, which regulate internal-combustion engines greater than 50 horsepower (hp) to limit NOx emissions. Emissions of diesel particulate matter (DPM) from diesel engines have been identified by the ARB as a TAC. However, the generators would also be subject to the ARB's ATCM for Stationary Compression Ignition Engines (17 California Code of Regulations 93115), which establishes limits to emissions from and hours of operation for backup generators greater than 50 hp and is intended to prevent health risks associated with exhaust from stationary compression ignition engines. Consequently, implementation of the following mitigation measure would reduce impacts from operational emissions to a less-than-significant level.

> **Mitigation Measure AQ-3: Ensure All Emergency Backup Generators and Diesel Engines Meet EPA Tier 2 and ATCM Standards.** To minimize emissions resulting from operation of the emergency diesel generators, the City will install only generators that meet EPA Tier 2 standards for non-methane hydrocarbon (NMHC), Nox, and CO; and ARB ATCM standards for PM_{10}. The City will follow all SJVAPCD requirements and regulations for engine emission standards.

Section 3.4

Biological Resources

This chapter analyzes the effects of the 2005 WMP (proposed program) on biological resources. Key sources of data used in the preparation of this chapter include the following:

- The City's *2023 General Plan* (City of Manteca 2003a).
- The City's *2023 General Plan Environmental Impact Report* (City of Manteca 2003b).
- The City's *Draft Water Master Plan* (City of Manteca 2005b).
- The County's *General Plan 2010* (San Joaquin County 1992).
- A California Natural Diversity Database (CNDDB) records search for the Manteca, Stockton West, Stockton East, Peters, Avena, Lathrop, Salida, Vernalis, and Ripon USGS 7.5-minute quadrangles (California Natural Diversity Database 2005).
- The California Native Plant Society's (CNPS's) *Inventory of Rare and Endangered Plants of California* (California Native Plant Society 2005).
- A U.S. Fish and Wildlife Service (USFWS) list of endangered, threatened, and proposed species for the region (U.S. Fish and Wildlife Service 2005) (Appendix C).
- *San Joaquin County Multi-Species Habitat Conservation Open Space Plan (SJMSCP)* (San Joaquin Council of Governments 2000).
- Jones & Stokes file information.

Cumulative impacts are discussed in Chapter 5, *Other CEQA Findings*.

Concepts and Terminology

Special-Status Species

Special-status species are plants, animals, and fish species that are legally protected under the ESA, California Endangered Species Act (CESA), and other regulations, as well as species considered sufficiently rare by the scientific community to qualify for such listing. Special-status species include:

- species listed or proposed for listing as threatened or endangered under the ESA (50 Code of Federal Regulations [CFR] 17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the Federal Register [FR] [proposed species]);
- species that are candidates for possible future listing as threatened or endangered under the ESA (64 FR 57534);
- species listed or proposed for listing by the State of California as threatened or endangered under the CESA (14 California Code of Regulations [CCR] 670.5);
- species that meet the definitions of rare or endangered under CEQA (State CEQA Guidelines Section 15380);
- plants listed as rare under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.);
- plants considered by the CNPS to be "rare, threatened, or endangered in California" (California Native Plant Society 2005, Lists 1B and 2);
- plants listed by the CNPS as plants about which more information is needed to determine their status, and plants of limited distribution (California Native Plant Society 2005, Lists 3 and 4), which may be included as special-status species on the basis of local significance or recent biological information;
- animal species of special concern to the DFG (Remsen 1978 [birds], Williams 1986 [mammals], and Jennings and Hayes 1994 [amphibians and reptiles]); and
- animals fully protected in California (California Fish and Game Code Section 3511 [birds], 4700 [mammals], and 5050 [amphibians and reptiles]).

Delineation of Waters of the United States, Including Wetlands

Waters of the United States is the term used by the U.S. Army Corps of Engineers (USACE) for areas under federal jurisdiction under federal Clean Water Act (CWA) Section 404. For the purposes of this analysis, waters of the United States are categorized as either *wetlands* or *other waters of the United States*. Wetlands are defined as:

> areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3[b], 40 CFR 230.3).

To be considered under federal jurisdiction, a wetland must support positive indicators for three parameters—hydrophytic vegetation, hydric soil, and wetland hydrology. Other waters of the United States are seasonal or perennial bodies of water, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark (OHWM) but lack

positive indicators for at least one of the three wetland parameters (33 CFR 328.4).

Environmental Setting

This section discusses the existing conditions related to biological resources in the program area. Federal, state, and local regulations related to biological resources that would apply to the proposed program are discussed in the *Regulatory Context* section.

Existing Conditions

Biological Communities

Information presented about the existing environmental setting of the program area is general and is not based on any site-specific field surveys. Site-specific field surveys would be conducted as needed for design and construction of individual program elements. Site-specific biological resource information would be evaluated during mitigation implementation and subsequent environmental review, if necessary.

According to the 2023 General Plan, most of the program area outside the urbanized center and surrounding residential areas is primarily used as farmland that sustains alfalfa, row crops, pasture, and orchards. Agricultural lands represent important foraging resources for a number of species, including Swainson's hawk, a California state and federally protected species.

As reported in the 2023 General Plan, the SJMSCP biological analysis identified four vegetation types within the program area: riparian; croplands; orchards and vineyards; and golf course/cultivated parklands. These vegetation types are described below.

Riparian Areas

According to the 2023 General Plan, riparian woodland exists mainly along the San Joaquin River and one of its tributaries, Walthall Slough. The San Joaquin River and Walthall Slough occur along the southwestern boundary of the Manteca city limits and just outside the program area. Within the program area, riparian vegetation occurs primarily along streams, canals, and irrigation ditches. Major hydrologic features within the program area are shown in Figure 3.8-2 in Section 3.8, *Hydrology and Water Resources*.

Wetlands have also been identified along State Route (SR) 120; these are irrigation runoff impoundments that function as seasonal wetlands. Numerous irrigation ditches, canals, and drainage ditches also support riparian vegetation.

Despite widespread disturbances resulting from urbanization, agricultural conversion, and grazing, riparian woodlands remain important wildlife resources because of their scarcity regionally and statewide and because the riparian community is used by a large variety of wildlife species. This habitat supports abundant aquatic and terrestrial invertebrates that are prey for amphibians and reptiles, such as common garter snakes, western skinks, pacific treefrogs, and western toads, as well as insectivorous birds, such as warblers, northern flickers, downy woodpeckers, and flycatchers. Small mammals found in riparian habitats include shrews, voles, bats, and mice. Raptors that nest in large riparian trees include great-horned owls, red-tailed hawks, and American kestrels. Cavity-dependant species, such as woodpeckers, bats, squirrels, and raccoons, require mature stands of trees. Striped skunks, red foxes, gray foxes, and badgers forage in riparian habitats and use them for cover and travel.

Special-status wildlife that could occur within and near riparian areas and open water includes Swainson's hawk, Cooper's hawk, white-tailed kite, valley elderberry longhorn beetle, and western pond turtle.

Agricultural Lands

Within the program area, agricultural lands are limited to small ranches in the northern and southernmost parts of the program area. However, large-scale agriculture is the predominant land use surrounding the program area. Agricultural lands within the program area include irrigated pastures, vineyards, row crops, and orchards.

Depending on the crop pattern and the land's proximity to native habitats, agricultural lands can provide relatively high-value habitat for wildlife, particularly as foraging habitat. Raptor species, such as the state and federally protected Swainson's hawk, use row- and grain-crop agricultural lands for foraging because several species of common rodents are found in agricultural fields. Agricultural habitats also provide foraging and resting habitat for migrating and wintering waterfowl and shorebirds.

Orchards and Vineyards

As identified above, orchards and vineyards typically occur within the northernmost and southernmost portions of the program area. Orchards and vineyards are managed intensively and typically provide low wildlife value. The understory of these areas is sparsely vegetated because of regular agricultural activity, such as disking. Despite these conditions, some wildlife species have adapted to orchard settings. Tree and ground squirrels feed on the abundant supply of nuts and fruits. Many species of birds, such as Brewer's blackbird, mourning dove, yellow-billed magpie, and house sparrow, use orchard trees for nesting. Swainson's hawk and red-shouldered hawk have also been reported to nest in large walnut trees in orchards that are located near open areas for foraging.

Golf Course/Cultivated Parklands

Several local parks and other public and private lands (including the Manteca Golf Course) are scattered throughout the program area. Parks are intensively managed for recreational activities and provide marginal habitat for wildlife. Some parks are designed around native vegetation and natural habitats (e.g. riparian, oak woodland, wetlands) and can support nesting birds and raptors, and provide foraging opportunities for wildlife. Swainson's hawk and other raptors have been known to nest in large trees that occur within park settings.

Special-Status Species

Special-Status Plants

Based on a review of existing information, 24 special-status species were identified as having the potential to occur in the program region. The legal status, geographic distribution, habitat requirements, blooming period, and occurrence information for each of these species is listed in Table 3.4-1. Of the four vegetation types listed in the 2023 General Plan, riparian habitat was identified as the most likely to support the growth of special-status species. Nine of the 24 special-status species are known to occur in riparian or marsh habitats: bristly sedge, slough thistle, delta button-celery, rose-mallow (or California hibiscus), legenere, Mason's lilaeopsis, delta mudwort, Sanford's arrowhead, and blue skullcap. The remaining 15 special-status species listed in Table 3.4-1 with the potential to occur in the region require habitat that is not represented by the existing vegetation types reported in the 2023 General Plan; therefore, these species have low potential to occur in the program area. .

A CNDDB search identified two special-status species occurrences within a 10-mile radius of the program area: delta button-celery and Wright's trichocoronis, which have been documented approximately 3.8 and 4.6 miles west of the program area, respectively. Both of these species are presumed by the CNPS to be extirpated from San Joaquin County.

Special-Status Wildlife

Based on a review of existing information, a total of 11 state- or federally listed and 17 unlisted special-status wildlife species could occur in the program area. The legal status, geographic distribution, preferred habitat, and occurrence information for each of these species is listed in Table 3.4-2. Many of the species identified in the table are associated with habitats in or near aquatic habitats.

A CNDDB (2005) search of the program area resulted in one known occurrence of a special-status wildlife species, California tiger salamander, along the south side of SR 120 near the junction of McKinley Road. California tiger salamander larvae were observed in a roadside pond along SR 120 in 1996. CNDDB (2005)

records for valley elderberry longhorn beetle, vernal pool fairy shrimp, burrowing owl, Swainson's hawk, and riparian woodrat have been previously documented in a 10-mile radius around the program area.

Regulatory Context

This section describes the federal, state, and local plans, policies, and laws that are relevant to biological resources in the program area and that may apply to activities identified in the proposed program.

Federal Regulations

Federal Endangered Species Act

The ESA protects fish and wildlife species and their habitats that have been identified by USFWS or National Marine Fisheries Service (NOAA Fisheries) as threatened or endangered. *Endangered* refers to species, subspecies, or distinct population segments that are in danger of extinction through all or a significant portion of their range. *Threatened* refers to species, subspecies, or distinct population segments that are likely to become endangered in the near future.

In general, NOAA Fisheries is responsible for protection of ESA-listed marine species and anadromous fishes, whereas other listed species are under USFWS jurisdiction. Provisions of Sections 7, 9, and 10 of the ESA are relevant to this program and are summarized below.

Section 7: Authorization Process for Federal Actions

Section 7 of ESA provides a means for authorizing *take* of threatened and endangered species by federal agencies. Under Section 7, the federal agency conducting, funding, or permitting an action (i.e., the federal lead agency) must consult with the USFWS or NOAA Fisheries, as appropriate, to ensure that the proposed action will not jeopardize endangered or threatened species or destroy or adversely modify designated critical habitat. If a proposed action "may affect" a listed species or designated critical habitat, the lead agency is required to prepare a biological assessment evaluating the nature and severity of the expected effect. In response, the USFWS or NOAA Fisheries issues a biological opinion, with a determination that the proposed action:

- may jeopardize the continued existence of one or more listed species (*jeopardy finding*) or result in the destruction or adverse modification of critical habitat (*adverse modification finding*), or
- will not jeopardize the continued existence of any listed species (*no jeopardy finding*) or result in adverse modification of critical habitat (*no adverse modification finding*).

Table 3.4-1. Special-Status Plant Species Identified as Having the Potential to Occur in the Program Area

Common Name *Scientific Name*	Legal Status[a]			Geographic Distribution	Habitat Requirements	Blooming Period	Likelihood of Occurrence[b]
	Federal	State	CNPS				
Large-flowered fiddleneck *Amsinckia grandiflora*	E	E	1B	Historically known from Mount Diablo foothills in Contra Costa, Alameda, and San Joaquin Counties; currently known from three natural occurrences	Valley grassland slopes; elevation 275–305 meters	April–May	Low; suitable habitat not known in program area
Suisun Marsh aster *Aster lentus*	SC	–	1B	Sacramento River–San Joaquin River Delta, Suisun Marsh, Suisun Bay; Contra Costa, Napa, Sacramento, San Joaquin, and Solano Counties	Brackish and freshwater marsh; elevation 0–3 meters	August–November	Moderate; suitable habitat present in program area
Alkali milk-vetch *Astragalus tener* var. *tener*	–	–	1B	Merced, Solano, and Yolo Counties; historically more widespread	Grassy flats and vernal pool margins, on alkali soils below 60 meters	March–June	Low; suitable habitat not known in program area
Brittlescale *Atriplex depressa*	–	–	1B	Western and eastern Central Valley and adjacent foothills on west side of Central Valley	Alkali grassland, alkali meadow, alkali scrub, chenopod scrub, playas, valley and foothill grasslands on alkaline or clay soils; elevation 1–320 meters	May–October	Low; suitable habitat not known in program area
Bristly sedge *Carex comosa*	–	–	2	Scattered occurrences throughout California, Oregon, and Washington	Wet places and lake margins; elevation 0–425 meters	May–September	Moderate; suitable habitat present in program area
Succulent owl's clover *Castilleja campestris* ssp. *succulenta*	T	E	1B	Eastern edge of San Joaquin Valley and adjacent foothills, from Stanislaus County to Fresno County	Vernal pools (often acidic soils); elevation 50–750 meters	April–May	Low; suitable habitat not known in program area
Lemmon's jewelflower *Caulanthus coulteri* var. *lemmonii*	–	–	1B	Southeast San Francisco Bay Area, south through the south Coast Ranges and adjacent San Joaquin Valley	Pinyon and juniper woodland, valley and foothill grassland; elevation 80–1220 meters	March–May	Low; suitable habitat not known in program area
Slough thistle *Cirsium crassicaule*	SC	–	1B	San Joaquin Valley, San Joaquin, Kings, and Kern Counties	Chenopod scrub, marshes, and swamps (sloughs), riparian scrub; elevation 3–100 meters	May–August	Moderate; suitable habitat present in program region

Common Name *Scientific Name*	Legal Status[a]			Geographic Distribution	Habitat Requirements	Blooming Period	Likelihood of Occurrence[b]
	Federal	State	CNPS				
Hoover's cryptantha *Cryptantha hooveri*	–	–	1B	Northern and central San Joaquin Valley: Alameda, Contra Costa, Madera, Merced, San Joaquin, and Stanislaus Counties	Valley and foothill grassland (sandy); elevation 3–150 meters	April–May	Low; suitable habitat not known in program region
Recurved larkspur *Delphinium recurvatum*	SC	–	1B	San Joaquin Valley and central valley of the south Coast Ranges, Contra Costa County to Kern County	Alkaline soils in annual grassland, saltbush scrub, cismontane woodland, vernal pools; elevation 3–750 meters	March–May	Low; suitable habitat not known in program region
Delta button-celery *Eryngium racemosum*	SC	E	1B	San Joaquin River Delta and floodplains, Calaveras, Merced, San Joaquin*, and Stanislaus Counties	Riparian scrub, seasonally inundated depressions along floodplains; elevation 3–30 meters	June–August	Low; suitable habitat present in program region; presumed by the CNPS to be extirpated from San Joaquin County
Diamond-petaled California poppy *Eschscholzia rhombipetala*	SC	–	1B	Interior foothills of south Coast Ranges from Contra Costa County to Stanislaus Counties, Carrizo Plain in San Luis Obispo County	Grassland, chenopod scrub, on clay soils, where grass cover is sparse enough to allow growth of low annuals; elevation 0–975 meters	March–April	Low; suitable habitat not known in program region
Bogg's Lake hedge-hyssop *Gratiola heterosepala*	–	E	1B	Inner north Coast Ranges, central Sierra Nevada foothills, Sacramento Valley, and Modoc Plateau; Fresno, Lake, Lassen, Madera, Merced, Modoc, Placer, Sacramento, Shasta, Siskiyou, San Joaquin, Solano, and Tehama Counties	Clay soils in areas of shallow water, lake and vernal pool margins; elevation 10–2375 meters	April–August	Low; suitable habitat not known in program region
Rose-mallow, a.k.a. California hibiscus *Hibiscus lasiocarpus*	–	–	2	Central and southern Sacramento Valley, Deltaic Central Valley, Butte, Contra Costa, Colusa, Glenn, Sacramento, San Joaquin, Solano, Sutter, and Yolo Counties	Wet banks, freshwater marshes; elevation generally below 40 meters	August–September	Moderate; suitable habitat present in program region
Delta tule pea *Lathyrus jepsonii* var. *jepsonii*	SC	–	1B	Central Valley, especially the San Francisco Bay region, Alameda, Contra Costa, Fresno, Marin, Napa, Sacramento, San Benito, Santa Clara, San Joaquin, and Solano Counties	Marshes and swamps (freshwater and brackish); elevation 0–4 meters	May–June	Low; suitable habitat not known in program region

Table 3.4-1. Continued

Common Name *Scientific Name*	Legal Status[a]			Geographic Distribution	Habitat Requirements	Blooming Period	Likelihood of Occurrence[b]
	Federal	State	CNPS				
Legenere *Legenere limosa*	SC	–	1B	Primarily located in the lower Sacramento Valley; also from north Coast Ranges, northern San Joaquin Valley and the Santa Cruz Mountains	Deep, seasonally wet habitats such as vernal pools, ditches, marsh edges, and river banks; elevation 1–880 meters	May–June	Moderate; suitable habitat present in program region
Mason's lilaeopsis *Lilaeopsis masonii*	SC	R	1B	Southern Sacramento Valley, Sacramento River–San Joaquin River Delta, northeast San Francisco Bay Area, Alameda, Contra Costa, Marin*, Napa, Sacramento, San Joaquin, and Solano Counties	Freshwater and intertidal marshes, streambanks in riparian scrub; elevation 0–10 meters	April–October	Moderate; suitable habitat present in program region
Delta mudwort *Limosella subulata*	–	–	2	Deltaic Central Valley, Contra Costa, Sacramento, San Joaquin, and Solano Counties, Oregon	Muddy or sandy intertidal flats and marshes, streambanks in riparian scrub, generally at sea level	May–August	Moderate; suitable habitat present in program region
Showy madia *Madia radiata*	–	–	1B	Scattered populations in the interior foothills of the south Coast Ranges, Contra Costa, Fresno, Kings, Kern, Monterey, Santa Barbara, San Benito, San Joaquin, and San Luis Obispo Counties	Oak woodland, grassland, slopes below 900 meters	March–May	Low; suitable habitat not known in program region
Sanford's arrowhead *Sagittaria sanfordii*	SC	–	1B	Scattered locations in Central Valley and Coast Ranges	Freshwater marshes, sloughs, canals, and other slow-moving water habitats; elevation 0–610 meters	May–October	Moderate; suitable habitat present in program region
Blue skullcap *Scutellaria lateriflora*	–	–	2	Northern San Joaquin Valley, east of the Sierra Nevada, Inyo and San Joaquin Counties, New Mexico, Oregon	Mesic meadows, marshes and swamps; elevation generally below 500 meters	July–September	Moderate; suitable habitat present in program region
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	–	–	2	Scattered locations in the Central Valley and southern coast, Texas	Floodplains, moist places, on alkaline soils; elevation 5–435 meters	May–September	Low; suitable habitat not known in program region; presumed by the CNPS to be extirpated from San Joaquin County

Common Name *Scientific Name*	Legal Status[a]			Geographic Distribution	Habitat Requirements	Blooming Period	Likelihood of Occurrence[b]
	Federal	State	CNPS				
Caper-fruited tropidocarpum *Tropidocarpum capparideum*	SC	–	1A	Historically known from the northwest San Joaquin Valley and adjacent Coast Ranges foothills	Grasslands in alkaline hills below 450 meters	March–April	Low; suitable habitat not known in program region
Greene's tuctoria *Tuctoria greenei*	E	R	1B	Scattered distribution along eastern Central Valley and foothills from Shasta County to Tulare County	Dry vernal pools; elevation 30–1,070 meters	May–September	Low; suitable habitat not known in program region

Notes:

* = known populations believed extirpated from that county.

[a] Status explanations:

– = no listing.

Federal

E = listed as endangered under the federal ESA.

T = listed as threatened under the federal ESA.

SC = species of concern; species for which existing information indicates it may warrant listing but for which substantial biological information to support a proposed rule is lacking.

State

E = listed as endangered under the CESA.

R = listed as rare under the California Native Plant Protection Act. This category is no longer used for newly listed plants, but some plants previously listed as rare retain this designation.

California Native Plant Society

1A = List 1A species: presumed extinct in California.

1B = List 1B species: rare, threatened, or endangered in California and elsewhere.

2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere.

[b] Definitions of levels of potential occurrence:

Moderate: CNDDB or other documents record the known occurrence of the species in the vicinity of the project, or the presence of suitable habitat conditions, but the area lacks suitable microhabitat conditions.

Low: CNDDB or other documents do not record the occurrence of the species in the vicinity of the project, or the habitat conditions in the area are of poor quality.

Table 3.4-1. Continued

Common Name *Scientific Name*	Legal Status[a]			Geographic Distribution	Habitat Requirements	Blooming Period	Likelihood of Occurrence[b]
	Federal	State	CNPS				
None:	CNDDB or other documents do not record the occurrence of the species in the vicinity of the project, or suitable habitat is not present in any condition.						

Table 3.4-2. Special-Status Wildlife Species Identified as Having the Potential to Occur in the Program Area

Species	Status[a] Federal	Status[a] State	Geographic Distribution	Preferred Habitats	Likelihood for Occurrence in the Program Area[b]
Invertebrates					
Molestan blister beetle *Lytta molesta*	SC	–	San Joaquin Valley from Contra Costa County south to Tulare and Kern Counties	Vernal pools	Low—no known occurrences in the program area or vicinity (CNDDB 2005); the program area is within the range of the species; may occur in the program area if suitable habitat (vernal pools) is present.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T	–	Streamside habitats below 900 meters (3,000 feet) above sea level through the Central Valley	Riparian and oak savanna habitats with elderberry shrubs; elderberries are host plant	Moderate—no known occurrences in the program area; closest known record occurs about 7.5 miles west of the program area (CNDDB 2005); riparian areas and adjacent uplands could support elderberry shrubs (host plant) that provide suitable habitat for the species.
Vernal pool fairy shrimp *Branchinecta lynchi*	T	–	Central Valley, central and southern Coast Ranges from Tehama County to Santa Barbara County; isolated populations also in Riverside County	Common in vernal pools; also found in sandstone rock outcrop pools	Low—no known occurrences in the program area; closest known record occurs 6.5 miles south of the program area (CNDDB 2005); may occur in the program area if suitable habitat (vernal pools) is present.
Vernal pool tadpole shrimp *Lepidurus packardi*	E	–	Shasta County south to Merced County	Vernal pools and ephemeral stockponds	Low—no known occurrences in the program area or vicinity (CNDDB 2005); the program area is within the range of the species; may occur in the program area if suitable habitat (vernal pools) is present.
Amphibians					
California tiger salamander *Ambystoma californiense* (=*A. tigrinum c.*)	T	SSC	Central Valley, including Sierra Nevada foothills, up to approximately 300 meters (1,000 feet) above sea level and coastal region from Butte County south to Santa Barbara County	Small ponds, lakes, or vernal pools in grass-lands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy	Moderate—one historic record from 1996 occurs within the program area, south of Highway 120 (CNDDB 2005); could occur within seasonal wetlands and ponds located adjacent to annual grasslands.
Western spadefoot toad *Scaphiopus hammondii*	SC	SSC	Sierra Nevada foothills, Central Valley, Coast Ranges, coastal counties in southern California	Shallow streams with riffles and seasonal wetlands, such as vernal pools in annual grasslands and oak woodlands	Low—no known occurrences in the program area or vicinity (CNDDB 2005); the program area is within the range of the species; may occur in the program area if suitable habitat (vernal pools) is present.

Table 3.4-2. Continued

Species	Status[a] Federal	State	Geographic Distribution	Preferred Habitats	Likelihood for Occurrence in the Program Area[b]
Reptiles					
California horned lizard *Phrynosoma coronatum frontale*	SC	SSC	Sacramento Valley, including foothills, south to southern California; Coast Ranges south of Sonoma County; below 1,200 meters (4,000 feet) above sea level in northern California	Grasslands, brushlands, woodlands, and open coniferous forest with sandy or loose soil; requires abundant ant colonies for foraging	Low—much of the grasslands in the program area are heavily disturbed by agricultural activities and provide low quality habitat for this species.
Giant garter snake *Thamnophis gigas*	T	T	Central Valley from Fresno north to the Gridley/Sutter Buttes area; has been extirpated from areas south of Fresno	Sloughs, canals, and other small waterways where there is a prey base of small fish and amphibians; requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter	Low—no known occurrences in the program area or vicinity (CNDDB 2005); the SJMSCP considers Lone Tree Creek and French Camp Slough to be potential habitat for the species; canals and streams in the program area may have a be hydrologically connection to these waterbodies and could provide suitable habitat if essential habitat components (USFWS 1998) are present.
Silvery legless lizard *Anniella pulchra pulchra*	SC	SSC	Along the Coast, Transverse, and Peninsular Ranges from Contra Costa County to San Diego County with spotty occurrences in the San Joaquin Valley	Habitats with loose soil for burrowing or thick duff or leaf litter; often forages in leaf litter at plant bases; may be found on beaches, sandy washes, and in woodland, chaparral, and riparian areas	Low—much of the riparian woodlands in the program area occur within urban or disturbed areas and provide low quality habitat.
Western pond turtle *Clemmys marmorata*	SC	SSC	Occurs from the Oregon border of Del Norte and Siskiyou Counties south along the coast to San Francisco Bay, inland through the Sacramento Valley, and on the western slope of Sierra Nevada	Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests	High—could occur within streams, canals, and natural and artificial ponds (i.e., within the program area if they provide year-round water.
Birds					
American peregrine falcon *Falco peregrinus anatum*	D	E	Permanent resident in the northern and southern Coast Ranges; may summer in the Cascade and Klamath Ranges south through the Sierra Nevada to Madera County; winters in the Central Valley south through the Transverse and Peninsular Ranges and the plains east of the Cascade Range	Nests and roosts on protected ledges of high cliffs, usually adjacent to lakes, rivers, or marshes that support large populations of other bird species	Low—no suitable nesting habitat is present in the program area; could migrate through and forage in the program area.

Table 3.4-2. Continued

Species	Status[a] Federal	Status[a] State	Geographic Distribution	Preferred Habitats	Likelihood for Occurrence in the Program Area[b]
Bald eagle *Haliaeetus leucocephalus*	T	E	Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin; reintroduced into central coast; winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada and east of the Sierra Nevada south of Mono County; range expanding	In western North America, nests and roosts in coniferous forests within 1.6 kilometer (1 mile) of a lake, a reservoir, a stream, or the ocean	Low—the program area does not provide suitable nesting or foraging habitat; could migrate through the program area.
Cooper's hawk *Accipiter cooperii*	–	SSC	Throughout California except high altitudes in the Sierra Nevada; winters in the Central Valley, southeastern desert regions, and plains east of the Cascade Range; permanent residents occupy the rest of the state	Nests primarily in riparian forests dominated by deciduous species; also nests in densely canopied forests from grey pine–oak woodland up to ponderosa pine; forages in open woodlands	Moderate—nesting habitat (mature riparian woodlands) is limited in the program area; could migrate through and forage in the program area.
Ferruginous hawk *Buteo regalis*	SC	SSC	Does not nest in California; winter visitor along the coast from Sonoma County to San Diego County, eastward to the Sierra Nevada foothills and southeastern deserts, the Inyo-White Mountains, the plains east of the Cascade Range, and Siskiyou County	Open terrain in plains and foothills where ground squirrels and other prey are available	Moderate— winter visitor, does not nest in California; could migrate through and forage in the program area.
Loggerhead shrike *Lanius ludovicianus*	–	SSC	Resident and winter visitor in lowlands and foothills throughout California; rare on coastal slope north to Mendocino County, occurring only in winter	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches	High—common resident in San Joaquin Valley; suitable nesting and foraging habitat is present within open grasslands and agricultural areas in the program area.
Northern harrier *Circus cyaneus*	–	SSC	Throughout lowland California; has been recorded in fall at high elevations	Nests and forages in grasslands, meadows, marshes, and seasonal and agricultural wetlands providing tall cover	Moderate—tall annual grasslands, seasonal wetlands, and grain crops provide suitable nesting habitat; could forage over the program area.
Sharp-shinned hawk *Accipiter striatus*	–	SSC	Permanent resident on the Sierra Nevada, Cascade, Klamath, and north Coast Ranges at mid-elevations and along the coast in Marin, San Francisco, San Mateo, Santa Cruz, and Monterey Counties; winters over the rest of the state except very high elevations	Dense canopy ponderosa pine or mixed-conifer forest and dense riparian habitats	Moderate; winter visitor, no suitable nesting habitat is present; could forage in the program area.

Table 3.4-2. Continued

Species	Status[a] Federal	State	Geographic Distribution	Preferred Habitats	Likelihood for Occurrence in the Program Area[b]
Swainson's hawk *Buteo swainsoni*	–	T	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley; the state's highest nesting densities are near Davis and Woodland, Yolo County	Nests in oaks or cottonwoods in or near riparian habitats; forages in grasslands, irrigated pastures, and grain fields	High—no documented nest sites within the program area but numerous nesting records exist within a 10-mile radius around the program area (CNDDB 2005); within the program area, large trees provide suitable nesting habitat and grasslands, ruderal areas, and low-growing agricultural fields provide suitable foraging habitat.
Tri-colored blackbird *Agelaius tricolor*	SC	SSC	Largely endemic to California; permanent residents in the Central Valley from Butte County to Kern County; at scattered coastal locations from Marin County south to San Diego County; breeds at scattered locations in Lake, Sonoma, and Solano Counties; rare nester in Siskiyou, Modoc, and Lassen Counties	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields; nesting habitat must be large enough to support 50 pairs; probably requires water at or near the nesting colony; requires large foraging areas, including marshes, pastures, agricultural wetlands, dairies, and feedlots, where insect prey is abundant	Low—no known nesting colonies within the program area (CNDDB 2005); could migrate through the program area; however, it is unlikely that suitable nesting substrate (large areas of emergent wetland vegetation or blackberry brambles) are present in the program area.
Western burrowing owl *Athene cunicularia hypugea*	SC	SSC	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas; rare along south coast	Rodent burrows in sparse grassland, desert, and agricultural habitats	High—no documented nest sites within the program area but numerous nesting records exist within a 10-mile radius around the program area (CNDDB 2005); annual grasslands, ruderal areas, and edges of agricultural fields provide suitable nesting habitat.
White-tailed kite *Elanus caeruleus*	–	FP	Lowland areas west of Sierra Nevada, from head of Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border	Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging	High—could nest in large trees (especially riparian) located near open grasslands or agricultural lands; common winter migrant.
Mammals					
San Joaquin Valley (riparian) woodrat *Neotoma fuscipes riparia*	E	SSC	Known only in Stanislaus and San Joaquin Counties along the San Joaquin, Stanislaus, and Tuolumne Rivers; Caswell State Park, San Joaquin County	Riparian habitats where trees and brush are available for cover and nesting	Low—this species is known from only one location: along the Stanislaus River within and south of Caswell Memorial State Park, about 6 miles south of the program area; riparian habitat in the program area is limited and is unlikely to provide suitable habitat.

Table 3.4-2. Continued

Species	Status[a] Federal	Status[a] State	Geographic Distribution	Preferred Habitats	Likelihood for Occurrence in the Program Area[b]
Riparian brush rabbit *Sylvilagus bachmani riparius*	E	E	Limited to San Joaquin County at Caswell State Park, near the confluence of the Stanislaus and San Joaquin Rivers	Dense thickets of brush associated with riparian or chaparral habitats	Low—closest record for this species occur along the San Joaquin River near Stewart Tract, about 2 miles west of the program area; riparian habitat in the program area is limited and is unlikely to provide suitable habitat.
San Joaquin pocket mouse *Perognathus inornatus*	SC	–	Occurs along the eastern side of the San Joaquin Valley	Favors grasslands and oak savannas with friable soils	Low—much of the grasslands in the program area are heavily disturbed by agricultural activities and provide low quality habitat for this species.
San Joaquin kit fox *Vulpes macrotis mutica*	E	T	Principally occurs in the San Joaquin Valley and adjacent open foothills to the west; recent recorded observations in 17 counties, extending from Kern County north to Contra Costa County	Saltbush scrub, grassland, oak, savanna, agricultural fields, irrigated pastures, and freshwater scrub	None—the program area is outside the current range of this species (USFWS 1998).
Yuma myotis *Myotis yumanensis*	SC	–	Considered common and widespread in northern California up to 1,500 meters (5,000 feet) above sea level; colonies known from Marin and San Francisco Counties	Found in desert scrub, pinyon-juniper woodlands, and other open woodlands and forests; open water is a key habitat element for this species; roosts colonially in a variety of natural and artificial sites, including caves, mines, buildings, bridges, and trees	High—bridges, buildings, and large trees in the program area could provide potential roosting habitat for this species.
Small-footed myotis *Myotis ciliolabrum*	SC	–	Sierra Nevada; south Coast, Transverse, and Peninsular Ranges; and the Great Basin at mid- to high elevations, but may also be found at low elevations in some deserts	Occurs in a variety of habitat types, including desert scrub, grasslands, oak and pinyon juniper woodlands, and pine forests; roosts are found primarily in cavities in mines and trees but also in rock faces, clay banks, beneath bark on trees, and in barns	High—barns and large trees in the program area could provide potential roosting habitat for this species.
Long-legged myotis *Myotis volans*	SC	–	Throughout California from near sea level along the coast to high elevations in the Sierra Nevada and White Mountains	Occurs in pinyon-juniper, Joshua tree woodland, montane coniferous forest habitats, and in forested habitat along the coast; may also be found in streamside and arid habitats; roosts in hollow trees, rock crevices, mines, and buildings	Moderate—buildings and large trees in the program area could provide potential roosting habitat for this species.

Table 3.4-2. Continued

Species	Status[a] Federal	Status[a] State	Geographic Distribution	Preferred Habitats	Likelihood for Occurrence in the Program Area[b]

[a] Status explanations:

– = no listing.

Federal

E = listed as endangered under the federal ESA.

T = listed as threatened under the federal ESA.

SC = species of concern; species for which existing information indicates it may warrant listing but for which substantial biological information to support a proposed rule is lacking.

State

E = listed as endangered under the CESA.

T = listed as threatened under the CESA.

FP = fully protected under the California Fish and Game Code.

SSC= species of special concern in California.

[b] Definitions of levels of potential occurrence:

Moderate: CNDDB or other documents record the known occurrence of the species in the vicinity of the project, or the presence of suitable habitat conditions, but the area lacks suitable microhabitat conditions.

Low: CNDDB or other documents do not record the occurrence of the species in the vicinity of the project, or the habitat conditions in the area are of poor quality.

None: CNDDB or other documents do not record the occurrence of the species in the vicinity of the project, or suitable habitat is not present in any condition.

The biological opinion issued by the USFWS or NOAA Fisheries may stipulate discretionary "reasonable and prudent" conservation measures. If the proposed action would not jeopardize a listed species, the USFWS or NOAA Fisheries issues an incidental take statement to authorize the proposed action.

Section 9: Prohibitions

Section 9 of ESA prohibits the take of any fish or wildlife species listed under ESA as endangered. Take of threatened species also is prohibited under Section 9, unless otherwise authorized by federal regulations.[1] *Take* is defined by the ESA as meaning "[to] harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." *Harm* is defined as "any act that kills or injures the species, including significant habitat modification." In addition, Section 9 prohibits removing, digging up, cutting, and maliciously damaging or destroying federally listed plants on sites under federal jurisdiction.

Section 10: Non-Federal Actions

When no federal context is present (i.e., no federal permits will be issued), proponents of a project affecting a listed species must consult with the USFWS and apply for an incidental take permit under ESA Section 10, which requires the applicant to submit a conservation plan that specifies project impacts and mitigation measures.

Federal Clean Water Act

The CWA was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

A more detailed discussion of the CWA can be found in Section 3.8, *Hydrology and Water Resources*, of this document. Brief summaries of specific sections of the CWA are provided below:

- **Water Quality Certification (Section 401).** Under Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with Section 401.

[1] In some cases, exceptions may be made for threatened species under ESA Section 4[d]. In such cases, the USFWS or NOAA Fisheries issues a "4[d] rule" describing protections for the threatened species and specifying the circumstances under which take is allowed.

- **Permits for Stormwater Discharge (Section 402).** Section 402 regulates construction-related stormwater discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program, administered by the EPA. In California, the SWRCB is authorized by the EPA to oversee the NPDES program through the regional water quality control boards (RWQCBs). The program corridor and vicinity are under the jurisdiction of the Central Valley RWQCB.
- **Permits for Fill Placement in Waters and Wetlands (Section 404).** Section 404 regulates the discharge of dredged and fill materials into waters of the United States. Applicants must obtain a permit from USACE for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. USACE may issue an individual permit evaluated on a case-by-case basis or a general permit evaluated at a program level for a series of related activities.

Executive Order 13186 (Federal Migratory Bird Treaty Act)

The Migratory Bird Treaty Act (MBTA) (16 U.S. Government Code [USC] 703–711) prohibits the take of any migratory bird or any part, nest, or eggs of any such bird. Under the act, take is defined as the action of or attempt to "pursue, hunt, shoot, capture, collect, or kill." This act applies to all persons and agencies in the United States, including federal agencies.

Executive Order 13186 for conservation of migratory birds (January 11, 2001) requires that any project with federal involvement address impacts of federal actions on migratory birds. The order is designed to assist federal agencies in their efforts to comply with the MBTA and does not constitute any legal authorization to take migratory birds. The order also requires federal agencies to work with USFWS to develop a memorandum of understanding (MOU). Protocols developed under the MOU must promote the conservation of migratory bird populations through the following means:

- avoid and minimize, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
- restore and enhance habitat of migratory birds, as practicable; and
- prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

State Regulations

California Environmental Quality Act

CEQA is the regulatory framework by which California public agencies identify and mitigate significant environmental impacts. A project normally is considered to result in a significant environmental impact on biological resources if it substantially affects a rare or endangered species or the habitat of that species;

substantially interferes with the movement of resident or migratory fish or wildlife; or substantially diminishes habitat for fish, wildlife, or plants.

The State CEQA Guidelines define rare, threatened, or endangered species as those listed under CESA and ESA, as well as any other species that meets the criteria of the resource agencies or local agencies (e.g., DFG-designated species of special concern, CNPS-listed species). The State CEQA Guidelines state that the lead agency preparing an EIR must consult with and receive written findings from DFG concerning project impacts on species that are listed as endangered or threatened. The effects of a proposed project on these resources are important in determining whether the project has significant environmental impacts under CEQA. Individual projects proposed under the WMP may require separate CEQA analysis.

California Endangered Species Act

California implemented CESA in 1984. The act prohibits the take of endangered and threatened species; however, habitat destruction is not included in the state's definition of take. Under the CESA, take is defined as an activity that would directly or indirectly kill an individual of a species, but the definition does not include harm or harass. Section 2090 requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. The DFG administers the act and authorizes take through Section 2081 agreements (except for species designated as fully protected). Regarding rare plant species, the CESA defers to the California Native Plant Protection Act of 1977, which prohibits importing, taking, and selling rare and endangered plants. State-listed plants are protected mainly in cases where state agencies are involved in projects under CEQA. In these cases, plants listed as rare under the California Native Plant Protection Act are not protected under CESA but can be protected under CEQA.

California Fish and Game Code

Streambed Alteration Agreement

The DFG has jurisdictional authority over wetland resources associated with rivers, streams, and lakes under California Fish and Game Code Section 1602. The DFG has the authority to regulate all work under the jurisdiction of the State of California that would substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed.

In practice, the DFG marks its jurisdictional limit at the top of the stream or lake bank or the outer edge of the riparian vegetation, where present, and sometimes extends its jurisdiction to the edge of the 100-year floodplain. Because riparian habitats do not always support wetland hydrology or hydric soils, wetland boundaries, as defined by Section 404, sometimes include only portions of the riparian habitat adjacent to a river, stream, or lake. Therefore, jurisdictional

boundaries under Section 1600 may encompass a larger area than those regulated under Section 404.

The DFG enters into a streambed alteration agreement with an applicant and can impose conditions on the agreement to ensure that no net loss of wetland values or acreage will be incurred. The streambed or lakebed alteration agreement is not a permit, but rather a mutual agreement between the DFG and the applicant.

Fully Protected Species

The California Fish and Game Code provides protection from take for a variety of species, referred to as *fully protected species*. Section 5050 lists protected amphibians and reptiles. Section 3515 prohibits take of fully protected fish species. Eggs and nests of all birds are protected under Section 3503, nesting birds (including raptors and passerines) under Sections 3503.5 and 3513, birds of prey under Section 3503.5, and fully protected birds under Section 3511. Migratory non-game birds are protected under Section 3800. Mammals are protected under Section 4700. The California Fish and Game Code defines *take* as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Except for take related to scientific research, all take of fully protected species is prohibited.

Sections 3503 and 3503.5

Section 3503 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests. Section 3503.5 prohibits the killing of raptor species and the destruction of raptor nests.

Local Regulations and Programs

City of Manteca 2023 General Plan

The following 2023 General Plan policies (Chapter 8, Section 10) address biological resources within the program area.

Goal RC-10. Protect sensitive native vegetation and wildlife communities and habitat in Manteca.

Policy RC-P-3 1. Minimize impact of new development on native vegetation and wildlife.

Policy RC-P-32. Condition new development in the vicinity of the San Joaquin River and Walthall Slough to protect riparian habitat, wetlands, and other native vegetation and wildlife communities and habitats.

Policy RC-P-33. Discourage the premature removal of orchard trees in advance of development, and discourage the removal of other existing healthy mature trees, both native and introduced.

Policy RC-P-34. Protect special status species and other species that are sensitive to human activities.

Policy RC-P-3 5. Allow contiguous habitat areas.

Policy RC-P-36. Consider the development of new drainage channels planted with native vegetation, which would provide habitat as well as drainage.

San Joaquin County General Plan

The County's 2010 General Plan applies to all lands outside of the incorporated city limits, including some of the City's PUSA.

Objective 1. To protect and improve the County's vegetation, fish, and wildlife resources.

Objective 2. To provide undeveloped open space for nature study, protection of endangered species, and preservation of wildlife habitat.

Policy 1. Resources of significant biological and ecological importance in San Joaquin County shall be protected. These include wetlands; riparian areas; rare, threatened an endangered species, and their habitats as well as potentially rare or commercially important species; vernal pools; significant oak groves and heritage trees (see Table Vi-1).

Policy 5. No net loss of riparian or wetland habitat or values shall be caused by development.

Policy 8. Strips of land along waterways shall be protected for nesting and foraging habitat and for protection of waterway quality.

Policy 15. Replacement vegetation generally shall be native vegetation. Landscaping with native trees and shrubs shall be encourage in urban areas to provide suitable habitat for native wildlife, particularly in proposed open space uses of future development.

San Joaquin County Tree Ordinance

The County's natural resource regulations contain provisions to preserve the County's tree resources (Chapter 9-1505). The removal of a native oak, heritage oak tree, or historical tree requires that an improvement plan application be approved (Chapter 9-1505.3) and, consequently, the tree be replaced subject to requirements described in Chapter 9-1505.4. These provisions do not cover horticultural trees proposed for removal. Native oaks are defined as valley oaks with stem diameters of 15.2 to 81.3 centimeters (6 to 32 inches) for single-trunk trees and a minimum combined trunk diameter of 20.3 centimeters (8 inches) for multi-trunk trees, and interior live or blue oaks with stem diameters of 10.2 to

81.3 centimeters (4 to 32 inches) for single-trunk trees and a minimum combined diameter of 15.2 centimeters (6 inches) for multi-trunk trees. Heritage oaks are defined as native oaks with a single-trunk diameter of 81.3 centimeters (32 inches) or more. All stem diameters are measured 1.4 meters (4.5 feet) above the average ground elevation of the tree. Historical trees are defined as any trees or groups of trees given special recognition by the County Planning Commission because of size, age, location, or history. These provisions do not cover the horticultural or orchard trees that would be removed as part of the proposed program.

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

The SJMSCP has been prepared by the County and its cities to provide a regional approach to mitigating development impacts on the 100 listed and non-listed plant, fish, and wildlife species covered by the SJMSCP and to compensating for the conversion of open space to non-open-space uses. In addition, the SJMSCP provides some compensation to offset the impacts of open space land conversions on other beneficial open space uses such as recreation, agriculture, scenic values, educational purposes, flood control, and use by common plant, fish, and wildlife species that are not included in the list of SJMSCP-covered species. The plan allows a development impact fee to be paid by project applicants whose projects would cause the loss of biological resources or conversion of habitats.

To determine the appropriate fees and mitigation ratios, habitat types have been divided into the following three categories and corresponding development fees (as of m005):

- Multipurpose open space ($909 per acre).
- Agriculture and natural land ($1,819 per acre).
- Vernal pools ($6,074 per acre for upland habitat and $36,381 per acre for wetted habitat).

As development occurs and participants choose to mitigate through the SJMSCP, development fees are charged and used in most cases to preserve large contiguous areas of plant and wildlife habitat. Conversion of multi-purpose open space lands does not result in incidental take and does not require compensation in the form of preserve acquisition. Instead, compensation for multi-purpose open space land is triggered by the requirement to assist in financing the SJMSCP preserve system by supporting part of the enhancement, management, and administration costs associated with the preserve system. The fees are paid to the San Joaquin Council of Governments (SJCOG), which is acting as the intermediary fee depository until a joint powers authority (JPA) is formed. The development fees are adjusted annually.

The Manteca City Council adopted the SJMSCP (Resolution #R2001-46) on February 5, 2001, signing a joint powers agreement with other City, County, state, and federal agencies. The Manteca 2023 General Plan policies listed above are consistent with the SJMSCP.

Impact Analysis

Methodology for Impact Analysis

This impact analysis is qualitative and not based on site-specific information. The mitigation measures described for potential impacts on sensitive biological resources have not been developed through formal consultation or coordination with resource agencies (e.g., DFG, USFWS, NOAA Fisheries, the USACE). As part of mitigation implementation or subsequent project-level environmental analysis, agencies may be required to be contacted as part of the environmental compliance process to determine specific compensatory mitigation for impacts on wetlands, state- and federally listed species, and riparian habitats. Additional mitigation measures may also be identified as conditions of project permits (e.g., a Section 404 permit or Section 1601 streambed alteration agreement).

This impact analysis assumes that biological resources could be indirectly or directly affected by construction and maintenance activities associated with the construction of new wells and wellhead treatment facilities, blending stations, distribution pipelines, storage tanks, or booster pump stations. Because specific well sites have not been confirmed, the assessment of impacts is based on the above-stated level of knowledge. Additional environmental analysis may be required upon identification of specific sites for improvements. Biological resources could be directly or indirectly disturbed by the following types of activities:

- stream dewatering or installation of temporary water-diversion structures;
- degradation of water quality in wetlands and waterways, resulting from construction activities that occur within or near waterways;
- removal of riparian and wetland vegetation along waterways during construction of new water pipelines;
- removal of vegetation during construction of temporary staging areas and access roads; and
- soil compaction and generation of dust by construction equipment.

Significance Criteria

For the purposes of this analysis, an impact was considered to be significant and to require mitigation if it would result in any of the following:

- A substantial adverse effect, either directly or through habitat modification, on any plant species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the DFG or USFWS.
- Introduction or spread of noxious weeds.
- A substantial adverse effect on federally protected wetlands, as defined by CWA Section 404 (including marsh, vernal pool, and coastal wetlands), or riparian habitats through direct removal, filling, hydrological interruption, or other means.
- Substantial loss or disturbance of wildlife species or their habitat from program construction or operation.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Impacts and Mitigation Measures

Impact BIO-1: Potential Disturbance or Loss of Special-Status Plant Populations as a Result of Construction of Program Elements (Less than Significant with Mitigation).

Construction and improvement activities associated with program elements could result in the direct loss or indirect disturbance of special-status plants (or those identified as special status in the future) that are known to grow or that could grow in the program area (see Table 3.4-1). Impacts on special-status plants could result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. This impact is considered significant because program wells and wellhead treatment facilities, blending stations, booster pumps, storage tanks, or distribution pipelines could be located in areas that could result in direct loss or indirect disturbance of special-status plant species. Implementation of the following mitigation measures would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-1a: Document Special-Status Plant Populations. Prior to design or construction of individual program elements on undisturbed lands, the City will document special status species populations. The City will retain a qualified botanist to document the presence or absence of special-status plants on or near to the individual program element site before implementation. Alternatively, the City may use certified environmental documentation to identify special-status plant populations on well sites within proposed development areas.

To document plant populations, the following steps will be undertaken before construction of program elements. At any point during implementation of this mitigation measure, the City may choose to re-design or modify the program elements to avoid direct and indirect

impacts on special-status plants, and will not need to complete the remaining steps identified in this mitigation measure.

- **Review Existing Information.** The botanist will review existing information to develop a list of special-status plants that could grow on sites selected for individual program elements. Sources of information consulted will include the CNDDB; USFWS list of endangered, threatened, and proposed species for the program region; previously prepared environmental documents; City and County general plans; habitat conservation plans; and the CNPS electronic inventory.
- **Coordinate with Agencies.** The botanist will coordinate with the appropriate agencies (DFG and USFWS) to discuss botanical resource issues and determine the appropriate level of surveys necessary to document special-status plants.
- **Conduct Field Studies.** The botanist will evaluate existing habitat conditions for each site selected for construction of program elements, and determine what level of botanical surveys may be required. The type of botanical survey will depend on species richness, habitat type and quality, and the probability of special-status species occurring in a particular habitat type. Depending on these factors and the proposed construction activity, one or more of the following levels of survey may be required:
  - **Habitat Assessment.** A habitat assessment determines whether suitable habitat is present. This type of assessment can be conducted at any time of year and is used to assess and characterize habitat conditions and determine whether return surveys are necessary. If no suitable habitat is present, no additional surveys will be required.
  - **Species-Focused Surveys.** Species-focused surveys (or target species surveys) will be conducted if suitable habitat is present for special-status plants. The surveys will focus on special-status plants that could grow in the region, and would be conducted during a period when the target species are evident and identifiable.
  - **Floristic Protocol-Level Surveys.** Floristic surveys that follow the CNPS Botanical Survey Guidelines (revised Nelson 1987 surveys, approved by the CNPS board on June 2, 2001) will be conducted in areas that are relatively undisturbed or have moderate to high potential to support special-status plants. The CNPS Botanical Survey Guidelines require that all species be identified to the level necessary to determine whether they qualify as special-status plants or are plant species with unusual or significant range extensions. The guidelines also require that field surveys be conducted when special-status plants that could occur in the area are evident and identifiable. To account for

different special-status plant identification periods, one or more series of field surveys may be required in spring and summer.

Special-status plant populations identified during the field surveys will be mapped and documented. The City shall implement Mitigation Measure BIO-1b in conjunction with this mitigation measure to avoid or minimize significant impacts on special-status plants.

Mitigation Measure BIO-1b: Avoid or Minimize Impacts on Special-Status Plant Populations by Redesigning the Program Elements, Protecting Special-Status Plant Populations, and/or Developing a Transplantation Plan (If Necessary). Where a program element would have potential to result in direct loss or indirect disturbance to special-status plants, the City will implement the following measures to avoid or minimize impacts on special-status plants:

- Redesign or modify the program elements during future site design to avoid direct and indirect impacts on special-status plants, if feasible.
- During design and construction of wells and wellhead treatment facilities, blending stations, booster pumps, storage tanks, or distribution pipelines, protect special-status plants by installing environmentally sensitive area fencing (orange construction barrier fencing) around special-status plant populations. The environmentally sensitive area fencing will be installed at least 20 feet from the edge of the population. The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area.
- Coordinate with the appropriate resource agencies and local experts to determine whether transplantation is feasible. If the agencies concur that transplantation is a feasible mitigation measure, the botanist will develop and implement a transplantation plan through coordination with the appropriate agencies. The special-status plant transplantation plan will involve identifying a suitable transplant site; moving the plant material and seed bank to the transplant site; collecting seed material and propagating it in a nursery; and monitoring the transplant sites to document recruitment and survival rates.

Impact BIO-2: Potential Introduction or Spread of Noxious Weeds (Less than Significant with Mitigation).

Construction activities associated with program elements would introduce or spread noxious weeds into currently uninfested areas, possibly resulting in the displacement of special-status plant species and degradation of habitat for

special-status wildlife. Plants or seeds may be dispersed on construction equipment if the appropriate measures are not implemented. This impact is considered significant because the introduction or spread of noxious weeds could result in a substantial reduction or elimination of species diversity or abundance. Implementation of the following mitigation measures would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-2a: Conduct a Noxious Weed Survey and Document Noxious Weed Infestation. Prior to construction of program elements on undisturbed lands or adjacent to agricultural areas, the City will address noxious weed impacts. The City will hire a qualified botanist to determine whether noxious weeds are an issue for the program and whether they could displace native plants and natural habitats, affect the quality of forage on rangelands, or affect cropland productivity. Alternatively, the City may use certified environmental documentation to determine noxious weed impacts on well sites within proposed development areas.

If noxious weeds are an issue, the City will review the County Agricultural Commission's noxious weed list; California Department of Food and Agriculture's A, B, and C lists of noxious weeds; and California Exotic Pest Plant Council's list of pest plants of ecological concern. These lists will be used to identify weeds that will be targeted during field surveys by the botanist. Surveys will focus on target weed species that are considered locally important for documentation and control purposes.

If noxious weed infestations are located during the field surveys, they will be mapped and documented. The City will implement Mitigation Measure BIO-2b to avoid the dispersal of noxious weeds into uninfested areas.

Mitigation Measure BIO-2b: Avoid the Dispersal of Noxious Weeds into Uninfested Areas. To avoid the introduction or spread of noxious weeds into uninfested areas, the City will incorporate the following measures into construction project plans and specifications:

- Use certified, weed-free, imported erosion-control materials (or rice straw in upland areas).
- Coordinate with the County Agricultural Commissioner and land management agencies to ensure that the appropriate best management practices (BMPs) are implemented.
- Educate construction supervisors and managers about weed identification and the importance of controlling and preventing the spread of noxious weeds.
- Clean equipment at designated wash stations after leaving noxious weed infestation areas.

The noxious weed avoidance measures will be reflected in contract documents and implemented by the program contractor.

Impact BIO-3: Loss or Disturbance of Riparian Habitats (Less than Significant with Mitigation).

Construction activities associated with program elements could result in the disturbance or removal of riparian habitat. This impact is considered significant because it could result in long-term degradation of a sensitive plant community, fragmentation or isolation of an important wildlife habitat, and disruption of natural wildlife movement corridors. Implementation of the following mitigation measures would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-3a: Identify and Document Riparian Habitat. During design of individual program elements, the City will retain a qualified botanist to document the location, type, extent, and habitat functions and values for riparian habitat that could be affected by an individual program element. This information will be mapped and documented. Mitigation Measures BIO-3b and BIO-3c will be implemented as necessary to avoid, minimize, or compensate for impacts on riparian habitats.

Mitigation Measure BIO-3b: Avoid and Minimize Disturbance of Riparian Habitats. To the extent possible, the City will avoid impacts on riparian habitats by implementing the following measures:

- Redesign or modify wells and wellhead treatment facilities, blending stations, booster pumps, storage tanks, or distribution pipelines to avoid direct and indirect impacts on riparian habitats, if feasible.
- Protect riparian habitats that occur near the project site by installing environmentally sensitive area fencing at least 20 feet from the edge of the riparian vegetation. Depending on site-specific conditions, this buffer may be narrower or wider than 20 feet. The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area.
- Minimize the potential for long-term loss of riparian vegetation by trimming vegetation, rather than removing the entire shrub. Shrub vegetation will be cut at least 1 foot above ground level to leave the root systems intact and allow for more-rapid regeneration of the species. Cutting will be limited to a minimum area necessary within the construction zone.

The riparian habitat avoidance measures will be reflected in contract documents and implemented by the program contractor.

Mitigation Measure BIO-3c: Compensate for the Loss of Riparian Habitat. If riparian habitat is removed as part of the program elements, the City will compensate for the loss of riparian vegetation to ensure no net loss of habitat functions and values. Compensation ratios will be based on site-specific information and determined through coordination with state and federal agencies (including DFG, USFWS, USACE, and NOAA Fisheries). Compensation will be provided at a minimum 1:1 ratio (1 acre restored or created for every 1 acre removed) and may be a combination of on-site restoration/creation, off-site restoration, and mitigation credits. The City will develop a restoration and monitoring plan that describes how riparian habitat will be enhanced or re-created and monitored over a minimum period of time, as determined by the appropriate state and federal agencies. The City will implement the restoration and monitoring plan.

Impact BIO-4: Disturbance or Loss of Waters of the United States (Including Wetlands) (Less than Significant with Mitigation).

Construction activities associated with program elements could result in the disturbance or loss of waters of the United States, including creeks, rivers, streams, vernal pools, marshes, and other types of seasonal and perennial wetland communities. Wetlands and other waters of the United States could be affected through direct removal, filling, hydrological interruption (including dewatering), alteration of bed and bank, and other construction-related activities. This impact is considered significant because it could result in long-term degradation of a sensitive plant community, fragmentation or isolation of an important wildlife habitat, and disruption of natural wildlife movement corridors. Implementation of the following mitigation measures would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-4a: Identify and Delineate Waters of the United States (Including Wetlands). During design and siting of individual program elements, the City will retain a qualified botanist to identify areas that could qualify as waters of the United States, including wetlands, assuming such features exist on the program element site. Wetlands will be identified using both the USACE and USFWS/DFG definitions of wetlands. USACE jurisdictional wetlands shall be delineated using the methods outlined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). The jurisdictional boundary of other waters of the United States will be identified based on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area (33 CFR 328.3[e]).

This information will be mapped and documented as part of wetland delineation reports. Mitigation Measures BIO-4b and BIO-4c will be

implemented as necessary to avoid, minimize, or compensate for impacts on waters of the United States, including wetland habitats.

Mitigation Measure BIO-4b: Avoid and Minimize Disturbance of Waters of the United States, Including Wetland Communities. To the extent possible, the City will avoid and minimize impacts on wetlands and other waters of the United States (creeks, steams, and rivers) by implementing the following measures:

- Redesign or modify wells and wellhead treatment facilities, blending stations, booster pumps, storage tanks, or distribution pipelines to avoid direct and indirect impacts on wetland habitats, if feasible. For pipelines, this may be accomplished through the use of trenchless installation methods (e.g., jack and bore).
- Protect wetland habitats that occur near the project site by installing environmentally sensitive area fencing at least 20 feet from the edge of the wetland. Depending on site-specific conditions and permit requirements, this buffer may be wider than 20 feet (e.g., 250 feet for seasonal wetlands considered special-status fairy shrimp habitat). The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area.
- Avoid installation activities in saturated or ponded wetlands during the wet season (spring and winter) to the maximum extent possible. Where such activities are unavoidable, protective practices, such as use of padding or vehicles with balloon tires, will be used.
- Where determined necessary by resource specialists, use geotextile cushions and other materials (e.g., timber pads, prefabricated equipment pads, or geotextile fabric) in saturated conditions to minimize damage to the substrate and vegetation.
- Stabilize exposed slopes and streambanks immediately on completion of installation activities. Other waters of the United States will be restored in a manner that encourages vegetation to re-establish to its pre-program condition and that reduces the effects of erosion on the drainage system.
- In highly erodible stream systems, stabilize banks using a non-vegetative material that will bind the soil initially and break down within a few years. If the project engineers determine that more-aggressive erosion control treatments are needed, use geotextile mats, excelsior blankets, or other soil stabilization products.
- During construction, remove trees, shrubs, debris, or soils that are inadvertently deposited below the OHWM of drainages in a manner that minimizes disturbance of the drainage bed and bank.

These measures will be incorporated into contract specifications and implemented by the program contractor. In addition, the City will ensure that the contractor incorporates all permit conditions into construction specifications.

Mitigation Measure BIO-4c: Compensate for the Loss of Wetland Habitat. If wetlands are filled or disturbed as part of the program, the City will compensate for the loss of wetland habitat to ensure no net loss of habitat functions and values. Compensation ratios will be based on site-specific information and determined through coordination with state and federal agencies (including DFG, USFWS, and USACE). The compensation will be at a minimum 1:1 ratio (1 acre restored or created for every 1 acre filled) and may be a combination of on-site restoration/creation, off-site restoration, and mitigation credits. A restoration and monitoring plan will be developed and implemented that describes how wetlands will be created and monitored over a minimum period of time.

Impact BIO-5: Potential Disturbance or Loss of Special-Status Wildlife Species and Their Habitat (Less than Significant with Mitigation).

Construction, improvement, and maintenance activities associated with program elements could result in the direct loss or indirect disturbance of special-status wildlife or their habitats that have been (or are in the future) identified as potentially occurring in the program area (Table 3.4-2). This could result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. Potential significant impacts on special-status wildlife associated with the program elements include (but are not limited to):

- direct mortality from the collapse of underground burrows resulting from soil compaction;
- direct mortality resulting from the movement of equipment and vehicles through the program area;
- loss of breeding and foraging habitat resulting from the filling of seasonal or perennial wetlands;
- loss of breeding, foraging, and refuge habitat resulting from the permanent removal of riparian vegetation;
- abandoned eggs or young and subsequent nest failure for special-status nesting birds, including raptors, as a result of construction-related noises; and
- loss of suitable foraging habitat for special-status raptor species.

This impact is considered potentially significant. Implementation of Mitigation Measures BIO-3a to BIO-3c, BIO-4a to BIO-4c, and the following mitigation measures would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-5a: Document Special-Status Wildlife Species and Their Habitats. Prior to construction of individual program elements on undisturbed lands, the City will document special-status wildlife species and their habitats. The City will retain a qualified wildlife biologist to document the presence or absence of special-status wildlife before implementation. Alternatively, the City may use certified environmental documentation to identify wildlife populations on well sites within proposed development areas.

To document special-status wildlife, the following steps will be undertaken before construction of program elements. At any point during implementation of this mitigation measure, the City may choose to redesign or modify the program element(s) to avoid direct and indirect impacts on special-status wildlife, and will not need to complete the remaining steps identified in this mitigation measure.

- **Review Existing Information.** The wildlife biologist will review existing information to develop a list of special-status wildlife species that could occur in the program area. The following information will be reviewed as part of this process: the USFWS special-status species list for the project region, CNDDB, previously prepared environmental documents, City and County general plans, SJMSCP, and USFWS-issued biological opinions for previous projects.
- **Coordinate with State and Federal Agencies.** The wildlife biologist will coordinate with the appropriate agencies (the DFG or USFWS) to discuss wildlife resource issues in the region and determine the appropriate level of surveys necessary to document special-status wildlife and their habitats.
- **Conduct Field Studies.** The wildlife biologist will evaluate existing habitat conditions and determine what level of biological surveys may be required. The type of survey required will depend on species richness, habitat type and quality, and the probability of special-status species occurring in a particular habitat type. Depending on the existing conditions in the program area and the proposed construction activity, one or more of the following levels of survey may be required:
  - **Habitat Assessment.** A habitat assessment determines whether suitable habitat is present. This type of assessment can be conducted at any time of year and is used to assess and characterize habitat conditions and to determine whether return surveys are necessary. If no suitable habitat is present, no additional surveys will be required.
  - **Species-Focused Surveys**. Species-focused surveys (or target species surveys) will be conducted if suitable habitat is present for special-status wildlife and if it is necessary to determine the presence or absence of the species in the program area. The surveys will focus on special-status wildlife species that have the

potential to occur in the program area (Table 3.4-2). The surveys will be conducted during a period when the target species are present and/or active.

- **Protocol-Level Wildlife Surveys.** The City will comply with protocols and guidelines issued by responsible agencies for certain special-status species. The USFWS and DFG have issued survey protocols and guidelines for several special-status wildlife species that could occur in the program region, including valley elderberry longhorn beetle, vernal pool branchiopods, California tiger salamander, and western burrowing owl. In some cases, the City may choose to assume the presence of the species rather than conduct a protocol-level survey. The protocols and guidelines may require that surveys be conducted during a particular time of year or time of day when the species is present and active. Many survey protocols require that only a USFWS- or DFG-approved biologist perform the surveys. The City will coordinate with the appropriate state or federal agency biologist before the initiation of protocol-level surveys to ensure that the survey results will be valid. Because some species can be difficult to detect or observe, multiple field techniques may be used during a survey period and additional surveys may be required in subsequent seasons or years as outlined in the protocol or guidelines for each species.

Special-status wildlife or suitable habitat identified during the field surveys will be mapped and documented. The City shall implement Mitigation Measure BIO-1b in conjunction with the following mitigation measure to avoid or minimize significant impacts on special-status wildlife.

Mitigation Measure BIO-5b: Avoid and Minimize Impacts on Special-Status Wildlife Species by Redesigning Program Elements, Protecting Special-Status Wildlife Habitat, and Developing a Mitigation Monitoring Plan (If Necessary). The City shall attempt to avoid and minimize direct and indirect effects on special-status wildlife. The City will implement the following measures during planning and design of program elements:

- Conduct pre-construction surveys, as required by Mitigation Measure BIO-5a.
- Redesign or modify program elements to avoid direct and indirect impacts on special-status wildlife or their habitats, if feasible.
- Protect special-status wildlife and their habitats near the project site by installing environmentally sensitive area fencing around habitat features, such as seasonal wetlands, burrows, and nest trees. The environmentally sensitive area fencing or staking will be installed at a minimum distance from the edge of the resource as determined through coordination with state and federal agency biologists (the

USFWS and DFG). The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area.

- Restrict construction-related activities to the non-breeding season for special-status wildlife species that could occur in the project area. Timing restrictions may vary depending on the species and could occur during any time of the year.
- Coordinate with the appropriate resource agencies to determine whether a monitoring plan for special-status wildlife is necessary as part of all program elements. If a monitoring plan is required, it will be developed and implemented in coordination with appropriate agencies and will include:
  - a description of each of the wildlife species and suitable habitat for species that could occur in the program area;
  - the location and size of no-disturbance zones in and adjacent to environmentally sensitive areas for wildlife;
  - directions on the handling and relocating of special-status wildlife species found on the project site that are in immediate danger of being destroyed; and
  - notification and reporting requirements for special-status species that are identified in the program area.

The City may also use certified environmental documentation to identify, avoid, and minimize impacts to wildlife populations on well sites within proposed development areas.

Mitigation Measure BIO-5c: Coordinate with Resource Agencies and Develop Appropriate Compensation Plans for State- and Federally Listed Wildlife Species. In the event that, despite implementation of Mitigation Measure BIO-5b, construction activities would result in significant impacts on state- or federally listed wildlife species, the City will develop a compensation plan in coordination with the appropriate resource agency (DFG, USFWS, SJCOG), and/or their compensation guidelines followed, to reduce the impact to a less-than-significant level. Compensation guidelines have been identified for several special-status wildlife species, including valley elderberry longhorn beetle, vernal pool branchiopods, giant garter snake, Swainson's hawk, and burrowing owl. The amount of compensation will vary depending on the amount of habitat loss or degree of habitat disturbance anticipated. The compensation plan will be developed and implemented in coordination with the appropriate state or federal agency and would involve identifying an agency-approved mitigation bank or

site (on- or off-site); transplanting (elderberry shrubs), re-creating (burrows and vernal pools), or preserving additional habitat for special-status wildlife species; monitoring the mitigation site; or funding the management of the mitigation site.

Impact BIO-6: Conflict with Local Policies or Ordinances Protecting Biological Resources (Less than Significant).

Construction activities associated with program elements could potentially result in conflicts with local policies or ordinances (listed above under *Regulatory Context*) that protect locally significant biological resources. Construction of water supply infrastructure would potentially result in loss of riparian or wetland habitat, which would conflict with City and County general plan goals, objectives, and policies established to protect these resources. However, when specific locations of elements associated with the proposed program are identified, the City would implement Mitigation Measures BIO-1a through BIO-5c to avoid or minimize potential impacts from construction and operation activities. Consequently, this impact is considered less than significant.

Section 3.5

Cultural Resources

This section analyzes the proposed program's effects on cultural resources. Key sources of data used in the preparation of this section include the following.

- The City's *2023 General Plan* (City of Manteca 2003a).
- The City's *2023 General Plan EIR* (City of Manteca 2003b).
- The City's *Draft Water Master Plan* (City of Manteca 2005b).
- The *San Joaquin County General Plan.*
- Contacts with the Native American Heritage Commission.

Cumulative impacts are discussed in Chapter 5.0, *Other CEQA Findings.*

Concepts and Terminology

Cultural resource is the term used to describe several different types of properties: prehistoric and historical archaeological sites, as well as architectural properties, such as buildings, bridges, and infrastructure.

Federal regulations (36 CFR 800) define a *historic property* as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP).

Historical resource is a CEQA term that includes buildings, sites, structures, objects, or districts, each of which may have historical, prehistoric, architectural, archaeological, cultural, or scientific importance and is eligible for listing or is listed in the California Register of Historical Resources (CRHR).

Environmental Setting

This section discusses the existing conditions related to cultural resources in the program area. Federal, state, and local regulations related to cultural resources that would apply to the proposed program are discussed in the *Regulatory Setting* section below.

Existing Conditions

Existing conditions information was compiled by reviewing previous documents summarizing technical studies and consulting historical and archival sources.

Prehistoric Context

The prehistory of the Manteca area is based on the archaeology of the greater Sacramento Delta region.

Early archaeological investigations in central California focused on establishing chronological sequences using temporally sensitive artifacts found in burial association. In 1939, three basic periods were identified: the Early Period (2500–1500 B.C.), the Middle Period (1500 B.C.–A.D. 500), and the Late Period (A.D. 500–1800) (Lillard and Purves 1936, Lillard et al. 1939, Moratto 1984). In the late 1940s, Beardsley refined this system, calling periods "horizons" and subdividing them based on intersite and intrasite similarities and dissimilarities (Beardsley 1954). The result of this work was the Central California Taxonomic System (CCTS).

The older horizon scheme of the CCTS has given way to the system preferred by Moratto (1984), Fredrickson (1973), and others. This system is characterized by a series of patterns. A "pattern" is a general mode of life that is characterized archaeologically by technology, artifact types, economic systems, trade, burial practices, and other aspects of culture. Three such patterns, which overlap somewhat in adjoining areas, are recognized for central California: the Windmiller, Berkeley, and Augustine Patterns. Although the Sacramento–San Joaquin Delta may have been inhabited by humans as early as 10,000 years ago, there is little reliable evidence for widespread occupation until about 4,500 years ago (Moratto 1984:199–201).

The earliest identified pattern, the Windmiller Pattern, which extends from approximately 4500 to 3000 B.C., was focused primarily on the lower central valley and delta regions but extended at least into the Sierra Nevada foothills to the east and an unknown distance up the valley to the north. Windmiller peoples are known to have exploited a wide variety of mammal, fish, and fowl taxa but also emphasized hard-seed procurement. The material culture assemblage includes large spear and projectile points, trident fish spears, at least two types of fishhooks, quartz crystals and numerous charm stone styles, and a baked-clay industry, which included net sinkers, pecan-shaped fishline sinkers, and cooking balls. Ground stone items included both manos and metates, and mortars and pestles. The bone tool industry appears minimal but included awls, needles, and flakers. Utilitarian items were often acquired as finished products through trade with outlying areas. Windmiller groups buried their dead in formal cemeteries, both within and separate from their villages, in a ritual complex that included the use of red ochre, often rich grave offerings, and ventral extension with a predominantly western orientation (although other burial positions, such as dorsal extensions and flexed, and cremations are also known) (Moratto 1984:201–207).

The Windmiller Pattern is said to reflect the influence of a lacustrine or marsh adaptation. This economic stance may have preadapted them for the environment of the lower valley and delta, and they may have entered the region with this adaptation more or less fully developed. The Windmiller Pattern may represent the advent of early Penutian-speaking populations and was directly ancestral to the succeeding Berkeley Pattern.

The Berkeley Pattern extended roughly from 3000 to 1000 B.C. but does not appear in the valley until around 2500 B.C. The Berkeley Pattern differs from the Windmiller Pattern primarily in its greater emphasis on the exploitation of the acorn as a staple. This is reflected in the more numerous and varied mortars and pestles. This complex is also noted for its especially well-developed bone industry and such technological innovations as ribbon flaking of chipped stone artifacts. During this era, flexed burials replaced extended burials, and the use of grave goods generally declined. The Berkeley Pattern initially may represent the spread of proto-Miwok and Costanoans, collectively known as Utians, from their hypothesized lower valley homeland (Moratto 1984:207–211).

The last complex in this sequence is the Augustine Pattern, which extended temporally from approximately 1500 B.C. to European contact. The Augustine Pattern initially appears to be largely an outgrowth of the Berkeley Pattern but may have become a blend of Berkeley traits with those carried into the state by migration of Wintuan populations from the north, an event that began approximately 1800 B.C. (Basgall and Hildebrandt 1989). This pattern exhibited a great elaboration of ceremonial and social organization, including the development of social stratification. Exchange became well developed and even more intensive emphasis was placed on acorn use, as evinced by the shaped mortars and pestles and the numerous hopper mortars. Other notable elements of the material culture assemblage include flanged tubular smoking pipes (cloud blowers); harpoons; an especially elaborate baked-clay industry, which includes figures and pottery vessels (Consumnes Brownware); clamshell disk beads; and the use of small projectile points, types such as the Gunther Barber series. These small projectile points may indicate use of the bow and arrow. Other traits include the introduction of the preinterment burning of offerings in a grave pit during the mortuary ritual, increased village sedentism, population growth, and an incipient monetary economy in which beads were used as a standard of exchange (Moratto 1984:211–214).

Ethnographic Context

Manteca lies between the historic territory of the Chulamni and Lakisamne Yokuts tribelets (Wallace 1978). Ethnographic work with this group is lacking. Because of the early decimation of the aboriginal populations in the lower San Joaquin Valley, most information regarding this group is gleaned from accounts of Spanish military men and missionaries that have been translated. A summary of these sources has been compiled by W. J. Wallace (1978), and it is on this work that this brief ethnographic setting is based.

The Yokuts may have been fairly recent arrivals in the San Joaquin Valley, perhaps being pushed out of the foothills about 500 years ago. Population estimates for the Northern Valley Yokuts vary from 11,000 to more than 31,000 individuals. Populations were concentrated along waterways and on the more hospitable east side of the San Joaquin River. Villages, or clusters of villages, made up "miniature tribes" (tribelets) lead by headmen. The number of tribelets is estimated at 30 to 40; each tribe spoke its own dialect of the Yokuts language. Combined with the Southern Valley Yokuts and the Foothill Yokuts dialects, these tongues formed the Yokutsan linguistic family of the Penutian Stock (Shipley 1978).

Principal settlements were located on the tops of low mounds, on or near the banks of the larger watercourses. Settlements were composed of single-family dwellings, sweathouses, and ceremonial assembly chambers. Dwellings were small and lightly constructed, semi-subterranean, and oval. The public structures were large and earth covered. Sedentism was fostered by the abundance of riverine resources in the area.

Subsistence among the Northern Valley Yokuts revolved around the waterways and marshes of the lower San Joaquin Valley. Fishing with dragnets, harpoons, and hook and line yielded salmon, white sturgeon, river perch, and other species of edible fish. Waterfowl and small game attracted to the water also provided a source of protein. The contribution of big game to the diet was probably minimal. Vegetal staples included acorns, tule roots, and seeds.

Goods not available locally were obtained through trade. Paiute and Shoshone groups on the eastern side of the Sierra were suppliers of obsidian. Shell beads and mussels were obtained from Salinan and Coastanoan groups. Trading relations with Miwok groups yielded baskets and bows and arrows. Overland transport was facilitated by a network of trails, and tule rafts were used for water transport.

Most Northern Valley Yokuts groups had their first contact with Europeans in the early 1800s, when the Spanish began exploring the Sacramento–San Joaquin Delta. The gradual erosion of Yokuts culture began during the mission period. Escaped neophytes brought foreign (European and Native American) habits and tastes, as well as Spanish expeditions to recover escapees. Epidemics of European diseases played a large role in the decimation of the native population. With the secularization of the mission and the release of neophytes, tribal and territorial adjustments were set in motion. People returned to other groups, and a number of polyglot "tribes" were formed. The final blow to the aboriginal population came with the Gold Rush and its aftermath. In the rush to the southern mines, native populations were pushed out of the way and out of their territories. Ex-miners settling in the fertile valley applied further pressure to the native groups and altered the landforms and waterways of the valley. Many Yokuts resorted to wage labor on farms and ranches. Others were settled on land set aside for them on the Fresno and Tule River Reserves.

Historic Context

Except where noted, this section is summarized from the 2023 General Plan EIR, with minor editorial changes.

The program area is located in San Joaquin County, within the PUSA of the City of Manteca. Established with statehood in 1850, San Joaquin County was one of California's original 27 counties. The County takes its name from the San Joaquin River, which was named by Gabriel Moraga for Saint Joachim in 1813. The centrally located Stockton, north of Manteca, has always been the County seat (Coy 1923, Hoover et al. 1990).

Although Spanish and Mexican settlers generally confined their settlements to the coastal region of California, early explorers did venture into the Sacramento–San Joaquin Delta on several occasions. Eighteenth-century explorers of the area included Pedro Fages (1772), Juan Bautista de Anza (1776), and Francisco Eliza (1793). Between 1806 and 1817, expeditions led by Gabriel Moraga (1806, 1808), Father Ramon Abella (1811), Jose Antonio Sanchez (1811), and Father Narciso Duran (1817) surveyed the region for potential mission sites (Hoover et al. 1990).

The first Euro-American to traverse the area was probably Jedediah Strong Smith, who opened the Sacramento Trail in the late 1820s. Smith reported the quantity and quality of furs available in California to the Hudson's Bay Company and, in 1828, the company sent its first trapping expedition into the region. Trappers working for Hudson's Bay Company established the settlement of French Camp south of the modern location of the City of Stockton and north of the PUSA. The camp was occupied from 1832 to 1845 (Hoover et al. 1990).

The Hudson's Bay Company trappers who first settled French Camp constructed temporary tule and willow huts as shelters during the winter trapping season. Annual trapping expeditions from Vancouver gradually grew to include several hundred families. The Hudson's Bay men established extensive trap lines along the San Joaquin River and its adjoining sloughs. However, the growing settlement, which became known to Mexican-Californians as *El Campo de los Franceses* (The French Camp), was abruptly abandoned in 1845 because of an outbreak of smallpox, the depletion of available pelts, and mounting political unrest in California (Hillman and Covello 1985, Hoover et al. 1990).

In 1841, Charles Weber, a native of Germany and, later, founder of Stockton, first passed through El Campo de los Franceses while traveling with the Bidwell-Bartleson overland party. Weber recognized the agricultural potential of the fertile region and, in 1844, he and his business partner, William Gulnac, petitioned for and received a tract of land from the Mexican governor. The El Campo de los Franceses grant, which included the lands now composing French Camp and the City of Stockton, became the first permanent non-native settlement in the San Joaquin Valley. Weber and Gulnac, however, had difficulty attracting American settlers to the remote region, especially after the deaths of early colonists from smallpox and conflicts with native peoples. Frustrated by the apparent failure of the enterprise, Gulnac relinquished his share of the grant to

Weber in 1845 to settle a $60 grocery debt (Hillman and Covello 1985, Hoover et al. 1990).

The American annexation of California, the discovery of gold in 1848, the resulting Gold Rush, and California statehood in 1850 all contributed to a change in the Manteca area during the mid- and late-nineteenth century. When they realized that gold would not earn them a living, many gold seekers turned their attention to the verdant soil of the Central Valley, and agriculture provided a long-term development incentive for the region. The rich farmlands that surround Stockton and French Camp and Manteca assured the continued growth of the region during the post–Gold Rush era. Ranchers who remained prominent in the local agriculture for decades—John McMullin, Cutler Salmon, James Reynolds, Peter Clapp, George and Orseamis Sperry, and Joshua Cowell—established their farms and ranches by the mid-1860s.

In addition to agriculture, by the 1870s, the railroad became the greatest influence on the economy of the Manteca area. In 1869, the Central Pacific Railroad (CPRR), the western portion of the first transcontinental line, passed through the region. The Southern Pacific Railroad (SPRR), successor to the CPRR, continued to operate in the area until the 20th century. The Atchison, Topeka, & Santa Fe Railroad established its Richmond to Stockton route in 1900, followed by the Western Pacific Railroad (WPRR) in 1909 (Hart 1978, Hillman and Covello 1985). Although the railroads passed through French Camp, the settlement of Lathrop, at the junction the two earliest lines, replaced it as the major town in the Manteca area in the 1870s.

The City of Manteca began as a flag stop on the SPRR through the area. Known as "Cowell's Station," it was originally an unwheeled boxcar located at the junction of two wagon roads and the railroad line. It served as a convenient shipping point for local produce. In 1896, a skimming station for raw milk was established at the site, followed by additional enterprises. The SPRR acknowledged the growing commercial activity by replacing the boxcar with a permanent structure and giving it the formal name of "Manteca."

Between 1905 and 1911, Manteca's downtown was the site of the first brick building in town, a winery, followed by a telephone exchange, post office, and two-story hotel. A board of trade was set up in 1909, and the following year, a branch library and a lumberyard were opened. Manteca was electrified in 1911; other improvements to the town that year included the construction of a bank, a larger train depot, a pair of two-story brick buildings, and concrete sidewalks. In 1914, the Manteca Canning Company was founded, and a large plant for dairy products was opened. Over the next several years, three more canneries went into operation in the town. In 1916, the Board of Trade succeeded in bringing a Spreckel's sugar factory to the town. The new plant, including office buildings, clubhouse, landscaped grounds, and housing, opened in 1918. On May 28 of that year, the City of Manteca was formally incorporated. At the time of incorporation, the City's residential neighborhoods, laid out on an irregular north-south grid, were beginning to fill in. In just 10 years, Manteca had grown from a few buildings around a railroad stop to a full-fledged city complete with public services, manufacturing facilities, and more than 60 businesses.

Residential construction continued strongly in the 1920s. Weaknesses in the surrounding agricultural base slowed Manteca's growth in the early part of the 20th century, but the City continued to expand nevertheless. The Great Depression during the 1930s was felt in Manteca, but did not prevent further growth. The restart of the Spreckel's Company sugar plant along with the opening of the Kraft Foods cheese factory served to boost the local economy.

Manteca, along with the nation as a whole, enjoyed a period of unprecedented prosperity following the end of the World War II. During the 1950s, the City rapidly expanded as inexpensive housing and a small-town atmosphere drew workers from the Sharpe Army Depot in Lathrop and the industrial plants from outlying areas.

At various times during its history, Manteca has been known as the "Watermelon Capital of the World," "Sugar Beet Town," "Tomatoville," "Sunflower Center," and the "Dairy Center of California."

Historical Resources

This section is taken directly from the 2023 General Plan EIR, with minor editorial changes.

Current information on Manteca's historical resources is scattered and incomplete. One survey has produced a thorough analysis of buildings near the intersection of East Yosemite Avenue and Austin Road. Another provides preliminary information on ranch structures south of town. The State Historic Resources Inventory also has entries for four small downtown commercial buildings. In addition, the Manteca Historical Society has recognized 16 important buildings and sites on its "Historical Walking Trail." The most useful source is probably *Manteca: Selected Chapters from Its History*, by Evelyn Prouty, which furnishes information on many historic properties that were still standing at the time of publication in 1980.

Commercial and Industrial Resources

Manteca has perhaps 100 commercial buildings remaining from the period before 1960. Nearly all are located along Yosemite Avenue and cross streets. These buildings include the former Jacot Department Store (1911), Oddfellows Hall (1911), the former Wiggin Hotel (1908), and the Pacific Motel (circa 1935).

The number of industrial buildings from the period is much smaller. Most are on Oak Street. Facing Oak Street are the two most important remaining buildings and the only ones constructed of brick: Archille Bacilieri's old winery (1905) and the former Kraft Cheese Factory (1937). A few other buildings of corrugated metal with no architectural detailing also remain in the area.

Institutional Resources

Manteca retains a number of civic and religious buildings constructed in the 1950s and earlier. All of the major government buildings remain, in altered form, including the former irrigation district headquarters (circa 1922), city hall (1923), and the post office (1939).

The schools, when they have survived, have fared much better. The most striking is the Lindbergh School (1928), a well-executed example of Late Gothic Revival. Two school buildings constructed after World War II, Lincoln School (1948) and Yosemite School (1950), illustrate small-scale International style from the period. The small and apparently unaltered American Legion Hall (circa 1925) represents no architectural style but has vaguely classical detailing.

The most notable remaining church building is the former First Methodist Episcopal Church (1918), now home of the Manteca Historical Society. The building has a simple Gothic Revival design, the integrity of which has been somewhat diminished by the application of new siding material.

Residential Resources

Manteca has a fairly diverse collection of residential buildings. Nearly all have wood frames and were built for single families. Most have only one story and represent architectural styles or design ideas popular at the time of their construction. Those dating from before 1955 were usually constructed individually. Because most blocks filled over several decades, houses of different ages and styles often sit on adjacent parcels. Manteca's old residential neighborhoods do not differ much from one another, though there may be a few more larger houses northwest of downtown than elsewhere.

The older remaining houses date from after the turn of the last century. They are small, unadorned, and very few in number. The simple hipped-roofed cottage (circa 1905) on Willow Avenue may be the oldest house in the City.

By 1910, when substantial residential construction got under way in Manteca, the Craftsman style had come into vogue throughout California. An informal, often sprawling appearance typifies this style, which got its start in the Los Angeles area.

After World War I, so-called "period revival" styles enjoyed great popularity in California. Houses in these styles emulated those that were built in Europe in earlier times. The Tudor Revival proved the most popular in Manteca, probably because houses in this style could be small and inexpensive.

California saw the arrival of modern styles in the 1930s and 1940s, most notably the California Ranch House and International style. Manteca also has a number of houses from this period.

Nearly all residential buildings in Manteca are single-family houses, with a few duplexes put up around World War II. Actual apartment houses were seldom constructed. One of Manteca's most striking buildings, however, was always intended for multiple occupancy: the 10-unit Walser or Sherman Apartments (circa 1920) on North Sherman Avenue.

Resources in Outlying Areas

Many resources in the area surrounding Manteca are associated with agriculture. By 1950, the number of large farm structures (houses, barns, water tanks) within the area might well have totaled 200. Perhaps half of those remain today. A few date from the late-19th century, when wheat dominated local agriculture. The most notable of these structures have been well documented by historians. Most outlying agricultural buildings, however, come from the era of dairying and the raising of orchard crops. Some ranches are still in operation.

Other resources outside the city limits include a few school buildings arrayed along Airport Way and East Yosemite Avenue in East Manteca. Structures associated with the South San Joaquin Irrigation District may also remain.

Records Search

On October 22, 2001, a records search was conducted at the Central California Information Center (CCIC) of the California Historical Resources Information System at CSU Sacramento for the 2023 General Plan EIR. This records search covered an area of approximately 26,000 acres, larger than the PUSA addressed here. However, lacking maps from the records search, no effort has been made to determine precisely which resources are located outside the PUSA but within the general plan study area.

The results of this records search were summarized in the 2023 General Plan EIR and are presented here with only editorial changes.

Recorded Cultural Resources

The CCIC records search identified eight recorded cultural resources:

1. prehistoric village and burial site overlain by a historic settlement site;
2. segments of the Tidewater–Southern Railroad (later, Union Pacific);
3. segment of the Western Pacific Railroad mainline;
4. segment of Canal T and Drainage Canal, South San Joaquin Irrigation District;
5. segment of Canal R, South San Joaquin Irrigation District;
6. segment of Drainage Canal, South San Joaquin Irrigation District;

7. historic cemetery; and
8. Kaiser Permanente Metals Corporation Magnesium Plant complex.

Historic Buildings

The CCIC records search identified 10 buildings and structures previously recorded within the study area:

1. Jesse Building;
2. Warren's Shoes;
3. Manteca Drug;
4. Home Run Hot Dogs;
5. Craftsman-style bungalow, constructed in the late 1920s;
6. Spanish Colonial Revival-style home, constructed in 1947;
7. Craftsman-style bungalow, constructed circa 1930;
8. Craftsman-style bungalow, constructed circa 1915;
9. Period Revival-style house with minor Spanish Colonial Revival influences, constructed circa 1930; and
10. Calla High School.

Native American Consultation

Jones & Stokes cultural resources staff initiated Native American consultation on August 2, 2005, by contacting the Native American Heritage Commission (NAHC). The contact letter to the NAHC requested that the commission consult its sacred lands database and provide a list of potentially interested Native American representatives for the study area.

Regulatory Context

Federal Regulations

There are no federal regulations associated with cultural resources that may be affected by the proposed program.

State Regulations

California Environmental Quality Act

CEQA requires that public or private projects financed or approved by public agencies be assessed to determine the effects of the projects on historical resources. CEQA uses the term "historical resources" to include buildings, sites, structures, objects, or districts, each of which may have historical, pre-historical, architectural, archaeological, cultural, or scientific importance.

CEQA states that if implementation of a project results in significant effects on historical resources, then alternative plans or mitigation measures must be considered; however, only significant historical resources need to be addressed (CCR 15064.5, 15126.4). Therefore, before impacts and mitigation measures can be identified, the significance of historical resources must be determined.

CEQA guidelines define three ways that a property may qualify as a historical resource for the purposes of CEQA review:

1. if the resource is listed in or determined eligible for listing in the California Register of Historical Resources;
2. if the resource is included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code unless the preponderance of evidence demonstrates that it is not historically or culturally significant; or
3. the lead agency determines the resource to be significant as supported by substantial evidence in light of the whole record (California Code of Regulations, Title 14, Division 6, Chapter 3, section 15064.5(a)).

Properties that are listed in or eligible for listing in the NRHP are considered eligible for listing in the CRHR and thus are significant historical resources for the purpose of CEQA (Public Resources Code section 5024.1(d)(1)).

Local Regulations and Programs

City of Manteca 2023 General Plan

The City's 2023 General Plan contains the following goals, policies, and implementation measures concerning cultural resources.

Goal RC-11. Preserve and enhance Manteca's archaeological and historic resources for their aesthetic, educational, and cultural values.

Goal RC-12. Protect Manteca's Native American heritage.

Policy RC-P-37. The City shall not knowingly approve any public or private project that may adversely affect an archaeological site without consulting the California Archaeological Inventory at Stanislaus State University, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts according to the recommendation of a qualified archaeologist. City implementation of this policy shall be guided by CEQA and the National Historic Preservation Act (NHPA).

Policy RC-P-38. The City shall require that the proponent of any development proposal in an area with potential archaeological resources, and specifically near the San Joaquin River and Walthall Slough, and on the east side of State Highway 99 at the Louise Avenue crossing, shall consult with the California Archaeological Inventory, Stanislaus State University, to determine the potential for discovery of cultural resources, conduct a site evaluation as may be indicated, and mitigate any adverse impacts according to the recommendation of a qualified archaeologist. The survey and mitigation shall be developer funded.

Policy RC-P-39. The City shall set as a priority the protection and enhancement of Manteca's historically and architecturally significant buildings.

Policy RC-P-40. The City shall work with property owners seeking registration of historical structure as Historic Landmarks or listing on the Register of Historic Sites.

Policy RC-P-41. The City shall prepare and adopt a Historical Preservation Ordinance.

Policy RC-P-42. The City and Redevelopment Agency shall support the efforts of property owners to preserve and renovate historic and architecturally significant structures. Where such buildings cannot be preserved in tact, the City shall seek to preserve the building facades.

Implementation Measure RC-I-3S. Require a records search for any proposed development project to determine whether the site contains known archaeological, historic, or cultural resources and/or to determine the potential for discovery of additional cultural resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.

Implementation Measure RC-I-39. Require that sponsors of proposed development projects on sites where probable cause for discovery of archaeological resources (as indicated by records search and where resources have been discovered in the vicinity of the project) retain a consulting archaeologist to survey the project site. If unique resources, as defined by California state law, are found, a qualified archaeologist or historian shall be called to evaluate the find and to recommend proper action. Require a monitoring plan for the project to ensure that mitigation measures are implemented.

Implementation Measure RC-I-40. When feasible, incorporate significant archaeological sites into open space areas.

Implementation Measure RC-I-41. The City should continue its inventory of all historic sites throughout the City. The inventory should contain a narrative of the significant facts regarding the historic events or persons associated with the site and pictures of the site.

Implementation Measure RC-I-42. The City shall continue to support the local historical society in its efforts to:

- archive historic information, including photographs, publications, oral histories and other materials; and
- make the information available to the public for viewing and research.

Implementation Measure RC-I-43. All City permits for reconstruction or modification of existing buildings will require submittal of a photograph of the existing structure or site. The intent is to create a record of the buildings in the City over time. A photograph will also be required for vacant sites that will be modified with new construction of new buildings or other aboveground improvements.

Implementation Measure RC-I-44. Encourage the placement of monuments or plaques that recognize and celebrate historic sites, structures, and events.

Implementation Measure RC-I-45. The City shall adopt and implement a historic building code, as authorized by state law.

Implementation Measure RC-I-46. If human remains are discovered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the county coroner has made the necessary findings as to their origin and disposition pursuant to Public Resource Code Section 5097.98. If the coroner determines that no investigation of the cause of death is required, and if the remains are of Native American origin, the coroner will notify the Native American Heritage Commission, which in turn will inform a most likely descendent. The descendent will then recommend to the landowner appropriate disposition of the remains and any grave goods.

Impact Analysis

Methodology for Impact Analysis

This section describes the CEQA impact analysis relating to cultural resources for the proposed program and alternatives. It describes the methods used to determine the proposed program's impacts and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Significance Criteria

Federal Criteria

As codified in 36 CFR 800.4(d)(2), if there are historic properties that may be affected by a federal undertaking, the agency official shall assess adverse effects, if any, in accordance with the Criteria of Adverse Effect (36 CFR 800.5 [a][1]). In general, an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP. Adverse effects include physical destruction, damage, alteration not consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR 68); removal, neglect, or change of setting; or the introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features.

State Criteria

This analysis used criteria from CEQA Guidelines Section 15064.5(b)(1) and (2) that identify a significant impact as one with the potential to cause a substantial adverse change in the significance of a historical resource. A substantial adverse change in the significance of the resource would include the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired.

CEQA Guidelines

The following significance criteria from the CEQA Guidelines, Appendix G, were used in the analysis of cultural resources:

- disturbance or destruction of historic or cultural resources; or
- destruction of buried archeological or paleontological resources during program construction.

Impacts and Mitigation Measures

Impact CR-1: Disturbance or Destruction of Cultural Resources (Less than Significant with Mitigation).

No pedestrian surveys to identify cultural resources have been conducted as part of this study, because specific locations for program elements have not yet been confirmed. The records search conducted for the 2023 General Plan indicated that most of the general plan study area had not been surveyed for cultural resources. It is reasonable to assume that the same is true of the PUSA addressed in this study. It is possible that significant cultural resources may be located

within the PUSA, and that they may be affected directly or indirectly by the construction of program elements. Construction of distribution pipelines, storage tanks, blending stations, wells, and wellhead treatment facilities would include ground-disturbing activities, such as excavation, clearing, and grading. These ground-disturbing activities may result in direct impacts to significant archaeological resources if they are located within the program area. The construction of program elements may also result in direct or indirect impacts to buildings and structures adjacent to the property. This impact would be significant, but implementation of the following mitigation measures could reduce the impact to a less-than-significant level.

Mitigation Measure CR-1: Conduct Cultural Resource Studies: During project design, the City will require that archaeological and built environment inventories are conducted at locations proposed for the construction of distribution pipelines, storage tanks, blending stations, wells, and wellhead treatment facilities prior to construction. Alternatively, the City may use certified environmental documentation to identify cultural resources on well sites within proposed development areas.

These studies will include conducting a records search at the Central California Information Center, contacting the NAHC and Native American representatives, contacting other interested parties, conducting background research, and conducting a pedestrian inventory of the program area. All resources located as a result of a survey will be recorded on the appropriate Department of Parks and Recreation (DPR) 523 forms, photographed, and mapped. Archaeological resources will be plotted on a 7.5-minute U.S. Geological Survey (USGS) topographic map using data collected with a GPS receiver. Site records will be produced and forwarded to the Central California Information Center (CCIC). The significance of resources will be evaluated using criteria for listing in the CRHR. Impacts to historical resources located as a result of a survey will be analyzed and mitigated, if they cannot be avoided. Mitigation measures may include archaeological excavation, monitoring, or recording to particular standards.

Impact CR-2: Potential Destruction of Buried Archeological or Paleontological Resources (Less than Significant with Mitigation).

Even if no cultural resources are identified as a result of a pedestrian inventory, it is possible that significant buried archaeological or paleontological materials are present within the program area. Disturbance or destruction of these resources may result from ground-disturbing activities associated with construction of all program elements. This impact would be significant, but implementation of the following mitigation measures would reduce this impact to a less-than-significant level.

Mitigation Measure CR-2: Stop Work in Case of Accidental Discovery of Buried Archeological or Paleontological Resources. If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, human bone, or fossils, are inadvertently discovered during ground-disturbing activities, the program contractors will stop work within 100 feet of the find until a qualified archaeologist and/or paleontologist can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the City and other appropriate agencies.

If human remains of Native American origin are discovered during project construction, it is necessary to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (Pub. Res. Code Sec. 5097). If any human remains are discovered or recognized in any location other than a dedicated cemetery, the program contractors will conduct no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- the coroner of the county has been informed and has determined that no investigation of the cause of death is required; and
- if the remains are of Native American origin,
  - the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or
  - the Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.

According to California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission.

The above provisions will be included in contract documents.

Section 3.6

Geology, Minerals, and Soils

This chapter analyzes the proposed program's effects on geology, soils, seismicity, and mineral resources. Key sources of data used in the preparation of this chapter include the following.

- The City's *2023 General Plan* (City of Manteca 2003a).
- The City's *2023 General Plan Environmental Impact Report* (City of Manteca 2003b).
- The City's *Draft Water Master Plan* (City of Manteca 2005b).
- The *SCSWSP Draft Environmental Impact Report* (Environmental Science Associates 1999).
- California Geological Survey *Seismic Hazards Mapping Program* (2004).
- USGS' most recent maps and earth resource information.

Cumulative impacts are discussed in Chapter 5.0, *Other CEQA Findings*.

Environmental Setting

This section discusses the existing conditions related to geology, soils, seismicity, and mineral resources in the program area. It also describes federal, state, and local regulations related to geology, soils, and seismicity that would apply to the proposed program.

The study area for such issues as fault rupture, liquefaction, slope stability, erosion hazard, and soil expansion-contraction potential is defined as the City of Manteca PUSA. The study area with respect to earthquake-induced groundshaking is defined as the greater Central Valley area, with particular consideration given to groundshaking in the immediate program area.

Existing Conditions

Physiography and Geology

Manteca is located in the central portion of the Great Valley geomorphic province of California. The Sacramento River and its tributaries drain the northern portion, referred to as the Sacramento Valley. The San Joaquin River and its tributaries drain the southern portion, referred to as the San Joaquin Valley.

The Great Valley is a sedimentary basin with the Coast Ranges to the west and the Sierra Nevada to the east. The floor of the Great Valley is relatively flat, ranging in elevation from a few feet to a few hundred feet above mean sea level (Oakeshott 1978). The floor of the Great Valley is underlain by gravel, sand, silt, and clay derived from the erosion of the Sierra Nevada and the Coast Ranges from the Jurassic period (140 million years ago) through the Holocene period (10,000 years ago). The east and west margins of the Great Valley are underlain by Tertiary period (3–65 million years ago) rocks and deposits exposed by uplift of the Sierra Nevada and Coast Ranges.

Soils

The soils in the program area were mapped by the United States Department of Agriculture (USDA) Soil Conservation Service (SCS) (now called the Natural Resources Conservation Service) in the Soil Survey for San Joaquin County, California (United States Department of Agriculture, Soil Conservation Service 1992). For the purpose of this section, the term *soils* is used to refer to earthen materials that occur between the ground surface and the underlying bedrock/parent material that have been formed by pedogenetic processes. According to the Soil Survey for San Joaquin County, 22 soil series exist within the program area (City of Manteca 2003b). The majority of the soils in the program area were formed in alluvium, and are found on low alluvial fans, low terraces, and floodplain along the San Joaquin River. These soils are moderately deep to very deep, and drainage ranges from partially drained to moderately well drained.

Erosion can result from water or wind. Given the nearly level topography of the program area, water erosion hazard is considered low. Wind erosion potential in the program area ranges from moderate-to-high in the spring, summer, and fall. Sea breezes from the Carquinez Strait that cause wind erosion in the relatively flat terrain of the Central Valley diminish in the winter (City of Manteca 2003b).

Soil subsidence is the settlement of soils. Settlement can result from either dessication and shrinkage, or oxidation of organic material, or both, following drainage. Subsidence is not a characteristic of the 22 soil series that underlie the program area (City of Manteca 2003b).

Expansive soils are those that increase in volume when they absorb water and shrink when they dry out, commonly referred to as *shrink-swell potential*. Soil surveys generally rate shrink-swell potential in soils on a low, medium, and high basis. If the shrink-swell potential is rated moderate to high, shrinking and swelling can cause damage to buildings, roads, and other structures. Four of the 22 soil series in the program area have been identified as expansive soils: one with a high shrink-swell potential, two with a moderate-high shrink-swell potential, and one with a moderate shrink-swell potential (City of Manteca 2003b). These soils are located in the southwest corner of the program area, in pockets roughly along Woodward Avenue between Airport Way and the western edge of the City.

Seismicity

Surface Fault Rupture and Groundshaking

The seismicity of the region is primarily related to activity on the San Andreas Fault System. Faults within the San Andreas Fault System that are recognized as active by the State of California and zoned pursuant to the Alquist-Priolo Act include the San Andreas, San Gregorio, Hayward, Calaveras, Greenville (Marsh Creek), Concord (Green Valley), Ortigalita, and Antioch faults. Potentially active faults (not within the San Andreas Fault System) are also located along the western and eastern boundaries of the San Joaquin and Sacramento Valleys in the region of San Joaquin County. These include the San Joaquin Fault Zone, Midway-Black Butte fault, the Midland Fault Zone, Tracy-Stockton fault, Vernalis fault, and the Foothills Fault System (including the Melones and Bear Mountain Fault Zones).

Although the program area is situated in a seismically active area, no active faults, potentially active faults, or earthquake fault zones are located in or immediately adjacent to Manteca, and the City is not located within an Alquist-Priolo Fault Rupture Hazard Zone (City of Manteca 2003a, 2003b). Accordingly, the hazard of fault rupture in Manteca is low.

The program area is likely to experience strong groundshaking as a result of earthquakes on any of the active faults in the Bay Area and the potentially active faults on the east and west margins of the San Joaquin and Sacramento Valleys. Recent studies estimate a 62% probability of at least one earthquake with a magnitude of 6.7 or greater occurring on one of the faults of the greater San Francisco Bay Area in the next 30 years, and a 10% probability of a magnitude 7.0 or greater event during the same timeframe (United States Geological Survey Working Group on California Earthquake Probabilities 2003). The intensity of ground shaking at any given location is a function of earthquake magnitude, distance from the earthquake epicenter, and the nature of the substrate. Based on a probabilistic seismic hazard map that depicts the peak horizontal ground acceleration values exceeded at a 10% probability in 50 years (Petersen et al. 1996), the peak horizontal ground acceleration values for the action area range up to 0.5*g* (where 1*g* is equal to 1 gravity or an acceleration of 9.8 meters per second

per second). This suggests that the groundshaking hazard in the program area ranges from low to moderate.

Liquefaction and Ground Failure

Liquefaction and related types of ground failure are secondary seismic hazards. Liquefaction is a process by which sandy sediments lose shear strength and fail during episodes of intense seismic ground shaking. As discussed in *Regulatory Context* below, the State of California maps areas subject to secondary seismic hazards pursuant to the Seismic Hazards Mapping Act of 1990. To date, this effort has focused on areas such as the Los Angeles Basin–Orange County region and the San Francisco Bay region, where dense populations are concentrated along active faults.

Seismic hazards maps have not been issued for the program area, and no such mapping is planned in the foreseeable future (California Geological Survey 2004). Given the possibility of moderate ground shaking in the future, the potential for liquefaction is a concern for areas with saturated sandy substrates.

Landslide and Other Slope Stability Hazards

Seismically induced landsliding is another secondary seismic hazard. The majority of the program area is situated on flat or very gently sloping topography where the potential for slope failure is minimal.

Mineral Resources

The State of California has identified lands in the 2023 General Plan study area near the San Joaquin River as areas of significant mineral resources. In particular, sand deposits in these areas are considered to be of regional significance (City of Manteca 2003a). However, Brown Sand and Gravel, Inc., the only mining operator in the General Plan study area (Oakwood Lake Pit), has completed sand mining operations (City of Manteca 2003a). No other aggregate deposits of significance are located in the Manteca area. No considerations of mineral resources are currently applicable to the proposed program.

Regulatory Context

Federal Regulations

There are no federal regulations associated with geology, soils, and minerals that may be affected by the proposed program.

State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

California's Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code Sec. 2621 et seq.), originally enacted in 1972 as the Alquist-Priolo Special Studies Zones Act and renamed in 1994, is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy across the traces of active faults and strictly regulates construction in the corridors along active faults (*earthquake fault zones*). It also defines criteria for identifying active faults, giving legal weight to terms such as *active*, and establishes a process for reviewing building proposals in and adjacent to Earthquake Fault Zones.

Under the Alquist-Priolo Act, faults are zoned and construction along or across them is strictly regulated if they are "sufficiently active" and "well-defined." A fault is considered *sufficiently active* if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined for purposes of the Act as referring to approximately the last 11,000 years). A fault is considered *well-defined* if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment (Hart and Bryant 1997).

Seismic Hazards Mapping Act

Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (PRC Sections 2690–2699.6) is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong groundshaking, liquefaction, and seismically induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Act: the state is charged with identifying and mapping areas at risk of strong groundshaking, liquefaction, landslides, and other corollary hazards; and cities and counties are required to regulate development within mapped Seismic Hazard Zones.

Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites within Seismic Hazard Zones until appropriate site-specific geologic and/or geotechnical investigations have been carried out, and measures to reduce potential damage have been incorporated into the development plans.

California Building Standards Code

The State of California's minimum standards for structural design and construction are given in the California Building Standards Code (CBSC)

(California Code of Regulations, Title 24). The CBSC is based on the Uniform Building Code (UBC) (International Conference of Building Officials 1997), which is used widely throughout United States (generally adopted on a state-by-state or district-by-district basis), and has been modified for California conditions with numerous, more detailed and/or more stringent regulations.

The CBSC requires that "classification of the soil at each building site … be determined when required by the building official" and that "the classification … be based on observation and any necessary test of the materials disclosed by borings or excavations." In addition, the CBSC states that "the soil classification and design-bearing capacity shall be shown on the (building) plans, unless the foundation conforms to specified requirements." The CBSC provides standards for various aspects of construction, including but not limited to excavation, grading, and earthwork construction; fill placement and embankment construction; construction on expansive soils; foundation investigations; resistance to ground shaking in various zones of the state; and liquefaction potential and soil strength loss. In accordance with California law, project design and construction will be required to comply with provisions of the CBSC.

Local Regulations

City of Manteca 2023 General Plan

The Safety Element of the 2023 General Plan (City of Manteca 2003a) includes the following goals, policies, and implementation measures intended to protect the community from geologic and seismic hazards that are applicable to the program.

Goal S-1: Prevent loss of lives, injury, and property damage due to geological hazards and seismic activity.

Goal S-2: Prevent the loss of lives, injury, and property damage due to the collapse of buildings and critical facilities, and to prevent disruption of essential services in the event of an earthquake.

Policy S-P-1: The City shall require preparation of geological reports and/or geological engineering reports for proposed new development located in areas of potentially significant geological hazards, including potential subsidence (collapsible surface soils) due to groundwater extraction.

Policy S-P-2: The City shall require new development to mitigate the potential impacts of geologic hazards through Building Plan review.

Policy S-P-3: The City shall require new development to mitigate the potential impacts of seismic induced settlement of uncompacted fill and liquefaction (water-saturated soil) due to the presence of a high water table.

Policy S-P-5: The City shall ensure that all public facilities, such as buildings, water tanks, and reservoirs are structurally sound and able to withstand seismic shaking and the effects of seismically induced ground failure.

Implementation Measure S-I-1: All new development shall comply with the current UBC requirements that stipulate building structural material and reinforcement.

Implementation Measure S-I-2: All new development shall comply with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces such as earthquakes and wind.

Impact Analysis

Methodology for Impact Analysis

Impacts related to geology, soils, and associated hazards were analyzed qualitatively, based on a review of soils and geologic information for the program area. Analysis focused on the proposed program's potential to increase the risk of personal injury, loss of life, and damage to property, including new or upgraded facilities and infrastructure, as a result of existing geologic conditions in the action area. Analysis assumed that the proposed program would comply with the requirements of the current CBSC, 2023 General Plan seismic safety standards, and City grading requirements.

Significance Criteria

For the purposes of this analysis, an impact was considered to be significant and to require mitigation if it would result in any of the following.

- Exposure of people, structures, or infrastructure to potential substantial adverse effects, including the risk of loss, damage, injury, or death involving
  - surface 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;
  - strong seismic groundshaking;
  - liquefaction and other related types of seismically induced ground failure;
  - expansive soils; or
  - landslides.

- Substantial soil erosion or loss of topsoil due to project operation or construction.
- Loss of availability of a known mineral resource or mineral resource recovery site.

Impacts and Mitigation Measures

Impact GEO-1: Potential for Damage to New Water Supply Infrastructure as a Result of Surface Fault Rupture (Less than Significant).

The project area is not located within an Alquist-Priolo Fault-Rupture Hazard Zone and no active faults, potentially active faults, or earthquake fault zones are located in or immediately adjacent to Manteca. Therefore, the proposed program is not expected to expose people or infrastructure to risks related to surface fault rupture. This impact is less than significant. No mitigation is required.

Impact GEO-2: Potential for Damage to New Water Supply Infrastructure as a Result of Seismic Groundshaking (Less than Significant with Mitigation).

As described in *Existing Conditions* above, the program area could be subject to groundshaking as a result of earthquake activity on any of a number of faults. Maximum ground accelerations are estimated at 0.5*g* or less (Peterson et al. 1996), but could be sufficient to damage new or existing facilities, raising two potential concerns: safety risk to personnel and necessity of repairs. Maintenance and water treatment activities would not substantially affect or be affected by risks related to seismic groundshaking, and are not discussed further; this analysis focuses on new water supply infrastructure (note that the risk of upset associated with water treatment activities is addressed in Chapter 3.7, *Hazards and Hazardous Materials*).

The new water supply infrastructure proposed under the proposed program, including wells, wellhead treatment facilities, blending stations, distribution pipelines, storage tanks, and booster pump stations, is potentially subject to damage from earthquakes. Seismic groundshaking is an unavoidable hazard for structures and infrastructure in the San Francisco Bay Area and the San Joaquin/Sacramento Valleys.

Implementation of the following mitigation measures would reduce this impact to a less-than-significant level. Adherence to current CBSC and American Water Works Association requirements, and to recommendations of site-specific geotechnical investigations, would reduce the potential for structural damage to new water supply infrastructure and corollary indirect impacts associated with strong seismic groundshaking to the extent feasible, although it cannot be entirely avoided.

Mitigation Measure GEO-2a: Adherence to California Building Standards Code and American Water Works Requirements. The City shall require that all new water supply and distribution infrastructure be designed and constructed to meet or exceed requirements of the current CBSC and the American Water Works Association. This provision shall be written into contract documents for construction of all program elements.

Mitigation Measure GEO-2b: Adherence to Recommendations Developed from Site-Specific Geotechnical Studies for Program Elements. During design of new water supply and distribution infrastructure, the City shall consider preparation of site-specific geotechnical studies by a qualified geotechnical engineer. A geotechnical study will be required for construction of large or unusual structures, such as water storage tanks. The City may use developer's geotechnical reports to consider geologic and soils impacts on well sites within proposed development areas. Design and construction of program infrastructure will conform to all recommendations of these investigations. This provision shall be written into contract documents.

Impact GEO-3: Potential for Damage to New Water Supply Infrastructure as a Result of Seismically Induced Liquefaction or Other Ground Failure (Less than Significant with Mitigation).

As discussed above under Impact GEO-2, the program area could be subject to seismic groundshaking as a result of earthquake activity on any of a number of faults. Although subsidence is not a characteristic of substrates in the project area, a relatively high water table exists in portions of the area and the possibility of some level of regional ground shaking in the future is likely. Therefore, liquefaction is likely to be a concern in parts of the project area where soils and sediments are sandy and groundwater is shallow. As identified above for seismic groundshaking, maintenance and water treatment activities would not substantially affect risks related to seismically induced ground failure and are not discussed further; this analysis focuses on new water supply infrastructure (note that the risk of upset associated with water treatment activities is addressed in Chapter 3.7, *Hazards and Hazardous Materials*).

Concerns include safety hazard to staff and potential necessity of repairs. However, implementation of Mitigation Measures GEO-2a and GEO-2b, discussed above, would reduce the potential for structural damage to new water supply infrastructure from seismically induced ground failure to the extent feasible, although it cannot be entirely avoided. With implementation of these mitigation measures, this impact is considered less than significant.

Impact GEO-4: Risks to New Water Supply Infrastructure from Expansive Soils (Less than Significant with Mitigation).

Portions of the program area are situated on soils with moderate to high expansion potential. Specifically, expansive soils are located in the southwest corner of the program area, in pockets roughly along Woodward Avenue between

Airport Way and the western edge of the City. If improperly designed or installed, new and upgraded infrastructure in these areas could be subject to damage related to shrink-swell behavior. In particular, new pipelines could pass through soils with high expansion potential. Expansion and contraction of the soils caused by seasonal moisture changes in these areas could damage the pipelines, unless the pipelines are properly designed and built to withstand such effects. However, expansive soils are routinely mitigated using one of the many techniques that are available to enable underground utilities to withstand the effects of expansion (such as backfilling the trench with non-expansive bedding).

Implementation of Mitigation Measures GEO-2a and GEO-2b, described above, would effectively reduce concerns related to expansive soils. Therefore, this impact is reduced to a less-than-significant level.

Impact GEO-5: Potential for Proposed Project to Result in Accelerated Soil Erosion (Less than Significant).

Given the partial to moderate drainage characteristics of the majority of soils and the nearly level topography of the project area, water erosion hazard is considered low. However, activities required for construction, including vegetation removal, excavation, grading, and fill placement, have the potential to cause soil erosion. Accelerated soil erosion and sedimentation resulting from construction-related ground disturbance could adversely affect water quality in nearby surface waters. As described in Section 3.8, *Hydrology and Water Resources*, this potential impact would be reduced with implementation of Mitigation Measure HWQ-1a. This impact is considered less than significant

Impact GEO-6: Potential for Proposed Project to Interfere with Extraction of Aggregate Resources (No Impact).

No known significant aggregate resources are located within the Manteca PUSA. The former sand deposits near the San Joaquin River are outside of the PUSA and have been extracted. Therefore, the proposed program would have no impact on any known aggregate resources of significance or the extraction of any such resources.

Section 3.7

Hazards and Hazardous Materials

This chapter analyzes the proposed program's effects on hazards and hazardous materials. Key sources of data used in the preparation of this chapter include the following.

- City of Manteca *2023 General Plan* (City of Manteca 2003a).
- City of Manteca *2023 General Plan Environmental Impact Report* (City of Manteca 2003b)
- City of Manteca *Draft Water Master Plan* (City of Manteca 2005b).
- The *San Joaquin County General Plan* (San Joaquin County 1992).
- *Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins – 4th Ed.* (California Regional Water Quality Control Board, Central Valley Region 1998).
- California Water Code §13173.
- Title 27 California Code of Regulations §20210.

Cumulative impacts are discussed in Chapter 5.0, *Other CEQA Findings*.

Environmental Setting

This section discusses the existing conditions related to hazards and hazardous materials in the program area. Federal, state, and local regulations related to hazards and hazardous materials that would apply to the proposed program are discussed in the subsection *Regulatory Context*.

Existing Conditions

Existing conditions information was compiled by reviewing relevant technical reports and the City of Manteca Draft 2005 Water Master Plan (City of Manteca 2005b).

Hazardous materials and wastes are currently stored, used, and transported within the City of Manteca by a variety of businesses and industry (City of Manteca

2003b). According to the 2023 General Plan EIR, no sites within the City of Manteca have been classified as a confirmed hazardous materials site (CalSite) or State Superfund site). Additionally, the City of Manteca does not contain sites that are identified on the Cortese List (City of Manteca 2003b).

The groundwater basin beneath the City contains both naturally occurring and introduced contaminants that can exceed federal and state drinking water standards. Naturally occurring contaminants include manganese and arsenic, while introduced contaminants include nitrates and 1,2-Dibromo-3-chloropropane (DBCP) (City of Manteca 2005b).

Recent changes in the federal drinking water standard have lowered the maximum contaminant level for arsenic in drinking water from 50 µg/l to 10 µg/l. Manteca's wells average about 12.4 µg/l and will require treatment for reduction of arsenic. Sixteen of the existing 18 wells exceed the new arsenic standard and will need treatment to continue operation.

Regulatory Context

Federal Regulations

The EPA is the principal federal regulatory agency responsible for the safe use and handling of hazardous materials. Two key federal regulations pertaining to hazardous wastes are described below. Other applicable federal regulations are contained primarily in 29, 40, and 49 CFR.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) enables EPA to administer a regulatory program that extends from the manufacture of hazardous materials to their disposal, thereby regulating the generation, transport, treatment, storage, and disposal of hazardous waste at all facilities and sites in the nation.

Comprehensive Environmental Response, Compensation, and Liability Act, and Superfund Amendment and Reauthorization Act Title III

The Comprehensive Environmental Response, Compensation, and Liability Act (Superfund), was passed to facilitate the cleanup of the nation's toxic waste sites. In 1986, Superfund was amended by the Superfund Amendment and Reauthorization Act Title III (community right-to-know laws), also called the Emergency Planning and Community Right-to-Know Act, which states that past and present owners of land contaminated with hazardous substances can be held liable for the entire cost of the cleanup even if the material was dumped illegally when the property was under different ownership. These regulations also

establish reporting requirements that provide the public with important information on hazardous chemicals in their communities to enhance community awareness of chemical hazards and facilitate development of state and local emergency response plans.

National Primary Drinking Water Regulations

National Primary Drinking Water Regulations (NPDWRs or primary standards) are legally enforceable standards that apply to public water systems. Primary standards protect public health by limiting the levels of contaminants in drinking water. Starting on January 23, 2006, the MCL for arsenic will be reduced from 50 μg/L to 10 μg/L.

State Regulations

California regulations are equal to or more stringent than federal regulations. EPA has granted the state primary oversight responsibility to administer and enforce hazardous waste management programs. State regulations require planning and management to ensure that hazardous wastes are handled, stored, and disposed of properly to reduce risks to human health and the environment. Several key state laws pertaining to hazardous wastes and other wastes are discussed below.

Title 27 California Code of Regulations §20210

Solid waste classifications at Title 27 California Code of Regulations §20210 are used to determine applicability of waste management requirements. Designated waste, as defined in California Water Code §13173, shall be discharged only at Class I waste management units (for information regarding Class I Units, see Chapter 15, Division 3, Title 23 of this code) or at Class II waste management units which comply with the applicable State Water Resources Control Board (SWRCB)-promulgated provisions of this subdivision and have been approved by the RWQCB for containment of the particular kind of waste to be discharged. Decomposable wastes in this category can be discharged to Class I or II land treatment units. (Authority cited: Section 1058, Water Code. Reference: Section 13172, Water Code; Section 43103, Public Resources Code.)

California Water Code §13173 – Designated Waste

Designated waste means either of the following.

a. Hazardous waste that has been granted a variance from hazardous waste management requirements pursuant to Section 25143 of the Health and Safety Code.

b. Nonhazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state as contained in the appropriate state water quality control plan.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act (Business Plan Act) requires businesses using hazardous materials to prepare a hazardous materials business plan that describes their facilities, inventories, emergency response plans, and training programs. Hazardous materials are defined as raw or unused materials that are part of a process or manufacturing step. They are not considered hazardous waste. Health concerns pertaining to the release of hazardous materials, however, are similar to those relating to hazardous waste.

Hazardous Waste Control Act

The Hazardous Waste Control Act created the state hazardous waste management program, which is similar to, but more stringent than, the federal RCRA program. The act is implemented by regulations contained in 26 CCR, which describes the following required aspects for the proper management of hazardous waste: identification and classification; generation and transport; design and permitting of recycling, treatment, storage, and disposal facilities; treatment standards; operation of facilities and staff training; and closure of facilities and liability requirements.

These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of them. Under this act and 26 CCR, a generator of hazardous waste must complete a manifest that accompanies the waste from the generator to the transporter to the ultimate disposal location. Copies of the manifest must be filed with California Department of Toxic Substances Control (DTSC).

Emergency Services Act

Under the Emergency Services Act, the state developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous materials or hazardous waste is an important part of the plan, which is administered by the California Office of Emergency Services. The office coordinates the responses of other agencies, including EPA, California Highway Patrol, RWQCBs, air quality management districts, and county disaster response offices.

California Occupational Safety and Health Administration Standards

Worker exposure to contaminated soils, vapors that could be inhaled, or groundwater containing hazardous constituents would be subject to monitoring and personal safety equipment requirements established in Title 8 of the Cal-OSHA regulations. The primary intent of the Title 8 requirements is to protect workers, but compliance with some of these regulations would also reduce potential hazards to nonconstruction workers and program area occupants because required controls related to site monitoring, reporting, and other activities would be in place.

Other Laws, Regulations, and Programs

Various other state regulations have been enacted that affect hazardous waste management, including the following.

- Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65), which requires labeling of substances known or suspected by the state to cause cancer.
- California Government Code Section 65962.5, which requires the California Office of Permit Assistance to compile a list of possible contaminated sites in the state.

State and federal regulations also require that hazardous materials sites be identified and listed in public records. These lists include sites that have been identified through the following regulatory processes.

- Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS).
- National Priorities List (NPL).
- Resource Conservation and Recovery Act (RCRA).
- California Superfund List of Active Annual Workplan Sites.
- Lists of state-registered underground storage tanks and leaking underground storage tanks (LUSTs).

Local Regulations and Programs

City of Manteca 2023 General Plan

The 2023 General Plan contains the following policies related to hazards and hazardous materials.

> **Policy S-P-15:** The City shall maintain an awareness of hazardous materials throughout the Manteca region.

Policy S-P-16: City approvals of all new development shall consider the potential for the production, use, storage, and transport of hazardous materials and provide for reasonable controls on such hazardous materials.

Policy S-P-17: Within its authority, the City shall regulate the production, use, storage, and transport of hazardous materials to protect the health of Manteca residents.

Implementation Measure S-I-11: Work with San Joaquin County and other public agencies to inform consumers about household use and disposal of hazardous materials.

Implementation Measure S-I-12: Cooperate fully with Union Pacific Railroad and other public agencies, such as the California Highway Patrol (CHP), in the event of a hazardous material emergency.

Impact Analysis

Methodology for Impact Analysis

This section describes the CEQA impact analysis relating to hazards and hazardous materials for the proposed program and alternatives. It describes the methods used to determine the proposed program's impacts and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Significance Criteria

For the purposes of this analysis, an impact was considered to be significant and to require mitigation if it would result in any of the following.

- Expose the public or the environment to a significant hazard through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

- 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.
- Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the program

Impacts and Mitigation Measures

Impact HAZ-1: Expose the Public or the Environment to Hazardous Concentrations of Arsenic or Other Constituents of Concern (Less than Significant with Mitigation).

The proposed program assumes that all new wells constructed through 2025 will require treatment for arsenic. Water pumped from Manteca's wells average about 12.4 µg/l of arsenic and would require treatment to meet the federal drinking water standard of 10 µg/L. Treatment of the groundwater would reduce arsenic levels to approximately 8 µg/l. Though the method of treatment has yet to be determined, treatment would involve the use and storage of hazardous materials for treatment. Chemicals stored, used, or transported within the city limits for use in arsenic treatment would have the potential to significantly harm the public or environment through accidental release. This impact is considered significant. However, implementation of the follow mitigation measures would reduce this impact to a less-than-significant level.

Mitigation Measure HAZ-1a: Containment of Hazardous Materials Used during Wellhead Treatment Operations. The City Fire Department, with oversight from the County Office of Emergency Services, has jurisdiction over containment requirements for production, use, storage, and transport of hazardous chemicals with the city limits. The requirements enforced are contained in the Uniform Fire Code, the Uniform Building Code, and the National Fire Protection Association Series. The City will implement double containment for all chemicals stored onsite at wellhead treatment facilities, and a scrubbing system for pressurized or liquefied gases that are hazardous or would create a nuisance if released. The City Fire Department or County Office of Emergency Services shall verify proper implementation of this measure through routine inspections.

Mitigation Measure HAZ-1b: Development and Implementation of Plans to Reduce Risk of Exposure of People and the Environment to Hazardous Materials during Wellhead Treatment Operations. Any chemicals used during treatment will be regulated under the Hazardous Materials Release Response Plans and Inventory Law of 1985, which requires that a Hazardous Materials Business Plan be prepared for emergency response to a release or threatened release of a hazardous material. In the event an accidental release should occur, this emergency response plan will provide emergency responders with a protocol for

containing and disposing of the unintentional release. The City will prepare and implement the Hazardous Materials Business Plan as required.

Impact HAZ-2: Significant Hazard to the Public or the Environment through the Routine Disposal of Arsenic during Wellhead Treatment Operations (Less than Significant with Mitigation).

The arsenic treatment process would produce arsenic-laden waste in the form of brine or solid cake which would require disposal. Waste generated from the treatment process that does not meet or exceed the state standards for "designated" or "hazardous" waste could be disposed of as non-hazardous waste facility, shipped for reuse, or stored on-site, among other options. Waste containing arsenic or other constituents of concern at concentrations which meet or exceed the state standards for "designated" or "hazardous" waste would pose a significant risk to public health and the environment. Implementation of the following mitigation measure would reduce the impact to a less than significant level.

Mitigation Measure HAZ-2: Proper Disposal of Hazardous Materials. Any and all residual materials from wellhead treatment that contains arsenic or other constituents of concern at concentrations that meet the standards for "designated" or "hazardous" waste will be stored, handled, and disposed of by the City at the appropriate collection and treatment facility (a Class I landfill) according to Title 27 California Code of Regulations §20210.

Impact HAZ-3: Significant Hazard to the Public or the Environment through Reasonably Foreseeable Upset and Accident Conditions Involving the Release of Hazardous Materials (Less than Significant with Mitigation).

Construction of the proposed program could expose construction workers, the public, or the environment to hazardous materials through accidental spill or release of hazardous materials. Small quantities of potentially toxic substances (e.g., petroleum and other chemicals used to operate and maintain construction equipment) would be used and disposed of at the project sites and transported to and from the site during construction. Accidental releases of small quantities of these substances could contaminate soils and degrade the quality of surface water and groundwater, resulting in a public safety hazard.

In addition, construction of the proposed program would require excavation and movement of soils. Although the 2023 General Plan EIR indicated that no Superfund or Cortese sites are present within the City of Manteca, it is possible that potentially hazardous sites are located within the program area (City of Manteca 2003b). No hazardous records searches have been performed for individual project sites, as specific sites have not yet been identified. Unknown hazardous sites have the potential to create a significant hazard to construction workers, the public, and the environment if they are encountered during construction of the proposed program.

Because the program area includes agricultural lands, the potential exists that hazardous levels of agricultural chemicals are present on sites that may be chosen for individual program elements. These chemicals have the potential to significantly impact construction workers on these projects. This impact is potentially significant. However, implementation of the following mitigation measures would reduce this impact to a less than significant level. Additionally, the 2023 General Plan EIR indicated that hazards impacts associated with upset and accident conditions would be reduced to a less than significant level with implementation of Safety Element Policies S-P-17, S-I-11, and S-I-12 of the 2023 General Plan, described in the regulatory setting of this chapter.

Mitigation Measure HAZ-3a: Develop and Implement Plans to Reduce Exposure of People and the Environment to Hazardous Conditions during Construction Activities. The City shall require program contractors to develop plans to prevent the pollution of surface water and groundwater and to promote the health and safety of workers and other people in the program vicinity. These plans shall include an operations and maintenance plan, a site-specific safety plan, and a fire prevention plan, in addition to the stormwater pollution prevention plan (SWPPP) required for hydrology impacts (see Mitigation Measure HWQ-1 in *Section 3.8, Hydrology and Water Resources*). The plans are required by law and shall require approval by several responsible agencies. Required approvals include the SWPPP shall be approved by the RWQCB, the site-specific safety plan and the operations and maintenance plan shall be approved by Cal-OSHA, and the fire safety plan shall be approved by the City of Manteca Fire Department.

The City shall also require program contractors to develop and implement a hazardous materials management plan that addresses public health and safety issues by providing safety measures, including release prevention measures; employee training, notification, and evacuation procedures; and adequate emergency response protocols and cleanup procedures.

Finally, the City shall require program contractors to comply with Cal-OSHA, as well as federal standards, for the storage and handling of fuels, flammable materials, and common construction-related hazardous materials and for fire prevention. Cal-OSHA requirements can be found in the California Labor Code, Division 5, Chapter 2.5 Hazardous Substances Information and Training. Federal standards can be found in Occupational Safety and Health Administration Regulations, Standards—29 CFR, Part 1926 Safety and Health Regulations for Construction. The provisions listed herein will be incorporated into contract documents.

Mitigation Measure HAZ-3b: Follow City of Manteca Fire Department and Other Guidelines for Storage and Handling of Hazardous Materials. The City shall require program contractors to transport, store, and handle hazardous materials required for construction in a manner consistent with relevant regulations and guidelines,

including those recommended and enforced by the City of Manteca Fire Department. This provision will be reflected in contract documents.

Mitigation Measure HAZ-3c: Immediately Contain Spills, Excavate Spill-Contaminated Soil, and Dispose of It at an Approved Facility. The City shall require that in the event of a spill of hazardous materials in an amount reportable to the City of Manteca Fire Department (as established by fire department guidelines), the program contractor will immediately control the source of the leak and contain the spill. If required by the Fire Department or other regulatory agencies, the contractor will excavate contaminated soils and dispose of them off-site at a facility approved to accept such soils. This provision will be reflected in contract documents.

Mitigation Measure HAZ-3d: Perform Hazards Records Search Prior to Development of All Program Sites and Implement Necessary Remediation. Prior to development of program sites, the City will perform hazardous records searches to determine if the site is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public or the environment. If any hazardous sites are discovered, the City will implement necessary remediation actions as required by law before developing the site.

Mitigation Measure HAZ-3e: Screen Surface Soils in the Program Area for Residuals from Agricultural Chemicals (Fertilizers and Pesticides). To reduce the potential for human exposure to potentially harmful pesticide and fertilizer residues, for program elements being constructed in areas with potential for harmful pesticide and fertilizer residues, the City will require that surface soils in the area be sampled or field screened by a qualified hazardous materials consultant for residuals from agricultural chemicals during construction. Alternatively, the City may use developer's soils reports to determine the presence of agricultural residues on well sites within proposed development areas. The San Joaquin County Environmental Health Department will review the results of soils sampling or screening and identify appropriate handling in accordance with the Department's guidelines.

In the event that soil sampling or field screening indicates the presence of hazardous concentrations of agricultural chemicals, the following measures shall apply. Program activities will not be performed within lands where agricultural chemicals have been applied until completion of the restricted access period, to ensure that the concentrations of hazardous agricultural chemicals on the site have been reduced to a safe level. The use of appropriate personal protective gear shall be required when working within or adjacent to agricultural lands during the 30 days following the application of agricultural chemicals.

Impact HAZ-4: Emit Hazardous Emissions or Handle Hazardous or Acutely Hazardous Materials, Substances, or Waste within 0.25 Mile of an Existing or Proposed School (Less than Significant with Mitigation).

Because individual program element sites are not yet determined, it cannot be determined whether any project sites will be within 0.25 mile of an existing or proposed school. However, if a proposed site is located within 0.25 of an existing or proposed school, Impacts HAZ-1, HAZ-2, and HAZ-3 would result in significant adverse effects to school users. Implementation of Mitigation Measures HAZ-1a—HAZ-1b, HAZ-2, and HAZ-3a—HAZ-3e would reduce the impact to a less than significant level.

Impact HAZ-5: Impair Implementation of or Physically Interfere with an Adopted Emergency Response Plan or Emergency Evacuation Plan (Less than Significant with Mitigation).

The proposed program is not expected to result in long-term modifications in existing circulation within the program area. Short-term lane closures or slight detours during project construction may be required, which has the potential to interfere with the implementation of emergency response or evacuation plans. This impact is potentially significant. Mitigation Measure HAZ-4 would reduce the impact to less than significant.

> **Mitigation Measure HAZ-5: Incorporate Emergency Access Routes During Construction.** The City of Manteca Fire Department shall have oversight on emergency access during construction of the program elements. Prior to ground-breaking, program contractors will notify the Fire Department of all construction plans and potential traffic impacts. The Fire Department will verify that adequate emergency access throughout the program area continues during project construction. If emergency access is deemed inadequate during program construction, the Fire Department will identify alternate routes for emergency response. The Fire Department and other emergency service providers will be notified of lane closures and detours at least one week in advance of the closure so that adequate alternate routes can be determined. This provision will be reflected in contract documents.

Impact HAZ-6: Expose People or Structures to a Significant Risk of Loss, Injury, or Death Involving Wildland Fires (Less than Significant with Mitigation).

While much of the program area is urban and developed land, agricultural areas are located within the PUSA. Fires due to the presence of agricultural lands, chemicals, and activities represent a potentially significant impact. Implementation of the following mitigation measures would reduce this impact to a less than significant level.

Mitigation Measure HAZ-6a: Before Construction Begins, Clear Materials That Could Serve as Fire Fuel from Areas Slated for Construction Activities. If dry vegetation or other fire fuels exist on or near construction staging areas, welding areas, or any other area on which equipment will be operated, program contractors shall clear the immediate area of fire fuel. To maintain a firebreak and minimize the availability of fire fuels, the City will require contractors to maintain areas subject to construction activities clear of combustible natural materials to the extent feasible. This provision will be reflected in contract documents.

Mitigation Measure HAZ-6b: Require That Spark-Generating Construction Equipment Be Equipped with Manufacturers' Recommended Spark Arresters. Prior to construction of program elements on undisturbed lands or adjacent to agricultural areas, the City will require program contractors to equip any construction equipment that normally includes a spark arrester with an arrester in good working order. Subject equipment includes, but is not limited to, heavy equipment and chainsaws. This provision will be reflected in contract documents to minimize a source of construction-related fire.

Impact HAZ-7: Be Located within an Airport Land Use Plan Area or within Two Miles of a Public Airport or Private Airstrip (No Impact).

The program area does not include any public airports or private airstrips, and does not fall within an Airport Land Use Plan Area. There would be no impact. No mitigation is required.

Section 3.8

Hydrology and Water Resources

This section analyzes the proposed program's effects on hydrology and water quality. Key sources of data used in the preparation of this section include the following.

- The City's 2023 *General Plan* (City of Manteca 2003a).
- The City's 2023 *General Plan EIR* (City of Manteca 2003b).
- The City's *Draft Water Master Plan* (City of Manteca 2005b).
- The *San Joaquin County General Plan.*
- The SSJID *South County Surface Water Supply EIR.*
- Department of Water Resources's (DWR's) *Bulletin 118, Basin Descriptions.*

Growth-inducing impacts and cumulative impacts are discussed in Chapter 5.0, *Other CEQA Findings.*

Environmental Setting

This section discusses the existing conditions related to hydrology, water quality, flooding, and water supply in the program area. Federal, state, and local regulations related to these subject areas that would apply to the proposed program are discussed in the *Regulatory Setting*, below.

Existing Conditions

The study area for this EIR is the City's PUSA, located within its 2023 General Plan boundary.

Surface Water Hydrology

The San Joaquin River is the major drainage feature in the area and flows approximately 4 miles to the west of the 2023 General Plan study area boundary.

Manteca is located on the relatively higher ground between Lone Tree Creek to the north, the Stanislaus River to the south, and the San Joaquin River to the southwest and west. Walthall Slough, a tributary to the San Joaquin River, has its northern boundary contiguous with the southwestern boundary of the program area.

The SSJID operates drainage facilities that pass through Manteca and carry a portion of the City's drainage. Because of topography, drainage facilities generally follow along an east-to-west alignment. In some instances where subdivisions have developed near irrigation laterals, drainage pumping stations have been installed in lieu of long trunk lines to drains. Water from the SSJID, along with drainage pumped by the City, flows west into French Camp Canal, which eventually flows into French Camp Slough. Storm drainage is gravity discharged from the program area north to French Camp Canal. Existing road and railroad crossings of the canal are, however, undersized and will require replacement to accommodate peak design flows from the program area. The San Joaquin Delta is the ultimate destination of drainage carried by French Camp Slough.

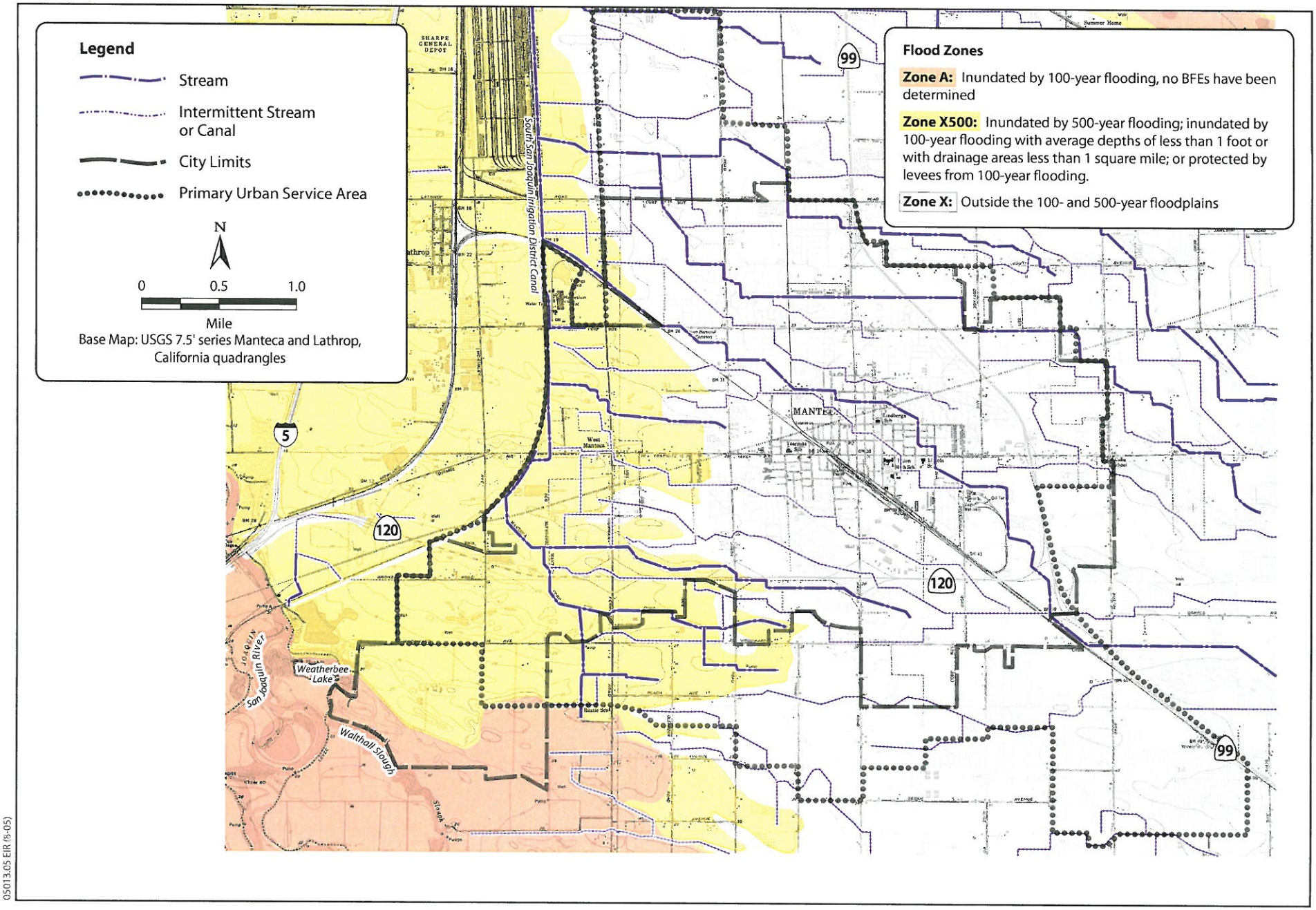
The surface hydrology of the program area is shown in Figure 3.8-1.

Groundwater Hydrology

The proposed program lies within the Eastern San Joaquin Subbasin, which is part of the San Joaquin Valley Groundwater Basin. The Eastern San Joaquin Subbasin has a surface area of 707,000 acres, or 1,110 square miles (Department of Water Resources 2003). The Eastern San Joaquin Subbasin is defined by unconsolidated to semiconsolidated sedimentary deposits that are bounded on the north by the Mokelumne River, on the west by the San Joaquin River, and on the south by the Stanislaus River.

Groundwater level trends have seen a decline over the last 40 years of monitoring. Data shows that levels have declined at an average rate of 1.7 feet per year and have dropped as much as 100 feet in some areas (Department of Water Resources 2003). According to DWR Bulletin 118, overdraft over the last 40 years has reduced storage by as much as 2 million acre-feet. However, the total available groundwater storage capacity from a depth of 20 feet to the base of the groundwater basin is approximately 42.4 million acre-feet (Department of Water Resources 2003). The above estimate is based on an area of approximately 916 square miles and therefore underestimates the storage capacity for the basin's actual size of 1,105 square miles (Department of Water Resources 2003).

Manteca contains areas of locally high groundwater, with shallow groundwater encountered in certain locations at depths of 2 to 10 feet below ground surface (Department of Water Resources 2006).



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Jones & Stokes

Figure 3.8-1
Major Hydrologic Features

Groundwater Recharge

Area groundwater levels are buoyed by the proximity of the Delta channels to the northwest. Groundwater recharge comes from irrigation of agricultural lands surrounding the City and infiltration from streams flowing west out of the Sierra Nevada. This recharge occurs in areas with permeable materials, which allow the infiltration of water along streams, alluvial fans, and foothill areas. The program area includes a variety of soil types that provide percolation to groundwater. However, with no streams or alluvial fan conditions, there are no notable groundwater recharge areas identified within the program area.

Surface Water Quality

Surrounding land uses largely affect surface water quality, with both point-source and nonpoint-source discharges contributing contaminants to surface waters. The program area is currently in urban, agricultural, and recreational uses. Pollutant sources in urban areas include parking lots and streets, roof tops, exposed earth at construction sites, and landscaped areas. Water quality impacts from construction sites are of particular concern. Grading for construction activity removes vegetation and exposes soil to wind and water erosion. The erosion can result in sedimentation that ultimately flows into surface waters. Other contaminants in urban runoff include hydrocarbons, metals, pesticides, bacteria, and trash. Runoff from agricultural areas is characterized by constituents such as fertilizers, herbicides, and pesticides and often contains bacteria, high nutrient content, and dissolved solids.

Flows into waterways during the dry season may be entirely composed of nonpoint-source runoff. This is particularly true for the waterways in the program area, which consist of mainly agricultural return flows as well as irrigation water supplies. During the wet season, stormwater discharge conveys precipitation from areas of saturation or impermeable surfaces to low-lying collection areas and drainages. "First flush" storm events, during which pollutants that have accumulated throughout the dry season are concentrated, with little dilution by the initial storm event of the season, are thought to have the largest impact on receiving waters. Local drainage ways such as there in the program area serve as the first line of nonpoint-source pollution treatment.

The impacts of nonpoint-source pollutants on aquatic systems are many and varied. Polluted runoff can result in adverse effects to aquatic ecosystems, public use, and human health from groundwater and surface water contamination, as well as damage to and destruction of wildlife habitat, decline in fisheries, and loss of recreational opportunities. Small soil particles washed into streams can smother spawning grounds and marsh habitat. Suspended particulates can restrict light penetration into water and limit photosynthesis of aquatic biota. Metals and petroleum hydrocarbons washed off from roadways and parking lots and fertilizers, pesticides, and herbicides from landscaped areas may cause toxic responses in aquatic life or contaminate possible water supply sources such as reservoirs or aquifers.

Clean Water Act (CWA) Section 303(d) establishes the total maximum daily load (TMDL) process to assist in guiding the application of state water quality standards, requiring states to identify streams whose water quality is "impaired" (affected by the presence of pollutants or contaminants) and to establish the TMDL or the maximum quantity of a particular constituent that a water body can assimilate without experiencing adverse effect (Environmental Protection Agency 2000). The San Joaquin River from Merced River to the south Delta boundary (the reach that passes to the west of Manteca) is 303(d) listed for boron, chloropyrifos, diazinon, DDT, group A pesticides, EC, mercury, and unknown toxicity (Environmental Protection Agency 2000). The Stanislaus River is 303(d) listed as impaired for diazanon, group A pesticides, and mercury. The Delta, into which the San Joaquin River empties, is 303(d) listed as impaired for chlordane, DDT, dieldrin, dioxin and furan compounds, exotic species, mercury, nickel, PCBs, and selenium.

Groundwater Quality

The majority of the groundwater in the Eastern San Joaquin Subbasin is characterized by a calcium-magnesium-bicarbonate- or calcium-sodium-bicarbonate-type water. Large areas of chloride-type water are located along the western portion of the subbasin (Department of Water Resources 2003). Water quality samples were taken from 174 wells in the subbasin. The results showed that the total dissolved solids (TDS) ranged from 30 to 1,632 milligrams per liter (mg/L) and averaged about 310 mg/L. Specific conductance or electromagnetic conductivity (EC) in the groundwater ranged from 78 to 5,390 micro ohms per centimeter (μohms/cm) (Department of Water Resources 2003). Some of the highest EC values were found along the western part of the subbasin along the San Joaquin River alignment.

As a result of declining water levels, poor quality water has been moving east along a 16-mile front on the east side of the Delta (Department of Water Resources 2003). This saline water has continued to move eastward from the Stockton area. In addition, large areas of elevated nitrate in the groundwater exist within the subbasin located southeast of Lodi and south of Stockton and east of Manteca (Department of Water Resources 2003). The elevated nitrate is likely a source of dairy practices.

In the Manteca area, groundwater wells produce water that generally meets or exceeds all Title 22 primary drinking water standards. Some wells have exhibited taste and odor problems as a result of high manganese levels. In addition, one well in the eastern portion of Manteca has produced water containing Dibromochloropropane (DBCP), an agricultural pesticide; however, DBCP concentrations in the well have decreased and no treatment is required. Finally, recent changes is federal drinking water standards have lowered the maximum contaminant level for arsenic from 50 μg/l to 10 μg/l; Manteca's wells average about 12.4 μg/l and will require additional treatment.

Flooding

The Federal Emergency Management Agency (FEMA) categorizes flood prone areas based on the frequency of occurrence. Figure 3.8-1 shows the location of the FEMA-defined 100-year area of potential inundation and the 500-year area of potential inundation nearest to the City. No 100-year flood zones occur within the program area. The primary flood hazard is the San Joaquin River (4 miles outside the program area) and its tributaries, notably Walthall Slough (contiguous with the southwestern program area boundary). A levee running from Williamson Road east to Airport Way provides flood protection for the land north and east of Walthall Slough, and the southeast portion of the program area is mapped as within the 500-year floodplain. This levee is under the jurisdiction of Reclamation District No. 17.

Portions of the 100-year floodplain would be subject to inundation in the event of dam failure. Although the likelihood is remote, the area subject to inundation within the program area is not specifically defined but would generally coincide with the area delineated as the 100-year floodplain. Despite the number of dams near San Joaquin County, the risk of dam failure, resulting in the inundation of portions of the County, is considered low, and the degree and nature of risk for each dam is unknown. Dam failure can occur under three general conditions: as a result of an earthquake, an isolated incident due to structural instability, or because of intense rain in excess of design capacity. Section 8589.5 of the California Government Code requires local jurisdictions to adopt emergency procedures for the evacuation of populated inundation areas identified by dam owners. The local Office of Emergency Services has prepared a Dam Failure Plan. This plan includes a description of dams, direction of floodwaters, responsibilities of local jurisdictions, and evacuation plans.

Water Supply

The City of Manteca receives its water supply from two sources: groundwater from local wells and surface water supplied by SSJID. The local groundwater basin is considered to be subject to "critical conditions of overdraft." Overdraft conditions have existed for many years. The maximum sustained yield of the basin is estimated at 1 acre-foot per acre per year (afa/y); currently, groundwater pumping in the Manteca area is approximately 2.4 afa/y, contributing to this condition of overdraft.

SSJID's surface water supplies are obtained from the Stanislaus River through pre-1914 water rights and post-1914 appropriative rights for direct diversion and diversion to storage. SSJID operates a water treatment plant near SSJID's Woodward Reservoir; treated water is then conveyed to Manteca through a transmission pipeline.

Regulatory Context

Federal Regulations

Federal Clean Water Act

The CWA is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. It operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is the CWA's primary regulatory tool. The following paragraphs provide additional details on specific sections of the CWA.

Permits for Fill Placement in Waters and Wetlands (Section 404)
CWA Section 404 regulates the discharge of dredged and fill materials into "waters of the United States," which include oceans, bays, rivers, streams, lakes, ponds, and wetlands. Project proponents must obtain a permit from USACE for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. Before any actions that may affect surface waters are carried out, a delineation of jurisdictional waters of the United States must be completed, following USACE protocols (Environmental Laboratory 1987) in order to determine whether the project area encompasses wetlands or other waters of the United States that qualify for CWA protection. These include any or all of the following:

- areas within the ordinary high-water mark of a stream, including non-perennial streams with a defined bed and bank and any stream channel that conveys natural runoff, even if it has been realigned; and
- seasonal and perennial wetlands, including coastal wetlands.

Wetlands are defined for regulatory purposes as areas "inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3, 40 CFR 230.3).

Applicants must obtain a permit from USACE for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. USACE issues two types of permits: general permits (known as Nationwide Permits (NWPs) and individual permits. General permits are preauthorized and are issued to cover multiple instances of similar activities expected to cause only minimal adverse environmental effects. NWPs are a type of general permit issued to cover particular fill activities. Individual permits may be issued only for the least environmentally damaging practicable alternative. That is, authorization of a proposed discharge is prohibited if there is a practicable alternative that would have fewer adverse impacts and lack other significant adverse consequences.

Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. USACE cannot issue an individual permit or verify the use of a general permit until the requirements of the National Environmental Policy Act (NEPA), ESA, and the NHPA have been met. In addition, USACE cannot issue or verify any permit until a water quality certification or a waiver of certification has been issued pursuant to CWA Section 401.

Permits for Stormwater Discharge (Section 402)

CWA Section 402 regulates construction-related stormwater discharges to surface waters through the NPDES program, administered by the EPA. In California, the SWRCB is authorized by the EPA to oversee the NPDES program through the RWQCBs (see related discussion under Porter-Cologne Water Quality Control Act, below). The NPDES program provides for both general permits (those that cover a number of similar or related activities) and individual permits.

NPDES permits are required for projects that disturb more than 1 acre of land. The NPDES permitting process requires the applicant to file a public notice of intent (NOI) to discharge stormwater and prepare and implement a SWPPP. The SWPPP includes a site map and a description of proposed construction activities. In addition, it describes the BMPs that will be implemented to prevent soil erosion and discharge of other construction-related pollutants (e.g., petroleum products, solvents, paints, cement) that could contaminate nearby water resources. Permittees are required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and effective in controlling the discharge of stormwater-related pollutants.

Water Quality Certification (Section 401)

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401.

Safe Drinking Water Act

The Safe Drinking Water Act, as amended in 1986 and 1996, requires protection of drinking water and its sources (i.e., rivers, lakes, reservoirs, springs, and groundwater wells). The act authorizes the EPA to set national standards for drinking water to protect against pollutants. The EPA, states, and local agencies work together to enforce these standards.

State Regulations

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, also known as the California Water Code, is California's statutory authority for the protection of water quality. Under this act, the state must adopt water quality policies, plans, and objectives that protect the state's waters. The act sets forth the obligations of the SWRCB and RWQCBs pertaining to the adoption of Basin Plans and establishment of water quality objectives. Unlike the federal CWA, which regulates only surface water, the Porter-Cologne Act regulates both surface water and groundwater.

State Water Resources Control Board and Regional Water Quality Control Board

The SWRCB administers state water rights and water quality functions. The SWRCB and its nine RWQCBs administer water rights and enforce pollution control standards. The SWRCB and RWQCBs are responsible for ensuring implementation and compliance with the provisions of the federal CWA and California's Porter-Cologne Water Quality Control Act.

The proposed program is situated within the jurisdiction of the Central Valley RWQCB. The Central Valley RWQCB has the authority to implement water quality standards through the issuance of permits for discharges to waters within its jurisdiction and is responsible for preparing a Water Quality Control Plan (Basin Plan) that identifies beneficial uses of the San Joaquin River and its tributaries and water quality objectives for the protection of beneficial uses.

Central Valley RWQCB Basin Plan

The Basin Plan for the Sacramento and San Joaquin River Basins provides water quality objectives and standards for waters of these two river basins. The Basin Plan contains specific water quality objectives for bacteria, dissolved oxygen, pH, pesticides, electrical conductivity, TDS, temperature, turbidity, and trace elements. It also includes objectives for groundwater quality that pertain to bacteria, chemical constituents, radioactivity, taste, color, and toxicity.

California and Section 303(d) of the Clean Water Act

Section 303(d) of the Federal CWA requires states to develop lists of water bodies that will not attain water quality standards after implementation of minimum required levels of treatment by point-source dischargers (municipalities and industries). Section 303(d) requires states to develop a TMDL for each of the listed pollutants and water bodies. TMDL is the amount of loading that the water body can receive and still meet water quality standards. The relevant 303(d) listings for water bodies in the project vicinity are described under *Water Quality*, above.

NPDES Permitting

The RWQCB issues permits under the NPDES program, the relevant aspects of which are described below.

Construction Activities

Most construction projects that disturb 1 acre of land or more are required to obtain coverage under the NPDES General Permit for Construction Activities (General Construction Permit), which requires the applicant to file a public notice of intent to discharge stormwater and prepare and implement a SWPPP. The SWPPP includes a site map and a description of proposed construction activities, along with demonstration of compliance with relevant local ordinances and regulations and an overview of the BMPs that will be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Permittees are further required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and effective in controlling the discharge of stormwater-related pollutants. Projects constructed in Caltrans facilities or ROWs must comply with the requirements of Caltrans' statewide NPDES permit, which has requirements similar to those of the General Construction Permit.

Dewatering Activities

While small amounts of construction-related dewatering are covered under the General Construction Permit, the RWQCB has also adopted a General Dewatering Permit. This permit applies to various categories of dewatering activities and would likely apply to the proposed program, if construction required dewatering in greater quantities than that allowed by the General Construction Permit and discharging the effluent to surface waters. The General Dewatering Permit contains waste discharge limitations and prohibitions similar to those in the General Construction Permit. To obtain coverage, the applicant must submit an NOI and a pollution prevention and monitoring program (PPMP). The PPMP must include a description of the discharge location, discharge characteristics, primary pollutants, receiving water, treatment systems, spill prevention plans, and other measures necessary to comply with discharge limits. A representative sampling and analysis program must be prepared as part of the PPMP and implemented by the permittee, along with record keeping and quarterly reporting requirements during dewatering activities. For dewatering activities that are not covered by the General Dewatering Permit, an individual NPDES permit and waste discharge requirements (WDRs) must be obtained from the RWQCB. The General Dewatering Permit may be applicable to the City and its contractors where excavation activities may explore the water table.

Local Regulations and Programs

Manteca Public Facilities Implementation Plan

The City of Manteca Public Facilities Implementation Plan (PFIP) (City of Manteca 1993) identifies a series of specific improvements required to accommodate drainage of the existing urban areas of the City. In addition, the

plan identifies other measures that apply to future development. The PFIP requires that, wherever possible, the land ultimately required for each improvement (included in the Drainage Master Plan) will be preserved before development occurs in an area. Storm drainage and flood protection facilities should be constructed when each new development begins. Manteca has relied predominantly on the SSJID lateral and drain facilities for terminal drainage. In concert with development, the SSJID facilities have been realigned into rights-of-way and/or structurally upgraded to be compatible with land conversion from agricultural to urban use.

As in the past, drainage improvements will be constructed in a timely manner in order to maintain the level-of-service standard. This is accomplished by constructing the storm drainage and flood protection facilities for each new project and by having the necessary facilities in place at time of occupancy. Manteca presently administers a variety of regulations designed to prevent flooding and address stormwater management. These include a flood ordinance, various provisions of the zoning ordinance and subdivision ordinance, and construction codes for residential and non-residential developments.

City of Manteca 2023 General Plan

The City's 2023 General Plan contains the following policies related to water quality and water resources.

Policy RC-P-13: Protect the quality of Manteca's groundwater.

Implementation Measure RC-I-21: The City shall regularly monitor water quality in City wells for evidence of toxics, saltwater intrusion, and other contaminants.

Implementation Measure RC-1-24: Comply with the Regional Water Quality Control Board's regulations and standards to maintain and improve groundwater quality in Manteca.

Impact Analysis

Methodology for Impact Analysis

This section describes the CEQA impact analysis relating to hydrology, water quality, flooding, and water supply for the proposed program and alternatives. It describes the methods used to determine the proposed program's impacts and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Significance Criteria

Criteria for determining the significance of impacts related to hydrology and water quality were developed based on the environmental checklist form in Appendix G of the State CEQA Guidelines (14 CCR 15000 et seq.). An impact related to hydrology and water quality was considered significant if it would:

- substantially degrade the existing surface and groundwater quality due to erosion, siltation, and/or release of hazardous materials;
- violate any water quality standards, waste discharge requirements, or otherwise substantially degrade water quality during construction;
- create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site;
- substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in 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 that would not support existing land uses or planned uses for which permits have been granted);
- not have sufficient water supplies available to serve the project from existing entitlements and resources;
- 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; or
- contribute to inundation by seiche, tsunami, or mudflow.

Impacts and Mitigation Measures

Impact HWQ-1: Construction-Related Erosion, Sedimentation, and Potential Release of Hazardous Materials (Less than Significant with Mitigation).

Construction of the various program facilities would require grading and excavation, along with disturbances of soils and vegetation. Construction would take place periodically and therefore has the potential to expose bare soils during the winter rainfall period. Stormwater runoff could cause soil erosion of disturbed sites and transport other construction-related contaminants (e.g., fuels, oil, concrete, paint) to nearby receiving waters and thereby impair water quality and aquatic organisms and their habitats. The extent of the impacts is dependent on soil erosion potential, type of construction practice, extent of disturbed area, timing of precipitation events, and topography and proximity to drainage channels.

Jack-and-bore tunneling activities for construction of distribution pipelines may use a mixture of bentonite (an inert clay) and petroleum as a lubricant for the drilling mechanism. Drilling near the ground surface or close to the bed of a surface water body introduces the potential for an unplanned "frac-out," in which the pressure of the bentonite or other drilling lubricant generates a surface rupture, causing a release of bentonite to the ground surface or water column. Although bentonite is not toxic, it can smother aquatic habitat and increase turbidity and suspended sediments in the water column. This would result in a significant impact to the water quality of streams and canals. To reduce the potential for significant impacts from unplanned "frac-out", implementation of Mitigation Measure HWQ-1c by the City or its contractors would reduce this impact to less than significant.

This impact would be significant, but implementation of the following mitigation measures would reduce this impact to a less-than-significant level.

Mitigation Measure HWQ-1a: Implement Erosion and Sediment Control Measures. Before onset of construction activities on construction sites of one acre or more, the City's program contractor shall obtain coverage under the General Construction Permit. The City will be responsible for ensuring that construction activities comply with the conditions in this permit, which require development of a SWPPP, implementation of BMPs identified in the SWPPP, and monitoring to ensure that effects on water quality are minimized. As a performance standard, the General Construction Permit shall require controls of pollutant discharges that utilize the best available technology (BAT) that is economically achievable, best conventional technology (BCT) to reduce pollutants, and any more stringent controls necessary to meet water quality standards.

For construction sites smaller than one acre, the program contractor will comply with City's established SWPPP requirements and BMPs. The following erosion and sediment control BMPs are examples of BMPs that may be part of the SWPPP in order to be included in the construction specifications and project performance specifications, based on standard City measures and standard dust-reduction measures:

- cover or apply nontoxic soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more) that could contribute sediment to waterways;
- enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways;
- control and contain soil and filter runoff from disturbed areas. This will be done by using berms, silt fencing, straw bales or wattles, plastic sheeting or geofabric, silt/sediment traps and catch basins, silt fencing, sand bag dikes, temporary vegetation or other groundcover, or other means necessary to prevent the escape of sediment from the disturbed area;

- ensure that no earth or organic material shall be deposited or placed where it may be directly carried into a stream, marsh, slough, lagoon, or body of standing water;
- prohibit the following types of materials from being rinsed or washed into the streets, shoulder areas, or gutters: concrete; solvents and adhesives; thinners; paints; fuels; sawdust; dirt; gasoline; asphalt and concrete saw slurry; and heavily chlorinated water;
- ensure that dewatering activities shall be conducted according to the provisions of the SWPPP. No dewatered materials shall be placed in local water bodies or in storm drains leading to such bodies without implementation of proper construction water quality control measures;
- ensure that drainage facilities in downstream off-site areas will be protected from sediment using BMPs acceptable to City of Manteca and the Central Valley RWQCB; and
- ensure that grass or other vegetative cover will be established on the construction site as soon as possible after disturbance.

Preparation and implementation of a SWPPP will be conducted by the City or its program contractors. The City will review the SWPPP and ensure that its contractors have submitted an NOI to comply with the General Construction Permit to the Central Valley RWQCB before construction begins. The City or its agent will perform routine inspections of the construction area to verify that the BMPs specified in the SWPPP are properly implemented and maintained. The City will notify its contractors immediately if there is a noncompliance issue and will require compliance.

Mitigation Measure HWQ-1b: Develop and Implement a Spill Prevention, Control, and Countermeasure Program for Construction Activities. The program contractor will develop and implement a Spill Prevention, Control, and Countermeasure Program (SPCCP) to minimize the potential for and effects from spills of hazardous, toxic, or petroleum substances during construction activities. The SPCCP will be completed before any construction activities begin. Implementation of this measure shall comply with state and federal water quality regulations.

The federal reportable spill quantity for petroleum products, as defined in 40 CFR 110, is any oil spill that:

- violates applicable water quality standards,
- causes a film or sheen on or discoloration of the water surface or adjoining shoreline, or
- causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines.

If a spill is reportable, the contractor's superintendent will notify the City and take action to contact the appropriate safety and cleanup crews to implement the SPCCP. A written description of reportable releases must be submitted to the Central Valley RWQCB. This submittal must contain a description of the release, including the type of material and an estimate of the amount spilled, the date of the release, an explanation of why the spill occurred, and a description of the steps taken to prevent and control future releases. The releases shall be documented on a spill report form.

If an appreciable spill has occurred and results determine that program activities have adversely affected surface water or groundwater quality, a detailed analysis shall be performed to identify the likely cause of contamination, and recommendations shall be made for reducing or eliminating the source or mechanisms of contamination. Based on this analysis, the program contractor will select and implement measures to control contamination, with a performance standard that surface and/or groundwater quality must be returned to baseline conditions. These measures will be subject to review by the City.

The City will review the SPCCP before onset of construction activities as required. The City will routinely inspect the construction area to verify that the measures specified in the SPCCP are properly implemented and maintained. The City will notify its contractors immediately if there is a noncompliance issue and will require compliance.

Mitigation Measure HWQ-1c: Develop and Implement a Frac-Out Contingency Plan for Jack and Bore Activities. For tunneling activities that use drilling lubricants (e.g., construction of pipelines using jack-and-bore methods), the program contractor will prepare and implement a Frac-Out Contingency Plan that is intended to minimize the potential for a frac-out associated with tunneling activities, provide for the timely detection of frac-outs, and ensure an organized, timely, and "minimum-impact" response in the event of a frac-out and release of drilling lubricant (i.e., bentonite). The Contingency Plan will require, at a minimum, the following measures.

- A full-time monitor will attend all drilling to look for observable frac-out conditions or lowered pressure readings on drilling equipment.
- If a frac-out is identified, all work will stop, including the recycling of drilling lubricant. In the event of a frac-out into water, the pressure of water above the tunnel will keep excess mud from escaping through the fracture. The location and extent of the frac-out will be determined, and the frac-out will be monitored for 4 hours to determine whether the drilling lubricant congeals (bentonite will usually harden, effectively sealing the frac-out location).
- If the drilling lubricant congeals, no other actions will be taken that potentially suspend sediments in the water column.

- Surface releases of bentonite will be allowed to harden and then will be removed.
- The Contingency Plan will identify additional measures to be taken to contain or remove the drilling lubricant if it does not congeal.

Preparation and implementation of a Frac-Out Contingency Plan will be reflected in contract documents.

Impact HWQ-2: Water Quality Degradation Due to Construction in Surface Waters and/or Groundwater (Less than Significant with Mitigation).

Due to the presence of shallow groundwater within the City, trenching and excavation activities associated with the various program facilities could reach a depth that could expose the water table, through which it would immediately and directly become available for contaminants to enter the groundwater system. Similarly, if construction is initiated in an area with direct contact with surface water, then the potential for contaminants to enter the surface water system increases. Discharge of construction-related dewatering effluent could also result in the release of contaminants to surface water. Primary construction-related hazardous materials that could be discharged include oil and grease and construction-related hazardous materials. In addition, short-term water quality impacts are possible, such as local changes in turbidity and possibly changes in dissolved oxygen. This impact would be significant, but implementation of the following mitigation measures as applicable would reduce this impact to a less-than-significant level.

Mitigation Measure HWQ-2a: Use Trenchless Technology. Where distribution pipelines cross water bodies, the City will require its program contractor to use trenchless technology (microtunneling or jack-and-bore), where feasible. Frac-out plans as described in Mitigation Measure HWQ-1c shall be implemented as necessary.

Mitigation Measure HWQ-2b: Dry-Season Construction. Where Mitigation Measure HWQ-2a is not feasible, and flows in the water body (or area) are seasonal, construction shall be conducted during the dry season. The program site will be restored prior to the onset of the rainy season to minimize the potential for erosion. This proposed mitigation is subject to additional conditions as a result of negotiations of the required permits from USACE, DFG, and the Central Valley RWQCB.

Mitigation Measure HWQ-2c: Implement Measures to Maintain Water Quality. Where construction in a water body is unavoidable, the City will require its program contractor to control the release of sediment during construction by installing a sheet-pile cofferdam or another method that will control turbidity to the specifications listed below. This will ensure that construction activities result in minimal increases in turbidity or suspended solids.

The City will require its program contractor to monitor turbidity and suspended solids during the installation and removal of the cofferdam and periods of dewatering during installation of the outfall. If levels exceed the Basin Plan standards, the City will stop work until levels are within Basin Plan limits. Basin Plan standards for turbidity state that project activities will not cause an increase in ambient river turbidity by more than 20% above background turbidity (California Regional Water Quality Control Board 1998). During the first week of construction, turbidity measurements will be taken in the river channel upstream of construction for baseline comparison conditions and at distances of 200 and 600 feet downstream of the program site. Measurements will be taken three times per day during the construction period, and measurements shall be taken where flow regime is applicable to the relative flow regime around the construction zone so the sample is representative of the water quality affected by construction.

If turbidity violates the Basin Plan standard described above, operations will stop and the RWQCB will be notified. Investigation of the cause of the significant turbidity increase will be conducted and corrections will be made in construction operations where applicable. If necessary, the frequency and duration of monitoring may be revised in coordination with the RWQCB as part of the NPDES permit process. This mitigation measure is subject to alteration through negotiations of the other required permits from USACE, DFG, and the Central Valley RWQCB.

Mitigation Measure HWQ-2d: Provisions for Dewatering.
Dewatering effluent shall be discharged to the SSJID drainage system and is subject to the SSJID-City of Manteca Storm Drainage Agreement. Before discharging any substance that could reach surface waters, the City's program contractors shall obtain an NPDES permit and WDRs from the Central Valley RWQCB. Depending on the volume and characteristics of the discharge, coverage under the RWQCB's General Construction Permit or General Dewatering Permit is possible. As part of the permit, the program contractors will design and implement measures as necessary so that the discharge limits identified in the relevant permit are met. As a performance standard, these measures will be selected to achieve maximum sediment removal and represent the BAT that is economically achievable. Implemented measures may include retention of dewatering effluent until particulate matter has settled before it is discharged, use of infiltration areas, and other BMPs. Final selection of water quality control measures will be subject to review by the City of Manteca.

The City of Manteca will verify that coverage under the appropriate NPDES permit has been obtained before allowing dewatering activities to begin. The City or its agent shall perform routine inspections of the construction area to verify that the water quality control measures are properly implemented and maintained. The City will notify its contractors immediately if there is a noncompliance issue and will require compliance.

Impact HWQ-3: Process Discharge Water Associated with Construction of Wells (Less than Significant with Mitigation).

Construction of wells involves well testing and pumping, the discharge of which could result in erosion/sedimentation to waterways. This impact is considered potentially significant. Implementation of Mitigation Measure HWQ-2d, described above, would ensure that impacts would be lowered to less-than-significant levels.

Impact HWQ-4: Release of Hazardous Materials during Operation of Wellhead Treatment Units (Less than Significant with Mitigation).

Manteca's wells average about 12.4 micrograms per liter (µg/l) of arsenic and would require treatment to meet the federal drinking water standard of 10 µg/L. Wellhead treatment units would be installed as part of the program, which would reduce arsenic levels to approximately 8 µg/l. This, in combination with blending of drinking water supplies with surface water from SSJID, which is low in arsenic, would ensure that this drinking water standard is met.

However, wellhead treatment units would involve the use/storage of hazardous materials, as well as produce an arsenic-laden brine or solid cake that will require proper disposal. Accidental leaks/upsets in the treatment process or improper disposal of generated waste could result in degradation of water quality. This impact would be significant, but implementation of Mitigation Measures HWQ-1b, as well as HAZ-1a—HAZ-1b, HAZ-2, and HAZ-3a—HAZ-3e discussed in Section 3.7, *Hazards and Hazardous Materials*, would reduce this impact to a less-than-significant level.

Impact HWQ-5: Process Discharge Water Associated with Operation of Distribution Pipelines, Storage Tanks, and Wells (Less than Significant with Mitigation).

Pipelines may include blow-offs and other appurtenances that would result in the periodic release of potable water to surface waters. In addition, discharge of potable water associated with periodic maintenance of distribution pipelines, storage tanks, and wells may also be required. Impacts could include reductions in water quality where the water released is of lower quality than ambient conditions. Discharge could also result in erosion and sedimentation in waterways. This impact would be significant, but implementation of Mitigation Measure HWQ-2d would reduce this impact to a less-than-significant level.

Impact HWQ-6: Increased Amounts of Surface Runoff and Associated Impacts to Water Quality, Drainage Facilities, and Groundwater Recharge (Less than Significant).

The new aboveground facilities (groundwater wells, booster pumps, and storage tanks) would involve a small amount of new impervious surface, which could increase the amount of surface runoff as well as convey nonpoint-source contaminants to surface waters during storm events and reduce the ability of precipitation to infiltrate and recharge groundwater. Additional runoff could

contribute to the flood potential of natural stream channels, accelerate soil erosion and stream channel scour, and provide a more lucrative means of transport for pollutants to enter waterways. However, the amount of additional impervious surface is anticipated to be relatively small, and it is not anticipated that the runoff would exceed drainage capacity, contribute a substantial amount of contaminants to stormwater, or lead to a measurable decrease in local or regional groundwater recharge. This is a less-than-significant impact.

Impact HWQ-7: Groundwater Overdraft (Beneficial).

Groundwater overdraft occurs when water removal exceeds water recharge. The groundwater aquifer underlying Manteca is already in a severe state of overdraft; however, the proposed program would implement a conjunctive use program where treated surface water would be used to help offset the groundwater overdraft in the area. The program involves a reduction in groundwater pumping from the current 2.4 afa/y to 1 afa/y, which equal to the identified sustained yield of the aquifer. This is a beneficial impact.

Impact HWQ-8: Provision of Surface Water Supply (No Impact).

The distribution pipelines and storage tanks associated with the program would, in part, convey treated surface water supplied by SSJID. SSJID currently holds all necessary water supply rights/entitlements to serve water to the City. As a result, the program would not result in the need for any new or expanded water supply entitlements. Other water resources-related environmental effects of SSJID's Surface Water Supply Program were analyzed in the 1999 EIR associated with that program and are incorporated by reference here. There is no impact. No mitigation is required.

Impact HWQ9: Flooding Hazards (Less than Significant).

All program facilities would be constructed in areas that are outside of the 100-year flood zone and would be in areas unlikely to be subject to inundation in the event of a dam failure. Further, as described above, the facilities would be unlikely to contribute to any existing flooding issues elsewhere. This impact is less than significant, and no mitigation is necessary.

Impact HWQ-10: Seiche, Tsunami, and Mudflow Hazards (Less than Significant).

The program is not located near the Pacific Ocean or any water bodies potentially subject to seiche or tsunami. In addition, the program area is relatively flat, with little risk of mudflow. Impacts are less than significant, and no mitigation is necessary.

Section 3.9

Land Use and Planning

This section analyzes the proposed program's effects on land use and planning. Key sources of data used in the preparation of this section include the following:

- The City's *2023 General Plan* (City of Manteca 2003a).
- The City's *2005 Draft Water Master Plan* (City of Manteca 2005b).

Cumulative impacts are discussed in Chapter 5.0, *Other CEQA Findings*.

Environmental Setting

This section discusses the existing conditions related to land use in the program area. Federal, state, and local regulations related to land use and planning that would apply to the proposed program are discussed under *Regulatory Context*, below.

Existing Conditions

Historic Setting

The City of Manteca was established as an agricultural service center in the early 1900s. Manteca formed around the primary crossroads, Yosemite Avenue and Main Street, on land owned by the "father of Manteca," Joshua Cowell. The City's first Southern Pacific (now the Union Pacific) railroad station was initially called Cowell Station, but was later changed to Manteca (Wright Realtors 2005).

Development began in earnest in Manteca between 1914 and 1920, following the formation of the SSJID and its provision of water. The City of Manteca was incorporated on May 28, 1918 (City of Manteca 2003a). The community grew close to the historic center in a concentric pattern, and most economic activity in Manteca was related to agricultural services until World War II. During the 1950s, the City grew as inexpensive housing drew workers from the Sharpe Army Depot in Lathrop and industrial plants in south San Joaquin County. Other manufacturing employers in the region included the Manteca Canning Company,

Spreckles Sugar Company, Kraft Company, Libbey Owens Ford, Simplot, and Olin Industries (Wright Realtors 2005).

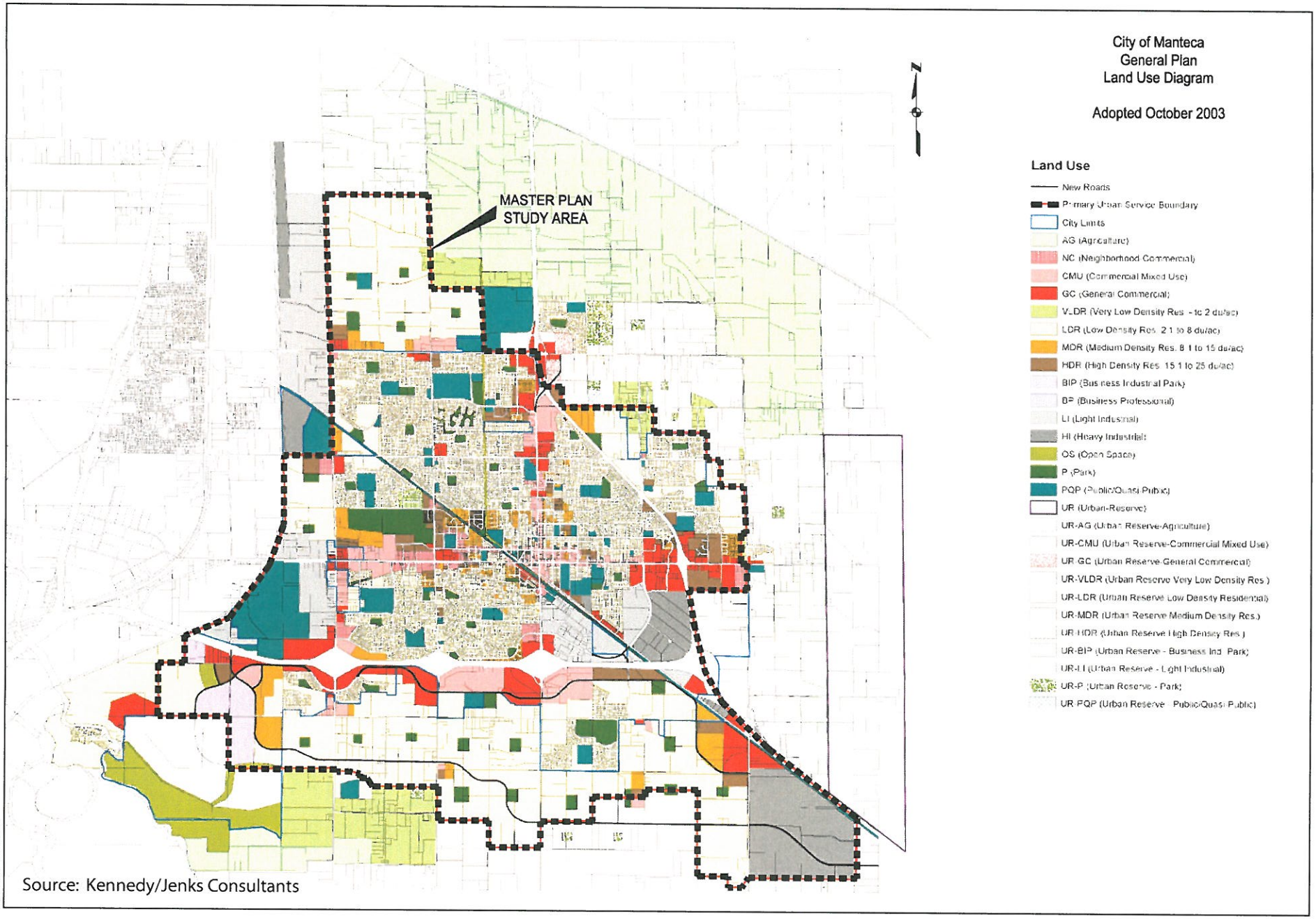
While agriculture still plays an important role in the local economy, the economic base has become more diversified with the development of industries and the influx of Bay Area workers seeking affordable housing. Warehousing and distribution industries are expanding to take advantage of the City's central location, relatively affordable land, and transportation network. Manteca has grown outward from the geographic center, and commercial development along Yosemite Avenue and Main Street is flanked by residential neighborhoods. In the 1970s and 1980s the community grew away from the center toward the north and west. In the 1990s, following the approval of the South Area Plan, Manteca began to grow south of State Route 120 (SR 120) (City of Manteca 2003a).

Existing Setting

Manteca has grown in a generally compact form with few large vacant parcels. Larger vacant parcels tend to be located along the west end of Yosemite Avenue and the north end of Main Street, at the periphery of the historic urban growth pattern. In these locations, modern residential neighborhoods have bypassed underutilized commercial and industrial properties. A handful of agricultural lands remain near the urbanized area (City of Manteca 2003a).

Residential neighborhoods are typically composed of single-family dwellings in a mix of one- and two-story structures, featuring a neighborhood park and detention basin. The average residential neighborhood in Manteca, including both older and newer areas, has a density of approximately four to five dwelling units per acre. Commercial development is clustered along highway interchanges and arterial roadways (such as Main Street, Union Road, and Yosemite Avenue), while industrial uses are clustered generally along the UPRR tracks.

Table 3.9-1 provides a summary of the existing and projected land uses under the 2023 General Plan. Figure 3.9-1 shows the 2023 General Plan land use map, which includes both existing and planned development within the PUSA .



Source: Kennedy/Jenks Consultants

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Jones & Stokes

Figure 3.9-1
General Plan Land Use Map

Table 3.9-1. 2023 General Plan Land Uses

Land Use	Existing Urbanized Acreage	Proposed Developable Acreage	Total 2023 Acreage
AG Agriculture	-	3,960	3,960
GC General Commercial	154	518	672
NC Neighborhood Commercial	380	112	492
CMU Commercial Mixed Use	-	255	255
HI Heavy Industrial	195	715	910
LI Light Industrial	226	798	1,024
BIP Business Industrial Park	-	258	258
BP Business Professional	-	133	133
HDR High-Density Residential (15.1–25 dwelling units per acre [du/ac])	191	251	442
MDR Medium-Density Residential (8.1–15 du/ac)	188	359	547
LDR Low-Density Residential (2.1–8 du/ac)	2,742	3,686	6,428
VLDR Very-Low-Density Residential (0.5–2 du/ac)	110	248	358
P/QP Public/Quasi-Public/Schools/Utilities	788	318	1,106
OS Open Space	27	516	543
P Park	342	176	518
Total	5,343	12,302	17,645

Source: City of Manteca 2023 General Plan, Table 11-2.

Regulatory Context

There are no specific federal regulations that apply to land use and planning associated with this program.

State Regulations

California Government Code Sections 53091 and 53096 exempt the "location or construction of facilities for the production, generation, storage, treatment, or transmission of water" from regulation under local zoning ordinances. Therefore, the location of such facilities is not considered to be inconsistent with any zone.

Local Regulations and Programs

City of Manteca 2023 General Plan

The City of Manteca 2023 General Plan identifies the community's land use, transportation, environmental, economic, and social goals and policies as they relate to land use, conservation, and development. The 2023 General Plan goals and policies that may relate to the proposed program include the following.

Policy LU-P-3: The City shall encourage a pattern of development that promotes the efficient and timely development of public services and facilities.

Policy LU-P-5: The City shall establish and maintain a Primary Urban Service Boundary line designating lands eligible for annexation and urban development prior to the year 2013.

Policy LU-P-40: Development shall be managed to ensure that adequate public facilities and services, as defined in the Public Services and Facilities Element, are planned and provided.

Policy PF-P-4: Secure sufficient sources of water to meet the needs of the existing community and planned residential and commercial growth.

Policy PF-P-7: The City shall develop new water storage facilities and major distribution lines as necessary to serve new development.

San Joaquin County General Plan

The San Joaquin County General Plan and Zoning Ordinance regulates land use in the unincorporated area adjacent to the Manteca city boundary. Manteca has historically annexed land as development has created the demand for urban services. Therefore, the boundary of the Manteca city limits very closely follows the existing developed area. The predominant land use designation in the County is agriculture.

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

The San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) is a multi-species, multi-habitat open space management program for all of San Joaquin County, including the incorporated area of Manteca. The Manteca City Council adopted the SJMSCP (Resolution #R2001-411) on February 5, 2001, signing a Joint Powers Agreement with other city, county, state, and federal agencies.

The SJMSCP is a 50-year plan (2001–2051) that provides a strategy for compensation for the conversion of approximately 109,302 acres of open space to non-open space uses that affect the plant, fish, and wildlife species covered by the plan. The plan also includes a strategy for compensation to offset the effects of certain open space conversions on non-wildlife-related resources, such as recreation, agriculture, scenic values, and other beneficial open space. The plan proposes preserves that contain habitat for many species, not just the targeted species.

The SJMSCP is intended to assist in the implementation of resource management, conservation, and open space policies of local general plans, while also accommodating the urban growth planned in local general plans.

Impact Analysis

Methodology for Impact Analysis

This section describes the CEQA impact analysis relating to land use for the proposed program. It describes the methods used to determine the proposed program's impacts and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Significance Criteria

For the purposes of this analysis, an impact was considered to be significant and to require mitigation if it would result in any of the following:

- physically divide an established community;
- conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the program, adopted for the purpose of avoiding or mitigating an environmental effect;
- be incompatible with existing or future adjacent land uses; or
- conflict with any applicable habitat conservation plan or natural community conservation plan.

Impacts and Mitigation Measures

Impact LU–1: Disruption or Division of an Established Community during Construction Activities (Less than Significant).

Construction of program elements would not physically divide an established community but would temporarily disrupt existing land uses. Land uses within the City include residences, commercial and industrial uses, public/semi-public uses, parks and recreation, and open space. Construction of program elements would enable continued growth of the community within the PUSA, as identified by the City, for infill development and expansion. This growth would increase the cohesiveness of the PUSA rather than divide the community. However, construction of distribution pipelines would occur primarily within or adjacent to established roadway ROWs and could temporarily disrupt neighborhood circulation and access.

Potential direct and indirect impacts on land uses from construction-related traffic delays and public safety hazards, as well as air emissions and noise, are addressed in other chapters of this document.

Because construction is a short-term activity, disruption of existing neighborhoods and access routes within the City would be temporary during construction of program elements. This impact would be less than significant. No mitigation is required.

Impact LU-2: Conflicts with Applicable Land Use Plan, Policy, or Regulation (No Impact).

Program elements would be located within the City's PUSA, subject to the 2023 General Plan. The proposed program implements the goals, policies, and objectives of the 2023 General Plan (specifically PF-P-4 and PF-P-7, listed above). The proposed program would ensure construction of adequate distribution mains and storage tanks to provide water supply to the growing community.

Construction of the distribution pipelines generally within ROWs would comply with existing land use designations for the sites; in addition, construction activities would be temporary and the sites would be restored to pre-construction conditions once pipeline construction is completed.

Based on exemptions in California Government Code Sections 53091 and 53096 (described above), there would be no inconsistencies between water supply infrastructure and zoning.

Program elements would not require amendments to the 2023 General Plan. Intended uses would still occur despite operation of these facilities. There is no impact. No mitigation is required.

Impact LU-3: Incompatibility with Existing or Future Adjacent Land Uses (Less than Significant).

Program elements (i.e., wells and wellhead treatment facilities, blending stations, booster pumps, storage tanks, and distribution pipelines) would represent a minimal change in existing land uses. Surface features that would be visible above grade may include utility boxes associated with the booster pumps, water storage tanks, blending stations, and wellhead treatment facilities. These program elements would generally not conflict with the density, scale, and character of the existing residential and commercial land uses currently along the PUSA's outer borders. Implementation of mitigation measures in the Section 3.1, *Aesthetics*, section would result in screening and landscaping of program sites, which would contribute to reductions in potential land use conflicts. Furthermore, the proposed program would be compatible with the other future nearby land uses anticipated under the 2023 General Plan.

Construction of the program elements (wells, wellhead treatment facilities, blending stations, storage tanks, and distribution pipelines) would not preclude the existing agricultural uses on surrounding properties, nor future development of surrounding parcels for urban development. For this reason, the program would not affect existing land uses. This impact would be less than significant. No mitigation is required.

Impact LU-4: Conflicts with Applicable Habitat Conservation Plan or Natural Community Conservation Plan (Less than Significant).

Construction and operation of new water supply infrastructure would not conflict with the SJMSCP. Although Section 8.2.2.1(D) of the SJMSCP states that neither the diversion nor the conveyance of surface water is covered by the SJMSCP, changes in surface water flows are not a result of the program. Changes in San Joaquin River flows were addressed in the South County Surface Water Supply Project EIR, incorporated by reference. Construction and operation of groundwater wells and storage tanks would not conflict with the SJMSCP. Implementation of Mitigation Measure BIO-8 in the Biological Resources section of this document would also contribute to ensuring compliance with the SJMSCP. This impact would be less than significant. No mitigation is required.

Section 3.10
Noise

This section analyzes the proposed program's effects on noise. Key sources of data used in the preparation of this section include the following:

- The California Governor's Office of Planning and Research's *Guidelines for the Preparation and Content of the Noise Element of the General Plan*, Appendix A (California Governor's Office of Planning and Research 2003);
- The City's *2023 General Plan* (City of Manteca 2003a);
- The City's *Draft Water Master Plan* (City of Manteca 2005b);
- James P. Cowan's *Handbook of Environmental Acoustics* (Cowan 1984);
- The Federal Highway Administration's (FHWA) *Traffic Noise Analysis and Abatement Policy and Guidance* (Federal Highway Administration 1995);
- The Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment* (Federal Transit Administration 1995); and
- Hoover & Keith's *Noise Control for Buildings, Manufacturing Plants, Equipment, and Products* (Hoover & Keith 1996).

Growth-inducing impacts and cumulative impacts are discussed in Chapter 5.0, *Other CEQA Findings*.

Concepts and Terminology

Noise

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient sound level. The decibel (dB) scale is used to quantify sound intensity. Because sound pressure can vary enormously within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to

which humans are sensitive in a process called "A-weighting," written "dBA." In general, human sound perception is such that a change in sound level of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving sound level.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}), percentile-exceeded sound levels (L_{xx}), the day-night sound level (L_{dn}), and the community noise equivalent level (CNEL). Below are brief definitions of these measurements and other terminology used in this chapter.

- **Sound.** A vibratory disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Equivalent Sound Level (L_{eq}).** The average of sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level that in a stated period would contain the same acoustical energy as the time-varying sound that actually occurs during the same period.
- **Exceedance Sound Level (L_{xx}).** The sound level exceeded XX percent of the time during a sound-level measurement period. For example L_{90} is the sound level exceed 90 percent of the time, and L_{10} is the sound level exceeded 10 percent of the time.
- **Maximum and Minimum Sound Levels (L_{max} and L_{min}).** The maximum or minimum sound level measured during a measurement period.
- **Day-Night Level (L_{dn}).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.

L_{dn} and CNEL values rarely differ by more than 1 dB. As a matter of practice, Ldn and CNEL values are considered to be equivalent and are treated as such in this assessment.

Ground Vibration

Pile driving creates seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Pile driving can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance result in different vibration levels containing different frequencies and displacements. In all cases, vibration amplitudes decrease with increasing distance.

As seismic waves travel outward from pile driving, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the peak particle velocity (ppv).

Human Response to Vibration

Human response to vibration is difficult to quantify. Vibration can be felt or heard well below the levels that produce any damage to structures. The duration of the event has an effect on human response, as does frequency. Generally, as the duration and vibration frequency increase, the potential for adverse human response increases.

Table 3.10-1 summarizes the average human response to vibration that may be anticipated when a person is at rest in quiet surroundings. If the person is engaged in any type of physical activity, the levels required for the responses indicated are increased considerably.

It is important to understand that the forgoing describes the responses of average individuals. Individual responses can fall anywhere within the full range of the human response spectrum. At one extreme are those people who receive some tangible benefit from the pile driving operation and probably would not be disturbed by any level of vibration, as long as it does not damage their property. At the opposite extreme are people who would be disturbed by even barely detectable vibration. Individuals at either of these two extremes were not considered in the listing of average human response or in the impact conclusions that follow.

Table 3.10-1. Human Response to Ground Vibration

Response	Ground Vibration Range ppv (inches per second)
Barely to distinctly perceptible	0.02–0.10
Distinctly perceptible to strongly perceptible	0.10–0.50
Strongly perceptible to mildly unpleasant	0.50–1.00
Mildly unpleasant to distinctly unpleasant	1.00–2.00
Distinctly unpleasant to intolerable	2.00–10.00

Source: Bender 1996.

Environmental Setting

This section discusses the existing conditions related to noise in the program area. Federal, state, and local regulations related to noise that would apply to the proposed program are discussed in *Regulatory Context*, below.

Existing Conditions

Ambient Noise Environment

Noise monitoring conducted for the City's 2023 General Plan EIR indicated that the noise levels within the City are typically between 40 and 60 dBA, L_{eq} (City of Manteca 2003a). In addition to noise monitoring, the existing noise environment in the program area can be characterized by the area's population density, as population density and ambient noise levels tend to be closely correlated. Areas that are not urbanized are relatively quiet, while areas that are more urbanized are subjected to higher noise levels due to roadway traffic, industrial activities, and other human activities. Table 3.10-2 summarizes typical ambient noise levels based on population density.

Table 3.10-2. Population Density and Associated Ambient Noise Levels

	dBA, L_{dn}
Rural	40–50
Suburban	
Quiet suburban residential or small town	45–50
Normal suburban residential	50–55
Urban	
Normal urban residential	60
Noisy urban residential	65
Very noise urban residential	70
Downtown, major metropolis	75–80
Under flight path at major airport,0.5 to 1 mile from runway	78–85
Adjoining freeway or near a major airport	80–90

Sources: Cowan 1984 and Hoover and Keith 1996.

In urban settings, the 1-hour L_{eq} value during the loudest hour of the day is typically 0 to 5 dB less than the L_{dn} value. The 1-hour L_{eq} during the quietest hour of the day is typically 9 to 12 dB less than the L_{dn} value. Based on this, Table 3.10-3 summarizes reasonable estimates of generalized existing noise conditions in the program area.

Table 3.10-3. Summary of Existing Noise Conditions

Setting	Route	L_{dn}	Quietest Hour (dBA)	Noisiest Hour (dBA)
Noisy Urban	Freeway, major arterial	65	55	65
Normal Urban	Major and minor arterial	60	50	60
Normal Suburban	Collector street, local street	55	45	55
Quiet Suburban	Collector street, local street	50	40	50

Source: City of Manteca 2003.

Noise-Sensitive Land Uses

Noise-sensitive land uses are land uses such as residences, schools, libraries, hospitals, and other similar uses where noise can adversely affect uses and activities on the site. Existing sensitive land uses, including residences, schools, hospitals, convalescent and adult health care facilities, and day care facilities, are located throughout the program area.

Regulatory Context

Federal Regulations

There are no commonly accepted thresholds for acceptable levels of ground vibration from pile driving. However, the U.S. Department of Transportation suggests a vibration damage threshold of 0.20 inches/second for fragile buildings and 0.12 inches/second for extremely fragile historic buildings (Federal Transit Administration 1995). The Transportation Research Board (1997) suggests maximum allowable peak particle velocities from pile driving for various structure types and conditions. Table 3.10-4 summarizes these values.

Table 3.10-4. Transportation Research Board Building Structure Vibration Criteria

Structure and Condition	Limiting PPV (in/sec)
Historic and some old buildings	0.5
Residential structures	0.5
New residential structures	1.0
Industrial buildings	2.0
Bridges	2.0

Source: Transportation Research Board 1997.

State Regulations

California Vehicle Code

Noise generated by motor vehicles, including buses, is regulated under California Vehicle Code Section 27204. Depending on the weight and date of vehicle manufacture, the noise limit at 50 feet from the centerline of travel cannot exceed sound levels in the range of 80 to 88 dBA.

California Noise Insulation Standards

The California Noise Insulation Standards are found in California Code of Regulations, Title 24 (known as the Building Standards Administrative Code), Part 2 (known as the California Building Code). The standards establish an interior noise (attributable to exterior sources) limit of 45 dBA (L_{dn} or CNEL, with L_{dn} as the preferred metric) for any habitable room within any new hotel, motel, dormitory, long-term care facility, apartment house, and dwelling other than detached single-family dwellings. Any residential structures located in noise-critical areas, such as proximity to highways, county roads, city streets, railroads, rapid transit lines, airports, or industrial areas, must be designed to prevent the intrusion of exterior noises beyond the interior standard of 45 dBA

(L_{dn} or CNEL). To determine compliance with the standard, worst-case noise levels, either existing or future, must be used. If future noise levels are used, then they shall be predicted for a period of at least 10 years from the time of building permit application.

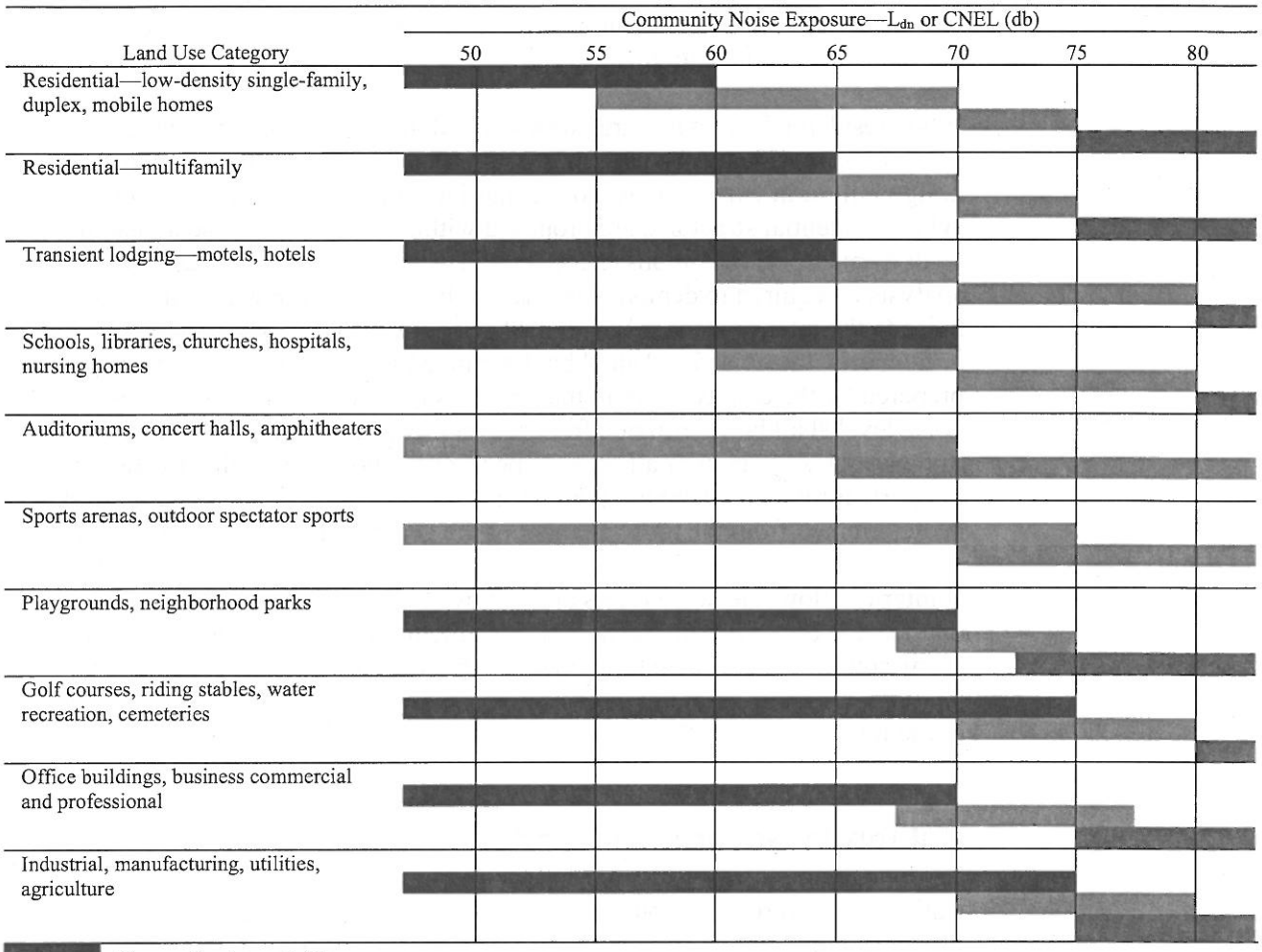
When residential structures are proposed within an area exceeding 60 dBA (L_{dn} or CNEL), an acoustical analysis is required to demonstrate that the building design will limit exterior noise to the interior standard of 45 dBA (L_{dn} or CNEL). When residential structures are proposed within an area where the annual noise level from airport operations exceeds 60 dBA (L_{dn} or CNEL), an acoustical analysis is required to demonstrate that the building design will limit exterior noise to the interior standard of 45 dBA (L_{dn} or CNEL). For public use airports or heliports, the noise level shall be determined from the airport land use plan prepared by the county wherein the airport is located. For military bases, the noise level shall be determined from the facility Air Installation Compatible Use Zone (AICUZ) plan. For all other airports or heliports, or public use airports or heliports for which a land use plan has not been developed, the noise level shall be determined from the noise element of the general plan of the local jurisdiction.

If interior allowable noise levels are met by requiring that windows be unopenable or closed, the design for the structure must also specify a ventilation or air-conditioning system to provide a habitable interior environment. The ventilation system must not compromise the dwelling unit or guest room noise reduction.

California Government Code

California Government Code Section 65302(f) requires that cities and counties include a noise element in their general plans. The purpose of the noise element is to provide a guide for establishing a pattern of land uses that minimizes the exposure of community residents to excessive noise. The Office of Planning and Research has published general plan guidelines that include guidelines for noise land use compatibility (Table 3.10-5).

Table 3.10-5. State Land Use Compatibility Standards for Community Noise Environment



Normally Acceptable
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh-air supply systems or air-conditioning, will normally suffice.

Normally Unacceptable
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise-reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable
New construction or development generally should not be undertaken.

Source: California Governor's Office of Planning and Research 2003.

Local Regulations and Programs

The City has established policies and regulations concerning the generation and control of noise that could adversely affect its citizens and noise-sensitive land uses. The 2023 General Plan is a document required by state law that serves as the City's "blueprint" for land use and development. The 2023 General Plan provides an overall framework for development in the City and protection of its natural and cultural resources by providing a comprehensive, long-term document that provides details for the physical development of the City, sets out policies, and identifies ways to put the policies into action. The Noise element of the 2023 General Plan contains planning guidelines relating to noise and identifies goals and policies to support achievement of those goals. Noise element guidelines relate primarily to land use compatibility with noise sources that are regulated at the local level, such as traffic, aircraft, and trains.

The City's noise ordinance, part of the City's zoning ordinance, is the primary noise enforcement tool for noise generated by locally regulated noise sources such a mechanical equipment and construction activity.

The following is a brief discussion of the 2023 General Plan policies and noise ordinance regulations implemented by the City to protect its citizens from the adverse impacts of noise.

City of Manteca 2023 General Plan

The City's 2023 General Plan Noise Element establishes policies and regulations concerning the generation and control of noise that could adversely affect its citizens and noise-sensitive land uses. The City has established performance standards for exposure from mobile/transportation and stationary noise sources. The City's standards for mobile/transportation noise sources are indicated in Table 3.10-6, while Table 3.10-7 summarizes the City's standards for stationary noise sources. The standards indicated in Table 3.10-7 also apply to construction-related noise on adjacent land uses.

Table 3.10-6. City of Manteca Maximum Allowable Noise Exposure from Mobile/Transportation Noise Sources[1]

Land Use[2]	Outdoor Activity Areas[3]	Interior Spaces	
		L_{dn}/CNEL, dBA	L_{eq}, dBA[4]
Residential	60[5]	45	--
Transient lodging	60[5]	45	--
Hospitals, nursing homes	60[5]	45	--
Theaters, auditoriums, music halls	--	--	35
Churches, music halls	60[5]	--	40
Office buildings	65	--	45
Schools, libraries, museums	--	--	45
Playgrounds, neighborhood parks	70	--	--

Source: City of Manteca 2003a.

Notes:

[1] Noise from new transportation projects, such as rail or public transit routes, may be allowed to exceed these standards if the City Council finds that there are special overriding circumstances.

[2] Where a proposed use is not specifically listed on the table, the use shall comply with the noise exposure standards for the nearest similar use as determined by the City.

[3] Outdoor activity areas for residential development are considered to be backyard patios or decks of single-family dwellings and the common areas where people generally congregate for multifamily developments. Outdoor activity areas for non-residential developments are considered to be those common areas where people generally congregate, including pedestrian plazas, seating areas, and outside lunch facilities. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

[4] Determined for a typical worst-case hour during periods of use.

[5] In areas where it is not possible to reduce exterior noise levels to 60 dB L_{dn} or below using a practical application of the best noise-reduction technology, an exterior noise level of up to 65 dB L_{dn} will be allowed.

Table 3.10-7. City of Manteca Performance Standards for Stationary Noise Sources and Construction Noise[1,2]

	Daytime	Nighttime
Noise Level Descriptor	7:00 a.m. to 10:00 p.m.	10:00 p.m. to 7:00 a.m.
Hourly L_{eq}, dB	50	45
Maximum level, dB	70	65

Notes:

[1] Each of the noise levels specified below should be lowered by 5 dB for simple noise tones, noises consisting primarily of speed or music, or recurring impulsive noises. Such noises are generally considered by residents to be particularly annoying and are a primary source of noise complaints.

[2] No standards have been included for interior noise levels. Standard construction practices should, with exterior noise levels identified, result in acceptable interior noise levels.

Source: City of Manteca 2003a.

The City's Noise element further stipulates that new development in residential areas with noise levels in excess of 60 dB, L_{dn} must incorporate mitigation measures to reduce noise levels below 60 dB, L_{dn}. In addition, when determining impacts under CEQA, the City has identified a substantial noise increase as being a 10 dB or greater increase in the ambient noise level. In addition, an increase in noise levels between 5 and 10 dB may also be substantial. For increases in noise between 5 and 10 dB, the following factors should be taken into account when determining whether a substantial noise increase would occur:

- the resulting noise levels;
- duration and frequency of the noise;
- the number of people affected;
- the land use designation of the affected receptor sites;
- public reactions or controversy as demonstrated at workshops or hearings, or by correspondence; and
- prior CEQA determinations by other agencies specific to the program.

City of Manteca Noise Ordinance

The City's noise ordinance states that noise levels may not exceed the City's maximum permissible sound pressure levels (Table 3.10-8) at the lot line of any establishment or use for all districts, except M-1 and M-2 districts. For M-1 and M-2 districts, this standard applies at the district boundary of 500 feet to the exterior wall of the establishment or use, whichever is less. However, normal household appliances or equipment in use during the hours of 7:00 a.m. to 7:00 p.m. are not subject to this requirement.

Table 3.10-8. City of Manteca Maximum Permissible Sound Pressure Levels

Receiving Land Use Category	Time Period	Maximum Exterior Noise Level (dBA)
Single and limited multiple family	10:00 p.m. – 7:00 a.m.	50
	7:00 a.m. – 10:00 p.m.	60
Multiple family, public institutional, and neighborhood commercial	10:00 p.m. – 7:00 a.m.	55
	7:00 a.m. – 10:00 p.m.	60
Medium and heavy commercial	10:00 p.m. – 7:00 a.m.	60
	7:00 a.m. – 10:00 p.m.	65
Light industrial	Anytime	70
Heavy industrial	Anytime	75

Source: City of Manteca Municipal Code.

Notes:

The following corrections are applicable*:

1 Daytime operation only (7:00 a.m. – 7:00 p.m.)	+5 decibels
2 Noise source operates less than:	
a. 20% of any 1-hour period	+5 decibels
b. 5% of any 1-hour period	+10 decibels
c. 1% of any 1-hour period	+15 decibels
3 Noise of impulsive character (hammering, etc.)	-5 decibels
4 Noise rising or falling in pitch or volume (hum, screech, etc.)	-5 decibels

*apply only one of these corrections.

Further, the City's municipal code also establishes limits for groundborne vibration. The ordinance stipulates that no vibration shall be produced that is transmitted through the ground and is discernible without the aid of instruments at the lot line of any establishment or use for all districts, except M-1 and M-2 districts. For M-1 and M-2 districts, this standard applies at the district boundary of 500 feet to the exterior wall of the establishment or use, whichever is less. In addition, vibration may not exceed an acceleration of 0.002g (acceleration due to gravity) peak for frequencies up to 50 cycles per second, as measured at the distances referenced above using either seismic or electronic vibration measuring equipment. Vibration occurring at higher frequencies than 50 cycles per second frequency of a periodic vibration shall not induce accelerations exceeding 0.001g. Single-impulse periodic vibrations occurring at an average interval greater than 5 minutes shall not induce accelerations exceeding 0.01g.

Impact Analysis

Methodology for Impact Analysis

This section describes the CEQA impact analysis relating to noise for the proposed program and alternatives. It describes the methods used to determine the proposed program's impacts and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Construction Noise

Construction noise impacts were assessed using an analysis method recommended by the U.S. Department of Transportation (Federal Transit Administration 1995). Potential noise impacts resulting from constructing the program elements were evaluated by estimating the amount of noise generated on the theoretical worst-case day of construction activity (i.e., simultaneous and continuous operation of the three loudest pieces of equipment over at least a 1-hour period). A list of the types of equipment that may be used to construct program elements and noise typically generated by this equipment is shown in Table 3.10-9. To determine a combined-source noise level, a reasonable worst-case assumption is that the three loudest pieces of equipment would operate simultaneously and continuously over at least a 1-hour period for the construction of each program element. The magnitude of construction noise impacts is a result of the type of construction activity, the noise level generated by various pieces of construction equipment, the distance between the activity and noise-sensitive receivers, and the presence of local noise barriers, including topography and buildings.

Construction Vibration

Construction vibration impacts were estimated using an analysis method recommended by the U.S. Department of Transportation (Federal Transit Administration 1995). Potential vibration impacts were evaluated by estimating potential groundborne vibration levels that may result from construction activities. Vibration source levels for various types of construction equipment that may be used during program construction were obtained from the U.S. Department of Transportation. Vibration levels as a function of distance were then estimated for these equipment pieces and compared to the City's vibration thresholds.

Operational Noise

The operation of booster pumps and motors, equipment used in the treatment of water, emergency diesel generators, and vehicle trips and equipment used for routine maintenance of facility components are anticipated to be the primary operational noise sources associated with the proposed program. Because specific details on the equipment to be used is not available at this time, operational noise impacts have been assessed qualitatively.

Significance Criteria

The following criteria were used to determine the significance of impacts under CEQA. These criteria are based on the 2023 General Plan Noise element and the other relevant standards discussed above. For the purposes of this analysis, an impact was considered to be significant if it would result in any of the following:

- construction noise would exceed the thresholds indicated in the City's 2023 General Plan (Table 3.10-7),
- vibration levels would exceed the standards specified in the City's noise ordinance,
- operational noise would exceed the thresholds indicated in the City's 2023 General Plan (Table 3.10-7), or
- ambient noise levels would increase by 10 dBA as a result of the proposed program.

Impacts and Mitigation Measures

Impact NOI-1: Exposure of Noise-Sensitive Land Uses to Short-Term Construction Noise in Excess of City Standards (Significant and Unavoidable).

Construction associated with the proposed program would temporarily increase noise in the vicinity of program components. Program components that would be built include wells, wellhead treatment facilities, blending stations, booster pumps, and distribution pipelines. Noise increases would result both from on-site construction activities, especially during site preparation, grading, and other earthmoving activities, as well as from construction-related vehicle traffic delivering materials to and from the construction site.

Table 3.10-9 summarizes the anticipated equipment that would be used to construct the program elements and their associated noise levels. Actual equipment inventories of construction equipment that would be used for construction activities are currently unknown but were estimated based on previous experiences with similar programs. To determine a combined-source noise level, a reasonable worst-case assumption is that the three loudest pieces of

equipment would operate simultaneously and continuously over at least a 1-hour period for the construction of each program element.

Table 3.10-9. Anticipated Construction Equipment and Associated Noise Emission Levels

Equipment	Typical Noise Level 50 ft from Source (dBA, L_{eq})	Typical Noise Level 50 ft from Source (dBA, L_{max})[1]	Acoustic Usage Factor[2]
Auger drill rig[3]	85	78	20%
Rotary drill rig[3]	88[4]	81[4]	20%
Backhoe	80	76	40%
Compactor	82	75	20%
Concrete mixer	85	81	40%
Concrete pump	82	75	20%
Generator	81	78	50%
Excavator/shovel	82	78	40%
Grader	85	81	40%
Jackhammer	88	81	20%
Loader	85	81	40%
Paver	89	86	50%
Pile driver (impact)	101	94	20%
Pile driver (sonic)	96	89	20%
Roller	74	71	50%
Scraper	89	85	40%
Truck	88	84	40%

Sources: Federal Transit Administration 1995, Massachusetts Turnpike Authority 2000 in Thalheimer 2000, and Jones & Stokes calculations.

Notes:

1 Construction noise levels calculated from acoustic usage factor.

2 "Acoustic usage factor" represents the percent of time that equipment is assumed to be running at full power while working on site.

3 Operation of the auger drill rig and rotary drill rigs will not occur simultaneously.

Boring Machine noise level is estimated for a unit with a 300 hp bore machine and 450 hp drilling fluid system.

Based on the noise levels summarized in Table 3.10-9, Table 3.10-10 calculates estimated sound levels from typical construction activities (non-pile-driving activities), and Table 3.10-11 calculates estimated sound levels from pile-driving activities as a function of distance. Simultaneous operation of a grader, scraper, and truck for a combined source level of 88 dBA at 50 feet is assumed for typical construction activities. The magnitude of construction noise impacts was assumed to depend on the type of construction activity, the noise level generated by various pieces of construction equipment, and the distance between the

activity and noise-sensitive receivers. Any shielding effects that might result from local barriers, including topography, are not included, thus making the analysis conservative.

As indicated in Table 3.10-10, typical construction activities have the potential to exceed the City's daytime standard of 50 dBA, L_{eq} within approximately 2,000 feet of an active construction site, while construction activities have the potential to exceed the City's nighttime standard of 45 dBA, L_{eq} within approximately 3,000 of an active construction site. In addition, Table 3.10-10 also indicates that typical construction activities have the potential to exceed the City's daytime standard of 70 dBA, L_{max} within approximately 250 feet of an active construction site, while construction activities have the potential to exceed the City's nighttime standard of 65 dBA, L_{max} within approximately 400 of an active construction site.

Table 3.10-11 indicates that pile-driving activities have the potential to exceed the City's daytime standard of 50 dBA, L_{eq} within approximately 4,000 feet of an active construction site, while construction activities have the potential to exceed the City's nighttime standard of 45 dBA, L_{eq} within approximately 6,500 of an active construction site. Table 3.10-11 also indicates that pile-driving activities have the potential to exceed the City's daytime standard of 70 dBA, L_{max} within approximately 400 feet of an active construction site, while construction activities have the potential to exceed the City's nighttime standard of 65 dBA, L_{max} within approximately 600 of an active construction site.

Table 3.10-10. Estimated Construction Noise in the Vicinity of an Active Construction Site (Non-Pile-Driving Activities)

Entered Data:				
Construction Condition: Site leveling				
Source 1: Grader – Sound level (dBA) at 50 feet =		85 dBA, L_{eq}		81 dBA, L_{max}
Source 2: Truck – Sound level (dBA) at 50 feet =		88 dBA, L_{eq}		84 dBA, L_{max}
Source 3: Scraper – Sound level (dBA) at 50 feet =		89 dBA, L_{eq}		85 dBA, L_{max}
Average Height of Sources – Hs (ft) =			10	
Average Height of Receiver – Hr (ft) =			5	
Ground Type (soft or hard) =			soft	
Calculated Data:				
All Sources Combined – Sound level (dBA) at 50 feet =		92 dBA, L_{eq}		88 dBA, L_{max}
Effective Height $(H_S+H_R)/2$ =			7.5	
Ground Factor (G) =			0.62	
Distance Between Source and Receiver (ft)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	Calculated Sound Level (dBA)	
50	0	0	92 dBA, L_{eq}	88 dBA, L_{max}
100	-6	-2	85 dBA, L_{eq}	80 dBA, L_{max}
200	-12	-4	77 dBA, L_{eq}	72 dBA, L_{max}
300	-16	-5	72 dBA, L_{eq}	68 dBA, L_{max}
400	-18	-6	69 dBA, L_{eq}	64 dBA, L_{max}
500	-20	-7	66 dBA, L_{eq}	62 dBA, L_{max}
600	-22	-7	64 dBA, L_{eq}	60 dBA, L_{max}
700	-23	-8	62 dBA, L_{eq}	58 dBA, L_{max}
800	-24	-8	61 dBA, L_{eq}	56 dBA, L_{max}
900	-25	-8	60 dBA, L_{eq}	55 dBA, L_{max}
1,000	-26	-9	58 dBA, L_{eq}	54 dBA, L_{max}
1,200	-28	-9	56 dBA, L_{eq}	52 dBA, L_{max}
1,400	-29	-10	55 dBA, L_{eq}	50 dBA, L_{max}
1,600	-30	-10	53 dBA, L_{eq}	48 dBA, L_{max}
1,800	-31	-10	52 dBA, L_{eq}	47 dBA, L_{max}
2,000	-32	-11	50 dBA, L_{eq}	46 dBA, L_{max}
2,500	-34	-11	48 dBA, L_{eq}	43 dBA, L_{max}
3,000	-36	-12	46 dBA, L_{eq}	41 dBA, L_{max}

Sources: Federal Transit Administration 1995, and Jones & Stokes calculations.

Notes:

This calculation does not include the effects, if any, of local shielding, which may reduce sound levels further.

Table 3.10-11. Estimated Construction Noise in the Vicinity of an Active Construction Site (Pile-Driving Activities)

Entered Data:				
Construction Condition: Site leveling				
Source 1: Pile driving – Sound level (dBA) at 50 feet =		101 dBA, L_{eq}		94 dBA, L_{max}
Average Height of Sources – Hs (ft) =			0	
Average Height of Receiver – Hr (ft) =			5	
Ground Type (soft or hard) =			Soft	
Calculated Data:				
All Sources Combined – Sound level (dBA) at 50 feet =		101 dBA, L_{eq}		94 dBA, L_{max}
Effective Height $(H_S+H_R)/2$ =			2.5	
Ground Factor (G) =			0.62	
Distance Between Source and Receiver (ft)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	Calculated Sound Level (dBA)	
50	0	0	101 dBA, L_{eq}	94 dBA, L_{max}
100	-6	-2	93 dBA, L_{eq}	86 dBA, L_{max}
200	-12	-4	85 dBA, L_{eq}	78 dBA, L_{max}
300	-16	-5	80 dBA, L_{eq}	73 dBA, L_{max}
400	-18	-6	77 dBA, L_{eq}	70 dBA, L_{max}
500	-20	-7	74 dBA, L_{eq}	67 dBA, L_{max}
600	-22	-7	72 dBA, L_{eq}	65 dBA, L_{max}
700	-23	-8	71 dBA, L_{eq}	64 dBA, L_{max}
800	-24	-8	69 dBA, L_{eq}	62 dBA, L_{max}
900	-25	-8	68 dBA, L_{eq}	61 dBA, L_{max}
1,000	-26	-9	66 dBA, L_{eq}	59 dBA, L_{max}
1,200	-28	-9	64 dBA, L_{eq}	57 dBA, L_{max}
1,400	-29	-10	63 dBA, L_{eq}	56 dBA, L_{max}
1,600	-30	-10	61 dBA, L_{eq}	54 dBA, L_{max}
1,800	-31	-10	60 dBA, L_{eq}	53 dBA, L_{max}
2,000	-32	-11	58 dBA, L_{eq}	51 dBA, L_{max}
2,500	-34	-11	56 dBA, L_{eq}	49 dBA, L_{max}
3,000	-36	-12	54 dBA, L_{eq}	47 dBA, L_{max}
3,500	-37	-12	52 dBA, L_{eq}	45 dBA, L_{max}
4,000	-38	-13	50 dBA, L_{eq}	43 dBA, L_{max}

Distance Between Source and Receiver (ft)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	Calculated Sound Level (dBA)	
4,500	-39	-13	49 dBA, L_{eq}	42 dBA, L_{max}
5,000	-40	-13	48 dBA, L_{eq}	41 dBA, L_{max}
5,280	-40	-13	47 dBA, L_{eq}	40 dBA, L_{max}
5,500	-41	-13	47 dBA, L_{eq}	40 dBA, L_{max}
6,000	-42	-14	46 dBA, L_{eq}	39 dBA, L_{max}
6,500	-42	-14	45 dBA, L_{eq}	38 dBA, L_{max}

Sources: Federal Transit Administrative 1995, and Jones & Stokes calculations.

Notes:

This calculation does not include the effects, if any, of local shielding, which may reduce sound levels further.

The magnitude of construction noise impacts would depend on the type of construction activity, the noise level generated by various pieces of construction equipment, and the distance between the activity and noise-sensitive land uses. As sensitive receptors may be located in close proximity to construction activities and may be exposed to noise that exceeds the noise levels indicated in Table 3.10-7, this impact is considered potentially significant. Implementation of the following mitigation measures would reduce this impact to some degree. However, construction of some program elements would result in short-term significant and unavoidable noise impacts.

Mitigation Measure NOI-1a: Limit Hours of Construction. The City will require all program contractors to comply with the City's 2023 General Plan Noise Element, Noise Ordinance, and zoning regulations. Construction activities for water supply infrastructure, except distribution pipelines, shall be limited to the hours between 7:00 a.m. and 10:00 p.m. All wells, wellhead treatment facilities, turn-outs, storage tanks, and other infrastructure outside of roadway ROWs shall adhere to these construction limits. However, this requirement is not applicable to construction of distribution mains in ROWs, when traffic conditions necessitate that construction activities occur on a 24-hour-per-day basis. During phases of 24-hour-per-day construction in ROWs, program contractors shall notice all neighbors within 500-feet of the pipeline segment a minimum of three weeks prior to ground-breaking. This provision will be reflected in contract documents.

Mitigation Measure NOI-1b: Prepare a Noise Control Plan. The City will require its program contractor to prepare a detailed Noise Control Plan based on the construction methods proposed. This plan will identify specific measurement that will be taken to ensure compliance with the noise limits specified above. The Noise Control Plan shall be reviewed and approved by City staff before any noise-generating construction activity begins. As part of this Plan, the City's program contractor shall employ noise-reducing construction practices such that noise standards in the City's 2023 General Plan Noise Element, Noise

Ordinance, and zoning regulations are not exceeded. Measures that shall be used to limit noise include, but are not limited to:

- locating equipment as far a practical from noise sensitive uses,
- using mufflers on all standard equipment,
- selecting haul routes that affect the fewest number of people,
- using noise-reducing enclosures around noise-generating equipment,
- constructing barriers between noise sources and noise-sensitive land uses or taking advantage of existing barrier features (terrain, structures) to block sound transmission, and
- enclosing equipment.

In the event that the construction engineer is unable to mitigate construction-related noise to the levels specified, the program contractor shall cease construction activities and employ additional mitigation measures sufficient to meet the noise levels above or offer to temporarily relocate residents (i.e., provide hotel vouchers). This provision will be reflected in contract documents.

Mitigation Measure NOI-1c: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking Program. The program contractor shall notify all residents and businesses within 500 feet of construction areas of the construction schedule in writing a minimum of three weeks prior to ground-breaking. The program contractor will designate a noise-disturbance coordinator who will be responsible for responding to complaints regarding construction noise. The coordinator will determine the cause of the complaint and will ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the noise-disturbance coordinator will be conspicuously posted on construction site fences and will be included in the written notification of the construction schedule sent to nearby residents. This provision will be reflected in contract documents.

Impact NOI-2: Exposure of Sensitive Land Uses to Short-Term Construction-Related Vibration Levels in Excess of City Standards (Significant and Unavoidable).

Construction activities associated with the proposed program may result in some minor amount of ground vibration, with the primary sources including installation of transmission pipelines, boring activities, and pile driving. It is anticipated that installation of transmission pipelines would require a backhoe or other trenching equipment, while boring activities would require a trencher and/or boring machine, and jack and bore activities could entail the use of pile driving. Table 3.10-12 summarizes construction-related groundborne vibration levels for various types of equipment that may be used during program construction (Federal Transit Administration 1995).

Table 3.10-12. Vibration Source Levels for Construction Equipment

Equipment	Peak Particle Velocity (ppv) at 25 Feet (inches per second)	Acceleration (G) at 50 Hertz[1]
Pile driver (impact)	0.644	0.523
Pile driver (sonic)	0.170	0.138
Large bulldozer	0.089	0.072
Small bulldozer	0.003	0.002
Caisson drilling	0.089	0.072
Jackhammer	0.035	0.028

Source: Federal Transit Administration 1995.

Note:

[1] Calculated from ppv.

Table 3.10-13 presents vibration levels as a function of distance for the different types of vibration production equipment that may be used during program construction.

Table 3.10-13. Estimated Vibration Levels for Construction Equipment

Distance Between Source and Receiver (ft)	Pile driver (impact)	Pile driver (sonic)	Large bulldozer	Small bulldozer	Caisson drilling	Jackhammer
50	0.1850	0.0488	0.0256	0.0009	0.0256	0.0101
100	0.0654	0.0173	0.0090	0.0003	0.0090	0.0036
200	0.0231	0.0061	0.0032	0.0001	0.0032	0.0013
300	0.0126	0.0033	0.0017	0.0001	0.0017	0.0007
400	0.0082	0.0022	0.0011	0.0000	0.0011	0.0004
500	0.0059	0.0015	0.0008	0.0000	0.0008	0.0003
600	0.0045	0.0012	0.0006	0.0000	0.0006	0.0002
700	0.0035	0.0009	0.0005	0.0000	0.0005	0.0002
800	0.0029	0.0008	0.0004	0.0000	0.0004	0.0002
900	0.0024	0.0006	0.0003	0.0000	0.0003	0.0001
1,000	0.0021	0.0005	0.0003	0.0000	0.0003	0.0001

Source: Federal Transit Administration 1995.

Vibration from typical construction activity is typically below the threshold of perception when the activity is more than about 50 feet from the receiver. However, as indicated in Table 3.10-13, construction activities have the potential to generate groundborne vibration levels in excess of City standards and result in

significant vibration impacts. Implementation of Mitigation Measures NOI-1a–NOI-1d, described above, and NOI-2a, below, would reduce this impact to some degree. However, construction of some program elements would result in significant and unavoidable vibration impacts.

Mitigation Measure NOI-2: Employ Vibration-Reducing Construction Practices. The City's program contractor shall employ vibration-reducing construction practices such that vibration standards in the City's 2023 General Plan Noise Element, Noise Ordinance, and zoning regulations are not exceeded. Measures that may be used to limit vibration include, but are not limited to:

- locating vibration-generating equipment as far as possible from vibration-sensitive land uses;
- avoiding simultaneous operation of multiple pieces of vibration-generating equipment;
- avoiding nighttime construction in residential areas;
- avoiding construction processes that generate high vibration levels (for example, vibration from pile driving can be reduced or eliminated by using pre-drilled holes, pushed piles, or shielded pile drivers); and
- avoiding the use of vibratory rollers near vibration-sensitive uses.

This provision will be reflected in contract documents.

Impact NOI-3: Exposure of Noise-Sensitive Land Uses to Operational Noise in Excess of City Standards (Less than Significant with Mitigation).

Noise-generating operations mainly include the use of electric pumps to move water throughout the pipeline network, equipment used to treat the water, operation of the emergency backup generators, and vehicle trips and equipment used for routine maintenance of facility components. Because routine maintenance is anticipated to be sporadic and short term in nature, it is not anticipated that routine maintenance activities would result in a significant noise impact. The booster pumps, treatment equipment, and emergency backup generators are anticipated to be located within enclosures and/or buildings. Noise attenuation resulting from the enclosures and buildings surrounding the pumps, equipment, and motors is expected to limit noise at the nearest noise-sensitive land uses. FHWA has identified typical building noise reduction factors, which are based on the building type and window condition. Table 3.10-14 summarizes those factors.

Table 3.10-14. Federal Highway Administration Building Noise Reduction Factors

Building Type	Window Condition	Structure Noise Reduction
All	Open	10 dB
Light Frame	Ordinary Sash (closed)	20 dB
	Storm Windows	25 dB
Masonry	Single Glazed	25 dB
Masonry	Double Glazed	35 dB

Source: Federal Highway Administration 1995.

However, without proper design, some nearby noise-sensitive land uses could be exposed to a significant increase in noise. This impact is considered significant. Implementation of the following mitigation measure would mitigate this impact to a less-than-significant level.

Mitigation Measure NOI-3: Design Pump Stations, Other Noise-Generating Facilities, and Building Enclosures to Meet Local Noise Standards. The City will design the new booster pump stations, other noise-generating facilities, and building enclosures so that noise levels do not exceed applicable City noise standards and ordinances. Prior to field acceptance, the City shall retain an acoustical consultant to measure noise levels from the operating facility. If program-generated noise exceeds the noise ordinance performance standards, additional noise-attenuation measures shall be implemented to meet the standards. The proposed facility shall not receive final acceptance until the required noise standards are met. This measure shall be made a condition of the final design review.

Impact NOI-4: Exposure of Noise-Sensitive Land Uses to Substantial Noise Increases (Less than significant with Mitigation).

Construction- and operation-related noise could result in substantial increases in the ambient noise level, especially in remote areas where the existing noise environment is relatively quiet. This impact is, therefore, potentially significant. However, implementation of Mitigation Measures NOI-1a–NOI-1d and NOI-3, described above, would reduce this impact to a less-than-significant level.

Section 3.11

Population and Housing

This chapter analyzes the proposed program's effects on population and housing. Key sources of data used in the preparation of this chapter include the following.

- The City's *2023 General Plan* (City of Manteca 2003a).
- The City's *2023 General Plan Environmental Impact Report* (City of Manteca 2003b).
- California Department of Finance *City/County Population and Housing Estimates* (California Department of Finance 2005).

Growth-inducing impacts and cumulative impacts are discussed in Chapter 5, *Other CEQA Findings.*

Environmental Setting

This section discusses the existing conditions related to population and housing in the program area. Federal, state, and local regulations related to population and housing that would apply to the proposed program are discussed in the *Regulatory Context* section below.

Existing Conditions

Primary Urban Service Area

The study area consists of the City of Manteca PUSA as defined by the City of Manteca 2023 General Plan (City of Manteca 2003a). The total gross area of the PUSA is 13,790 acres, and it is located within the 2023 General Plan planning area. The total size of the 2023 General Plan planning area is 25,975 acres. The PUSA encompasses all area planned for development and buildout under the 2023 General Plan.

In the last three decades, population and housing growth in Manteca has been driven by job growth and other factors outside the community. Job growth, coupled with significant increases in the cost of housing in the greater San Francisco Bay Area, has caused an influx of families to Manteca and other

communities in the Central Valley (City of Manteca 2003a). The California Department of Finance (2005) estimated the population of San Joaquin County to be 653,333 in January 2005. The City of Manteca accounts for 61,927 of this estimate, comprising nine percent of the total County population. The January 2005 population estimate for the City of Manteca represents an increase of seven percent over the population of 57,605 in January 2003. Single-family detached dwelling units are the predominant housing type in Manteca. In January 2005, there were 15,569 single-family and 3,520 multi-family dwelling units in the City. The San Joaquin Council of Governments projects that the City of Manteca will reach a population of 86,370 by 2025 (City of Manteca 2003b).

Regulatory Context

There are no federal regulations addressing population and housing that are related to the proposed program.

State Regulations

California Planning and Zoning Law (Government Code Section 65000 et seq.) requires each city and county to adopt a general plan for the physical development of the land within its planning area. The general plan must contain land use, housing, circulation, open space, conservation, noise, and safety elements as well as any other elements that the city or county may wish to adopt.

The housing element of a local general plan must incorporate policies and programs that will allow sufficient housing to be built to meet the community's share of the region's projected housing need. This includes housing for all economic sectors, including very low-, low-, and moderate-income residents. A copy of the draft housing element must be sent to the state Housing and Community Development Department (HCD) for review and comment before it may be adopted by the city or county. HCD will advise the local jurisdiction about the element's compliance with Housing Element Law (Government Code Section 65580 et seq.) A housing element approved by HCD is presumed to meet the requirements of Housing Element Law.

As part of its responsibilities in the process of preparing local housing elements, HCD provides regional housing need projections to the regional councils of government around the state approximately every 5 years. In turn, the councils are responsible for preparing a regional housing needs assessment that specifically enumerates each city's and county's fair share of the regional housing need by economic segment. Each city or county must then amend its housing element to recognize that fair share.

Local Regulations and Programs

City of Manteca 2023 General Plan

The 2023 General Plan (City of Manteca 2003a) Land Use Element includes the following goals and policies related to population and growth management that are relevant to the proposed program:

> **Goal LU-1:** To provide for orderly, well-planned, and balanced growth consistent with the limits imposed by the City's infrastructure and the City's ability to assimilate new development.
>
> **Policy LU-P-3:** The City shall encourage a pattern of development that promotes the efficient and timely development of public services and facilities.
>
> **Policy LU-P-4:** The City shall encourage a development pattern that is contiguous with the boundary of the City.
>
> **Policy LU-P-11:** The City shall manage the rate and type of growth in Manteca according to a growth management program that provides for an annual allocation of residential, commercial and industrial development. The growth management program shall consider the capacities of City facilities and services, and the ability of the community to assimilate new development, and fluctuations in the balance of market demand for new housing and new job development.

The 2023 General Plan Housing Element focuses on encouraging new development and rehabilitation of diverse types of housing; removing barriers to affordable housing; maintaining and preserving existing housing; and reducing housing costs by providing cost efficient public services and infrastructure. The Housing Element includes the following policy related to population and housing that is relevant to the proposed program:

> **Policy H-P-38:** The City will maintain an adequate level of public services and infrastructure to meet the needs of existing and projected development, with the fiscal capacity of the City.

City of Manteca Community Growth Management Ordinance

The purpose of the City of Manteca's Community Growth Management Ordinance (Ordinance No. 800, adopted in 1988 and amended in 2003) is to implement the goals and policies of the General Plan by establishing an orderly and balanced rate of annual residential, commercial, industrial, and other development in the City. The Growth Management Ordinance regulates the number of housing units approved each year according to a growth management

system that reflects the availability of infrastructure, the City's ability to provide public services, housing needs, and employment growth (City of Manteca 2003a).

Impact Analysis

Methodology for Impact Analysis

This section describes the CEQA impact analysis relating to population and housing for the proposed program. Population and housing information and projections in Manteca's Primary Urban Service Area were obtained from the California Department of Finance (2005) and the City's 2023 General Plan (2003a) and 2023 General Plan EIR (2003b). The proposed program was evaluated for potential housing displacement impacts and population growth inducement impacts (see Chapter 5, *Other CEQA Findings*). Additionally, the proposed program was evaluated for consistency with relevant local plans and policies.

Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, plans and policies of the City of Manteca, and agency and professional standards, the program would have a significant impact if it would

- displace a substantial number of people or existing housing units, necessitating the construction of replacement housing elsewhere; or
- induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).

Impacts and Mitigation Measures

Impact POP–1: Displace a Substantial Number of Existing Housing Units or People (No Impact).

The exact number and locations of proposed wells, storage tanks, booster pump stations, and pipelines under the proposed program will be based on future development patterns in the City of Manteca PUSA. Therefore, it is expected that the facilities would be planned in conjunction with future development, and would be located in currently undeveloped and/or agricultural areas converting to urban uses. For these reasons, it is not expected that the proposed program would result in the removal or relocation of existing residences. There would be no impact and no mitigation is required.

Impact POP–2: Substantial Induction of Population Growth in the City of Manteca (Significant and Unavoidable).

The proposed program would remove infrastructural obstacles to growth in Manteca's PUSA through the treatment, storage, and distribution of potable water. Additionally, construction of program elements would increase local employment, which may impact housing needs in the area. This impact was identified as significant and unavoidable in the City's 2023 General Plan EIR (City of Manteca 2003b). In accordance with this determination, this EIR considers growth-inducing impacts of the proposed program to be significant and unavoidable. The program's growth-inducing impacts are analyzed in detail in Chapter 5, *Other CEQA Findings*. No mitigation is available.

Section 3.12

Public Services, Utilities, and Recreation

This chapter analyzes the proposed program's effects on public services, utilities, and recreation. It focuses on the proposed program's potential to affect services including wastewater treatment (sewer); electricity and natural gas; communication services; solid waste; education; police; fire and emergency services; and parks and recreation. Related discussions can be found in Chapter 3.7 (*Hazards and Hazardous Materials*) for disposal of arsenic-heavy brine from wellhead treatment facilities, and Chapter 3.8 (*Hydrology and Water Resources*) for water quality effects related health issues, drainage (stormwater), and water supply.

Key sources of data used in the preparation of this chapter include the following.

- The City's *2023 General Plan* (City of Manteca 2003a).
- The City's *2023 General Plan Environmental Impact Report* (City of Manteca 2003b).
- The City's *Draft Water Master Plan* (Kennedy/Jenks Consultants 2005).
- *South County Surface Water Supply Project EIR* (South San Joaquin Irrigation District 1999).

Growth-inducing impacts and cumulative impacts are discussed in *Chapter 5, Other CEQA Findings*.

Environmental Setting

This section discusses the existing conditions related to public services, utilities, and recreation in the program area. Federal, state, and local regulations related to public services, utilities, and recreation that would apply to the proposed program are discussed under *Regulatory Context*.

Existing Conditions

Existing conditions information was compiled by reviewing relevant technical reports, conducting research on the Internet, and through personal communications.

Table 3.12-1. Summary of Public Service, Utility, and Recreation Providers in the Program Area

Public Service or Utility	City of Manteca
Wastewater	City of Manteca Wastewater Quality Control Facility
Electricity and Natural Gas	PG&E
Communication Services	Verizon, AT&T Broadband
Solid waste	City of Manteca Solid Waste Division, Forward Landfill
Education	Manteca Unified School District
Police	Manteca Police Department
Fire	Manteca Fire Department
Parks	City of Manteca Parks and Recreation Department

Wastewater Treatment (Sewer)

The City of Manteca Wastewater Quality Control Facility (WQCF) is a 6.95 mgd rated, combined biofilter-activated sludge plant owned and operated by the City of Manteca. The WQCF serves commercial and residential properties in Manteca (5.93 mgd) and the City of Lathrop (1.02 mgd). Expansion of the municipal waste collection system is planned to support development of the City as outlined in the 2023 General Plan. Phased improvements will increase the capacity of the treatment facility to 9.87 mgd. The municipal treatment system capacity will be expanded through the addition of primary and secondary treatment units, as well as nitrification, denitrification, tertiary filtration, and ultraviolet (UV) disinfection to improve the effluent quality. The expansion will include additional sludge digestion and dewatering units, as well as improvements to buildings, pump stations, ponds, and chemical handling (California Regional Water Quality Control Board 1998). These improvements are scheduled for completion by December 2005.

Generally, the land within the existing developed City has trunk sewers constructed to fully serve the expected development. Undeveloped areas will require new municipal sewer collection facilities in order to develop.

The City of Manteca PFIP establishes the Level of Service Standards for wastewater. The City's target is to collect and treat an average of 325 gallons per day per edu. This level of service (LOS) standard is applicable both in the areas

of Manteca that have already developed and in the geographic areas where development is expected.

Electricity and Natural Gas

Electricity and natural gas in the City of Manteca are supplied by Pacific Gas & Electric company, Inc. (PG&E), a private corporation. PG&E currently owns and operates electricity and natural gas infrastructure within Manteca. Infrastructure is generally located in roadway right-of-ways. The 2023 General Plan stipulates that utility lines be undergrounded in new development and redeveloped areas.

Communication Services

Telephone services in the City of Manteca are provided by Verizon. Cable television services, as well as broadband Internet services, are provided by AT&T Broadband. Internet services are provided through dial-up connections, ISDN, cable, and satellite services via a number of providers. Infrastructure is generally located in roadway right-of-ways. The 2023 General Plan stipulates that utility lines be undergrounded in new development and redeveloped areas.

Solid Waste

The City of Manteca Solid Waste Division collects solid waste throughout the City and deposits it at the Forward Landfill located at 9999 S. Austin Road, Manteca, California. The facility accepts non-hazardous industrial waste, including non-friable asbestos, contaminated soil, municipal wastewater treatment sludge, oil exploration and production (E&P) waste, construction and demolition wastes, and other industrial and special wastes, as well as municipal solid waste and green waste. As of June 2002, Forward Landfill had a remaining capacity of 40,031,058 cubic yards, with a closure date of January 1, 2020 (California Integrated Waste Management Board 2005).

Recyclable materials are collected at Forward Landfill and then hauled to Sacramento by BLT Enterprises. Recyclable steel from construction debris is taken by Sims Recycling. Recyclable concrete from construction debris is taken by Modesto Sand and Gravel (DeCosta pers. comm.).

Education

The Manteca Unified School District (MUSD) operates 25 schools, including 19 elementary schools (K-8), four high schools, one continuation school, and one combined continuation/adult education school. As of fall 2005, MUSD has approximately 24,000 students (Rosas pers. comm.). Schools follow both a

traditional and a year-round calendar. MUSD provides services to the City of Manteca, City of Lathrop, unincorporated French Camp, and Weston Ranch, a community of southwest Stockton.

Several MUSD facilities maintain their own water supply resource in the form of wells not connected to the City of Manteca's infrastructure. These facilities include the MUSD District Office Complex located at 2901 East Louise Avenue, French Camp School at 241 East 4th Street, Nile Garden School at 5700 East Nile Avenue, New Haven School at 14600 South Austin Road, and Manteca High School at 450 East Yosemite Avenue (Hathaway pers. comm.).

Police

The Manteca Police Department is a full service municipal law enforcement agency. The Department has an active and valuable volunteer staff consisting of Police Explorers, Reserve Officers, and senior citizens who render invaluable assistance to the Department and the community. The Department provides aggressive crime prevention through neighborhood watch, proactive enforcement, community policing, and citizen involvement.

The Manteca Police Department is located at 1001 West Center Street, Manteca, California. The Department currently has 70 sworn officer positions. In January 2006, the Department was authorized to increase this number to 73 sworn officers (Lewis pers. comm.).

Fire and Emergency Services

Fire protection for the City of Manteca is provided by the Manteca Fire Department (MFD). The Insurance Services Office (ISO) has rated Manteca as a class 3 on a scale of 10. ISO classification range is 1 through 10, with 1 being the highest. The class 3 rating applies to all developed areas of Manteca where a water supply for fire suppression is provided by way of a fire hydrant system. The 2023 General Plan outlines a policy of endeavoring to maintain an overall fire insurance (ISO) rating of 4 or better.

The MFD responds to emergencies and calls for service from three fire stations located within the City limits. MFD stations are at the following locations.

- Station #241 – 290 South Powers Avenue.
- Station #242 – 1154 South Union Road.
- Station #243 – 399 West Louise Avenue.

As of 2003, the MFD maintained a staff of nine administrative personnel and 30 fire suppression personnel. The average on-duty engine company personnel per day per shift was 9.20.

The MFD is also responsible for providing emergency medical services to customers. Medically related responses account for nearly 60 percent of all requests for service. Only eight percent of calls are for fires (City of Manteca Fire Department 2003).

Parks and Recreation

The City of Manteca Parks and Recreation Department currently provides 28 neighborhood parks and 5 community parks distributed throughout the City. This includes 275 acres of neighborhood and community parks, the Tidewater Bikeway, the Skate Park, and the Senior Center. The Department also supervises the operations of the 18-Hole municipal golf course and library services. Many parks are co-located with a small detention basin that serves the neighborhood. Consequently, the parks are typically located within easy walking distance of local residents. The City is currently planning for a large active sports complex with baseball and softball fields in conjunction with a private company, Big League Dreams.

Currently, most parks are irrigated using the City's potable water system. The City maintains dedicated irrigation wells in five neighborhood parks, with an additional four parks scheduled and budgeted for irrigation well installation. Although reclaimed water is not currently used for irrigation, the Parks and Recreation Department is looking into using reclaimed wastewater in the future for parks on the western edge of the city (Maze pers. comm.).

The City has a service standard of 5 acres of parkland per 1,000 residents.

Regulatory Context

There are no specific federal or state regulations that apply to public services, utilities, and recreation associated with this program.

Local Regulations and Programs

City of Manteca 2023 General Plan

The 2023 General Plan identifies the community's land use, transportation, environmental, economic, and social goals and policies as they relate to land use, conservation, and development. The 2023 General Plan goals and policies that may relate to the proposed program include the following.

> **Policy LU-P-3:** The City shall encourage a pattern of development that promotes the efficient and timely development of public services and facilities.

Policy PF-P-18: Ensure wastewater collection and treatment for all development in the City and the safe disposal of wastes.

Policy PF-P-19: The city will maintain capacity to process combined residential, commercial, and industrial flow.

Policy PF-P-20: The City shall develop new sewage treatment and trunk line capacity as necessary to serve new development.

Policy PF-P-24: Ensure that all new development provides for and funds a fair share of the costs for adequate sewer distributions, including line extensions, easements, and plant expansions.

Policy PF-P-25: The City will maintain the ability to handle peak discharge flow while meeting State Regional Water Quality Control Board standards as established in the current NPDES Permit.

Implementation Measure PF-I-9: The City will require all sewage generators within its service area to connect to the City's system, except those areas where on-site treatment and disposal facilities are deemed appropriate.

Implementation Measure PF-I-12: The City will promote reduced wastewater system demand through efficient water use by:

- requiring water conserving design and equipment in new construction;
- encouraging retrofitting with water conserving devices;
- designing wastewater systems to minimize inflow and infiltration to the extent economically feasible; and
- maintaining a Citywide map of all sewer collection system components and monitoring the condition of the system on a regular basis.

Policy PF-P-29: Ensure that reliable, adequate electric service is available to all users in the City.

Implementation Measure PF-I-15: The City will support energy conservation measures and innovative uses of solar energy, heat recovery, and co-generation in all structural and industrial processes.

Implementation Measure PF-I-17: The City will require undergrounding of utility lines in new development, and as areas are redeveloped, except where infeasible for operational reasons.

Policy PF-P-31: The City will implement and enforce the provisions of its Source Reduction and Recycling Element.

Policy PF-P-32: The City shall support the continued use of the Lovelace Transfer Station on Lovelace Road, between Union Road and Airport Way, for the processing and shipping of solid waste materials.

Policy PF-P-39: The City shall endeavor through adequate staffing and patrol arrangements to maintain the minimum feasible police response times for police calls.

Policy PF-P-42: The City shall endeavor to maintain an overall fire insurance (ISO) rating of four (4) or better.

Policy PF-P-43: The City shall endeavor through adequate staffing and station locations to maintain the minimum feasible response time for fire and emergency calls.

Policy PF-P-46: The City shall expand the community and neighborhood park system with the goal of providing park facilities within reasonable walking distance of all city residential areas.

Impact Analysis

Methodology for Impact Analysis

This section describes the CEQA impact analysis relating to public services, utilities, and recreation for the proposed program and alternatives. It describes the methods used to determine the proposed program's impacts and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Significance Criteria

For the purposes of this analysis, an impact was considered to be significant and to require mitigation if it would result in any of the following.

- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Be served by a landfill with insufficient permitted capacity to accommodate solid waste disposal needs.
- Result in disruption or disturbances to the City's utility services due to construction activities.

- Result in substantial adverse physical impacts associated with service ratios, response times or other performance objectives for any of the public services including schools, parks, police protection, or fire protection.
- Result in substantial physical deterioration of existing neighborhood and regional parks or other recreational facilities due to increased use.
- Require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Impacts and Mitigation Measures

Impact PSU-1: Program Wastewater Disposal Would Require Expansion or Construction of New Wastewater Treatment Facilities (Less than Significant).

Well development and periodic maintenance flushing of storage tanks and pipelines would result in disposal of wastewater in the City's WQCF. Such wastewater generation would be episodic and the volume is anticipated to be relatively small vis-a-vis overall WQCF capacity.

Although dewatering of the program sites would also generate wastewater, such wastewater would be disposed of via the City's storm drain system and would not result in the need for sewerage services or capacity. Section 3.8, *Hydrology and Water Resources* of this document addresses potential impacts to the City's storm drain system. This impact would be less than significant. No mitigation is required.

Impact PSU-2: Landfill Permitted Capacity Would be Sufficient to Accommodate Construction Waste from Program Elements (Less than Significant).

Non-recyclable construction waste would be hauled off site for disposal at the Forward Landfill. The Forward Landfill has an estimated remaining capacity of 40 million cubic yards with a closure date of January 1, 2020. This landfill will have adequate capacity to receive construction debris. In addition, the program would dispose of recyclable materials in alternate locations as mentioned above.

If construction wastes were determined to be hazardous, as defined by federal and state regulations, the waste would be disposed of at a landfill(s) other than Forward Landfill, which is not permitted to accept hazardous waste. A discussion of the disposal of hazardous materials is addressed in *Section 3.7, Hazards and Hazardous Materials*. This impact would be less than significant. No mitigation is required.

Impact PSU-3: Pipeline Construction Could Result in Temporary, Planned, or Accidental Disruption to Utility Services (Less than Significant with Mitigation).

Utility services could be disrupted as a result of program construction. In most cases, impacts to utilities and services involve temporary disruption that would not exceed one day. All utility lines and cables that would be disrupted during program construction would be identified during the design phase for individual program elements. Design for each program element would include a detailed engineering and construction plan, which would thoroughly describe construction techniques and protective measures for minimizing impacts to utilities. Reasonable efforts would be made to provide temporary bypass around the affected utilities during construction so interruptions in service are eliminated or minimized. Review of this plan by special service districts and utility providers in the program area would be required; as such, the City and its program contractors would coordinate with utility owners prior to program construction.

Accidental disruption of utilities would be possible within all program element sites, most notably along all reaches of distribution pipeline alignments. Temporary and accidental impacts to small utility lines, such as telephone or cable lines, would be considered adverse, but not significant, because the affected area and duration of the impacts would be limited. However, disruptions to major utility lines, such as natural gas or sewer lines, would be considered significant. This impact would be significant, but implementation of the following mitigation measures would reduce this impact to a less-than-significant level.

> **Mitigation Measure PSU-3a: Identify and Relocate Existing Utilities Where Necessary.** The City's program contractor shall identify all underground utilities in the areas of proposed excavations for all program elements. Prior to beginning construction, Underground Services Alert shall be contacted to identify underground utilities. Where possible, design and specifications for program elements shall avoid existing utilities. In instances where utilities cannot be avoided, the City will relocate existing utilities either before, or during, program construction.

Impact PSU-4: Construction Activities Could Temporarily Block Access Routes and Reduce Adopted Response Times for Police, Fire, and Emergency Services (Less than Significant).

Road closures or detours may occur during construction of wells and wellhead treatment facilities, blending stations, storage tanks, and pipelines. Standard construction methods would be utilized to maintain access to all providers of emergency services. These methods are identified as part of the Traffic Control Plan as outlined in the Project Description and in *Section 3.13, Transportation.* In addition, relevant police and fire departments with responsibility in the program area would be notified of construction plans and schedules to prevent impacts on emergency response while facilities are under construction. This impact would be less than significant. No mitigation is required.

Impact PSU-5: Increase Use or Require Construction or Expansion of Existing Neighborhood and Regional Parks or Other Recreational Facilities (Less than Significant).

Construction and operation of water supply infrastructure would not directly result in increased use of recreational facilities by new or existing residents. Operation of wells and wellhead treatment facilities, blending stations, storage tanks, and pipelines would provide additional water supply to Manteca consumers, including the City's Parks and Recreation Department, but would not increase demand on local recreational facilities.

However, construction of arsenic treatment systems at wells located in City parks would remove some of the park area from public use. There would be an estimated loss of up to 1,000 to 1,200 square feet of park area for each arsenic treatment system installed. Due to the relatively minor area removed from public use, this would result in a less than significant impact. No mitigation is required.

Section 3.13
Transportation

This section analyzes the proposed program's effects on transportation. Key sources of data used in the preparation of this section include the following.

- The City's *2023 General Plan* (City of Manteca 2003a).
- The City's *2023 General Plan EIR* (City of Manteca 2003b).
- *City of Manteca Bicycle Master Plan* (City of Manteca 2003c).
- City web site (City of Manteca 2005a).
- San Joaquin Regional Transit District web site (San Joaquin Regional Transit District 2005).
- Altamont Commuter Express web site (Altamont Commuter Express 2005).

Concepts and Terminology

Following are definitions of key traffic and transportation terms used in this chapter.

- **Level of Service (LOS):** A qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience.
- **Volume to Capacity Ratio (V/C):** The number of vehicles that travel on a transportation facility divided by the full vehicular capacity of that facility.
- **Delay:** The additional travel time experienced by a vehicle or traveler that results from inability to travel at optimal speed and stops due to congestion or traffic control.
- **Average Annual Daily Traffic (AADT)**: The number of vehicles that travel on a roadway per day, averaged over the course of a year.

Environmental Setting

This section discusses the existing conditions related to transportation in the program area, as well as federal, state, and local regulations related to transportation that would apply to the proposed program.

Existing Conditions

The program study area consists primarily of the City of Manteca's Primary Urban Service Area, which includes heavily developed areas with growth potential limited generally to infill development and redevelopment, as well as agricultural lands with significant urban development potential. For the purposes of the transportation impact analysis, the study area consists specifically of the transportation facilities that could potentially be affected by program construction and operation activities.

State Highways

The City of Manteca is located at the junction of State Route 120 (SR 120) and State Route 99 (SR 99) in San Joaquin County. SR 99 and I-5 provide regional access to Manteca from the north and south, and SR 120 provides regional access to Manteca from the east and west. SR 99 is a primary statewide route that travels through Manteca near the eastern edge of the City. I-5 is located approximately 1 mile to the west of Manteca. SR 120 travels though Manteca near the southern edge of the City, linking the San Joaquin Valley to the San Francisco Bay Area and the Sierra Nevada and foothills. SR 120 also serves as a connector between I-5 and SR 99 (City of Manteca 2005a). Table 3.13-1 shows the AADT of the freeways.

Table 3.13-1. Regional Freeways and AADT

Freeway	Location	AADT
I-5	Mossdale; Junction of SR 120 East	105,000
SR 120	W. Yosemite Avenue	61,000
SR 120	Airport Way	59,000
SR 120	Main St	51,000
SR 120	North Junction of SR 99	41,000
SR 120	Austin Road	22,700
SR 99	South Junction of SR 120	86,000
SR 99	North Junction of SR 120; Yosemite Avenue	67,000
SR 99	North Manteca	69,000

Source: Caltrans 2005.

Local Roadways

The primary roadway system in Manteca consists of a square grid of two- and four-lane roadways. Major north–south routes include Airport Way, Union Road, and Manteca Road/Main Street. Major east–west routes include Lathrop Road, Louise Avenue, and Yosemite Avenue. The major north–south roadways through the City carry average daily volumes of 9,000–23,000 vehicles. The major east–west routes carry average daily volumes of 10,000–17,000 vehicles.

Other north–south roadways in the City include McKinley Avenue, Winters Drive, Elm Avenue, Fremont Avenue, and Powers Avenue. These roadways carry volumes of 3,000 vehicles per day or less. Other east–west roadways include Northgate Drive, Crom Street, Alameda Street, Center Street, North Street, Wawona Street, and Mission Ridge Drive. These roadways generally carry daily volumes ranging from 1,000 to 2,000 vehicles (City of Manteca 2003b).

Level of Service

LOS is a quantitative measure and is the primary measure used to determine the operating condition of a roadway segment or intersection. LOS is calculated by comparing the volume of vehicles using the facility to its capacity (V/C) or by the average delay experienced by vehicles on the facility. The Highway Capacity Manual (Transportation Research Board 2000) is the recognized source for the techniques used to measure transportation facility performance. The quality of traffic operation is graded into one of six levels of service: A, B, C, D, E, or F. LOS A and B represent the best traffic operation. LOS C and D represent

intermediate operation, LOS E means a facility is approaching capacity, and LOS F represents high levels of traffic congestion. The thresholds Manteca has adopted that define each of these levels are described later under the *Regulatory Context* section of this chapter.

Existing traffic volumes and LOS results for analyzed roadway segments in Manteca are shown in Table 3.13-2. As indicated in the table, a majority of these roadway segments operate at LOS C. Several roadway segments are shown to operate at LOS D, E, or F, which exceeds the City's standard of acceptable operations (described further under the *Regulatory Context* section of this chapter). Note that the volumes typically exceed the thresholds by small amounts (less than 10 percent). Therefore, roadways may be operating closer to acceptable levels because of the generalized nature of the roadway LOS standards (City of Manteca 2003b).

Table 3.13-2. Existing (2001) Roadway Traffic Volumes and LOS

Roadway	Location	Existing Lanes	2001 Daily Traffic Counts	V/C Ratio	LOS
Airport Way	Lathrop to Louise	2	8,700	0.56	C
	Louise to Yosemite	2	8,900	0.57	C
	Yosemite to Wawona	2	9,800	0.63	D
	Wawona to SR 120	2	9,300	0.60	D
Union Road	Lathrop to Northgate	4	9,500	0.29	C
	Northgate to Louise	4	12,500	0.38	C
	Louise to Alameda	4	14,300	0.43	C
	Alameda to Crom	4	16,000	0.49	C
	Crom to Center	4	17,600	0.53	C
	Center to Yosemite	4	15,700	0.48	C
	Yosemite to Wawona	4	15,900	0.48	C
	Wawona to Mission Ridge	2	16,400	1.05	F
	Mission Ridge to SR 120	2	17,100	1.10	F
Main Street	Northgate to Louise	4	20,200	0.61	C
	Louise to Alameda	4	24,700	0.75	D
	Alameda to North	4	18,800	0.57	C
	North to Center	4	23,000	0.70	C
	Center to Yosemite	4	15,200	0.46	C
	Yosemite to SR 120	4	22,800	0.69	D
	SR 120 to Woodward	2	6,300	0.19	C
Woodward Road	Union to Main	2	3,700	0.24	C
Yosemite Avenue	McKinley to Airport	2	11,200	0.72	C
	Airport to Winters	2	14,200	0.91	C
	Winters to Union	2	16,800	1.08	F
	Union to Walnut	4	15,400	0.47	C
	Walnut to Main	2	12,200	0.78	D
	Main to Fremont	2	13,200	0.85	D
	Fremont to Powers	2	16,200	1.04	F
	Powers to Cottage	4	15,700	0.48	C
	Cottage to SR 99	4	15,700	0.48	C
	SR 99 to Austin	2	17,000	1.09	F

Roadway	Location	Existing Lanes	2001 Daily Traffic Counts	V/C Ratio	LOS
Louise Avenue	Airport to Union	4	10,800	0.33	C
	Union to Elm	4	11,800	0.36	C
	Elm to Main	4	17,900	0.54	C
Lathrop Road	Airport to Union	2	10,200	0.31	C
	Union to Main	2	11,900	0.36	C

Source: City of Manteca 2003b.

Existing intersection conditions were evaluated for the weekday evening peak hour at the five major intersections in Manteca. Table 3.13-3 summarizes the existing intersection analysis results. The table shows that all analysis intersections operate at an acceptable LOS C or better during the PM peak hour.

Table 3.13-3. Existing (2001) PM Peak-Hour Intersection LOS

Location	Control	Average Delay (sec/veh)	LOS
Lathrop Road and Airport Way	Signal	26.5	C
Louise Avenue and Union Road	Signal	28.3	C
Louise Avenue and Main Street	Signal	29.6	C
Yosemite Avenue and Union Road	Signal	28.5	C
Yosemite Avenue and Main Street	Signal	23.2	C

Source: City of Manteca 2003b.

Parking

Parking demand is generated by the existing businesses, new business, and residents and is periodically increased significantly by the patrons of special events and activities. Off-street parking is required as part of new development in the City (City of Manteca 2003a).

Bicycles and Pedestrians

The City has a number of bicycle facilities, including Class I (bicycle path), Class II (bicycle lane), and Class III (bicycle route) facilities. These facilities provide for bicycle travel throughout the City. The City's Bicycle Master Plan summarizes the existing and proposed bikeway system and facilities. Table 3.13-4 shows the number of existing and proposed miles for each bicycle facility classification (City of Manteca 2003c). With respect to pedestrian circulation,

sidewalks and crosswalks are provided at major intersections on most streets (City of Manteca 2003b).

Table 3.13-4. Existing and Proposed Bicycle Facilities

Bikeway Classification	Existing	Proposed	Total
Class I	5.7	15.0	20.7
Class II	20.1	33.7	53.8
Class III	18.3	5.7	24
Total	44.1	54.4	98.5

Source: City of Manteca 2003c.

Transit

The San Joaquin Regional Transit District (SJRTD) provides transit services throughout Manteca with Stockton Metropolitan Area Rapid Transit (SMART) and County Area Transit (CAT). SMART Route 21 is an intercity route that serves the cities of Stockton, Lodi, and Manteca. SMART Route 53, 54, and 55 are interregional routes that serve French Camp, Lathrop, and Manteca (2003a). SJRTD Intercity Route 26 connects the cities of Tracy, Lathrop, Stockton, Manteca, and Ripon. SJRTD also provides a dial-a-ride service for the elderly and handicapped (San Joaquin Regional Transit District 2005).

Altamont Commuter Express (ACE) provides commuter rail service Monday through Friday between Stockton and San Jose. The ACE system covers 85 route miles and 10 station stops, including the Lathrop/Manteca Station on Yosemite Avenue at Shideler Parkway. This station currently has 334 parking spaces, with 159 new parking spaces to be added in the summer of 2005, for a total of 493 spaces. Transit connections are available at this station to the Stockton Solution and Modesto ACE Express bus systems (Altamont Commuter Express 2005).

The city has one park-and-ride location on Northgate Street near the Northgate Church. This location provides access to SMART bus lines and ACE commuter rail (City of Manteca 2003a).

Railroad

For rail freight, Manteca is served by the Union Pacific railway system. In addition to the ACE commuter rail described above, Amtrak provides passenger service from nearby stations in Stockton and Modesto (City of Manteca 2005a).

Airport

No aviation facility is located within the City of Manteca. The nearest commercial aviation facility is Stockton Metropolitan Airport, which is 11 miles north of Manteca. Passenger service began in 2001 with America West Airlines (City of Manteca 2005a).

Regulatory Context

Transportation analysis in the State of California is guided by policies and standards set at the state level by Caltrans and by local jurisdictions. There are no federal regulations that address transportation associated with the proposed program.

Local Policies and Regulations

City of Manteca 2023 General Plan

LOS Definition and Policy

The City of Manteca 2023 General Plan establishes LOS procedures for both roadway segments and intersections. Roadway segment LOS is based on the comparison of traffic volumes against reference charts developed for the Highway Capacity Manual by the Florida Department of Transportation (FDOT), which are transferable to other states and have been accepted by Caltrans. These tables employ assumptions regarding signal spacing, peak-to-daily volume ratios, roadway width, presence of turn lanes, and other factors that affect roadway operation. These LOS thresholds for arterial roadway segments are shown in Table 3.13-5.

Table 3.13-5. Arterial Roadway Segment LOS Standards (Daily Volumes)

Number of Lanes	LOS C	LOS D	LOS E
2	9,100	14,600	15,600
4	21,400	31,100	32,900
6	33,400	46,800	49,300

Source: City of Manteca 2003a.

At signalized intersections, traffic conditions are evaluated using Highway Capacity Manual methods. The operations analysis uses various intersection characteristics (such as traffic volumes, lane geometry, and signal phasing) to estimate the average delay experienced by motorists traveling through an intersection. Table 3.13-6 summarizes the relationship between delay and LOS for signalized intersections.

Table 3.13-6. Signalized Intersection LOS Criteria

LOS	Description	Average Control Delay (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	<10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	>10.0 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	>20.0 to 35.0
D	Operations with longer delay due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop, and individual cycle failures are noticeable.	>35.0 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered the limit of acceptable delay.	>55.0 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	>80.0

Source: City of Manteca 2003a.

LOS Standards

LOS standards are used to evaluate the transportation impacts of long-term growth. In order to monitor roadway operations, cities and counties adopt standards by which the minimum acceptable roadway operating conditions are determined and deficiencies may be identified.

The city has adopted a target of LOS C or better for average citywide transportation and a minimum of LOS D at any individual location (City of Manteca 2003a). The 2023 General Plan Circulation Element establishes its standard in **Policy C-P-2**, stating that this "C average, D minimum" LOS shall be accomplished by attempting to provide LOS C at all locations but accepting LOS D under the following circumstances:

- where constructing facilities with enough capacity to provide LOS C is found to be unreasonably expensive. This applies to facilities, for example, on which it would cost significantly more per dwelling unit equivalent (DUE) to provide LOS C than to provide LOS D;
- where it is difficult or impossible to maintain LOS C because surrounding facilities in other jurisdictions operate at LOS D or worse;
- where free-flowing roadways or interchange ramps would discourage use of alternate travel modes; and

- where maintaining LOS C would be a disincentive to use of existing alternative modes or to the implementation of new transportation modes that would reduce vehicle travel (City of Manteca 2003a).

Other Transportation Policies

Additional adopted transportation policies that may apply to elements of the proposed program include the following:

Policy C-P-22: In the development of new projects, the City shall give special attention to maintaining adequate corner-sight distances at city street intersections and at intersections of city streets and private access drives and roadways.

Policy C-P-26: The City shall require all new development to provide an adequate number of off-street parking spaces to accommodate the typical parking demands of the type of development on the site. In the downtown area, the City is responsible for development of parking facilities and new development is not required to provide parking.

Policy C-P-33: The City shall establish a safe and convenient network of identified bicycle routes connecting residential areas with recreation, shopping, and employment areas within the City.

City of Manteca Public Facilities Implementation Plan

The PFIP is one of the City's primary implementation programs for public facilities and infrastructure improvements. The 1993 PFIP established the LOS standard that has guided street improvements in the City for more than a decade. The PFIP and the 2023 General Plan are to be consistent in the application of LOS standards (City of Manteca 2003a).

City of Manteca Major Streets Master Plan

The Major Streets Master Plan defines the framework of Manteca's major streets. The City's street system is intended to comply with the LOS standard consistent with the Public Facilities Implementation Plan. Selected existing streets will continue to function as major streets as infill development occurs in the City to accommodate new growth. New major roads and/or system improvements will be required to accommodate development in additional potential growth areas within and adjacent to the existing City boundary (City of Manteca 2003a).

Impact Analysis

Methodology for Impact Analysis

This section describes the CEQA impact analysis relating to transportation for the proposed program and alternatives. It describes the methods used to determine the proposed program's impacts and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Implementation of the proposed program elements is not expected to result in a substantial traffic increase that would have an adverse effect on roadways, affect roadway capacity or LOS, or contribute to cumulative effects. For wells, blending stations, storage tanks, distribution pipelines, and groundwater treatment facilities, potential impacts would occur primarily in the course of construction.

Projected Future Traffic Conditions

Most program construction is expected to occur between 2005 and 2016. Thus, future projected traffic conditions must be considered when assessing potential program impacts.

The 2023 future buildout roadway and intersection analysis was performed for the 2023 General Plan EIR (City of Manteca 2003b). Table 3.13-7 summarizes LOS for roadways within Manteca under projected future conditions.

Table 3.13-7. Projected 2023 Roadway Traffic Volumes and LOS

Roadway	Location	Existing Lanes	Future Lanes	2023 Traffic Volumes	V/C Ratio	LOS
McKinley Avenue	Yosemite to SR 120	2	4	12,400	0.38	C
	SR 120 to Atherton	2	6	41,400	0.84	D
	Atherton to Woodward	2	6	23,600	0.48	C
	Woodward South	2	4	15,700	0.48	C
Airport Way	Lathrop to Louise	2	6	39,700	0.81	D
	Louise to Yosemite	2	6	45,800	0.93	D
	Yosemite to Wawona	2	6	44,700	0.91	C
	Wawona to SR 120	2	6	44,700	0.91	D
	SR 120 to Atherton	2	6	59,200	1.20	F
	Atherton to Woodward	2	6	39,700	0.81	D
	Woodward South	2	6	29,300	0.59	C
Union Road	Lathrop to Northgate	4	4	21,300	0.65	C
	Northgate to Louise	4	4	21,400	0.65	C
	Louise to Alameda	4	4	28,800	0.88	D
	Alameda to Crom	4	4	26,900	0.82	D
	Crom to Center	4	4	28,900	0.88	D
	Center to Yosemite	4	4	31,200	0.95	D
	Yosemite to Wawona	4	4	25,100	0.76	D
	Wawona to Mission Ridge	2	4	24,400	0.74	D
	Mission Ridge to SR 120	2	4	37,500	1.14	F
	SR 120 to Atherton	2	6	46,500	0.94	D
	Atherton to Woodward	2	4	16,700	0.51	C
	Woodward South	2	4	17,000	0.52	C
Main Street	Northgate to Louise	4	6	36,400	0.74	D
	Louise to Alameda	4	6	27,100	0.82	D
	Alameda to North	4	4	25,300	0.77	D
	North to Center	4	4	22,900	0.70	D
	Center to Yosemite	4	4	23,600	0.72	D
	Yosemite to SR 120	4	4	42,500	1.29	F
	SR 120 to Atherton	4	6	57,400	1.16	F
	Atherton to Woodward	4	6	34,800	0.71	D
	Woodward South	2	6	30,800	0.62	C

Roadway	Location	Existing Lanes	Future Lanes	2023 Traffic Volumes	V/C Ratio	LOS
Woodward Road	McKinley to Airport	2	4	16,300	0.50	C
	Airport to Union	2	4	15,600	0.47	C
	Union to Main	2	4	18,000	0.55	C
	Main to Austin	2	4	24,700	0.75	D
Atherton	McKinley to Airport	N/A	4	21,300	0.65	C
	Airport to Union	N/A	4	17,800	0.54	C
	Union to Main	N/A	4	23,200	0.71	D
	Main to Austin	N/A	4	20,200	0.61	C
Yosemite Avenue	McKinley to Airport	2	6	26,400	0.54	C
	Airport to Winters	2	6	30,500	0.62	C
	Winters to Union	2	6	26,700	0.54	C
	Union to Walnut	4	4	16,700	0.51	C
	Walnut to Main	2	2	11,700	0.75	D
	Main to Fremont	2	2	17,000	1.09	F
	Fremont to Powers	2	4	23,600	0.72	D
	Powers to Cottage	4	4	32,400	0.98	E
	Cottage to SR 99	4	4	36,100	1.10	F
	SR 99 to Austin	2	4	31,800	0.97	E
Louise Avenue	Airport to Union	4	4	21,400	0.65	C
	Union to Elm	4	4	29,400	0.89	D
	Elm to Main	4	4	30,300	0.92	D
Lathrop Road	Airport to Union	2	4	23,400	0.71	D
	Union to Main	2	4	21,400	0.65	C

Source: City of Manteca 2003b.

The table shows only 22 of *55* segments projected to operate at LOS C by 2023, and eight roadway segments are expected to exceed the LOS D minimum. Each of these deficient segments could be mitigated through widening each segment. The improvements recommended in order for all roadway segments to meet the individual segment standard of LOS D are as follows. (City of Manteca 2003a.)

- Airport Way (SR 120 to Atherton): widen from 6 to 8 lanes.
- Union Road (Mission Ridge to SR 120): widen from 4 to 6 lanes.
- Main Street (Yosemite to SR 120): widen from 4 to 6 lanes.
- Main Street (SR 120 to Atherton): widen from 6 to 8 lanes.

- Yosemite Avenue (Main to Fremont): widen to 4 lanes.
- Yosemite Avenue (Powers to Cottage): widen to 6 lanes.
- Yosemite Avenue (Cottage to SR 99): widen to 6 lanes.
- Yosemite Avenue (SR 99 to Austin): widen to 6 lanes.

In most cases, these improvements occur in areas yet to be developed (south of SR 120) or along roadways that will be widened (Yosemite Avenue). The one improvement that would be difficult to implement would be the widening of Yosemite to the east of Main Street (City of Manteca 2003a).

Table 3.13-8 summarizes LOS for intersections in Manteca under projected future conditions.

Table 3.13-8. Projected 2023 PM Peak-Hour Intersection LOS

Location	Control	LOS
Lathrop Road and Airport Way	Signal	D
Louise Avenue and Union Road	Signal	D
Louise Avenue and Main Street	Signal	E
Yosemite Avenue and Union Road	Signal	D
Yosemite Avenue and Main Street	Signal	C
Louise Avenue and Airport Way	Signal	F
Yosemite Avenue and Airport Way	Signal	F
Atherton Street and McKinley Avenue	Signal	C
Atherton Street and Airport Way	Signal	F
Atherton Street and Union Road	Signal	F
Atherton Street and Main Street	Signal	F
Woodward Avenue and McKinley Avenue	Signal	C
Woodward Avenue and Airport Way	Signal	E
Woodward Avenue and Union Road	Signal	B
Woodward Avenue and Main Street	Signal	F

Source: City of Manteca 2003a.

The table shows 11 of the 15 analysis intersections projected to operate at LOS D or worse. Each of these deficient intersections could be mitigated through widening of the main-line segments as described in the previous section to bring the roadway segments to LOS D and through specific intersection improvements. Proposed improvements include addition of the following (City of Manteca 2003a):

- dual left-turn lanes on Lathrop Road at Airport Way/Lathrop Road,
- dual left-turn lanes on Louise Avenue at Main Street/Louise Avenue,
- dual left-turn lanes on Union Road and Yosemite Avenue at Union Road/Yosemite Avenue,
- dual left-turn lanes and dual right-turn lanes on Louise Avenue at Airport Way/Louise Avenue,
- dual left-turn lanes on Atherton Street at Airport Way/Atherton Street,
- dual left-turn lanes on Union Road and Atherton Street at Union Road/Atherton Street,
- dual left-turn lanes on Atherton Street at Main Street/Atherton Street,
- dual left-turn lanes on Woodward Avenue at Airport Way/Woodward Avenue, and
- dual left-turn lanes on Woodward Avenue at Main Street/Woodward Avenue.

As shown in Table 3.13-9, the fifteen study area intersections can be improved to allow LOS D operations or better with these intersection improvements.

Table 3.13-9. Projected 2023 PM Peak-Hour Intersection LOS with Improvements

Location	Control	LOS
Lathrop Road and Airport Way	Signal	C
Louise Avenue and Union Road	Signal	D
Louise Avenue and Main Street	Signal	D
Yosemite Avenue and Union Road	Signal	C
Yosemite Avenue and Main Street	Signal	C
Louise Avenue and Airport Way	Signal	C
Yosemite Avenue and Airport Way	Signal	D
Atherton Street and McKinley Avenue	Signal	D
Atherton Street and Airport Way	Signal	D
Atherton Street and Union Road	Signal	B
Atherton Street and Main Street	Signal	D
Woodward Avenue and McKinley Avenue	Signal	D
Woodward Avenue and Airport Way	Signal	C
Woodward Avenue and Union Road	Signal	B
Woodward Avenue and Main Street	Signal	C

Source: City of Manteca 2003a.

Significance Criteria

For the purposes of this analysis, an impact is considered to be significant and to require mitigation if it would result in any of the following, which are based on professional practice and Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.):

- cause an increase in traffic that is substantial in relation to the existing traffic volumes and capacity of the roadway system (e.g., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections);
- exceed, either individually or cumulatively, a LOS standard established by local jurisdictions for designated roadways or highways;
- substantially increase safety hazards due to design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- result in inadequate emergency access;
- result in inadequate parking capacity; or
- conflict with adopted policies supporting alternative transportation.

Impacts and Mitigation Measures

Impact TR-1: Short-Term Increase in Area Traffic Volumes and Degradation of LOS Due to Construction-Generated Traffic (Significant and Unavoidable).

Most program construction is expected to occur between 2005 and 2016. Construction-generated traffic would consist primarily of daily commutes by construction workers and periodic delivery and removal of materials to and from the site over the course of the construction period. Nearly all construction activities would be confined to the program sites; specific program sites for wells and treatment facilities, blending stations, storage tanks, and booster pumps would be determined based on actual urban growth and planned development. The addition of these trips would temporarily increase the traffic volumes on local roadways in the program area.

Installation of distribution pipelines would generate a minor amount of traffic, consisting of daily commutes by construction workers and periodic delivery and removal of materials. In addition, any closure of lanes or detouring of traffic that would result from pipeline construction would potentially increase delays and congestion. Although implementation of the following mitigation measure would reduce this impact to some degree, there would remain a short-term significant and unavoidable impact during construction.

Mitigation Measure TR-1: Develop and Implement a Traffic Control Plan. In accordance with the City of Manteca's policy on street closures and traffic diversion for arterial and collector roadways, the program contractor will prepare a Traffic Control Plan (to be approved by the City Engineer) prior to construction. The Traffic Control Plan will include:

- a street layout showing location of construction activity and surrounding streets to be used as detour routes, including "special signage;"
- a tentative start date and construction duration period for each phase of construction;
- the name, address, and emergency contact number for those responsible for maintaining the traffic control devices during the course of construction; and
- written approval to implement traffic control from other agencies, including Caltrans and the County, as needed.

Additionally, the Traffic Control Plan will include, but may not be limited to, the following stipulations:

- provide access for emergency vehicles at all times;

- maintain access for driveways and private roads, except for brief periods of construction, in which case property owners will be notified;
- provide adequate off-street parking or use designated public parking areas for construction-related vehicles not in use through the construction period and construction workers' personal vehicles;
- restrict delivery of construction materials to between the hours of 9:00 a.m. and 3:00 p.m. to avoid more congested morning and evening hours;
- identify roadway segments or intersections that are at or approaching LOS that exceeds local standards and provide for construction-generated traffic to avoid these locations at the peak periods, either by traveling different routes or by traveling at non-peak times of day. Locations listed in Table 3.13-7 and Table 3.13-8 will potentially be identified if construction occurs prior to City-planned transportation improvements reflected in Table 3.13-9;
- maintain pedestrian and bicycle access and circulation during project construction where safe to do so. If construction encroaches on a sidewalk, a safe detour will be provided for pedestrians at the nearest painted crosswalk. If construction encroaches on a bike lane, warning signs will be posted that indicate bicycles and vehicles are sharing the roadway;
- include traffic controls such as flag persons wearing OSHA-approved vests and using the "Stop/Slow" paddle to warn motorists of construction activity;
- maintain access to transit and ensure that public transit vehicles are detoured if temporary road closures occur;
- post standard construction warning signs in advance of the construction area and at any intersection that provides access to the construction area;
- post construction warning signs in accordance with local standards or those set forth in the Manual on Uniform Traffic Control Devices (Federal Highway Administration 2001) in advance of the construction area and at any intersection that provides access to the construction area;
- during lane closures, notify the Manteca Fire Department and Manteca Police Department of construction locations and ensure that alternative evacuation and emergency routes are designed to maintain response times during construction periods, if necessary;
- provide written notification to appropriate contractors regarding appropriate routes to and from construction sites and weight and speed limits for local roads used to access construction sites. Submit a copy of all such written notifications to the Manteca Planning Department; and

- repair or restore the road right-of-way to its original condition or better upon completion of the work.

Preparation and implementation of a Traffic Control Plan will be reflected in contract documents.

Impact TR-2: Increase in Area Traffic Volumes and Degradation of LOS Due to Operations-Generated Traffic (Less than Significant).

Implementation of the proposed program elements is not expected to result in a substantial traffic increase that would have an adverse effect on roadways or affect roadway capacity or LOS. Trips generated by completion of facilities are expected to consist primarily of occasional maintenance trips, which would consist of a few trips per year. This impact would be less than significant. No mitigation is required.

Impact TR-3: Increase in Safety Hazards Due to Construction-Generated Traffic (Less than Significant with Mitigation).

Construction-related vehicles would be expected to mix with general-purpose motorized and non-motorized traffic in the area. Distribution pipeline construction in the roadway could affect general traffic flows (see Impact TR-1, above), use of bicycle lanes, and/or pedestrian access to the activity centers throughout the City.

This impact is potentially significant, but implementation of Mitigation Measure TR-1, described above, would reduce this impact to a less-than-significant level.

Impact TR-4: Interference with Emergency Access and Circulation Due to Construction-Generated Traffic (Less than Significant with Mitigation).

Emergency access through the program area could potentially be affected by construction of program elements, particularly installation of distribution pipelines. Road closures, detours, and construction-related traffic could delay or obstruct the movement of emergency vehicles.

This impact is potentially significant, but implementation of Mitigation Measure TR-1, described above, would reduce this impact to a less-than-significant level.

Impact TR-5: Increase in Parking Demand Due to Facility Construction and/or Operation (Less than Significant with Mitigation).

Construction of the proposed program elements would result in temporary demand in parking for construction workers and staging/parking for construction vehicles. Additionally, water infrastructure facilities would result in slight increases in parking demand by occasional operations and/or maintenance vehicles.

This impact is potentially significant, but implementation of Mitigation Measure TR-1, described above, would reduce this impact to a less-than-significant level.

Impact TR-6: Potential Conflict with Transit Service during Construction (Less than Significant with Mitigation).

Construction of program elements, particularly installation of distribution pipelines, could temporarily disrupt transit service.

This impact is potentially significant, but implementation of Mitigation Measure TR-1, described above, would reduce this impact to a less-than-significant level.

Chapter 4
Alternatives

Introduction

According to Section 15126.6 of the CEQA Guidelines:

> An EIR shall describe a reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project.

This chapter provides a description of program alternatives and a comparative evaluation of the potential environmental effects of the proposed 2005 Water Master Plan (proposed program) to the alternatives. The alternatives analyzed in this draft EIR are the following.

- EIR Alternative 1: Maximize Blending with Surface Water for Arsenic Reduction.
- EIR Alternative 2: Maximize Distribution of Surface Water Supplies.
- No Project Alternative.

This chapter describes the screening process for alternative programs used in this planning effort and the differences in the construction-related and operation-related environmental effects expected under each alternative compared to the proposed program. Finally, the environmentally superior alternative is identified.

Alternatives Development Process

An EIR must describe a reasonable range of alternatives to the project or to the project location that would feasibly attain the basic project objectives while avoiding or substantially lessening one or more of the significant environmental effects of the project. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet the basic project objectives, are determined to be infeasible, or cannot be demonstrated to avoid or lessen significant environmental impacts.

Alternatives Screening Process for the 2005 Water Master Plan

Prior to preparation of the EIR, several alternatives were developed as part of the 2005 WMP. These alternatives, in part, provide the basis for development of EIR alternatives, and a summary of the process for the development of WMP alternatives is therefore given.

The aquifer beneath the City contains both naturally occurring and introduced contaminants that can exceed federal and state drinking water standards. Naturally occurring contaminants detected at levels exceeding drinking water standards include arsenic. Arsenic is present in all City wells and monitoring for compliance with the Federal Drinking Water Standard of 10 μg/l was required to start on January 23, 2006. Current compliance sampling for arsenic indicates that 4 of the existing 18 wells are below the 10 μg/l standard (Conarroe, pers.comm.). Three wells contain an arsenic concentration between 9 and 10 μg/l, and may require treatment. The remaining 14 wells will either be abandoned or will require treatment for reduction of arsenic. The City is currently anticipating that two of the wells will be converted to dedicated park irrigation wells.

Three alternative compliance plans were developed to identify the range of options and general costs of implementation. All three alternatives included treatment for reduction of arsenic so existing supplies will be fully compliant with the Federal Drinking Water Standard.

The three WMP alternatives all provided for conjunctive use. Each alternative provided a different mix of groundwater withdrawal, wellhead treatment, surface water blending, and/or water storage tanks to meet existing and projected water demands. The three alternatives were the following.

- **WMP Alternative 1. Maximize Blending with Surface Water for Arsenic Reduction.** Low-arsenic-concentration surface water supplies would be blended with higher arsenic concentration groundwater for a resulting compliant drinking water supply. This is Alternative 1 in this EIR.
- **WMP Alternative 2. Maximize Wellhead Treatment for Arsenic Reduction.** Groundwater treatment at wellheads would be maximized to reduce arsenic concentration to 8 μg/l. Some surface water blending and water storage tanks would also be used to meet peak flows. This is the proposed program.
- **WMP Alternative 3. Optimize Blending, Wellhead Treatment and Storage for Arsenic Reduction.** Surface water supplies would be blended with groundwater supplies to dilute arsenic concentration, groundwater treatment at some wellheads would be conducted, and water storage tanks for meeting peak-hour demands would be constructed.

Program Objectives

The WMP evaluates and provides capital improvement recommendations through the year 2035, and includes general recommendations for water utility infrastructure improvements through buildout of the 2023 General Plan. The objectives of the WMP include the following.

- Provide a strategic approach to compliance with the new MCL for arsenic that will take effect next year.
- Evaluate planned water system improvements to facilitate delivery of the SSJID's surface water supply to the combined service area.
- Develop a groundwater supply and storage plan to meet a conjunctive groundwater/surface water use approach by the City without exceeding the aquifer's safe yield.
- Prepare a time-phased CIP for the water system.
- Implement the goals and objectives of the City of Manteca 2023 General Plan.
- Identify water use conservation programs and recycled water use options.

Significant and Unavoidable Impacts of the Program

Significant and unavoidable impacts resulting from construction and operation of program elements under the proposed program include the following.

Impact NOI-1: Exposure of Noise-Sensitive Land Uses to Short-Term Construction Noise in Excess of City Standards.

Impact NOI-2: Exposure of Sensitive Land Uses to Short-Term Construction-Related Vibration Levels in Excess of City Standards.

Impact POP-2: Substantial Induction of Population Growth in the City of Manteca.

Impact TR-1: Short-Term Increase in Area Traffic Volumes and Degradation of LOS Due to Construction-Generated Traffic.

Alternatives Selection Process

Although the 2005 WMP identified three alternative compliance plans for meeting the City's conjunctive use objective, one was selected as the proposed program (WMP Alternative 2), and one did not reduce potentially significant environmental impacts of the proposed program (WMP Alternative 3). As such, one of the WMP alternatives was selected as an EIR alternative (WMP Alternative 1), but the other was dismissed and a new EIR alternative was developed.

WMP Alternative 1: Maximize Blending with Surface Water for Arsenic Reduction was carried forward for analysis in the current EIR as EIR Alternative 1. This alternative fulfills the objectives of the proposed program. Due to a reduction in the number of wellhead treatment facilities constructed as compared to the proposed program, it may also reduce the potential environmental impacts of the 2005 WMP.

WMP Alternative 2: Maximize Wellhead Treatment for Arsenic Reduction was selected as the proposed program.

WMP Alternative 3: Optimize Blending, Wellhead Treatment and Storage for Arsenic Reduction was not carried forward in this EIR, as it does not reduce potential significant environmental impacts of the proposed program.

A second alternative developed for this EIR was EIR Alternative 2: Maximize Distribution of Surface Water Supplies. This alternative would strongly support delivery of SSJID surface water to the PUSA, while minimizing construction of additional wellhead treatment facilities. This reduction in construction activities may also reduce the potential environmental impacts of the 2005 WMP.

The proposed program and two EIR alternatives provide a continuum of conjunctive use options for the City of Manteca. The proposed program relies most heavily on wellhead treatment of groundwater, EIR Alternative 1 depends most heavily on new blending facilities, and EIR Alternative 2 relies most heavily on direct transmission of SSJID water. Each alternative contains all water infrastructure components, yet each supports a different water supply strategy most strongly. These alternatives were selected for analysis in the EIR because they represent feasible options for provision of adequate water supply infrastructure in the City of Manteca.

The discussion in the following section presents this analysis and identifies the environmentally superior alternative. A description of alternatives considered, but dismissed from further analysis, along with a brief justification for their dismissal, is also given.

Alternatives Analyzed in the Draft EIR

The following alternatives have been evaluated for their feasibility and their ability to achieve all of the project objectives while avoiding, reducing, or minimizing significant impacts identified for the proposed program. These alternatives (with the exception of the No-Project Alternative) were determined to be feasible or potentially feasible and would meet all of the program objectives. Although not an alternative, the proposed program is summarized below to facilitate comparison of program elements.

The degree to which these alternatives substantially lower the significant impacts identified for the proposed program is discussed below. All subject areas are analyzed as required by CEQA, though at a more general level than in sections 3.1–3.13.

Proposed Program

A summary of water infrastructure improvements has been provided below to enable comparisons between the alternatives.

The proposed program includes the use of wellhead treatment at a sufficient number of wells to provide the required groundwater component of the City supply. This alternative is based on wellhead treatment capacity equal to the peak hour demand with redundancy, less the reliable surface water supply.

The key water supply improvements identified in the WMP to meet both existing population and urban growth through the year 2035 include the following.

- Construction of wellhead treatment facilities for arsenic removal at Wells No. 5, 12, 15–17, and 19–25.
- Construction of SSJID blending facilities and/or blended water transmission mains at or near SSJID turnouts.

Figure 4-1 illustrates the proposed infrastructure improvements identified in the WMP to meet existing (2005) demands.

EIR Alternative 1: Maximize Blending with Surface Water for Arsenic Reduction

Under EIR Alternative 1, low arsenic concentration surface water supplies would be blended with higher arsenic concentration groundwater for a resulting compliant drinking water supply. This alternative provides minimum arsenic treatment by removal and would result in the highest average annual arsenic dosage to the City population. This approach requires a significant capital investment in pipelines, tanks, and booster pumping, but results in a lower operation and maintenance cost over the wellhead treatment option included in the proposed program.

The key water supply improvements identified in the WMP to meet both existing population and urban growth through the year 2035 include the following.

- Construction of wellhead treatment facilities for arsenic removal at Wells No. 17, 19, 24, and 25.
- Construction of a SSJID storage tank, booster pump station, blending facilities, and/or blended water transmission mains at or near SSJID turnouts.

Figure 4-2 illustrates the proposed infrastructure improvements under EIR Alternative 1 to meet existing (2005) demands.

In comparison to the proposed program, Alternative 1 identifies greater construction of surface water blending facilities and associated pipelines, surface storage tanks, and booster pump stations. Construction of wellhead treatment facilities would be reduced from twelve well sites to four. Construction of the surface water blending facilities would require construction of additional water pipelines to bring groundwater supplies to the blending facility, and then blended water out to consumers.

EIR Alternative 2: Maximize Distribution of Surface Water Supplies

Under EIR Alternative 2, surface water supplies would be directly distributed to water consumers within the Manteca PUSA whenever possible. In addition to construction of transmission pipelines for direct distribution, some surface supplies would also be blended with groundwater supplies to dilute arsenic concentrations for distribution to remaining consumers. This alternative reduces the number of wellhead treatment plants identified in the proposed program.

The key water supply improvements necessary to meet both existing population and urban growth through the year 2035 may include the following.

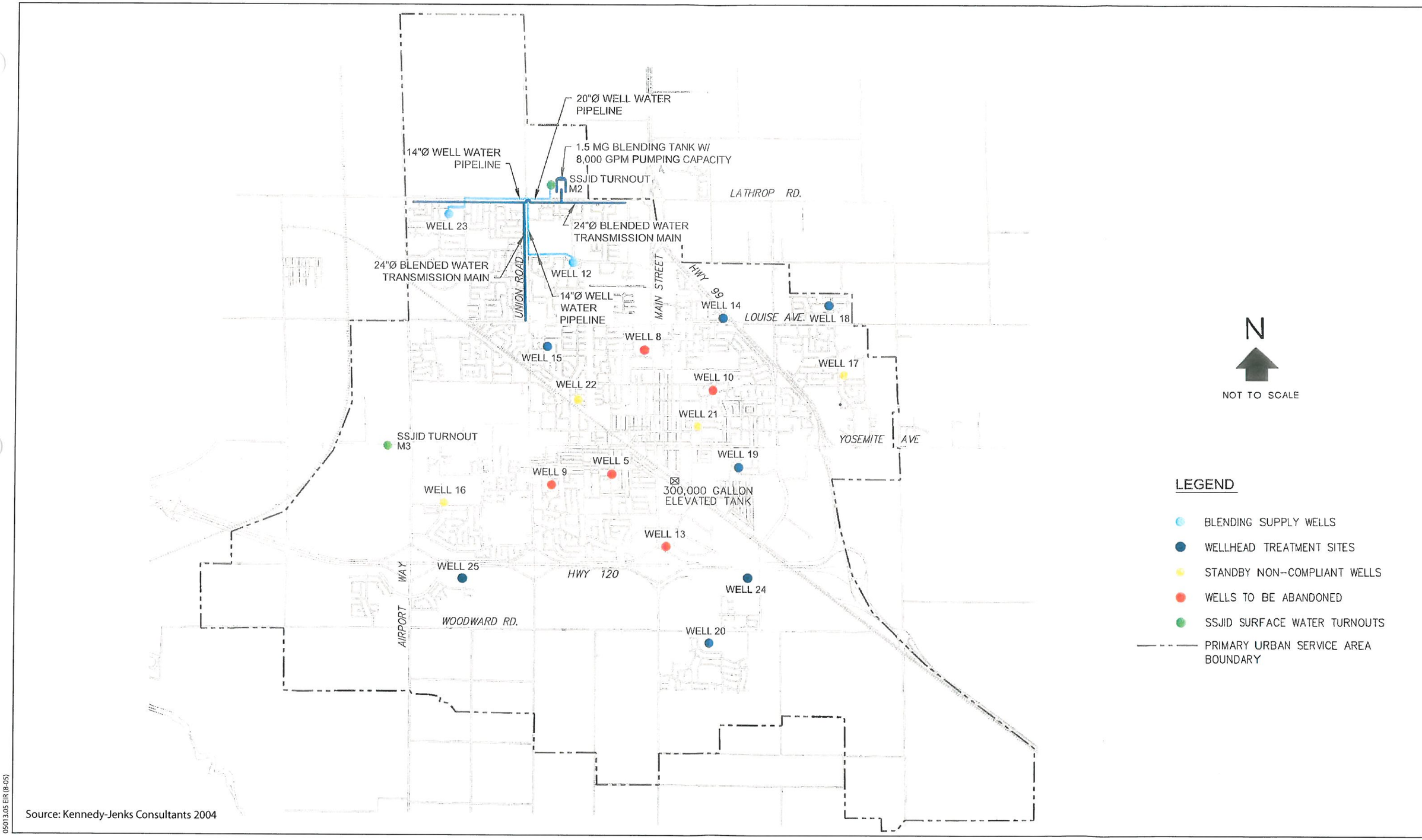
- Construction of distribution mains for conveyance of SSJID surface water supplies directly to Manteca consumers.
- Construction of SSJID blending facilities and/or blended water transmission mains at Wells No. 17, 19, 24, and 25 (with connections to SSJID turnouts) (see Figure 4-3).

In comparison to the proposed program, Alternative 2 identifies construction of additional surface water blending facilities and associated pipelines, for blending at the well sites. No new wellhead treatment facilities would be constructed.

No-Project Alternative

CEQA requires analysis of the No-Project Alternative. For this program, the No-Project Alternative would consist of continued use of existing water supply and conveyance facilities in the event that the proposed program is not approved.

Under the No-Project Alternative, there would be no construction of new water supply and distribution facilities. No additional wells, wellhead treatment facilities, water storage tanks, or distribution pipeline improvements would be constructed. Provision of potable supplies to the City's existing residents that are compliant with new federal arsenic concentration standards would be constrained, as would continued buildout of the City's 2023 General Plan.

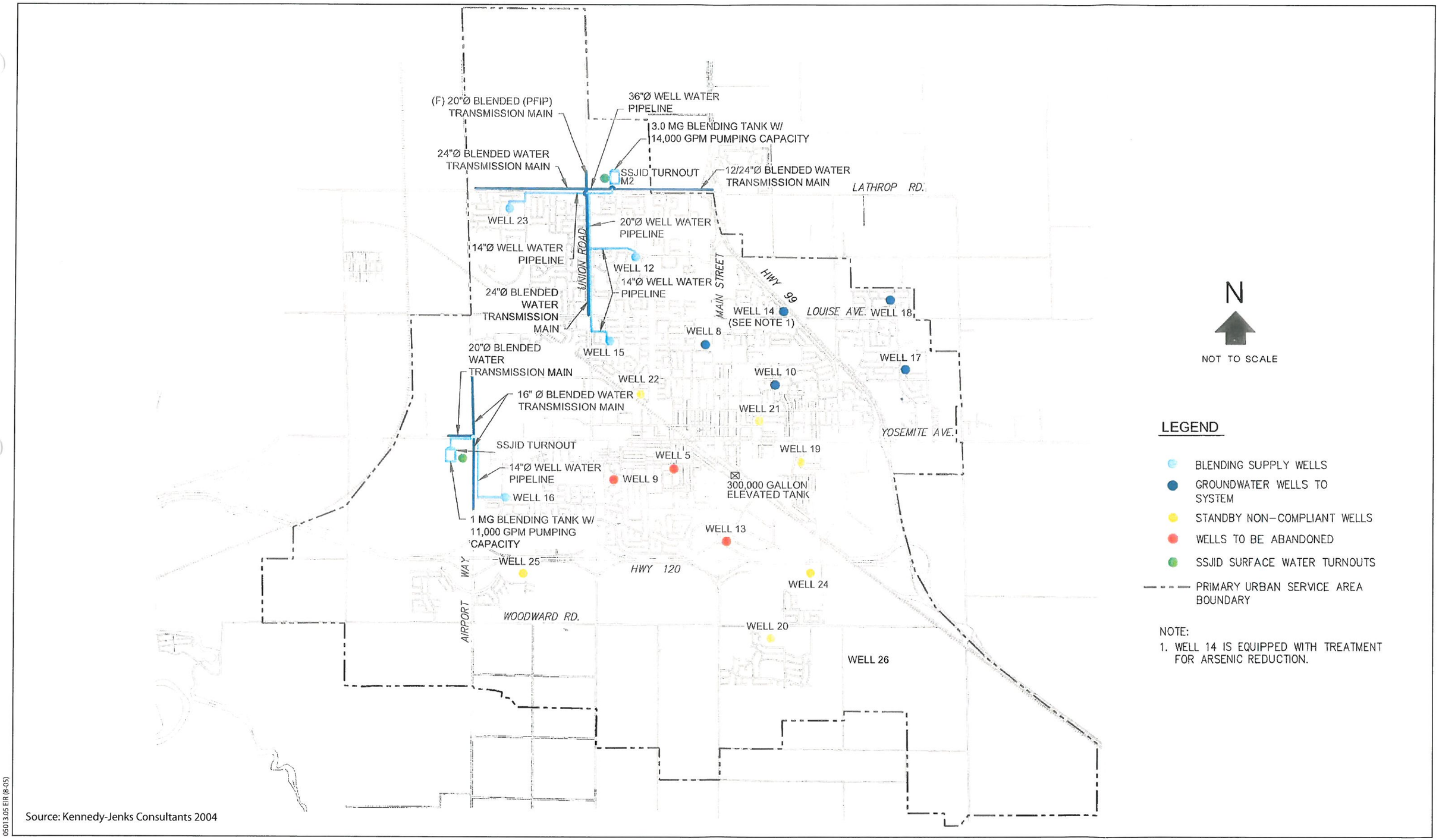


Source: Kennedy-Jenks Consultants 2004

05013.05 EIR (8-05)

Jones & Stokes

Figure 4-1
Proposed Program: Surface Water Blending with Wellhead Treatment for Arsenic Compliance—Existing Customers (2005)

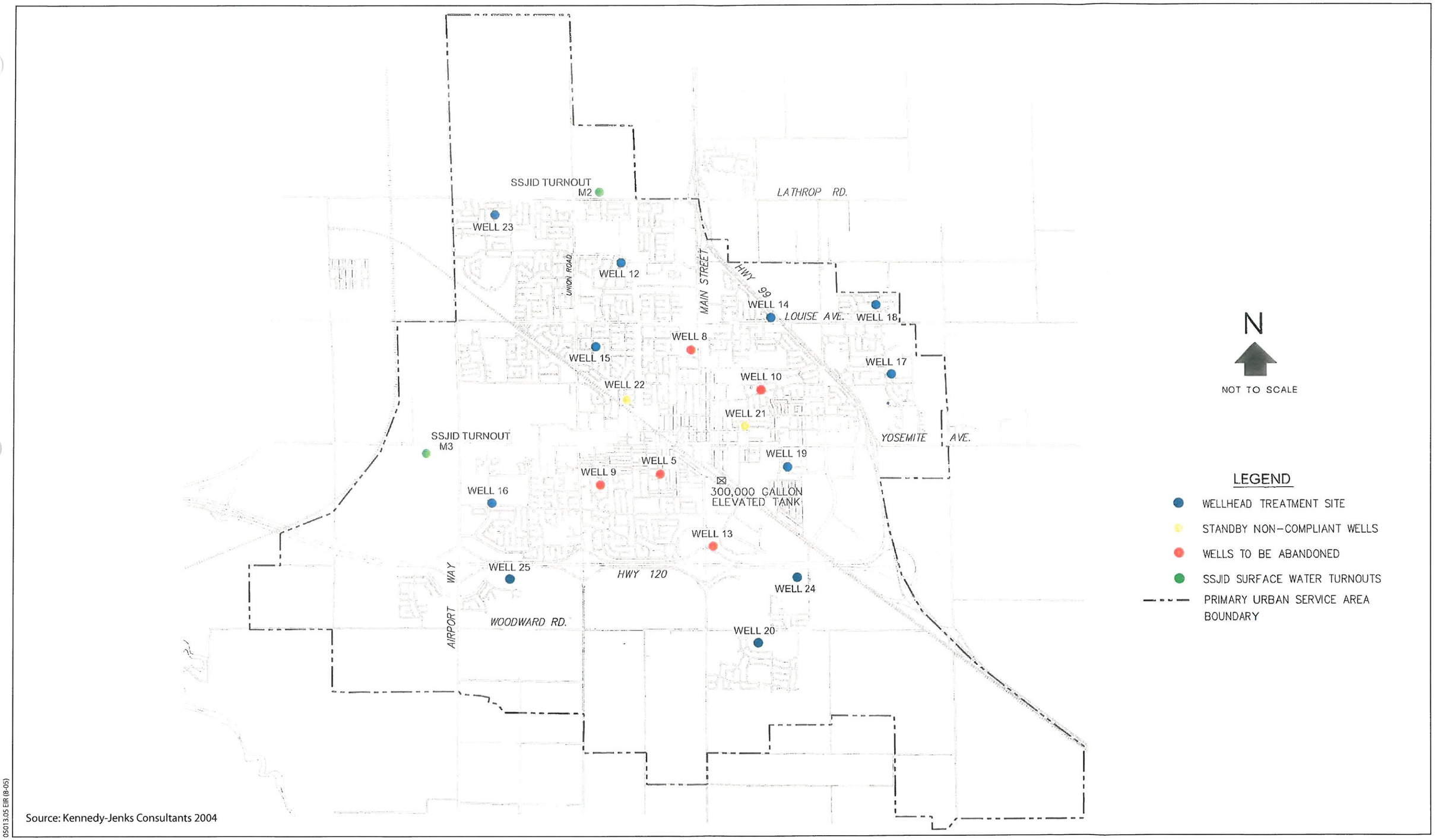


Source: Kennedy-Jenks Consultants 2004

05013.05 EIR (8-05)

Jones & Stokes

Figure 4-2
Alternative 1: Maximize Blending with Surface Water for Arsenic Reduction—Existing Customers (2005)



Source: Kennedy-Jenks Consultants 2004

05013.05 EIR (8-05)

Jones & Stokes

Figure 4-3
Alternative 2: Optimize Blending, Wellhead Treatment and Storage for Arsenic Reduction—Existing Customers (2005)

Impact Analysis of Alternatives

The following sections describe the potential environmental impacts associated within the program alternatives.

Aesthetics

The proposed program, Alternative 1, and Alternative 2 would all include new surface features that could permanently alter the visual character within the PUSA. Surface features that would be visible above-grade include masonry block buildings to house wells and wellhead treatment facilities, backwash and brine tanks, utility boxes associated with the booster pumps, water storage tanks, and aboveground process piping. Alternative 1 would involve construction of four wellhead treatment facilities along with SSJID storage tanks, booster pumps, blending facilities, and blended water transmission mains. Alternative 2 would be limited to construction of blending facilities and transmission pipelines at well sites and/or SSJID turn-outs, with no new wellhead treatment facilities. The No-Project Alternative would result in construction of no new surface features.

Temporary visual disturbances would likely be comparable for the alternatives and the proposed program due to construction activities necessary to expand water supply infrastructure. Alternative 1 would result in less potential degradation of existing visual character than the proposed program due to a reduced number of new groundwater treatment facilities. However, new water storage tanks at the SSJID blending facilities may contribute to visual degradation at other locations in the PUSA. Alternative 1 would have potentially significant aesthetics impacts. Alternative 2 would result in less-than-significant aesthetics impacts, due to construction limited to underground transmission mains and blending facilities. The No-Project Alternative would result in no impact.

Agricultural Resources

Like the proposed program, Alternatives 1 and 2 have the potential to indirectly convert prime farmland, farmland of statewide importance, and farmland of local importance to non-agricultural use through the development of water infrastructure facilities and induced urban growth. Construction of new wells and wellhead treatment facilities, booster pumps, water storage tanks, and blending facilities under the two alternatives and the proposed program would potentially convert agricultural lands to well sites within the PUSA. The No-Project Alternative would neither directly nor indirectly convert agricultural resources.

Alternatives 1 and 2 would have similar less-than-significant impacts as the proposed program related to agriculturally zoned land or Williamson Act contracts. Alternative 2 would have less of an impact on agricultural resources due to limited construction of new wells or wellhead treatment facilities. All transmission pipelines would be located within the City's right-of-ways and

would therefore not result in direct agricultural conversion. The No-Project Alternative would result in no impact.

Air Quality

Construction of individual program elements under Alternatives 1 and 2 would result in similar construction-related emissions as the proposed program. Construction of a suite of wellhead treatment facilities, surface water blending facilities, storage tanks, and/or transmission mains under each alternative would create construction-related emissions and dust. However, fewer wells and wellhead treatment facilities in Alternative 1, and none in Alternative 2, would reduce the operational impacts of stand-by generators. The No-Project Alternative would not result in any new construction or operational emissions.

Construction of distribution pipelines for Alternatives 1 and 2 would result in potentially significant air quality impacts. The quantity of construction-related emissions would vary with each alternative, based on construction timing, machinery used, weather patterns, and other variables. Potential generation of operations-related emissions would be less than significant under Alternatives 1 and 2, due to fewer back-up generators at well sites. The No-Project Alternative would result in no impact.

Biological Resources

Like the proposed program, Alternatives 1 and 2 would result in construction of individual program elements that may impact biological resources in the City. Each of the alternatives would maintain disturbance of existing well sites, along with construction of new surface water blending facilities and transmission mains within City rights-of-way. Alternative 2 includes minimal treatment facilities, with emphasis on transmission pipeline turn-outs and blending facilities. The No-Project Alternative would not result in any new construction activities.

Disturbance of sensitive species and their habitats, riparian areas, and/or waters of the United States (including wetlands) would be potentially significant under Alternatives 1 and 2 due to construction and operation of blending facilities, booster pump stations, wellhead treatment facilities, and/or storage tanks. The No-Project Alternative would result in no impact.

Cultural Resources

Alternatives 1 and 2 have a similar potential for impacts to cultural resources as the proposed program due to the construction of new wells and wellhead treatment facilities, storage tanks, and the laying of associated transmission mains. Alternative 2 includes minimal treatment facilities, with emphasis on transmission pipeline turn-outs and blending facilities. The No-Project Alternative would not result in construction activities that could disturb cultural resources.

Disturbance of archeological and paleontological resources could result in potentially significant impacts under Alternatives 1 and 2, due to construction and operation of blending facilities, booster pump stations, wellhead treatment facilities, and/or storage tanks. The No-Project Alternative would result in no impact.

Geology, Soils, and Minerals

Potential for damage or loss of water supply infrastructure due to seismically induced fault rupture, groundshaking, liquefaction, or other geologic hazard would be comparable in both alternatives and the proposed program. Wells, treatment facilities, blending stations, and storage tanks would potentially be damaged under all alternative plans. Due to no new construction, potential geologic impacts would be reduced under the No-Project Alternative.

Alternatives 1 and 2 would have similar potentially significant impacts as the proposed program related to potential for damage or loss of water supply infrastructure due to groundshaking, liquefaction, or expansive soils. The No-Project Alternative would result in no impact.

Hazards and Hazardous Materials

Construction of water supply infrastructure under Alternatives 1 and 2 would create a similar accidental release hazard for hazardous materials as the proposed program. Construction of wells and wellhead treatment facilities, booster pump stations, storage tanks, and distribution pipelines would all expose the public to potential hazards. However, dependence on groundwater treatment in the proposed program is greater than in Alternative 1, which emphasizes blending, and Alternative 2, which emphasizes surface water delivery. This dependence on groundwater treatment significantly increases arsenic release hazards during operations phases in the proposed program. The No-Project Alternative would result in no additional hazards.

The proposed program would generate greater amounts of arsenic for disposal following treatment at the wellheads, and would result in greater hazardous materials impacts. Alternative 1 would result in potentially significant hazards impacts, due to wellhead treatment and blending with SSJID supplies that would occur during operations. The collection and removal of arsenic from groundwater would still need to be disposed of properly. Alternative 2 involves distribution of surface waters that are already low in arsenic levels, and would therefore result in less-than-significant hazards and hazardous materials impacts. The No-Project Alternative would result in no impact.

Hydrology and Water Resources

Construction of individual program elements under Alternatives 1 and 2 would result in similar construction-related erosion and sedimentation impacts as the proposed program. Alternative 1 would involve construction of new SSJID blending facilities and blended water transmission mains, likely beyond those constructed in the proposed program. Alternative 2 includes minimal treatment facilities, with emphasis on transmission pipeline turn-outs and blending facilities. The No-Project Alternative would result in construction of no new surface features.

As described above, increased wellhead treatment under the proposed program would result in the greatest number of arsenic disposal issues. Potential drainage and flooding impacts would be potentially significant in the proposed program and in Alternative 1, due to increased impermeable surfaces at the new well sites, blending facilities, booster pump stations, and water storage tanks. Construction of the distribution mains under both alternatives and the proposed program would involve trenching, which may provide a direct path for construction-related chemicals to reach the groundwater table. As such, Alternatives 1 and 2 would result in potentially significant construction impacts related to hydrology. However, seiche, tsunami, and mudflow hazards would all be less than significant under the alternatives. The No-Project Alternative would result in no impact.

Land Use and Planning

Land use impacts under the two alternatives would be similar to the proposed program. Construction and operation of water supply infrastructure would not disrupt a community or conflict with existing plans and policies. Alternatives 1 and 2 would support the City of Manteca in achieving its 2023 General Plan growth projections. The No-Project Alternative would prevent the City from further urbanization.

Program elements (i.e., wells and wellhead treatment facilities, blending stations, booster pumps, storage tanks, and distribution pipelines) would represent a minimal change in existing land uses. Conflicts with land use and habitat conservation plans and policies would likely be less than significant under Alternatives 1 and 2. The No-Project Alternative would result in no impact.

Noise

Construction of individual program elements under Alternatives 1 and 2 would result in similar noise impacts as the proposed program. Construction of a suite of wellhead treatment facilities, surface water blending facilities, storage tanks, and/or transmission mains under each alternative would create construction-related noise. However, fewer wells and wellhead treatment facilities in Alternative 1, and none in Alternative 2, would reduce the operational impacts of stand-by generators. The No-Project Alternative would not result in any new construction or operational noise.

Construction of distribution pipelines for Alternatives 1 and 2 would result in adverse (significant and unavoidable) noise and vibration impacts. The quantity of construction-related noise would vary with each alternative, based on construction timing, machinery used, adjacent land uses, and other variables. However, generation of operations-related noise would be less than significant under Alternatives 1 and 2, due to fewer back-up generators at well sites. The No-Project Alternative would result in no impact.

Population and Housing

Like the proposed program, construction and operation of water supply infrastructure under Alternatives 1 and 2 would not result in the displacement of existing housing or residents. Alternatives 1 and 2 would support the City of Manteca in achieving its 2023 General Plan growth projections. The No-Project Alternative would prevent the City from further urbanization.

Alternatives 1 and 2, as with the proposed program, remove infrastructure-related obstacles to growth in Manteca's PUSA through the treatment, storage, and distribution of potable water. The two alternatives and the proposed program all have significant and unavoidable growth-inducing impacts. The No-Project Alternative would result in no impact.

Public Services, Utilities, and Recreation

Alternatives 1 and 2 are located within the PUSA and would be served by the same utility providers as the proposed program. Operation of water supply infrastructure under the alternatives would not require additional services and/or utilities. The No-Project Alternative would also result in no impact.

Because the proposed program and two alternatives call for construction of new surface water blending facilities and associated transmission mains, they would all result in the production of construction waste. However, because landfill capacity is adequate, Alternatives 1 and 2 would result in less-than-significant solid waste impacts. Alternatives 1 and 2, as with the proposed program, would have potentially significant impacts due to accidental disruption of existing utility lines. Foreseeable impacts on other public service, utilities, and recreation would be the same as the proposed program. The No-Project Alternative would result in no impact.

Transportation

Construction of individual program elements under Alternatives 1 and 2 would result in similar transportation impacts as the proposed program. Construction of a suite of wellhead treatment facilities, surface water blending facilities, storage tanks, and/or transmission mains under each alternative would create construction-related delays and increased truck traffic. Alternative 2 includes minimal treatment facilities and maximum transmission pipeline turn-outs. The No-Project Alternative would not result in any new construction traffic.

Increases in area traffic volumes and degradation of LOS are likely in Alternatives 1 and 2 due to construction of water supply infrastructure. As with the proposed program, short-term construction-related impacts would be significant and unavoidable. Construction impacts would include safety hazards, interference with emergency access, and/or parking demands during construction of water distribution pipelines. Foreseeable impacts on emergency access, parking demands, and transit services would be potentially significant. The No-Project Alternative would result in no impact.

Environmentally Superior Alternative

The two EIR alternatives are intended to provide a range of conjunctive use approaches to allow the City to comply with the new arsenic drinking water standards. All approaches result in abandonment of some existing wells and all approaches have significant financial impacts.

Selection of the environmentally superior alternative generally depends on the existence of any significant environmental impacts, particularly significant and unavoidable impacts. Based on the assessment of environmental impacts described above, the environmentally superior alternative is the No-Project Alternative. However, the No-Project Alternative was not considered the environmentally superior alternative because, despite the fact that it would avoid all of the direct physical impacts of the proposed program, it would require provision of alternative sources of potable water supply that would have physical impacts that may be similar to, or greater than, the proposed program.

As such, Alternative 2 is considered the environmentally superior alternative for the purposes of this EIR. Alternative 2 includes emphasis on increased delivery of SSJID surface water directly to appropriate Manteca customers, which reduces the need for construction of new wellhead treatment facilities in lieu of surface water turn-outs, blending stations for existing wells, and distribution mains. Alternative 2 would result in reduced potential environmental impacts in the following areas.

- Aesthetics.
- Agricultural resources.
- Air quality.
- Hazards and hazardous materials.
- Noise.

Alternatives Considered but Dismissed from Further Analysis in this EIR

All of the following alternatives were dismissed from more detailed impact analysis in this EIR because they are either considered infeasible, would not meet program objectives, would not avoid or substantially lower the significant impacts identified for the proposed program, or are substantially similar to the two program alternatives considered above.

The following alternatives to the proposed 2005 Water Master Plan were considered, but dismissed from further consideration for the reasons stated below.

- **Surface Water Alternative.** Water supply would be provided solely through surface water sources by SSJID. No additional groundwater pumping would be approved. However, this alternative is not consistent with the WMP project objectives to develop a conjunctive groundwater/surface water use approach.
- **Groundwater Alternative.** Water supply would be provided by groundwater pumping only. No surface water supply from SSJID would be accepted. However, this alternative is not consistent with approval and construction of the SCSWSP and program objectives to facilitate delivery of SSJID surface water supply to the combined service area. Additionally, this alternative would result in severe basin overdraft.
- **Additional Water Conservation.** Water supply would be provided primarily by additional water conservation measures. However, the City currently has an active water conservation program, including consumer education, water saving fixtures and appliances, lawn and garden irrigation techniques, system water audit, water conservation enforcement, water rate evaluation, benefit-to-cost analyses, and water shortage contingency plan.

Additional water conservation at the levels necessary to provide water for General Plan buildout would be infeasible.

- **Development Supply Alternative.** Water supply would be provided by individual developers for urban projects. All conveyance and distribution piping would be the responsibility of the developer and/or landowner, rather than the City of Manteca. Difficulties in coordination of water system planning and design by different developers would render this alternative difficult to implement. Additionally, this alternative does not meet program objectives to facilitate delivery of SSJID surface water supply to the combined service area.
- **Recycled Water Alternative.** Water supply would be provided solely through treatment and distribution of recycled water from the City's Wastewater Treatment Plant. Although use of recycled water supply is contained within the City's Wastewater Master Plan and 2005 Urban Water Management Plan (1,700 acre-feet for use in landscape irrigation in 2020), the costs of treating and distributing recycled water supplies to meet all potable water demands are prohibitive. Additionally, this alternative does not meet program objectives to facilitate delivery of SSJID surface water supply to the combined service area.

Chapter 5

Other CEQA Findings

This chapter contains analyses of the proposed program's potential to contribute to cumulative impacts in the region, induce growth, and result in significant, irreversible environmental changes. Resource topics for which no significant impacts were identified are also included in this chapter.

Key sources of data used in the preparation of this chapter include the following.

- The City's *2023 General Plan* (City of Manteca 2003a).
- The City's *2023 General Plan EIR* (City of Manteca 2003b).
- The City's *Draft Water Master Plan* (City of Manteca 2005b).
- The City's *Site Plan Activity Report* (City of Manteca 2005c).
- SSJID's *SCSWSP EIR* (South San Joaquin Irrigation District 1999).

Cumulative Impacts

CEQA Requirements

Section 15130 of the State CEQA Guidelines requires lead agencies to evaluate a proposed undertaking's potential to contribute to cumulative impacts in the project or program area.

Cumulative impact refers to the combined effect of "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines Sec. 15355). As defined by the state, cumulative impacts reflect:

> [t]he change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (CEQA Guidelines Sec. 15355[b]).

CEQA requires the lead agency to identify projects and programs related to the undertaking being analyzed and evaluate the combined (cumulative) effects of

those related projects on the environment. If cumulative impacts are identified as significant, the lead agency must then assess the degree to which the proposed undertaking would contribute to those impacts and identify ways of avoiding or reducing any contribution evaluated as "cumulatively considerable" (CEQA Guidelines Sec. 15130[b]). Lead agencies may use a "list" approach to identify related projects, or may base the identification of cumulative impacts on a summary of projections in an adopted general plan or related planning document.

Assumptions

The following assumptions were used in this analysis of cumulative impacts.

- A cumulatively considerable impact occurs only if the proposed program would contribute something to the total effect. A cumulatively considerable impact is more likely to occur if either the program's contribution or the prevailing negative conditions are substantial.
- Pursuant to CEQA Guidelines Sections 15064 and 15130, a project's incremental contribution to a cumulative impact is not cumulatively considerable if the project will comply with the requirements of a previously approved plan or mitigation program that provides specific requirements that will substantially lessen the cumulative problem, or if the project will contribute its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.
- All direct effects of the proposed program have the potential to contribute to cumulatively considerable impacts, even if they are individually less than significant.
- The geographic region affected by cumulative impacts varies by resource; for instance, the region affected by cumulative air quality impacts may be larger than the region affected by cumulative noise effects.
- This analysis incorporates past projects by acknowledging their contribution to existing negative or sensitive conditions.

Approach

The proposed program considers cumulative conditions in its assessment of potential impacts. The proposed program considers cumulative impacts from buildout and development in accordance with the City of Manteca 2023 General Plan. The cumulative impacts analysis evaluates several specific projects that may, in combination with the proposed program, result in cumulative impacts.

In determining past, present, and reasonably foreseeable actions that have the potential, in combination with the impacts of the proposed program, to result in cumulative impacts, the EIR focuses on projects that would likely result in impacts that are similar in kind or in location to those of the proposed program. In particular, this analysis focuses on regional water management actions and

local development projects that, when combined with the proposed program, could contribute to cumulative impacts.

Potential Plans and Projects with Related or Cumulative Impacts

Geographic Scope

The potential for program-generated effects to contribute to a significant cumulative impact would arise if several projects with similar effects were constructed concurrently with the proposed program within the same geographic area. This geographic area may vary, depending on the issue area discussed and the geographic extent of the potential impact. For example, the geographic area associated with construction noise impacts would be limited to areas directly affected by construction noise, whereas the geographic area that could be affected by construction-related air emissions may include the larger airshed. In general, impacts associated with implementation of the proposed program are limited to construction impacts. Construction impacts associated with increased noise, dust, erosion, and access limitations tend to be localized and could be exacerbated if other development or improvement projects are occurring within the same or adjacent locations.

Sacramento–San Joaquin River Delta Projects

California Department of Water Resources (DWR), in coordination with the U.S. Bureau of Reclamation (Reclamation), proposes to implement the SDIP to improve fish habitat, water quality, and water conveyance conditions in the south Sacramento–San Joaquin River Delta (Delta).

DWR and Reclamation are coordinating the development and implementation of the SDIP because of the interrelated nature of Central Valley Project (CVP) and State Water Project (SWP) operations, and based on the 1987 Coordinated Operations Agreement (COA). Through this agreement, DWR and Reclamation coordinate the operations of the SWP and CVP to meet the various Delta regulatory requirements.

DWR and Reclamation are also identified in the CALFED Programmatic Record of Decision (CALFED Bay-Delta Program 2000) and State Water Resources Control Board Water Rights Decision 1641 (State Water Resources Control Board 2000) as leaders of the effort to implement SDIP water supply conveyance improvements. DWR and its federal counterparts are directed to manage program elements contained in the CALFED Conveyance Program. DWR is implementing the SDIP as part of the CALFED Conveyance Program, ultimately, to improve conveyance and local agricultural diversion conditions in the south Delta, while enhancing ecosystem benefits.

Reclamation is authorized to construct barriers for fish protection and to obtain such export and conveyance capacity as necessary to convey CVP supplies.

In-Delta Storage

CALFED agencies are exploring options for storing water in the Delta. In-Delta storage would increase the reliability, operational flexibility, and water availability for south-of-Delta water users. An in-Delta storage location would capture peak flows through the Delta in the winter when the CVP and SWP systems do not have the capacity or ability to capture those flows. Water could then be released from the in-Delta reservoirs during periods of export demands, typically summer months. Storing water in the Delta provides the opportunity to change the timing of Delta exports and the ability to capture flows during periods of low impacts on fish. One option is to lease or purchase the Delta Wetlands Project, a private water development project that would divert and store up to 217,000 acre-feet on two islands in the Delta and dedicate two other islands for habitat improvements. The Delta Wetlands Project was analyzed in environmental documents, and permits were issued for the private project in 2001. As part of the Delta Wetlands Project, Webb Tract and Bacon Island would be converted to reservoirs, and Bouldin Island and Holland Tract would be used as wetland and wildlife habitat. DWR released the In-Delta Storage Draft State Feasibility Reports in January 2004 (California Department of Water Resources 2004).

Los Vaqueros Reservoir Expansion

Reclamation, DWR, and the CCWD are conducting a feasibility study examining alternatives that improve water quality and water supply reliability for Bay Area water users and also enhance the Delta environment, which will include expanding the existing Los Vaqueros Reservoir as well as a variety of other alternatives. Current work has focused on planning-level evaluations of expanding the Los Vaqueros reservoir from 100,000 acre-feet up to 500,000 acre-feet to improve Bay Area water quality and water supply reliability. An expanded reservoir would require a new or expanded Delta intake, with a capacity of up to 1,750 cubic feet per second (cfs) for the maximum reservoir size. Locations being considered for the new Delta intake include Old River and adjacent channels. Water from an expanded reservoir could be delivered to Bay Area water users through a connection to the South Bay Aqueduct.

The Los Vaqueros Reservoir expansion study is in the early planning stage. A Draft Planning Report, including an evaluation of the environmental impacts of an expanded Los Vaqueros Expansion alternative on the Delta, was released in May 2003. Studies conducted for the draft planning report show that there would be no significant impact on water levels for current Delta water users or on river velocities. An expanded Los Vaqueros Reservoir could change the timing of diversions from the Delta. Passage of Measure N in March 2004 allows further environmental and engineering studies to continue, with planned environmental

review public scoping meetings to be held in early 2005 and a tentative EIR/EIS schedule of 2007.

The Los Vaqueros Reservoir Expansion could contribute to cumulative impacts on water supplies and associated resources. The project could increase water supplies available for export in those years when Los Vaqueros Reservoir otherwise would have spilled. This project could also modify the timing and magnitude of upstream reservoir releases in wet years.

Local Projects

Numerous commercial and industrial projects are currently in the planning stages and under construction in the City of Manteca. According to the Site Plan Activity Report (City of Manteca 2005c), 56 projects are in the planning or construction phase in the City. This number does not reflect residential developments, which are tracked by the City's Community Development Department. Commercial projects planned or under construction include Spreckels Park (a 200-acre mixed use development expected to be completed in late 2006), Stadium Center (a 52-acre development located next to the Big League Dreams sports facility expected to be complete in the Summer of 2006), and The Promenade Shops at Orchard Falls (a 70-acre development that will open in late 2007) (City of Manteca 2006). Industrial projects planned or under construction include Spreckels Park (a 200-acre mixed use development), Manteca Industrial Park and Southeast Manteca Area (13 undeveloped parcels zoned for light industrial use), and West Manteca Area (a partially developed industrial area) (City of Manteca 2006). As of July 1, 2005, 37 residential development projects were under construction or pending approval from the City's Planning and Building Divisions. Most of these projects are located near the eastern and southern edges of the City.

South County Surface Water Supply Project

The SCSWSP is a project to supply the Cities of Tracy, Lathrop, Manteca, and Escalon with water from the South San Joaquin Irrigation District. The project includes construction of a new water treatment plant at Woodward Reservoir and pipelines to supply water to the cities. The project has been completed and is now online.

The source of supply for the project is the Stanislaus River. The existing surface water supply for Manteca and other participating cities is from the Delta. While problems have not been encountered to date, there is potential for a variety of water quality problems in the Delta making the water unsuitable for municipal use. These problems include levee failures, toxic spills, and salinity. The second source of surface water supply greatly increases water system reliability for the participating cities.

State Route 4 Bypass Project

Caltrans is modifying SR 4 in an effort to ease traffic through the cities of Brentwood and Oakley, and to provide access to the growing areas of southeast Antioch and western Brentwood. The project is being developed cooperatively by Caltrans; Contra Costa County; and the cities of Antioch, Brentwood, and Oakley. The highway will be relocated west of Oakley and on the western edge of Brentwood. The project is expected to be completed and the old highway relinquished by 2008.

Mountain House New Town

Trimark Communities is developing a new community in the western portion of San Joaquin County along the Alameda–San Joaquin County line and north of Interstate 205. At full buildout, 16,105 residential units on 4,784 acres would be developed. Mountain House is located directly south of Old River and west of Patterson Pass Road and will include residential, commercial, and some industrial development. It has been designed to accommodate all the needs of the expected 43,522 residents, including housing, jobs, retail space, commercial space, open space, and public services, such as schools, emergency services, and roads. The EIR was completed in 1994. Construction began in 2003. Buildout is anticipated by 2025.

River Islands Development

The Cambay Group is proposing to develop approximately 4,990 acres of agricultural land and open space known as the River Islands at Lathrop Project. The project applicant intends to build a mixed-use residential/commercial development on Stewart Tract and Paradise Cut. Stewart Tract is an inbound island bounded by Paradise Cut, the San Joaquin River, and Old River. Paradise Cut consists of a flood control bypass connecting the San Joaquin River and Old River in the Delta. This mixed-use development is expected to include a town center, employment center, dock facilities, residences, and golf courses. It is expected to generate 31,680 residents and 16,751 jobs at full buildout. The draft subsequent EIR was filed in October of 2002, and buildout is planned for 2025.

East Altamont Energy Center

Western Area Power Administration (WAPA) plans to construct an energy center with the intent to market power from hydroelectric plants, such as Shasta and Folsom Dams, to other entities, such as merchant power plants. The center would be located on a 174-acre parcel of land approximately 1 mile west of the San Joaquin County line and 1 mile southeast of the Contra Costa County line. The actual footprint of the plant would be approximately 55 acres, with the remainder of the parcel available for agricultural leases. Water for cooling and other power plant processes would be provided by Byron Bethany Irrigation

District. The plant is expected to have an operating life of 30–50 years. Environmental documentation equivalent to an EIS/EIR (Revised Presiding Member's Proposed Decision) was completed in January 2003, and approval from the Energy Commission was granted in August 2003.

Program Contribution to Cumulative Impacts

Analysis of cumulative impacts covered the program area as a whole: the City of Manteca, as well as surrounding communities and the Delta. All resource areas with potentially significant impacts were analyzed. Cumulative impacts are identified for the following resources in the program area.

- **Aesthetics**—negative temporary aesthetic impacts related to construction.
- **Agricultural Resources**—permanent loss of Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance to nonagricultural uses.
- **Air Quality**—contribution to nonattainment status for PM10 in the SJVAB.
- **Biological Resources**—loss and degradation of habitat for special-status species.
- **Land Use**—construction-related disturbance to rural land uses.
- **Noise**—short-term construction-related noise.
- **Traffic**—short-term construction-related delays and traffic congestion.

Consistent with the state's CEQA Guidelines, analysis of the proposed program's potential to contribute to areawide cumulative impacts focused on the known impacts listed above. The program also has the potential to make an indirect contribution to impacts on agricultural resources, air quality, water resources, noise levels, biological resources, and traffic by supporting planned growth in the County. This issue is discussed below in *Growth-Inducing Impacts*.

Aesthetics

Concurrent construction of the proposed program with other Manteca area projects would result in short-term visual impacts during construction. Visual impacts can be localized or regional, depending on the nature of the impact and the intervening topography and built environment. Construction activities would require the use of heavy equipment and storage of materials at the construction zone. During construction, excavated trenches, stockpiled soils, and other materials in the construction easement would constitute negative aesthetic elements in the visual landscape that would directly affect the area. As noted in Section 3.1, *Aesthetics*, these impacts would be temporary during project construction and would not be considered significant on a project basis. However, when considered in combination with the other projects identified,

these impacts are considered cumulatively significant, short-term, and unavoidable.

Agricultural Resources

The Manteca 2023 General Plan EIR concluded that buildout of the 2023 General Plan would result in the conversion of 5,912.8 acres of Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance to nonagricultural uses (City of Manteca 2003a). This conversion was considered a potentially significant impact, and mitigation measures were identified to reduce this impact (see mitigation measures below). The 2023 General Plan EIR concluded that the mitigation measures reduced the impact, but not to a less-than-significant level, and that the impact was therefore considered to be significant and unavoidable.

The proposed project would facilitate the planned development identified in the 2023 General Plan. No further conversion of farmland outside that resulting from buildout of the General Plan would result from implementation of the proposed program; however, the program would contribute to this cumulatively significant impact.

Air Quality

As described in Section 3.3, *Air Quality*, the SJVAPCD, including San Joaquin County, is currently in nonattainment for PM10 (including the recently issued federal PM2.5 standard) and ozone. This nonattainment represents a significant cumulative impact; generation of particulate matter and ozone/ozone precursors are thus the principal cumulative air quality concerns in the region.

Operation of the proposed program would generate minimal increases in pollutant emissions, primarily associated with cycling of the standby generators at booster pump stations, and a small additional amount of periodic emissions that would be generated by vehicles used in maintenance and inspection visits. The program's principal direct contribution to cumulative regional air quality issues would likely occur during construction of individual program elements. Construction of program facilities would have the potential to result in increased local generation of PM10 (including PM2.5), ozone precursors in gasoline and diesel vehicle exhaust, and carcinogenic particulates in diesel exhaust.

Construction-related increases in PM10 and ozone precursor emissions would be comparatively small and of fairly short duration. The SJVAPCD required that Regulation VIII PM10 control measures would be implemented to reduce the potential pollutant emissions. The impact of these pollutants would still be considered significant and unavoidable at the project level because of the area's nonattainment status for these pollutants. They would also represent a cumulatively considerable contribution to regional air quality issues because of the area's nonattainment status for these pollutants.

Biological Resources

Construction and improvement activities associated with proposed program elements would result in the direct loss or indirect disturbance of special-status plants and wildlife species that are known to or could occur in the program area. Impacts on special-status species would result in a substantial reduction in local population size, lowered reproductive success, and/or habitat fragmentation. This impact is considered significant because the City cannot guarantee avoidance of special-status species during design and construction of program wells and wellhead treatment facilities, booster pumps, storage tanks, and/or distribution pipelines. Depending on the species (listed versus unlisted) and the extent of impact, implementation of the mitigation measures described in Section 3.4, *Biological Resources*, would reduce this impact but not to a less-than-significant level. Therefore, this impact is considered cumulatively significant and unavoidable. Other projects in the program area have completed or will be required to complete the appropriate level of CEQA compliance and permitting, including the establishment of mitigation measures to avoid or minimize similar impacts.

Construction activities associated with proposed program elements would introduce or spread noxious weeds into currently uninfested areas. Plants or seeds may be dispersed on construction equipment if the appropriate measures are not implemented. This impact is considered significant because the introduction or spread of noxious weeds could result in a substantial reduction or elimination of species diversity or abundance. Because of the potential to introduce or spread noxious weeds into currently uninfested areas, implementation of the proposed program could contribute to the cumulative displacement of special-status plant species and degradation of habitat for special-status wildlife in the Manteca area. However, because of the inclusion of appropriate mitigation measures, the contribution of the proposed program is not considered cumulatively considerable.

Cultural Resources

Numerous potential cultural resource sites are known to occur in the Manteca area. Potential impacts to unknown cultural resources that may occur within construction footprints would be reduced by implementation of mitigation identified in Section 3.5, *Cultural Resources*, which includes data collection and recordation in the event of a find. Other projects in the program area have completed or will be required to complete the appropriate level of CEQA compliance and permitting, including the establishment of mitigation measures to avoid or minimize disturbance of cultural resources.

Because of the potential for impacts to known and unknown cultural resources, implementation of the proposed program could contribute to the cumulative loss of cultural resources in the Manteca area. However, because of the small number of known sites that could be affected, the low potential for previously undiscovered resources to be found, and the inclusion of appropriate mitigation

measures, the contribution of the proposed program is not considered cumulatively considerable.

Hydrology and Water Resources

Concurrent construction of proposed program elements and other projects in the Manteca area could result in increased erosion and subsequent sedimentation, with impacts on storm drain capacity and water quality in downstream water bodies. Additionally, discharge of groundwater, release of fuels, or release of other hazardous materials associated with construction activities could degrade water quality.

The State Water Board has issued a General NPDES Permit to address potential impacts related to construction activities. This General Permit has been issued to ensure that individual projects implement their fair share of mitigation measures designed to alleviate cumulative impacts to water quality. The General Permit mandates that projects disturbing greater than 1 acre develop and implement a SWPPP identifying BMPs to reduce erosion of disturbed soils and release of hazardous materials into water courses. Preparation of a SWPPP for each project under the proposed program, and compliance with the measures identified in the SWPPP, would ensure compliance with state regulatory policies to minimize the potential for water quality impacts from construction activities associated with the proposed program. Other projects in the Manteca area include similar requirements, and compliance with the General Permit, and the Clean Water Act as a whole, is mandatory. As such, the contribution to cumulative water quality impacts associated with the proposed program would be less than cumulatively considerable.

Land Use

As noted in Section 3.9, *Land Use and Planning*, the construction-related disturbance of surrounding land uses by the proposed program would not be considered significant on an individual program element basis because of the implementation of traffic control measures and the temporary nature of construction activities. These factors and other mitigation measures identified in Section 3.9, *Land Use and Planning*, would minimize these impacts to the degree feasible. However, when considered in combination with the other projects in the Manteca area, this impact is considered a cumulatively significant, short-term, and unavoidable impact.

Noise

Manteca is situated in a largely agricultural area, and sounds generated by construction of the proposed program elements concurrent with other infrastructure projects are likely to be perceived as intrusive or disruptive. As discussed in Section 3.10, *Noise*, mitigation measures are available to reduce the

level of impact to some extent, but construction noise and vibration impacts would remain significant and unavoidable in the short-term. The proposed program would thus make a cumulatively considerable contribution to area-wide noise concerns. Because the proposed program's incremental impact has been identified as unavoidable, even with all feasible mitigation in place, its contribution to cumulative short-term noise impacts would also be unavoidable.

Traffic

Construction of proposed program elements would result in temporary lane closures, detours, open trenches near transit routes or closure of transit stops, and the addition of construction trucks and equipment on the surrounding roadway system. Although a traffic control plan would be implemented, distribution pipeline construction would potentially increase delays and congestion, a significant and unavoidable impact in the short-term during construction. Because the proposed program's incremental impact has been identified as unavoidable, even with implementation of all feasible mitigation, its contribution to cumulative traffic impacts would also be unavoidable, although short-term.

Growth-Inducing Impacts

CEQA Requirements

Section 21100 of the California Public Resources Code requires an EIR to include a detailed statement of the proposed project's anticipated growth-inducing impacts. More specific guidance is provided by Section 15126.2(d) of the state's CEQA Guidelines, which require that the analysis of growth-inducing impacts discuss the ways in which the proposed project could foster economic or population growth or the construction of additional housing in the project area. The analysis must also address project-related actions that, either individually or cumulatively, would remove existing obstacles to population growth. The purpose of this section is to examine the proposed project's likely impacts related to population growth, consistent with these statutory requirements.

City of Manteca 2023 General Plan

Overview and Scope

California law requires each city to develop a comprehensive, long-term general plan to guide its land use decision-making and physical development (Government Code Section 65300 *ff.*). The intent is to ensure that growth takes place in a controlled manner, with an appropriate balance of land uses maintained and all needed services provided. This goal is reflected in the general plan contents mandated under Government Code Section 65302—of the seven

mandatory "elements," or chapters, three relate directly to growth: the Land Use Element establishes the pattern of future land uses, the Circulation Element plans the road system that will serve approved land uses, and the Housing Element identifies the means by which the city will meet its fair share of projected regional housing needs for all income groups.

The City of Manteca 2023 General Plan, adopted on October 6, 2003, articulates the City's development and land use policies through the buildout of the general plan area. Typical of a long-term land use plan, it provides for development and services to accommodate significant population growth, estimating a maximum of 132,600 residents at buildout of the general plan, as compared to the current (2005) population of approximately 61,927 (California Department of Finance 2005).

Mitigation Measures in the Manteca 2023 General Plan

Recognizing that growth is inevitable in many, if not all, communities, a primary purpose of general plan development is to provide strategies and policies that will ensure orderly and "healthy" growth for the community. In rapidly growing Manteca, this need is met by the goals and policies in the 2023 General Plan's Land Use and Housing Elements, which stipulate that development within the City's Primary Urban Service Area will be timed to coincide with the availability of public services and facilities and will be consistent with the City's Growth Management Ordinance. The maximum allowable City-mandated growth rate under the Growth Management Ordinance is 3.93 percent per year.

The following 2023 General Plan policies reduce the impacts of growth by encouraging compact growth coordinated with the provision of urban services.

Goal LU-1: To provide for orderly, well-planned, and balanced growth consistent with the limits imposed by the City's infrastructure and the City's ability to assimilate new development.

Policy LU-P-3: The City shall encourage a pattern of development that promotes the efficient and timely development of public services and facilities.

Policy LU-P-4: The City shall encourage a development pattern that is contiguous with the boundary of the City.

Policy LU-P-11: The City shall manage the rate and type of growth in Manteca according to a growth management program that provides for an annual allocation of residential, commercial and industrial development. The growth management program shall consider the capacities of City facilities and services, and the ability of the community to assimilate new development, and fluctuations in the balance of market demand for new housing and new job development.

Policy LU-I-1: The City shall maintain a growth management system that provides a mechanism for the annual allocation of residential, commercial, and

industrial development that may occur. The growth management system shall have the following objectives:

- Maintain, and where necessary, enhance the community's current public services and facilities.

Policy H-P-38: The City will maintain an adequate level of public services and infrastructure to meet the needs of existing and projected development, with the fiscal capacity of the City.

This approach ensures that development within the PUSA will occur as demand arises and services are available, and that future utility infrastructure will be sized appropriately to serve planned development. This will not eliminate the growth approved by the 2023 General Plan, but will control the rate at which it occurs and offset the adverse effects of random or excessively rapid growth.

Growth-Related Impacts of the Proposed Program

Direct Impacts

As discussed above, the City's population is estimated at some 61,927 persons (California Department of Finance 2005). It is expected to grow by about 2.93 percent annually (City of Manteca 2005c), resulting in a projected population of between 107,818 and 132,600 for the years 2025 and 2032, respectively.

As discussed in Chapter 2, *Project Description*, the proposed program would guide improvement and expansion of the City's water system to meet current and future needs for a safe, reliable water supply and distribution system. Specifically, implementation of the program would result in improvements to the existing water system to facilitate delivery of surface water from the SCSWSP. These improvements would include construction of new groundwater wells, wellhead treatment facilities, water storage tanks, booster pump stations, and distribution pipelines. However, one of the purposes of the program is to support planned development in the Manteca area. As outlined in Section 3.8, *Hydrology and Water Resources*, the present use of groundwater as the City's sole source of potable water has resulted in overdraft of the groundwater basin. Without water from the SCSWSP, the City will be both pragmatically and legally unable to complete development plans laid out for the 2023 General Plan.[1] By implementing water system improvements to facilitate delivery of water from the SCSWSP, the proposed program would remove this existing obstacle to growth, at least in part.

Current 5-year average per capita water consumption in the City is on the order of 224 gallons per day (gpd). Although the daily average per capita consumption fluctuates from year to year, there has been an increase of approximately 14 gpd

[1] Consistent with Senate Bills 221 and 610 of 2001, California law prohibits approval of moderate-sized and large development projects without documentation that adequate water supply will be available to support the resulting new demand.

in the past 10 years (City of Manteca 2005b). The proposed program would allow the City to continue to meet demand without further relying on diminishing groundwater supplies. The proposed program would not induce unplanned growth or growth at rates in excess of those supported by existing planning and land use policies. However, it does facilitate delivery of additional domestic water supply and would enable growth and development. The proposed program's direct impacts related to population growth are considered significant and unavoidable.

Indirect Impacts

Population growth in the City resulting from the proposed program is expected to lead to a number of indirect impacts on the natural and built environment, as summarized below. This growth is anticipated to be located primarily within the existing PUSA.

- **Agricultural Resources**—Urbanization of the City's PUSA would convert lands currently in agricultural use to urban development.
- **Air Quality**—Local air quality would worsen as a result of growth, primarily because of elevated levels of vehicle emissions and increases in dust generated by intermittent construction activities.
- **Biological Resources**—The conversion of undeveloped land to homes, roads, businesses, and other built uses would reduce the area of wildlife habitat remaining in the region.
- **Land Use**—Land use changes would likely include urban infill and densification and "absorption" of undeveloped lands in less urbanized regions, as housing and businesses are built to serve the area's expanding population.
- **Public Services, Utilities, and Recreation**—As the population grows, the demand for police and fire protections and for services such as schools, hospitals, and parks would undergo a corresponding increase. Additional utilities would also be needed, such as increased wastewater treatment capacity and extensions of utility infrastructure.
- **Traffic**—Area and local traffic would increase as a result of new development and increased numbers of through commuters traveling to employment hubs.

By enabling growth, the proposed program would indirectly foster, in varying degrees, all of the growth-related impacts identified above. Growth enabled by the proposed program would not exceed that modeled in the 2023 General Plan, and the impacts of the growth envisioned under the General Plan are addressed by mitigation included in the 2023 General Plan itself (City of Manteca 2003a) as well as the 2023 General Plan EIR (City of Manteca 2003b) (see *Mitigation Measures in the Manteca 2023 General Plan,* above). Development projects subject to the City's discretionary action are required to complete project-level CEQA environmental review to identify and mitigate project-specific impacts.

The City is responsible for effectively implementing general plan policies and other measures intended to mitigate the potential adverse impacts of future growth. Although growth enabled by the proposed program is within the range identified by the general plan, the proposed program would enable growth. No further analysis is required, and no additional mitigation beyond that identified in the general plan EIR and this EIR is proposed. Although many of the secondary impacts of growth will be mitigated by the provision of necessary infrastructure and public services as part of development in the City, there may be some impacts that cannot be mitigated (e.g., ambient noise level increases, cumulative air emissions). The overall secondary impacts of growth facilitated by the proposed program are considered significant and unavoidable.

Unavoidable Adverse Impacts

Section 15126.2(b) of the State CEQA Guidelines requires an EIR to describe any significant impacts that cannot be mitigated to a level of insignificance. All of the impacts associated with the proposed project would be reduced to a less-than-significant level through the implementation of identified mitigation measures and environmental commitments, with the exception of the impacts listed below.

- **Impact NOI-1:** Exposure of Noise-Sensitive Land Uses to Short-Term Construction Noise in Excess of City Standards.
- **Impact NOI-2:** Exposure of Sensitive Land Uses to Short-Term Construction-Related Vibration Levels in Excess of City Standards.
- **Impact POP-2:** Substantial Induction of Population Growth in the City of Manteca.
- **Impact TR-1:** Short-Term Increase in Area Traffic Volumes and Degradation of LOS Due to Construction-Generated Traffic.

Irreversible and Irretrievable Commitment of Resources

Section 15126 of the State CEQA Guidelines requires a discussion of potential significant, irreversible environmental changes that could result from a proposed project. Section 15126.2(c) of the State CEQA Guidelines states

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and particularly, secondary impacts (such as highway improvements which provide access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible commitments of resources should be evaluated to assure that such current consumption is justified.

The program components include improvements and expansion of the City's water system to meet current and future needs for a safe, reliable water supply and distribution system. The proposed program addresses the water requirements of the City of Manteca 2023 General Plan (City of Manteca 2003a) and recommends capital improvements to support existing infrastructure and customer demands, as well as planned new development. The program would require commitments of both renewable and nonrenewable energy and material resources for constructing and operating the individual program elements.

Items Found Not to be Significant

In accordance with State CEQA Guidelines (Section 15064[d][3]), lead agencies are required to evaluate a proposed project or program's direct, indirect, and cumulative impacts on the environment. In this document, the impacts analysis has been organized by resource topic in Chapter 3, *Environmental Analysis*. In evaluating the environmental consequences of the proposed program, no significant direct, indirect, or cumulative impacts were identified pertaining to the following resource topics:

- Cultural Resources
- Geology, Soils, and Minerals
- Hydrology and Water Resources

Chapter 6

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Chapter 7
References

Altamont Commuter Express (ACE). 2005. Lathrop/Manteca Station. Available: <http://www.acerail.com/main/station_lathrop-manteca.htm>. Accessed: August 2005.

Basgall, M.E., and W.R. Hildebrandt. 1989. *Prehistory of the Sacramento River Canyon, Shasta County, California.* University of California, Center for Archaeological Research, Davis.

Beardsley, R. K. 1954. *Temporal and areal relationships in central California archaeology.* University of California Archaeological Survey Reports 24, 25.

Bender, W. L. 1996. *Report on Estimated Airblast and Blast-related Vibration at the Lincoln Project, Placer County, California.* Green Valley, Arizona.

CALFED Bay-Delta Program. 2000. *Programmatic Record of Decision.* August 28, 2000.

California Air Resources Board. 2003. *Proposed Amendments to the Area Designation Criteria and Area Designations for State Ambient Air Quality Standards and Maps of Area Designations for State and National Ambient Air Quality Standards.* December 5. Sacramento, CA.

California Air Resources Board. 2005. *ARB Databases: Aerometric Data Analysis and Management System (ADAM).* Last Revised: August 3, 2005. Available: <http://www.arb.ca.gov/html/databases.htm>. Accessed: August 19, 2005.

California Department of Conservation. 2002. *Farmland Mapping and Monitoring Program: San Joaquin County.*

California Department of Conservation. 2005. *Williamson Act Contracts: San Joaquin County.*

California Department of Finance. 2002. *E-4: Revised Historical City, County and State Population Estimates, 1991-2000, with 1990 and 2000 Census Counts.* Sacramento, California.

California Department of Finance. 2005. E-1: City/County Population Estimates with Annual Percent Change, January 1, 2004–2005. Sacramento, CA.

California Department of Transportation (Caltrans). 2005. 2004 Annual Average Daily Traffic. Available: <http://www2.dot.ca.gov/hq/traffops/saferesr/trafdata/>. Accessed: August 2005. Traffic and Vehicle Data Systems Unit. CA.

California Department of Water Resources (DWR). 2003. Bulletin 118, Basin Descriptions. Available: <http://www.groundwater.water.ca.gov/bulletin118/basin_desc/basins_s.cfm#gwb39htm>. Accessed: August 16, 2005.

California Department of Water Resources. 2004. *In-Delta Storage Feasibility Studies*. January. Available: <http://calwater.ca.gov/Programs/Storage/InDeltaStorageReports_2003/InDeltaFeasibilityStudies_Jan2004.shtml>.

California Department of Water Resources. 2006. *Water Data Library*. Available: <http://well.water.ca.gov/>.

California Geological Survey. 2004. *Seismic Hazards Mapping Program website*. Available: <http://www.www.consrv.ca.gov/dmg/shezp/maps/p_cup.htm>. Accessed: September–October 2004.

California Governor's Office of Planning and Research. 2003. *Guidelines for the Preparation and Content of the Noise Element of the General Plan*. Appendix A in State of California General Plan Guidelines. Sacramento, CA.

California Integrated Waste Management Board. *Facility/Site Summary Details*. Last Revised: "Page updated regularly." Available: <http://www.ciwmb.ca.gov/SWIS/detail.asp?PG=DET&SITESCH=39-AA-0015&OUT=HTML>. Accessed: August 10, 2005.

California Native Plant Society (CNPS). 2005. *Inventory of Rare and Endangered Plants (online edition, v6-05c)*. Last revised: July 9, 2005. Available: <http://www.cnps.org/inventory>. Accessed: July 11, 2005.

California Natural Diversity Database. 2005. *RareFind 2, Version 3.0.5 (May 2005 update)*. Sacramento, CA: California Department of Fish and Game. California Department of Fish and Game. Sacramento, CA.

California Regional Water Quality Control Board, Central Valley Region. 2004. *Order No. R5-2004-0028, NPDES No. CA0081558, Waste Discharge Requirements for the City of Manteca, City of Lathrop, and Dutra Farms, Wastewater Quality Control Facility, San Joaquin County.*

California Regional Water Quality Control Board, Central Valley Region. 1998. *Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins – 4th Ed.*

California State Water Resources Control Board. 2000. *Water Rights Decision 1641.*

City of Manteca Fire Department. 2003. *City of Manteca Fire Department 2003 Annual Report.* Manteca, CA.

City of Manteca. 1993. *City of Manteca Public Facilities Implementation Plan.* Manteca, CA.

City of Manteca. 2003a. *General Plan 2023.* City of Manteca, CA.

City of Manteca. 2003b. Prepared by Wade Associates. 2003b. *General Plan 2023 Environmental Impact Report.* October 6. City of Manteca, CA.

City of Manteca. 2003c. *City of Manteca Bicycle Master Plan.* City of Manteca, CA.

City of Manteca. 2005a. *Area Information.* Available: <http://www.ci.manteca.ca.us/econdev/AreaInformation/Transportation.htm>. Accessed: August 2005.

City of Manteca. 2005b. *Draft 2005 Water Master Plan.* Prepared for City of Manteca.

City of Manteca. 2005c. *Site Plan Activity Report (As of August 1, 2005).* City of Manteca, CA.

City of Manteca. 2006. City of Manteca New Development Webpage. Economic Development and Redevelopment Department. Available: <http://www.ci.manteca.ca.us/econdev/NewDevelopment/default.htm>. Accessed: April 11, 2006.

Cowan, James P. 1984. *Handbook of Environmental Acoustics.* Van Nostrand Reinhold. New York, NY.

Coy, O. C. *California County Boundaries.* 1923. California Historical Survey Commission. Berkeley.

Department of Water Resources (DWR). 2003. *Bulletin 118, Basin Descriptions.* Available: <http://www.groundwater.water.ca.gov/bulletin118/basin_desc/basins_s.cfm#gwb39htm>. Accessed: August 16, 2005.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. (Technical Report Y-87-1.) Vicksburg, CA: U.S. Army Corps of Engineers Experiment Station.

Environmental Science Associates. 1999. *South County Surface Water Supply Project Draft Environmental Impact Report*. Prepared for the South San Joaquin Irrigation District. July 9. Sacramento, CA.

Federal Highway Administration. 1983. *Visual Impact Assessment for Highway Projects*. (Contract DOT-FH-11-9694). Washington, DC.

Federal Highway Administration. 1995. *Traffic Noise Analysis and Abatement Policy and Guidance*. Washington, D.C.

Federal Transit Administration. 1995. *Transit Noise and Vibration Impact Assessment*. Washington, D.C.

Fredrickson, D. A. 1973. *Early cultures of the North Coast Ranges, California.* PhD. Dissertation. University of California Davis, Anthropology Department

Hart, E. W., and W. A. Bryant. 1997. *Fault-Rupture Hazard Zones in California—Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zones Maps*. (Special Publication 42.) Sacramento, CA: California Division of Mines and Geology.

Hart, J. D. 1978. *A Companion to California.* Oxford University Press, New York.

Hillman, R. W., and L. A. Covello. 1985 *Cities & Towns of San Joaquin County Since 1847.* Panorama West Books, Fresno, California.

Hoover, M. B., H. E. Rensch, E. G. Rensch, and W. N. Abeloe. 1990. *Historic Spots in California, 4th ed.* Revised by D.E. Kyle. Stanford University Press, Stanford, California.

Hoover, R. M., R. H. Keith. 1996. *Noise Control For Buildings, Manufacturing Plants, Equipment, and Products*. Hoover & Keith, Inc. Houston, TX.

International Conference of Building Officials. 1997. *Uniform Building Code (UBC)*. Whittier, CA.

Jennings, C.W. 1994. *Fault Activity Map of California and Adjacent Areas with Locations and Ages of Recent Volcanic Eruptions*, 1:75,000 scale, California Division of Mines and Geology Geologic Data Map No.6.

Jennings, M. R., and M. P. Hayes. 1994. *Amphibian and Reptile Species of Special Concern in California.* Final report. Rancho Cordova, CA. Prepared by Department of Fish and Game, Inland Fisheries Division.

Kennedy/Jenks Consultants. 2005. *Draft 2005 Water Master Plan.* Prepared for City of Manteca.

Lillard, J. B., and W. K. Purves. 1936. *The archaeology of the Deer Creek-Cosumnes area, Sacramento County, California.* Sacramento Junior College, Department of Anthropology Bulletin 1.

Lillard, J. B., R. F. Heizer, and F. Fenenga. 1939. *An Introduction to the Archaeology of Central California.* Sacramento Junior College, Department of Anthropology Bulletin 2.

Moratto, M. J. 1984. *California Archaeology.* Academic Press, San Francisco, CA.

Oakeshott, Gordon B. 1978. *California's Changing Landscapes.* McGraw-Hill Publishing Company.

Peterson, M. D., W. A. Bryant, C. H. Cramer, T. Cao, and M. Reichle. 1996. Probabilistic Seismic Hazard Assessment for the State of California. (Open-File Report 96-706.) Washington, DC: U.S. Geological Survey.

Remsen, J. V. 1978. *Bird Species of Special Concern in California: An Annotated List of Declining or Vulnerable Bird Species.* Final report. 78-1. Sacramento, CA. Prepared by Department of Fish and Game, Wildlife Management Division.

San Joaquin Council of Governments. 2000. *San Joaquin Multi-Species Habitat Conservation and Open Space Plan.* Stockton, CA.

San Joaquin County. 1992. *San Joaquin County General Plan 2010.* San Joaquin County, CA.

San Joaquin Regional Transit District (SJRTD). 2005. San Joaquin Regional Transit District Website. Available: <http://www.sj-smart.com/>. Accessed: August 2005.

San Joaquin Valley Air Pollution Control District. 2002. *Guide for Assessing and Mitigating Air Quality Impacts. Mobile Source/CEQA Section of the Planning Division of the San Joaquin Valley Air Pollution Control District.* January 10. Fresno, CA.

South San Joaquin Irrigation District. 1999. *South County Surface Water Supply Project EIR..*

Shipley, W. F. 1978. Native Languages in California. *Handbook of North American Indians. Volume 8, California.* Robert F. Heizer, volume editor. Washington, D.C., Smithsonian Institution.

Transportation Research Board. 1997. *Dynamic Effects of Pile Installations on Adjacent Structures—A Synthesis of Highway Practice.* Washington, DC: U.S. Government Printing Office.

U. S. Bureau of Land Management. 1980. *Visual Resource Management program* (Stock No. 024-001-00116-6.) Washington, DC: U.S. Government Printing Office.

U. S. Department of Agriculture (USDA) Forest Service. 1974. *National Forest Landscape Management Volume 2.* Chapter 1: The Visual Management System (Agriculture Handbook Number 462). Washington, DC.

U. S. Environmental Protection Agency. 2005. Air Data. Last Revised: August 1, 2005. Available: <http: //www.epa.gov/air/data/reports.html>. Accessed: August 19, 2005.

U. S. Fish and Wildlife Service. 2005. *List of Endangered and Threatened Species that may Occur in or be Affected by Projects on the Manteca, Stockton West, Stockton East, Peters, Avena, Lathrop, Salida, Vernalis, and Ripon USGS 7.5-Minute Quadrangles.* Last revised: June 20, 2005. Available: <http://sacramento.fws.gov/es/spp_list.htm>. Accessed: July 11, 2005.

U. S. Soil Conservation Service. 1978. *Procedure to establish priorities in landscape architecture.* (Technical Release No. 65). Washington, D.C.

United States Department of Agriculture, Soil Conservation Service. 1992. *Soil Survey of San Joaquin County, California.* October.

United States Geological Survey Working Group on California Earthquake Probabilities. 2003. *Earthquake Probabilities in the San Francisco Bay Region: 2002–2031.* (Open-File Report 03-214.) Available: <http://geopubs.wr.usgs.gov/ open-file/of03-214/>. Accessed September–November 2003.

Wade Associates. 2003. *Manteca General Plan 2023 Draft Environmental Impact Report.* Prepared for the City of Manteca. Manteca, CA.

Wallace, W. J. 1978. Northern Valley Yokuts. *Handbook of North American Indians. Volume 8, California.* Robert F. Heizer, volume editor. Washington, D.C. Smithsonian Institution.

Williams, D. F. 1986. *Mammalian Species of Special Concern in California.* Final report. 86-1. Sacramento, CA. Prepared by Department of Fish and Game, Wildlife Management Division.

Wright Realtors. 2005. *About the San Joaquin County Communities.* Available: <http://www.wrightrealtors.com/about_stockton.htm#Manteca>. Accessed August 15, 2005.

Personal Communications

Cadrett, John. CEQA Coordinator. San Joaquin Valley Air Pollution Control District, Modesto, CA. June 15, 2005—telephone conversation with Shannon Hatcher regarding compliance with revised SJVAPCD Regulation VIII.

California Native Plant Society. 2005. Inventory of Rare and Endangered Plants (Online Edition, v6-05c). Last revised: July 9, 2005. Available: <http://www.cnps.org/inventory>. Accessed: July 11, 2005.

Conarroe, Keith. Associate Civil Engineer. City of Manteca Public Works Department, Manteca, CA. August 1, 2006—letter transmitting City comments on Administrative Draft EIR. Letter addressed to Rosalyn Stewart, Project Manager, Jones & Stokes.

DeCosta, Regena. Office Assistant. City of Manteca Public Works Department, Manteca, CA. August 10, 2005 – phone call. Contacted by Kathryn Gaffney, Water Resources Intern, Jones & Stokes. Discussed destinations of refuse collected by the City.

Guerra, Hector, Senior Air Quality Planner, San Joaquin Valley Air Pollution Control District. September 26, 2003—telephone conversation with Shannon Hatcher regarding health risk assessment procedures for diesel exhaust from construction equipment in the San Joaquin Valley Air Basin.

Hathaway, Sharon. Secretary to the Assistant Superintendent of Business Services. Manteca Unified School District, Manteca, CA. August 10, 2005—phone call. Contacted by Kathryn Gaffney, Water Resources Intern, Jones & Stokes. Discussed MUSD facilities not using water supplied by the City of Manteca.

Lewis, Melanie. Administrative Assistant. Manteca Police Department, Manteca, CA. August 11, 2005—phone call and voice messages. Contacted by Kathryn Gaffney, Water Resources Intern, Jones & Stokes. Discussed number of sworn officers in the Manteca Police Department.

Maze, Ed. Parks Planning Manager and Arborist. City of Manteca Park and Recreation Department, Manteca, CA. August 11, 2005—phone call and voice messages. Discussed City parks that use City water, well water, or reclaimed water for irrigation.

Rosas, Faustina. Secretary to the Assistant Superintendent of Educational Services. Manteca Unified School District, Manteca, CA. August 10, 2005—phone call. Contacted by Kathryn Gaffney, Water Resources Intern, Jones & Stokes. Discussed number and types of existing schools in the district and number of students.

Appendix A

City of Manteca Water Master Plan EIR NOP

Notice of Preparation of a Program Environmental Impact Report for the City of Manteca Water Master Plan

Prepared for:

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August 2005

Jones & Stokes. 2005. *Notice of Preparation of a Program Environmental Impact Report for the City of Manteca Water Master Plan.* August. (J&S 05-013) Oakland, CA. Prepared for the City of Manteca, Manteca, CA.

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Section 1
Introduction

Purpose and Organization of the NOP

The City of Manteca (City) will prepare a programmatic environmental impact report (EIR) that addresses the potential impacts of the City of Manteca Water Master Plan (WMP). The WMP consists of three major components:

- construction of new groundwater wells and treatment facilities,
- construction of surface storage tanks and booster pump stations, and
- construction and replacement of conveyance pipelines.

This notice of preparation (NOP) has been prepared pursuant to the California Environmental Quality Act (CEQA) (14 California Code of Regulations) and State CEQA Guidelines Sections 15082(a), 15103, and 15375 to inform agencies and the public that the EIR is being prepared, and to invite comments and input on the scope and content of the EIR.

Section 1 of this NOP presents general background information on the EIR, the anticipated use of the EIR, and the scoping process. Section 2 describes the proposed program and preliminary alternatives. Section 3 summarizes the environmental issues and potential environmental impacts to be addressed in the EIR.

Environmental Compliance

Purpose of the EIR

The State CEQA Guidelines encourage agencies to use an EIR in certain circumstances involving the implementation of a series of related programs or when reviewing broad policy issues, such as specific plans. An EIR serves as the first-tier analysis for subsequent, more-detailed program-specific environmental review. The EIR will be used by the City of Manteca in its review and consideration of future water supply facility construction.

Scope of the EIR

The EIR will be a comprehensive, program-level analysis. It will concentrate on the short- and long-term cumulative impacts of the capital improvement programs in the Water Master Plan, and will contain sufficient detail and analysis to provide program-level CEQA compliance. The following topics will be addressed in the EIR:

- aesthetics;
- agricultural resources;
- air quality;
- biological resources;
- cultural resources;
- geology, minerals, and soils;
- hazards and hazardous materials;
- hydrology and water quality;
- land use and planning;
- noise;
- population and housing;
- public services and utilities; and
- transportation.

Potential cumulative impacts associated with these issues will also be addressed. Subsequent environmental documentation that may be necessary to support capital program construction may incorporate the EIR by reference, as appropriate, to address secondary effects, cumulative impacts, broad alternatives, and other factors. Subsequent environmental analysis may focus on site-specific issues that were not previously considered in the EIR.

Public Involvement for the EIR

The City will ensure that adequate public review and input will be available for the EIR. Public input will be solicited at the following points in the process:

- **Scoping comment period:** The City will hold a scoping meeting on Wednesday, August 24, 2005 at 4:30 p.m. in the City Council Chambers to solicit concerns on the scope of the EIR.
- **Draft EIR comment period:** The City will conduct a public meeting to present the conclusions of the Draft EIR and solicit comments on the document. The meeting will also provide agencies and the public with opportunities to clarify any questions or concerns about the Draft EIR.

- **Final EIR comment period:** The City will hold a public hearing before certifying the Final EIR, during which the public and agencies can provide additional comments.

In addition to holding meetings, the City will provide regular updates on its web site about the process and provide newspaper notices for the public meeting on the Draft EIR and the public hearing.

Section 2

Description of the Program

Introduction

This chapter describes the proposed program's purpose, regional and local setting, objectives, and specific characteristics. More detailed description of project elements can be found in the 2005 Water Master Plan document (Kennedy/Jenks Consultants 2005).

Program Purpose

The purpose of the 2005 Water Master Plan (Kennedy/Jenks Consultants 2005) is to provide a comprehensive planning document to guide improvement and expansion of the City of Manteca's water system to meet current and future needs for a safe, reliable water supply and distribution system. The WMP addresses the water requirements of the City of Manteca 2023 General Plan (City of Manteca 2003), and recommends capital improvements to support existing infrastructure and customer demands, as well as planned new development.

Program Location

The City of Manteca (City) is situated in San Joaquin County, in central California, as shown in Figure 1. With historical roots as an agricultural center, the City's economic base has become more diversified with the development of industries and the influx of Bay Area workers seeking affordable housing (City of Manteca 2003). The California Department of Finance (2005) estimated the City's population at approximately 62,000 residents in 2005.

Historically, the City has utilized separate planning documents to define required capital improvements for different zones of the City – Zone 11 (2002 Water Master Plan) and Zone 12 (1993 Public Facilities Implementation Plan). Zone 11 includes heavily developed portions of Manteca and growth in this area is generally limited to infill development and redevelopment. Zone 12 is characterized as agricultural lands with significant urban development potential. The WMP provides planning, evaluation, and recommendations for the entire Primary Urban Service Area (PUSA), including both Zones 11 and 12.

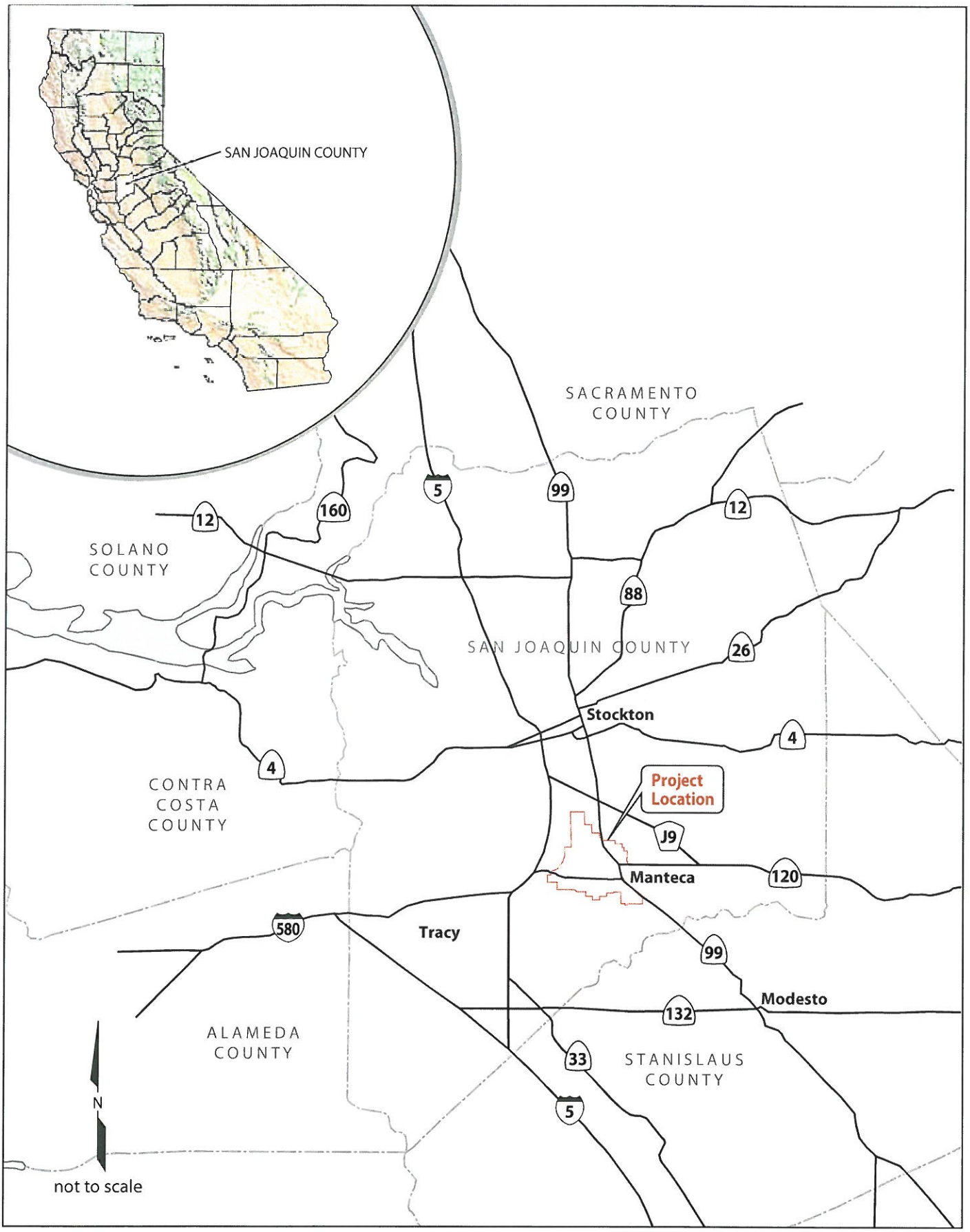

Figure 1-1
Project Vicinity Map

Primary Urban Service Area (PUSA)

The City of Manteca 2023 General Plan (2023 General Plan) expanded its PUSA by 4.5 square miles, which will require water services by City infrastructure once buildout is completed. The total gross area within the PUSA is 13,790 acres. Ultimate water demand calculations are based on the PUSA at full buildout using the 2023 General Plan population projections. Ultimate buildout of the PUSA could reach approximately 132,600 residents, a potential increase of 114%.

The land use planning area associated with the larger 2023 General Plan boundary is 25,975 acres. However, the WMP program does not address water supply requirements or infrastructure needs for the land area outside of the PUSA.

Program Objectives

The WMP evaluates and provides capital improvement recommendations through the year 2035, and includes general recommendations for water utility infrastructure improvements through buildout of the 2023 General Plan.

The objectives of the WMP include the following:

1. Provide a strategic approach to compliance with the new maximum contaminant level (MCL) for arsenic that will take effect next year.
2. Evaluate alternatives and plan water system improvements to facilitate delivery of the South San Joaquin Irrigation District (SSJID) surface water supply to the combined service area.
3. Develop groundwater supply and storage plan to meet a conjunctive groundwater/surface water use approach by the City without exceeding the aquifer's safe yield.
4. Update the City's existing water distribution system hydraulic model, conduct hydraulic modeling to determine distribution system piping improvement, replacement, and expansion requirements, and provide copies of the model for ongoing use by the City.
5. Prepare a time-phased capital improvement project CIP for the water system.
6. Implement the goals and objectives of the City of Manteca 2023 General Plan.
7. Identify water use conservation programs and recycled water use alternatives.

South County Surface Water Supply Project

Historically, the City has relied on groundwater as its sole source of potable water supply. However, as urban development has expanded, the groundwater basin has exhibited overdraft and declining water tables through San Joaquin County. SSJID, in conjunction with the City of Manteca, City of Tracy, City of Lathrop, and City of Escalon, has undertaken construction of a surface water supply project to address basin overdraft.

The South County Surface Water Supply Project (SCSWSP) was developed to address future water needs through construction of a Water Treatment Plant, transmission mains, surface storage reservoirs, and booster pump stations. The SCSWSP was the subject of a separate EIR prepared by SSJID (SCH# 98022018), and is under construction. It is not a part of the WMP program, although the WMP assumes construction of the SCSWSP as planned by the SSJID.

Conjunctive Use

Construction of the SCSWSP was initiated in 2004. The 2005 WMP assumes that the City receives surface water deliveries, and all future City water supply scenarios include a conjunctive use balance of groundwater (47%) and treated surface water (53%) based on a groundwater extraction limited to 1-acre-foot per acre per year. The SCSWSP will provide the additional supply required to meet City water demands. Table 1 lists criteria used in assessing adequacy of supply projections and delivery alternatives.

Table 1: Water Supply Criteria

Description	*Criteria*
Reliable Existing Groundwater Supply	Maximum Annual Extraction – 13,790 acre-feet (PUSA gross area) Existing Wells Meeting Water Quality Standards: Wells 8,14,18. Capacity – 5.9 mgd, 4,100 gpm Existing Wells Not Meeting Water Quality Standards: Wells 5, 9, 10, 12-17, and 19-25. Capacity – 33.8 mgd, 23,475 gpm Total Existing Pumping Capacity – 39.7 mgd, 27,575 gpm Reliable Existing Groundwater Supply – 15% reduction (2 wells)
Reliable Surface Water Supply	Phase 1: Annual Delivery – 11,500 af/yr. Drought Delivery (14% reduction) [a] – 9,890 af/yr. Maximum Delivery (1.1 Peak) – 12.27 mgd, 8,520 gpm. Turnouts – M2 and M3. Phase 2: Total SSJID Planning Area – 18,500 sf/yr. Net PUSA Planning Area – 15,550 sf/yr. Annual Delivery – 15,550 af/yr. Drought Delivery (14% reduction) [a] – 10,739 af/yr. Maximum Delivery (1.1 Peak) – 18.17 mgd, 12,614 gpm. Turnouts – M1, M2, M3. Drought reduction identified as 14% reduction in deliveries without stipulations as to schedule in the South County Surface Water Supply Project Era A: Negotiate drought year delivery reduction schedule stipulating winter reductions first, spring/fall reductions second, and summer reductions last. City would rely on temporary supplemental use of groundwater both within SSJID and the City to make up the difference. [b] B: Implement conservation measures to achieve a minimum 14% reduction in use.
Reliable Water Storage	City Storage: Elevated Tank Volume 300,000. Maximum Withdrawal – 700 gpm. SSJID Storage: Phase 1: Two (2) 1 million gallon tanks. Not available for peak supply. Phase 2: Three (3) 1 million gallon tanks. Not available for peak supply.

[a] Reduction based on Section 5.4.3 of South County Surface Water Supply Project EIS, July 1999, Table 5-6 Expected Surface Water Supply Shortages – SSJID Based on a 71-year Hydrologic Sequence. Reductions assumed Case 5 Year 1015 six-year drought.

[b] Temporary supplemental use of groundwater during drought is addressed under Impact 5.4.6 Cumulative Groundwater Impacts of South County Surface Water Supply Project EIS, July 1999 as Less Than Significant.

Source: Kennedy/Jenks Consultants. 2005. Draft 2005 Water Master Plan. City of Manteca, CA. (Table 4-1)

Program Characteristics

The 2005 WMP includes recommendations for groundwater supply and storage, groundwater treatment, and water distribution infrastructure through year 2025. The following sections discuss CIP projects under each of these components.

Groundwater Supply and Storage

As discussed previously, water supply assumptions for planned growth include a combination of surface water (53%) and groundwater (47%) conjunctive use. The WMP assumes that additional groundwater supply will be constructed to meet peak hour demand of planned growth. The total groundwater supply needed per equivalent dwelling unit (EDU) identified in buildout projections to meet peak hour demand is 1.09 gpm.

The WMP identifies specific, volumetric, and instantaneous water supply requirements. In reality, the water supply facilities that are ultimately constructed will depend, in part, on land development nature and type, developer financing, and site size and availability. Based on the projected growth rates presented in the 2023 General Plan, the City will require 19,218 gpm (16,711 gpm plus 15% redundancy) of additional groundwater production capacity from 2011 to 2025. This is equivalent production capacity to thirteen (13) 1,500 gpm wells. Alternatively, the City could meet the same capacity objective by constructing nine (9) production wells and two 1.3 million gallon storage tanks with 6,000 gpm total booster pumping capacity. The minimum number of wells with redundancy is nine (9) wells.

Construction of new wells and wellhead treatment facilities would primarily involve concrete pads, above and belowground process piping and valving, electrical and control system improvements, backwash/process tanks, and either skid-mounted treatment units or welded-steel media filtration pressure-vessels.

Table 2 provides a list of estimated water supply and storage improvements for the proposed program. Construction of additional wells would be based on actual annual growth and planned development.

Elevated Storage Tank

The City's elevated storage tank was last inspected in 2001 and reported to be in generally good condition with the painting and coating system intact and limited corrosion observed. Based on the history of favorable maintenance records, there is no indication that the structure is significantly compromised from its original design condition. The WMP recommends periodic testing of the coating system and all structural elements of the tank, followed by recoating of the entire tank at 25 years.

Table 2: Water Supply and Storage Improvements for Planned Growth

Program Components	*Description*	*Implementation Schedule*
Groundwater Wells		
Construct 6 New Wells	6 New 1,500 gpm wells with standby power for a combined additional pumping capacity of 9,000 gpm – 4 with arsenic treatment.	2005 – 2010
Construct 13 New Wells	13 New 1,500 gpm wells with standby power for a combined additional pumping capacity of 19,500 gpm – 10 with arsenic treatment.	2011 – 2025
Storage Tanks		
Structural system testing and Tank coating	Conduct non-destructive testing of all structural elements on existing elevated tank and evaluate for seismic upgrade prior to recoating. Remove and recoat entire tank at 25 years.	2012
1.3 MG storage tank and booster pump station	1.6 MG welded steel ground level storage tank with three 1,750 gpm booster pumps (2 duty, 1 standby). 2,000 gpm peak booster pumping capacity.	2013 – 2014
1.0 MG storage tank and booster pump station at or near M1 or M3 turnout site	1.0 MG welded steel ground level storage tank with two 1,500 gpm booster pumps (1 duty, 1 standby). 1,500 gpm peak booster pumping capacity.	2011 – 2016 (In conjunction with planning and design for M1 turnout)
Source: Kennedy/Jenks Consultants. 2005. Draft 2005 Water Master Plan. City of Manteca, CA. (Sections 6.3 and 6.4)		

Ground Level Water Storage

Ground level water storage tanks equipped with booster pumps for delivery of peak demand supply will be constructed in lieu of additional wells. This strategy will utilize a well pumping directly into the system and indirectly filling ground level storage during off peak periods. The tanks would then be pumped during the peak demand periods using a booster pump station and thereby reducing the need for wells. This approach is considered to reduce the required installed wellhead treatment capacity to match the maximum day demand and supporting peak hour from tanks.

The recommended minimum tank size for surface storage is 1.3 million gallons and must be supported by a minimum of two wells operating at 1,500 gpm during the entire 24 hour maximum day period. The minimum installed pumping capacity is 3,500 gpm for fire flow and is estimated based on three pumps at 1,750 gpm each; two are duty pumps and one is standby.

Groundwater Treatment

The groundwater basin beneath the City contains both naturally occurring and introduced contaminants that can exceed federal and state drinking water standards. Naturally occurring contaminants include manganese and arsenic, while introduced contaminants include nitrate and DBCP.

Recent changes in the Federal Drinking Water Standard have lowered the maximum contaminant level for arsenic in drinking water from 50 ug/l to 10 ug/l. Manteca's wells average about 12.4 ug/l and will require treatment for reduction of arsenic. Sixteen (16) of the existing 18 wells exceed the new arsenic standard and will need treatment to continue operation. The 2005 WMP assumes that all new wells constructed through 2025 will require treatment for arsenic.

Groundwater treatment of the wellheads will reduce the arsenic concentration to 8 ug/l. The proposed program uses wells for meeting peak flows and provides the greatest reduction in arsenic in the drinking water supply and the lowest annual arsenic dosage to the City population, as compared to other Alternatives considered. Table 3 provides a summary of the groundwater supply improvements required to meet existing demands using wellhead treatment.

Future wells, especially in the eastern portion of the City, may also have concentrations of organic compounds that exceed drinking water standards. In these cases, groundwater treatment facilities will be required with well construction. The 2005 WMP assumes that 20% of the new wells through year 2025 will require groundwater treatment facilities.

Table 3: Groundwater Treatment Improvements to Meet Existing (2005) Demand

Description	*Max Day Capacity*	*Peak Hour Capacity*
Abandon Wells 10 and 13	—	—
Convert Well 9 to irrigation supply for City parks	—	—
Maintain and operate existing Wells 8 and 18	1,800 gpm	1,800 gpm
Add ferric-chloride chemical feed system to Well 14 for arsenic removal	1,800 gpm	1,800 gpm
Construct wellhead treatment facilities for arsenic removal at Wells 12, 15-17, 19-20, and 23-25 [a]	17,200 gpm	17,200 gpm
Redundancy – 15% of production capacity (4,035 gpm minimum) – Equip Wells 21 and 22 with arsenic treatment; Drill new Well 5 and equip with arsenic treatment	4,200 gpm	4,200 gpm
[a] Wells 17, 19, and 20 are recommended to be used as peak-only facilities due to higher overall average reported arsenic concentrations.		
Source: Kennedy/Jenks Consultants. 2005. Draft 2005 Water Master Plan. City of Manteca, CA. (Table 6.3)		

Water Distribution

The City water distribution system has been evaluated for two differing criteria: 1) existing condition and replacement liability over the next ten (10) years, and 2) expansion to address planned growth. The existing liability has been addressed through ten (10) grouped projects to replace existing steel pipelines up to 6-inch diameter and cast iron pipelines with known condition problems. Table 4 identifies these ten grouped projects for the staged replacement of aging infrastructure. In addition, hydraulic improvement projects have been developed to address pipelines with insufficient diameters that exist between existing larger diameter water mains and to address areas with inadequate pressures and flows during peak use periods. Table 5 lists hydraulic improvement projects.

It is assumed that water system expansion to accommodate new growth will include new wells, tanks, and booster pump stations constructed as projected demand approached capacity. The final location and configuration of these facilities will be based on future development patterns in the City and cannot be definitively determined at this time; however, Table 6 lists a preliminary capital improvement program schedule using the buildout projections presented in the WMP.

Table 4: Distribution System Maintenance

Program Area	*Infrastructure to be Abandoned*	*Replacement Infrastructure*	*Implementation Schedule*
1	Pipelines: 4-inch and smaller – 700 LF 6-inch – 850 LF	Pipelines: 6-inch – 1,500 LF 8-inch – 850 LF Services: Replacement – 34 each	2005 – 2007
2	Pipelines: 4-inch and smaller – 3,600 LF 6-inch – 2,350 LF	Pipelines: 4-inch – 200 LF 6-inch – 1,450 LF 8-inch – 6,900 LF Services: Replacement – 85 each Relocation – 134 each	2006 – 2008
3	Pipelines: 4-inch and smaller – 5,400 LF	Services: Relocation – 155 each	2007 – 2009
4	Pipelines: 4-inch and smaller – 900 LF	Pipelines: 8-inch – 700 LF Services: Relocation – 35 each	2008 – 2010
5	Pipelines: 4-inch and smaller – 6,100 LF	Services: Relocation – 144 each	2009 – 2011
6	Pipelines: 4-inch and smaller – 1,050 LF	Pipelines: 4-inch – 150 LF 6-inch – 550 LF Services: Replacement – 31 each	2010 – 2013
7	Pipelines: 4-inch and smaller – 3,450 LF 6-inch – 1,440 LF	Pipelines: 8-inch – 7,400 LF Services: Replacement – 50 each Relocation – 84 each	2011 – 2013
8	Pipelines: 4-inch and smaller – 1,500 LF 6-inch – 950 LF	Pipelines: 6-inch – 1,500 LF 8-inch – 850 LF Services: Replacement – 34 each	2012 – 2014
9	Pipelines: 4-inch and smaller – 700 LF 6-inch – 950 LF	Pipelines: 6-inch – 450 LF 8-inch – 750 LF Services: Replacement – 45 each	2013 – 2015
10	Pipelines: 4-inch and smaller – 1,850 LF	Pipelines: 6-inch – 300 LF 8-inch – 850 LF Services:	2014 – 2016

		Relocation – 80 each	
Note: Service relocation reflects relocating the service from the street to the back of the lot and abandoning the existing service condition. Service replacement reflects replacement of a front lot service with a front lot service.			
Source: Kennedy/Jenks Consultants. 2005. Draft 2005 Water Master Plan. City of Manteca, CA. (Table 5-1)			

Table 5: Distribution System Hydraulic Improvements

Description	*Infrastructure*	*Implementation Schedule*
16-inch extension S. Main from Mission Ridge Dr to Wawona St and S. Maple Ave	1,050 LF 16-inch Main	2005 – 2007
12-inch extension N. Lincoln Ave, E. North Ave to W. Alameda St 12-inch extension W. Alameda St, N. Lincoln Ave to Dawn Dr 12-inch extension Dawn Dr, W. Alameda St to E. Edison St	3,850 LF 12-inch Main	2006 – 2008
12-inch extension Manteca Ave, Yosemite Ave to Center St 12-inch extension Center St, Poplar Ave to N. Lincoln Ave	2,600 LF 12-inch Main	2007 – 2009
16-inch extension Moffat Blvd 16-inch railroad crossing with extension to Wetmore St 12-inch extension to S. Grant Ave 12-inch extension S. Lincoln to Mikesell St.	2,100 LF 16-inch Main 200 LF railroad crossing with 24-inch jack and bore 2,300 LF 12-inch Main	2008 – 2010
Yosemite Ave railroad crossing – replacement of old 8-inch pipe with 16-inch crossing	400 LF 16-inch Main 200 LF railroad crossing with 24-inch jack and bore	2009 – 2011
12-inch extension Park Ave, Wawona Ave to Oregon St 12-inch extension Oregon St to Willow Ave, and up to W. Yosemite Ave	3,500 LF 12-inch Main	2010 – 2012
Source: Kennedy/Jenks Consultants. 2005. Draft 2005 Water Master Plan. City of Manteca, CA. (Table 5-2)		

Table 6: Distribution System Extension for Planned Growth

Description	*Estimated Infrastructure*
Northern Area within the PUSA north of Lathrop Rd, west of Highway 99 and east of Airport Rd	41,600 LF of 12-inch pipeline to support total buildout
West Central Area within the PUSA north of Highway 120 and west of Airport Rd	18,700 LF of 12-inch pipeline to support total buildout
East Central Area within the PUSA each of Highway 99 and north of Louise Ave	7,000 LF of 12-inch pipeline to support total buildout
Southern Area within the PUSA south of Highway 120	102,100 LF of 12-inch pipeline to support total buildout
Source: Kennedy/Jenks Consultants. 2005. Draft 2005 Water Master Plan. City of Manteca, CA. (Table 5-4)	

Construction Methods

The exact number of workers needed for construction of new wells and wellhead treatment facilities, distribution pipelines, storage tanks, and booster pump stations under the proposed program would be determined by the contractor and would depend largely on the construction schedule. Types of construction activities typically involved in a program of this nature may include:

- site preparation and earthwork (grading, excavation, backfill);
- concrete delivery, forming, and placement, and rebar placement;
- structural steel work (assembly, welding);
- electrical/instrumentation work;
- masonry construction; and
- installation of mechanical equipment and piping.

The various distribution pipelines would generally be installed in existing public rights-of-way (ROWs) and would be completely buried. If necessary, additional construction easements may be acquired from adjacent properties. Pipeline construction would progress at a rate of 175 to 500 linear feet per day, depending upon local conditions.

Staging areas would be needed to store pipe, construction equipment, and other construction-related material. The precise locations of staging areas are not known at this time and would be determined just prior to construction. Staging areas would likely be established along the pipeline routes where space is available, such as vacant lots, parcels, or parking lots.

Construction Phasing

Construction of the proposed program would occur on an as-needed basis from 2005 through 2025. Distribution system maintenance would occur on a planned schedule (Tables 4 and 5), while additional well construction would be timed with urban expansion.

Program Alternatives

CEQA and State CEQA Guidelines require that a lead agency evaluate alternatives to a proposed program, including the No Program Alternative. The reasonable range of alternatives that could reduce or avoid the impacts associated with the proposal and still meet the program's basic objectives include the following:

- **No Program Alternative**, which comprises continued use of existing water supply and conveyance facilities in the case that the proposed WMP is not approved.
- **Maximum Blending with Surface Water Alternative**, under which low arsenic concentration surface water supplies would be blended with higher arsenic concentration groundwater for a resulting compliant drinking water supply.
- **Blending, Wellhead Treatment, and Storage Alternative**, under which surface water supplies would be blended with groundwater supplies to dilute arsenic concentration, groundwater treatment at some wellheads would be conducted, and water storage tanks for meeting peak hour demands would be constructed.

These alternatives will be developed further and evaluated in the EIR.

Required Permits and Approvals

The EIR will be used by the City to determine whether there is substantial evidence that the program will create significant environmental impacts, document the potential impacts, and determine whether the impacts could be mitigated to less than significant levels. The City is the lead agency for the proposed program. The EIR may also be used by regulatory and responsible agencies, which are responsible for issuing permits and approvals that may be needed to proceed with the proposed program or regulate the implementation of best management practices.

Related Programs

As described above, the SCSWSP led by SSJID is considered a program related to the City of Manteca WMP. Potential environmental impacts of the SCSWSP were addressed in a separate EIR on that project, and for this reason will not be discussed in this EIR.

Section 3

Environmental Issues to Be Addressed in the EIR

Introduction

This section presents a preliminary listing of potential environmental issues to be addressed in the EIR and a brief discussion of planned approaches to address the issues. The EIR will contain programmatic analyses. The issues to be addressed will be finalized after comments on the NOP are received. The analysis in the Draft EIR will ultimately determine whether these impacts could actually occur, determine their level of significance, and propose feasible mitigation measures to reduce significant impacts. Thresholds for determining significant impacts will be based on applicable sections of the State CEQA Guidelines and regulatory agency standards.

Aesthetics

The proposed program has the potential to affect aesthetics and visual resources during construction of new wells, surface storage tanks, and distribution pipelines. Specific issues to be addressed include impacts to existing viewer groups, including residences near to above-ground facilities, particularly from lighting and glare. The EIR will also discuss the long-term visual impacts of new surface storage tanks within existing residential areas.

Agricultural Resources

The agricultural resources analysis will include an assessment of the conversion of farmland to urban uses (e.g., new well and storage tank sites); effects of WMP programs on any nearby agricultural operations; effects of WMP programs on lands under Williamson Act contract and on Farmland Preserves; and consistency with farmland preservation policies of the City and County.

The EIR will assess the impacts of the WMP on agricultural resources—including identification of impacts and assessment of the magnitude and significance of impacts. Because the exact location of many WMP components

is not determined at this time, this will be a general discussion of potential effects on farmland.

Air Quality

The air quality analysis will focus on construction emissions for the new wells, surface storage tanks, and distribution pipelines, as well as operational emissions for the booster pump stations. The air quality analysis will focus on emissions of ozone precursors (reactive organic gases and nitrogen oxides), inhalable particulates (PM10), and carbon monoxide (CO). The EIR will identify construction-related mitigation measures that are required by the San Joaquin Valley Air Pollution Control District (SJVAPCD).

The EIR will identify significance thresholds for air quality impacts, based on guidance from the SJVAPCD; describe impacts associated with the WMP components and the level of significance associated with those impacts; and evaluate whether the program will cause or contribute to an exceedance of state or federal standards.

Biological Resources

The EIR will review existing and available information pertaining to the program area, including records from the California Department of Fish and Game's (DFG's) California Natural Diversity Database (2004), environmental documents prepared for other programs in the region, and the California Native Plant Society's (CNPS's) 6th edition inventory. This information will be reviewed to develop a list of special-status species and other sensitive resources that could occur in the program region.

The EIR will include an evaluation of potential impacts from construction of new wells, surface storage tanks, and distribution pipelines on biological resources on and adjacent to the program area. The EIR will assess the impacts of the WMP to biological resources—including identification of impacts and assessment of the magnitude and significance of impacts. The EIR will identify clear significance criteria and thresholds. Potential impacts will be identified given the level of information regarding locations of WMP components relative to identified resources.

Cultural Resources

The cultural resources analysis will address cultural resources issues associated with the City's WMP. Because the specific location of WMP components has not been defined, this will consist of an outline of the procedures to be followed and studies to be conducted when specific sites are defined. The cultural resources analysis will focus on the potential discovery of historical resources,

buried archeological resources, or human remains during construction of the new wells, surface storage tanks, and distribution pipelines.

Geology, Minerals, and Soils

The geology, minerals, and soils analysis will identify regional and local seismic hazards; soil and sediment characteristics, including compressibility, liquefaction hazard, expansion-contraction hazard, permeability, and erodibility; and groundwater elevation. Geologic and soil issues associated with the program are expected to include earthquake-induced ground shaking, and accelerated erosion and sedimentation. The EIR will assess the impacts of the WMP on geology, soils, and mineral resources—including identification of impacts and assessment of the magnitude and significance of impacts.

Hazards and Hazardous Materials

The hazards and hazardous materials analysis will address the potential handling, use, and transport of hazardous materials for program construction and operation. The analysis will be based on the assumption that the proposed program will comply with all pertinent regulations regarding the presence, use, and storage of hazardous materials onsite and their transportation offsite.

Based on the setting information and the general nature of the programmatic components, we will analyze probable hazardous materials impacts. It is anticipated that probable impacts will include exposure to unknown hazardous materials sites during construction, as well as transport and disposal of arsenic-heavy brine/solids following wellhead treatment.

Hydrology and Water Quality

The hydrology and water quality section will address existing conditions and the potential for impacts related to hydrology, drainage and flooding, water quality, and water supply. The EIR will address the potential for increased runoff as a result of the various WMP components, and any related impacts to drainage systems. Risks to people or structures as a result of construction within the FEMA floodplains will be addressed. The EIR will also identify any potential impacts related to water quality as a result of construction and post-construction runoff from the WMP facilities. This qualitative analysis will consider sources and types of pollutants based on the proposed construction activities and facility characteristics following construction. The analysis will be based on the assumption that the a Stormwater Pollution Prevention Plan (SWPPP) will be prepared for the proposed programs per the Central Valley Regional Water Quality Control Board's (RWQCB's) NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit).

The larger water supply context, and effects on surface waters, of the WMP is anticipated to have been adequately described and analyzed in SSJID's SCSWSP EIR. However, the groundwater impacts will be discussed, and the EIR will reference relevant documents in determining whether the proposed program would have any effect on groundwater quantity or quality. The EIR will identify significance thresholds and discuss potential impacts.

Land Use and Planning

Consistency of the proposed program with the goals, policies, and regulations of the City, and compatibility with the existing land uses surrounding the various WMP facilities, will be evaluated. The basis of this section will be to acknowledge that the WMP is a necessary component of providing adequate domestic water supply in support of projected development in the General Plan. The EIR will address consistency of the aboveground WMP facilities with existing and future land uses in proximity to those facilities, where locations of WMP facilities are known; consistency of the WMP with the policies of the City's General Plan; and consistency with other applicable plans and policies.

Noise

The EIR will assess potential noise issues associated with the proposed program, including exposure of existing noise sensitive land uses to noise from construction of the WMP facilities; and exposure of existing noise sensitive land uses to noise from operation of facilities. The EIR will establish CEQA noise impact thresholds based on state and local noise standards. Noise from construction activity and operation of facilities will be addressed qualitatively.

Population and Housing

The population and housing analysis will address existing conditions and the increment of change expected to result from the WMP. The effects of the WMP on the projected population of Manteca will be assessed. The EIR will develop a threshold of significance for population and housing that reflects policies in the City's General Plan and EIR. The secondary effects of population growth associated with General Plan buildout that would be facilitated by the WMP will be addressed generally in the Growth Inducement section of the EIR.

Public Services and Utilities

The public services and utilities section will address potential impacts on public services and utilities, other than water supply, of the proposed program. The EIR will describe existing services in the City, and assess the proposed program's

impacts on public services (police, fire, schools, and parks) and utilities (solid waste, telephone, cable, energy, and sewer). The discussion of public services and utilities will primarily address construction-related disruptions in services, as the WMP facilities, once complete, are not anticipated to result in demands on public services. The EIR will assess the impacts of the WMP on public services and utilities—including identification of impacts and assessment of the magnitude and significance of impacts.

Transportation

WMP components will be discussed generally in terms of the types of traffic related impacts that could arise, primarily related to construction. Traffic impacts of the WMP will be assessed in the context of existing and proposed circulation and roadway conditions.

The EIR will assess the impacts of the WMP on the City's transportation system—including identification of impacts and assessment of the magnitude and significance of impacts. Impacts will be considered for traffic, parking, safety hazards, current and planned transportation system, emergency access, and air traffic patterns, for both construction and operations. The General Plan will provide the basis for establishing thresholds for significant traffic impacts.

Cumulative and Growth-Related Impacts

For the EIR, a list of development projects in the past, present, and foreseeable future will be used in the discussion of cumulative impacts.

As required by State CEQA Guidelines Section 15126.2, the ways in which the proposed program could foster economic or population growth, or the construction of additional housing, directly or indirectly, will be assessed in the EIR. Secondary impacts associated with this growth will be assessed at a general level. The primary focus of this analysis will be to acknowledge that the program would potentially remove obstacles to growth and result in development according to the City's General Plan. The proposed program is not anticipated to result in additional growth beyond that described in the General Plan.

References

City of Manteca. 2003. *General Plan 2023.* City of Manteca, CA.

Kennedy/Jenks Consultants. 2005. *Draft 2005 Water Master Plan.* City of Manteca, CA.

California Department of Finance. 2005. *E-1: City/County Population Estimates with Annual Percent Change, January 1, 2004-2005.* Sacramento, CA.

Appendix B

South County Surface Water Supply Project EIR Executive Summary

CHAPTER 1.0
EXECUTIVE SUMMARY

1.1 PROJECT OVERVIEW

The South San Joaquin Irrigation District (SSJID or District), under contract with the Cities of Manteca, Escalon, Lathrop, and Tracy (Participating Cities), proposes the South County Surface Water Supply Project (proposed project) to supply treated potable water to the Participating Cities. The project involves construction and operation of a new water treatment plant (WTP) and water transmission facilities to deliver treated water. SSJID's source of supply is the Stanislaus River, based on pre-1914 rights and post-1914 appropriative rights for direct diversion and diversion to storage. SSJID's water rights are subject to a 1988 Agreement and Stipulation with the United States Bureau of Reclamation (USBR or Reclamation) regarding New Melones Reservoir operation. SSJID proposes to develop the project in two phases: first to supply approximately 31,000 acre-feet per year (AFY) and ultimately to supply approximately 44,000 AFY.

The proposed WTP would be located near SSJID's Woodward Reservoir in Stanislaus County. Water would be delivered from Woodward Reservoir to the WTP. The total WTP site is approximately 90 acres; treatment facilities would occupy about 40 acres of the 90-acre site. A 36.5-mile pipeline ranging in diameter from about 20 to 54 inches would carry treated water from the WTP to turnouts for each city. A pump station would be constructed on the east side of Tracy to deliver water to the City of Tracy and the pipeline would end near the MacArthur Drive/Linne Road intersection south of Tracy. Pipelines would be constructed with adequate capacity for Phase 2. However, WTP facilities would initially be constructed for Phase 1 capacity only (31,000 AFY), and the facilities required to meet Phase 2 capacity would be constructed prior to WTP operation at supply levels greater than 31,000 AFY. WTP operation is proposed to begin in 2003. Phase 1 capacity is projected to serve demand through approximately the year 2011. Phase 2 capacity is projected to serve demand through approximately year 2025.

The proposed project was developed to meet the following primary objectives:

- To provide a safe, reliable drinking water supply first to the SSJID service area and then, as possible, to communities within the South County area.
- To meet in-county water demand with a county supply, in an effort to minimize reliance on increasing water imports and maximize local reliance.
- To provide water supply and treatment capacity at a level that supports existing and future growth and development consistent with approved General Plans, which remains within

planned and approved local and regional land use development and population levels, as determined by the local and regional land use planning jurisdictions.

- To maximize operational flexibility, efficiency, and safety.
- To achieve the above objectives in a cost-effective manner that limits system capital costs, operations and maintenance costs, and user rates to the extent possible.
- To achieve the above objectives in a manner that minimizes environmental impacts and avoids impacts to other water users.

1.2 ALTERNATIVES TO THE PROPOSED PROJECT

The California Environmental Quality Act (CEQA) *Guidelines* (Section 15126) require that an Environmental Impact Report (EIR) consider a range of alternatives that could feasibly attain the basic objectives of the proposed South County Surface Water Supply Project. Alternatives evaluated in Chapter 6.0 are described below.

- **No Project Alternative**
  - Cities increase use of groundwater and pursue alternative surface water imports to support planned growth
- **Alternative Treated Water Pipeline Alignments**
  - The proposed project: Dodds Road, Lone Tree Road, or Dedicated Right-of-Way
  - Main Canal Alignment
  - Railroad Alignment (Lathrop to Tracy Reach)
- **Alternative Water Treatment Plant Sites**
  - Woodward Reservoir Site (the proposed project)
  - Stockton East Water District
  - South of Manteca Site
  - Alternate Woodward Reservoir Sites
- **Raw Water Storage Alternatives**
  - Woodward Reservoir (the proposed project)
  - Stockton East Water District
  - New Storage Reservoir
- **Reduced Capacity Alternative**
  - Phase 1 only

1.3 PUBLIC COMMENTS: ISSUES TO BE RESOLVED AND AREAS OF CONCERN

A Notice of Preparation (NOP) for the South County Surface Water Supply Project EIR was circulated for public review on February 3, 1998, pursuant to Section 15082 of the CEQA *Guidelines*. The NOP included a summary of probable environmental effects of the proposed project. In addition, three separate scoping sessions were held on February 17, 1998 (Escalon), February 19, 1998 (in Manteca, for Manteca and Lathrop attendees), and February 23, 1998

(Tracy). Written comments received on the NOP and oral testimony given during the scoping sessions were considered in the preparation of this EIR and are included in Appendix A. Concerns, comments, and issues raised regarding the proposed South County Surface Water Supply Project are summarized below. Those comments that are within the jurisdiction of CEQA are addressed within Chapters 4.0, 5.0, 6.0, and 7.0 of the Draft EIR.

Land Use and Recreation Comments:

- The EIR should discuss the potential for the project to impact recreation use at Woodward Reservoir and the existing lease agreement between SSJID and the Stanislaus County Parks & Recreation Department.

Hydrology and Water Quality Comments:

- The potential for decreased flows to the San Joaquin River and a related increase in pollutant loading should be evaluated in the EIR.
- The EIR should analyze the potential for increased groundwater pumping for agricultural use and effects on the local groundwater table.
- The EIR should discuss potential impacts associated with total dissolved solids (TDS), total organic carbon (TOC), disinfection by-products, and pathogen loading (*Cryptosporidium* and *Giardia*).
- The EIR needs to discuss the potential for the project to affect existing Vernalis Water Quality Standard violations.
- The EIR needs to fully explain where the "excess" water that would be made available to the proposed project was derived from and how it relates to the District's pre-1914 water rights.
- The EIR should evaluate potential project-related impacts to the Eastern San Joaquin County Groundwater Basin.
- The EIR should assess the potential reduction in return flows to the Stanislaus River as a result of the proposed project.
- The EIR should describe the priority for distributing water during drought years and the potential for additional rationing by farmers.

Air Quality Comments:

- Potential impacts associated PM_{10}, ROG, and NO_x emissions generated during heavy construction activities should be analyzed in the EIR.
- The potential for odor generated at the water treatment plant to affect adjacent sensitive receptors needs to be evaluated.

Biological Resources Comments:

- The EIR should evaluate potential impacts to riparian habitat, wetlands, and special-status species including giant garter snake and anadromous fish.
- The EIR should evaluate potential impacts to fisheries and wildlife due to fluctuating reservoir levels.

Hazardous Materials / Public Health Comments:

- The EIR should evaluate the potential for airborne pollutants from nearby agricultural pesticide spraying on open tanks at the water treatment plant and the potential for contamination problems.

Cumulative Impacts Comments:

- EIR should discuss the cumulative impacts of the project when combined with the currently-proposed OID/SSJID water transfer to Stockton East Water District.
- EIR should address cumulative impacts of increased industrial and municipal water use in the San Joaquin River watershed.
- The EIR should address project / cumulative impacts to downstream users dependent upon riparian water rights.

Growth-Inducing Impacts Comments:

- EIR should address cumulative impacts of growth-inducement associated with increased industrial and municipal water use in the San Joaquin River watershed.
- The EIR should discuss the potential for loss of farmland due to increased development.
- The EIR should evaluate the project's cumulative growth-inducement effects on biological resources.

1.4 SUMMARY OF ENVIRONMENTAL IMPACTS

Table 1-1, located at the end of this chapter, presents a summary of project impacts found to be significant or potentially significant, and the proposed mitigation measures that would avoid or minimize potential impacts. In the table, the level of significance of each environmental impact is indicated both before and after the application of the recommended mitigation measure(s). Chapters 4.0, 5.0, and 7.0 include detailed discussions of all project impacts and mitigation measures. Provided below is a list of the key significant impacts that are identified for the proposed project in Chapters 4.0, 5.0, and 7.0 of the EIR.

- Impacts to wetlands/vernal pools, grassland habitat, sensitive tree resources, and associated special-status due to construction associated with the pipelines, water treatment plant, and Tracy Pump Station.

- Construction impacts associated with traffic/access disruption, noise, dust generation, and stormwater runoff during construction of pipelines.
- Restricted access for farming vehicle traffic due to construction and operation of the pipeline along the portions of the alignment across farmland.
- Water quality and public health impacts associated with use of Woodward Reservoir for raw water storage due to existing uses within the reservoir watershed, including recreation and agriculture/livestock.
- Hazardous materials impacts during construction of project facilities and operation of the proposed WTP.
- Impacts to recreation uses at Woodward Reservoir to comply with Department of Health Services requirements for drinking water sources. Potential seasonal prohibition of body contact recreation activities.
- Development within the cities of Escalon, Manteca, Lathrop, and Tracy, consistent with build-out of their General Plans, would have potentially significant, secondary environmental effects, such as traffic congestion, loss of agricultural land, open space and habitat.

1.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Section 1.2, above, outlines the various alternatives to project components evaluated in this EIR to determine if they would avoid or minimize significant impacts associated with project implementation. Based on the analysis of the alternatives in Chapter 6.0, the proposed project is considered to be the environmentally superior alternative for the following reasons.

With respect to water supply and water resource issues, the proposed project provides a benefit to water supply and water quality for municipal and industrial use for the four Participating Cities. Project implementation does not adversely impact SSJID's ability to meet its agricultural water supply obligations nor does it cause significant impacts to surface water and groundwater resources. The project provides a benefit to groundwater resources, reducing future reliance on groundwater extraction and alleviating groundwater pumping at current rates above the estimated safe yield. In contrast, the No Project Alternative, which includes other supply options for the four cities to meet projected demand, would most likely involve increased groundwater pumping with adverse impacts to municipal water supply reliability and water quality as well as groundwater aquifer impacts of increased overdraft, and exacerbation of salinity intrusion. Supply options involve importation of alternative surface water supplies through water transfers, and would likely involve Delta water supplies through the State Water Project (SWP) and Central Valley Project (CVP). Such transfers could result in additional impacts to water resources and beneficial uses of the Delta and remain a less reliable and potentially lower quality supply than provided by SSJID.

Regarding facility sites for the proposed pipelines and water treatment plant, SSJID conducted an environmental screening process during development of the proposed project. As a result of the up-front effort, the project incorporated pipeline alignments and the water treatment plant site that

avoided or minimized potential environmental impacts to the greatest degree. The sites for these facilities incorporated in the proposed project are preferable to the alternatives evaluated. The alternative facility sites would not avoid or minimize impacts associated with the project; in most cases the impacts of the alternative sites, primarily associated with project construction, would be similar to those of the project or more numerous and severe.

Regarding potential impacts to recreation at Woodward Reservoir, mitigation has been identified that could reduce this impact to less than significant: either installation and use of a second water intake, or acquisition of a legislative waiver from the prohibition of body contact recreation. Alternatives to use of Woodward Reservoir involve construction of more facilities than required under the project, resulting in greater impacts and higher cost. The cost of the SEWD and South of Manteca alternatives would prevent Escalon participation in the project because Escalon would be required to finance construction and operation of a long, dedicated transmission pipeline under these alternatives. Development of a new, second storage reservoir, if feasible, would have significant siting and construction impacts and would result in an impact to recreation at Woodward Reservoir as well because of the impact of reservoir water levels.

Regarding the growth inducement potential, the reduced capacity alternative involves only building Phase 1 of the proposed project. However, under the proposed project, Phase 2 would be implemented only as warranted to respond to demands of planned and approved growth. The project design includes phasing that will allow SSJID and the four Participating Cities to respond to growth, rather than provide capacity too soon.

TABLE 1-1
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Section 4.2: Land Use		
4.2.1: Siting and operation of project facilities could impact farmland or adjacent agricultural activities. Less than significant for Water Treatment Plant, Raw Water Intake and Pipelines. Potentially significant for Water Transmission Lines, less than significant with mitigation.	**4.2.1a:** SSJID shall consult with all potentially affected land owners associated with the segments of the selected alignment that crosses farmland as part of the land acquisition process. As part of this acquisition process, SSJID and the land owners shall negotiate an agreed-upon compensation for the loss of any existing orchard trees and / or vines currently in production. During these consultations SSJID shall also, in conjunction with land owners' input, identify areas along the right-of-way fence that require access gates. Access gate locations shall be included in the final design plans for the proposed project. Mitigation Measure 4.11.9a provides for controlled access for vehicle traffic associated with active agricultural operations in farmland areas.	Less than significant
4.2.3: Construction of proposed project facilities would result in short-term disturbance of sensitive adjacent land uses, primarily residences, due to dust, noise, and traffic and access disruption. Less than significant for the Water Treatment Plant and Raw Water Intake and Pipelines. Less than significant with mitigation for the Water Transmission Lines and the Tracy Pump Station.	**4.2.3a:** Prior to construction activities, SSJID shall develop a construction plan for Mossdale Crossing Park which includes the following items: ▪ Any construction and staging areas located near Mossdale Crossing Park shall be fenced, secured, and clearly marked. Security shall be provided for these areas to ensure public safety. ▪ Public parking areas outside of the construction staging areas shall be kept clear at all times of construction-related equipment or materials. ▪ All open trenches and pits shall be covered/secured after daily activities to protect worker and public safety.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.2.3: (cont.)	▪ Construction operations in the vicinity of Mossdale Crossing Park shall be limited to Monday through Friday from Memorial Day to Labor Day during the construction year. ▪ Signs shall be placed at the roadway entrance of Mossdale Crossing Park to provide one week advanced warning to park users of construction operations. **4.2.3b:** SSJID shall provide minimum 2-week advance notice of the construction activities schedule to the affected community members adjacent to construction areas (e.g., residences, property owners, business owners, and public facility operators), including the posting of signs. **4.2.3c:** SSJID shall provide a phone number and community contact for inquiries about the project throughout the construction period. **4.2.3d:** SSJID shall incorporate mitigation measures in construction contract documents (e.g., terms of schedule or access conditions, or technical requirements). SSJID and its contractor(s) shall coordinate with local jurisdictions and obtain all necessary permits (e.g., encroachment permit, utility excavation permit), shall comply with permit conditions established to minimize construction impacts, and shall assign an inspector to the project to oversee construction activities.	
4.2.4: Operation of the Water Treatment Plant and Tracy Pump Station would result in impacts to sensitive adjacent land uses. Less than significant with mitigation.	**4.2.4a:** SSJID shall implement mitigation measures described in Section 4.5, Air Quality and Section 4.8, Noise.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Section 4.3: Woodward Reservoir		
4.3.1: Based on a preliminary Woodward Reservoir watershed investigation, several activities within the watershed are potential sources of source water contamination. This could affect the proposed drinking water quality and pose public health concerns. Restrictions on activities within the reservoir watershed, coupled with appropriate treatment plant design could reduce this potentially significant impact to less than significant with mitigation.	***District-Proposed Mitigation*** **4.3.1a: Source Control Plan.** SSJID shall develop and implement a Source Control Plan and Watershed Management Plan in compliance with state and federal health regulations and drinking water requirements. The program may include, but not be limited to, the types of actions outlined in the following mitigation measures addressing source control (Measures 4.3.1b through 4.3.1d); the final program shall be reviewed and approved by the Department of Health Services. While many of the source control measures are within SSJID's authority to implement, several are not. Other agencies and entities shall be responsible for implementing source control measures at their facilities. Specifically, Stanislaus County Parks Department shall be responsible for implementing measures controlling pollutant sources generated by recreation. In the future SSJID shall incorporate additional source control requirements for recreation into its lease with County Parks or other managing entity. Private land owners and facility owners who manage livestock operations within the reservoir watershed shall be responsible for control measures affecting their operations. For implementation of measures on another agency's property on private property, beyond SSJID's control, the District shall make diligent efforts to encourage implementation of best management practices for source control. The entity responsible for implementing each measure is noted in parenthesis. Enforcement of these source control measures is the responsibility of the appropriate regulatory agencies, including the RWQCB and the state and county health departments.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.3.1: (cont.)	**Measure 4.3.1b: Source Control for Body Contact Recreation.** In compliance with state health regulations, SSJID shall prohibit body contact recreation at Woodward Reservoir. This prohibition would have a significant effect on existing recreational uses at the reservoir. However, it may be possible to avoid this prohibition or reduce the amount of time this prohibition will be in effect, while still providing compliance with state health regulations and adequate water quality protection, by implementing one or more of the mitigation measures identified in the discussion of Impact 4.3.2, below. **Measure 4.3.1c: Source Control for Recreation Activities at Woodward Reservoir.** SSJID shall implement the following source control measures within its authority (as noted in parenthesis) and request that other responsible agencies and private entities implement actions within their authority. ▪ Maintain a 500-foot no activity buffer zone around the water intake. (SSJID) ▪ In accordance with lease terms, review and as appropriate provide written response on all proposed modifications or changes to recreation and/or facilities on SSJID properties within watershed. (SSJID) ▪ Prohibit camping in undeveloped campsites within 50 feet of the shoreline. (SSJID)	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.3.1: (cont.)	▪ Develop and implement a public education and notification program. (SSJID / Stanislaus County Parks and Recreation Department) ▪ Install posted notices around the recreation use areas that the reservoir is used as a drinking water supply and summarizing restrictions on activities. (SSJID) ▪ Monitor for MTBE, and evaluate sources within the reservoir and develop a plan for reducing MTBE to within acceptable levels. (SSJID) ▪ Review the operation and maintenance program for the recreation facilities routinely. (SSJID) ▪ Limit camping in undeveloped campsites and close the campground when developed camping sites are full. (Stanislaus County Parks and Recreation Department) ▪ Upgrade and increase the number of sanitary facilities (toilets and garbage bins) to handle peak recreation season attendance. (Stanislaus County Parks and Recreation Department) ▪ Monitor total/fecal coliform and E. coli bacteria in beach areas during the summer and close the beaches when concentrations exceed recommended limits. (SSJID / Stanislaus County Parks and Recreation Department) ▪ Upgrade fuel facilities to provide secondary containment. (SSJID / Stanislaus County Parks and Recreation Department)	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.3.1: (cont.)	▪ Provide adequate boat pump out facilities. (SSJID / Stanislaus County Parks and Recreation Department) ▪ Provide fish cleaning facilities or prohibit fish cleaning at the reservoir. (SSJID / Stanislaus County Parks and Recreation Department) ▪ Review equestrian activities to determine the need and design of an appropriate buffer zone from the reservoir or eliminate horses. (SSJID / Stanislaus County Parks and Recreation Department) ▪ Require and verify that the County/recreation manager employs an adequate number of park rangers to oversee activities and enforce rules. (SSJID / Stanislaus County Parks and Recreation Department) <u>Wastewater Disposal</u> ▪ Monitor NPDES permit compliance for the park wastewater system within the reservoir sub-watershed. (SSJID / Stanislaus County Parks and Recreation Department) ▪ Review alarm systems and standby power for sewage pump stations within the reservoir sub-watershed. (Stanislaus County Parks and Recreation Department) ▪ Upgrade sewage treatment facilities to prevent spills from entering Woodward Reservoir. (Stanislaus County Parks and Recreation Department)	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.3.1: (cont.)	▪ Develop an emergency notification agreement between the County operators of the sewage plant and SSJID. (SSJID) **Measure 4.3.1d: Source Control for Confined Animal Facilities – Dairy and Turkey Farms.** SSJID shall implement the following source control measures within its authority (as noted in parenthesis) and request that other responsible agencies and private entities implement actions within their authority. ▪ Work with RWQCB to implement best management practices (BMPs) to control and/or treat non-point source pollution run-off. (SSJID / RWQCB / private property owner) ▪ Monitor run-off from dairy operations during calving season and during storm runoff events (especially first flush events) to evaluate contaminant concentrations and determine appropriate BMPs. (SSJID) ▪ Develop agreement for dairy operations to provide SSJID with emergency notification in the event of a disease outbreak at the dairy. (SSJID / private property owner) ▪ Monitor runoff from turkey farm operations to evaluate contaminant concentrations and determine appropriate BMPs. (SSJID)	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.3.1: (cont.)	Cattle Grazing ▪ Protect the SSJID canal leading to the reservoir from animal access: (SSJID / private property owner / facility manager) - Provide watering troughs for animals away from the canal - Fence the canal - Move salt licks away from canal to discourage animals in proximity to canal - Patrol canal routinely; move animal carcasses away from the canal proximity ▪ Eliminate cattle grazing within the area surrounding reservoir (through expiration and termination of current leases). (Stanislaus County Parks and Recreation Department) ▪ Until cattle are eliminated from the area surrounding the reservoir, establish a buffer zone around the reservoir perimeter and prohibit cattle through fencing. (SSJID) **Measure 4.3.1e: Treatment Process.** SSJID shall design and operate a water treatment plant with a treatment process capable of treating the known and potential contaminants within the source supply and producing a safe, reliable drinking water supply that fully meets state and federal drinking water standards. The SSJID treatment system shall include all required back-up and alarm systems to insure proper treatment and water quality. The District is planning to include an ozonation disinfection process, which provides an added treatment barrier to potential pollutants.	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.3.2: Use of Woodward Reservoir as a drinking water supply source for the project would require restrictions on current recreational activities and use areas at the reservoir in order to comply with public health regulations and protect water quality. Many of these restrictions would improve management of activities and would not significantly impact recreation activities such as boating, fishing, or camping. However, state health regulation requires prohibition of full body contact recreation (swimming, water skiing, windsurfing, and personal water craft [jet skis]) at reservoirs used as a public drinking water source. Elimination of body contact activities would be a significant impact on recreation. This impact could be mitigated to less-than-significant.	***EIR-Identified Mitigation*** To address the impact of a body contact recreation prohibition, SSJID shall implement either Mitigation Measure 4.3.2a or 4.3.2b. The District shall implement Mitigation Measure 4.3.2c as well. **Measure 4.3.2a:** SSJID shall obtain a legislative waiver from the state DHS regulations such that the prohibition on body contact activities does not apply to Woodward Reservoir. As part of the process, the District shall demonstrate that the other source control measures combined with the proposed water treatment process provide adequate water quality and public health protection and full compliance with drinking water quality standards. With the waiver there would be no significant impact to recreation. However, the waiver may not be permanent. MID recently obtained a legislative waiver to the body contact prohibition for its reservoir that is now the source of drinking water for its water treatment plant. MID implements an extensive water quality monitoring program required as a condition of the waiver to demonstrate that body contact recreation is not adversely affecting drinking water quality. SSJID shall conduct a similar program as required if granted a waiver. MID's waiver has a time limit set for the year 2004, when the legislature will reconsider the waiver. Based on MID's recent experience, it is anticipated that a waiver for Woodward Reservoir may only be short-term (for a few years) and that eventually the body contact prohibition may be imposed by the state. Therefore, while this mitigation measure would reduce the project impact on recreation to less than significant, it is possible that the waiver may only	The project impact on recreation at Woodward Reservoir potentially may be reduced to less-than-significant with implementation of Measure 4.3.2b to construct and operate a second intake or with implementation of Measure 4.3.2a to obtain a waiver from the body contact prohibition and maintain swimming at the reservoir, in combination with Measure 4.3.2c.

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.3.2: (cont.)	be short-term, and that this impact may remain potentially significant and unavoidable over the long-term even with this mitigation. **Measure 4.3.2b:** SSJID shall incorporate into the project design, construct, and operate a second raw water intake at Woodward reservoir, located upstream and separated from the area of the reservoir used for body contact recreation. With proper separation of this intake from water in the downstream reservoir area, the state Department of Health Services would allow body contact activities to continue in the restricted downstream area and a legislative waiver would not be required. This second intake would be used as much as possible each year, until reservoir water levels drop to a level that requires use of the downstream main intake located at the dam. The following discussion describes the second intake further, evaluates its effect on recreation, and assesses the potential impacts associated with construction of this additional facility. ***Description.*** The project proposes use of the existing raw water intake facility at Woodward Reservoir to convey water to the new water treatment plant. The existing raw water intake is located at the dam at the downstream end of the reservoir and is relatively close to the developed recreation beaches. (See Figure 3-11 for the location of the existing intake structure and Figure 4.3-1 for the location of recreation facilities.) With this intake location, raw water diverted from the reservoir for treatment would be exposed to any contaminants introduced anywhere in the reservoir,	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.3.2: (cont.)	including indirectly from land uses adjacent to the canal upstream of the reservoir, directly into the reservoir from to surrounding land use activities (agriculture and livestock), and within the reservoir from recreation on and in the water. To mitigate the potential effect of body contact recreation on source water quality and, at the same time, avoid or minimize the need to prohibit body contact recreation, an alternate location for the intake is considered. This mitigation measure would add to the project a new raw water intake structure located at the upstream end of the reservoir, where water is first supplied to the reservoir via the Main Canal. Body contact recreation would be prohibited in this area of the reservoir. Further, this area would be physically separated from the remaining main body of the reservoir by a low water control structure. This alternate intake would be used as much as possible during the year as long as water levels in the reservoir allow. The main intake would be used when necessary during parts of the year. This would generally be required in the non-irrigation season period of mid-October through mid-March, when flow to the reservoir would be limited and water levels also would be lowered for flood control purposes, and also during drought years. ***Affect on Recreation.*** Implementation of a second, alternate raw water intake at the upstream end of the reservoir would allow body contact recreation to continue in the main body of the reservoir, while being restricted from only the upper reservoir area. Since the public recreation facilities and beaches developed by Stanislaus County Parks Department are located in the downstream area of the reservoir, this	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.3.2: (cont.)	approach would preserve body contact recreation in the areas of developed access and customary use. Body contact recreation would be prohibited in only a small portion of the reservoir. This would be a less than significant impact on recreation at the reservoir. Seasonally, generally during the fall through early spring, the main intake would need to be used when reservoir levels drop. This would require a seasonal prohibition on body contact recreation throughout the reservoir. Use of the main intake would require a ban on body contact activities in the reservoir beginning a minimum of 30 days prior to its use and continuing for the duration of use. SSJID would sample reservoir water quality and demonstrate the water quality degradation associated with recreation use had been corrected prior to use of the main intake. Body contact activities could be prohibited from mid-September through mid-March in most years, and year-round in some drought years. Thus, this mitigation measure would not completely eliminate the need for restrictions on body contact recreation. However, the second intake would be in use through the peak recreation season (April through August), when demand for body contact recreation activities is highest. Because use of a second intake would avoid the prohibition of body contact activities during the summer season, and the prohibition would only be required during the low recreation use season, or in certain drought situations as described in Impact 4.3.2, this mitigation measure reduces the project impact on recreation to less than significant.	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.3.2: (cont.)	***Impact of Constructing a Second Intake.*** Construction of a second intake structure would require draining the reservoir temporarily to allow installation of a pipeline from the current intake structure at the dam upstream across the reservoir to the new intake location. The pipeline would be approximately 2 to 3 miles long. Construction would be scheduled after the irrigation season, beginning in approximately late September. Water levels in the reservoir are lowered each year in the fall for flood control purposes. Draining the reservoir at this time would not affect irrigation uses and would coincide with reducing water storage for flood control. To avoid impact to the reservoirs flood control capabilities, construction would need to be completed as quickly as possible and the contractor must be prepared to proceed in wet weather conditions without limiting the reservoir's ability to store storm water. Draining the reservoir for up to six months for construction would result in a temporary impact to recreation. Since this would occur during the period of low recreation use in the winter, this one time disruption of recreation activities is considered less than significant. Draining the reservoir is not expected to have a significant impact on aquatic/fishery resources. There are no listed species known in the reservoir. The District has had to drain the reservoir on previous occasions for facilities maintenance and repairs and has coordinated this action with the California Department of Fish and Game. The California Department of Fish and Game has indicated that draining the reservoir provides the opportunity to eliminate undesired, non-native fish species from the reservoir. Fish and aquatic organisms populations	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.3.2: (cont.)	are reestablished with recruitment through the water delivery canal system, as well as through active fish stocking for recreational fishing. Following construction, the reservoir would be refilled and there would be no long-term or permanent impacts to the reservoir habitat or uses. Mitigation measures proposed to address impacts associated with construction of transmission pipelines shall also be adopted for construction of the second intake, if SSJID implements it. Relevant mitigation measures include, but are not limited to: ▪ Development and implementation of a Stormwater Pollution Prevention Plan (Mitigation Measure 4.4.4a); ▪ Implementation of erosion control measures (Mitigation Measure 4.4.4b); ▪ Implementation of dust control measures (Mitigation Measure 4.5.1c); ▪ Implementation of noise control measures (Mitigation Measures 4.8.1a through 4.8.1e); ▪ Implementation of hazardous materials measures (Mitigation Measures 4.9.3b); and ▪ Implementation of traffic control measures (Mitigation Measures 4.11.1a through 4.11.1e, 4.11.2a, and 4.11.2b).	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.3.2: (cont.)	**Measure 4.3.2c:** SSJID shall request that Stanislaus County Parks Department develop revised recreation programs, upgrade and expand existing facilities, and eliminate those facilities and/or activities not in compliance with water quality protection regulations in an effort to maintain recreation activities at Woodward Reservoir and achieve water quality protection. Revisions to the County's recreation program may include but are not limited to: ▪ Develop additional camping sites. ▪ Upgrade and expand sanitary facilities (toilets and garbage receptacles) at the park to accommodate greater attendance. ▪ Increase the number of park rangers to provide adequate patrol of recreation activities and enforcement of park rules. ▪ Develop and upgrade boating and fishing facilities that comply with water quality protection regulations. ▪ Develop additional recreational opportunities at the park, such as a trail network. The District shall work with and support Stanislaus in this effort.	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Section 4.4: Hydrology, Flooding, and Water Quality		
4.4.1: Construction of the Water Treatment Plant would result in minor increases in local storm runoff volumes due to increased impervious surface area. Discharge of collected storm runoff can cause soil erosion and local flooding at discharge points. Less than significant with mitigation for Water Treatment Plant. Less than significant for Raw Water Intake and Pipelines, Water Transmission Lines, and Tracy Pump Station.	***District-Proposed Mitigation*** **4.4.1a:** SSJID shall use a 100-year storm criteria for design of the WTP stormwater drainage system. Collected runoff shall be discharged away from the WTP into the surrounding area. BMPs for design and installation of stormwater discharge points shall be used to reduce the risk of localized flooding and soil erosion.	Less than significant
4.4.2: Pipeline installation at channel crossings could cause the creek bed to erode away from the pipeline and/or construction zone, exposing the stream channel to increased sedimentation. Less than significant with mitigation for the Raw Water Intake and Pipelines and the Water Transmission Lines.	***District-Proposed Mitigation*** **4.4.2a:** Standard design criteria for pipeline installation at stream crossings using the jack and bore method prevents destabilization of the streambed and banks. Project design shall locate pipe far enough below streambeds and site the boring entry location and boring slope at a significant distance from the streambank to avoid a future encounter between the pipeline and surface water due to stream downcutting or lateral migration.	Less than significant
4.4.3: Although remote, a dam failure at Woodward Reservoir would inundate portions of the project area, potentially damaging project structures. Potentially significant, less than significant with mitigation and the low risk of such an occurrence at Raw Water Intake and Pipelines, Water Treatment Plant, and Water Transmission Lines. Less than significant for the Tracy Pump Station.	***EIR-Identified Mitigation*** **4.4.3a:** Prior to completion of the WTP, the District may prepare an Emergency Response Manual for the possibility of a dam failure at Woodward Reservoir. In case of a failure at Woodward Reservoir, the scenario for ceasing operations and evacuating the area may be addressed. The response plan shall include training requirements, staff responsibilities, inspection and maintenance procedures, and schedule for all components of the system.	Less than significant with mitigation and the low risk of such an occurrence.

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.4.4: Construction of proposed facilities could result in increased erosion and sedimentation, with subsequent impacts to water quality and/or storm drain capacity. Additionally, release of fuels or other hazardous materials associated with construction equipment could reduce water quality. Less than significant with mitigation.	***District-Proposed Mitigation*** **4.4.4a:** SSJID shall develop and implement a SWPPP, as required by the SWRCB, for areas to be disturbed by construction activities. The District shall incorporate into contract specifications the requirement that the contractor comply with, and implement the provisions of, the SWPPP and the RWQCB requirements of the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity. The objectives of the SWPPP are to identify pollutant sources that may affect the quality of stormwater discharge, to implement control practices to reduce pollutants in stormwater discharges, and to protect receiving water quality. The SWPPP may include, but is not limited to, the following elements: ▪ Preparation of a site map; ▪ Description of construction materials, practices, and equipment storage and maintenance; ▪ List of pollutants likely to contact stormwater; ▪ Estimate of the construction site area and percent impervious area; ▪ Site specific erosion and sedimentation control measures including: soils stabilization, revegetation, and runoff control to limit increases in sediment in stormwater runoff, such as detention basins, straw bales, silt fences, geofabric, drainage swales, and sand bag dikes;	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.4.4: (cont.)	▪ List of provisions to eliminate or reduce discharge of materials to stormwater, including practices to minimize the contact of construction materials with stormwater; ▪ Stockpiling of soils along the trench may be on the side of the trench farthest from the nearest creek or drainage where possible; ▪ BMPs for fuel and equipment storage, refueling activities and equipment inspections to prevent chemicals from contacting stormwater; ▪ Description of waste management practices; and ▪ Maintenance and training practices. **4.4.4b:** SSJID shall incorporate into contract specifications requirements that the contractor(s) implement erosion control measures as well as RWQCB requirements for stormwater pollution prevention from construction activities. The contractor shall be required to exercise special care to prevent erosion in disturbed earth areas, and silt or eroded materials may not be introduced into any storm drain system or watercourse during and following construction. The contractor shall also apply erosion control measures where indicated on contract drawings and where the contractor has disturbed natural vegetation. For construction adjacent to, or crossing any waterways, SSJID shall obtain and comply with any necessary permits from state and local jurisdictions.	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.4.4: (cont.)	**4.4.4c:** In order to reduce the potential for erosion and sedimentation at Lone Tree Creek, San Joaquin River, Tom Paine Slough, and Paradise Cut, the District may incorporate into contract specifications the requirements that construction directly adjacent to or across waterways be limited to the dry season, annually from May 1st to November 15th, subject to agreement with the appropriate regulatory agencies. Construction during the dry season minimizes impacts of stormwater runoff to the waterways' water quality. In the event of drought or an extended dry season in autumn, the construction permit may be extended at one week increments until the first rain event of over one inch total precipitation. **Measure 4.4.4d:** In order to reduce the potential for erosion and sedimentation within irrigation canals and laterals the following measures shall be implemented: ▪ Irrigation lateral crossings constructed during the irrigation season or at a lateral carrying storm water runoff during the non-irrigation season shall require de-watering of the lateral at the pipeline crossing. De-watering can be accomplished by constructing a temporary channel, parallel to the existing lateral, to carry diverted flow from the lateral or by constructing temporary coffer dams upstream and downstream from the crossing and pumping lateral flow around the crossing. ▪ The pipeline shall be placed in a trench across the lateral having sufficient depth to provide a minimum two-foot vertical separation between the top of the pipe and the invert of the irrigation lateral. Backfill around the	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.4.4: (cont.)	underground pipeline crossing at the lateral shall consist of clean native backfill placed in two-foot lifts compacted to a 90 percent maximum density based on standard proctor values for the backfill material used. The lateral walls shall be replaced at slopes matching the existing lateral cross sections. All backfilled areas and areas disturbed during construction shall be graded to match the surrounding ground surface and re-seeded with native grasses or a compatible agricultural planting.	
4.4.5: Dewatering could be required during construction of project facilities at waterway crossings or areas of shallow groundwater. If chemicals are present or sediment is released into the extracted water, discharge could affect surface water quality. Less than significant for the Water Treatment Plant and Tracy Pump Station. Less than significant with mitigation for the Raw Water Intake and Pipelines and the Water Transmission Lines.	***District-Proposed Mitigation*** **4.4.5a:** At stream and channel crossings, a dewatering collection and disposal method shall be identified. Dewatered water shall be discharged or collected and disposed of off-site in accordance with all applicable laws and regulations. If dewatered water were discharged to adjacent surface waterways, SSJID shall obtain a permit from appropriate regulatory agencies.	Less than significant
Section 4.5: Air Quality		
4.5.1: Project construction activities would result in a temporary increase in air pollutant emissions. Less than significant with mitigation.	***District-Proposed Mitigation*** **4.5.1a:** For construction activities associated with all project facilities, SSJID shall require contractor(s) to implement the following measures: ▪ Water, chemical soil stabilizers/suppressants, or vegetative ground cover shall be used to control fugitive dust from all disturbed areas, including storage piles, which are not being actively used at the construction site.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.5.1: (cont.)	▪ Water or chemical soil stabilizers/suppressants shall be used to control fugitive dust from all unpaved roads on-site and all off-site unpaved access roads to the construction site. ▪ Applications of water or presoaking shall be performed to control fugitive dust from all land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities. ▪ Cover and wet all materials transported off-site *or* require all trucks to maintain at least six feet of freeboard from the top of the container. ▪ Remove accumulated mud or dirt from adjacent public streets at least once every 24 hours during construction periods. (The use of dry rotary brushes is expressly prohibited, except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. The use of blower devices is also expressly forbidden.) ▪ Water or chemical soil stabilizers/suppressants shall be used to control fugitive dust after each addition of materials to or removal of materials from all storage piles. ▪ Limit the speed of all construction vehicles to 15 miles per hour on unpaved roads. ▪ Replant vegetation in disturbed areas as quickly as possible.	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.5.2: Operation of the proposed project facilities would result in operational air emissions from powering of pumps, the testing and potential use of emergency and standby generators at the two pump stations, various processes and equipment emissions at the WTP and from vehicle trips. Less than significant for the Raw Water Intake and Pipelines and the Water Transmission Lines. Less than significant with mitigation for the Water Treatment Plant and Tracy Pump Station.	***District-Proposed Mitigation*** **4.5.2a:** Proposed facilities shall be designed to operate in compliance with applicable SJVUAPCD permit requirements and regulations.	Less than significant
Section 4.6: Geology, Soils, and Seismicity		
4.6.1: Seismic activity within the San Francisco Bay region, the Coast Range-San Joaquin/Sacramento Valleys boundary, and the Sierra Nevada foothills region present the potential for moderate to strong groundshaking within the project area. Less than significant with mitigation.	***District-Proposed Mitigation*** **4.6.1a:** Facility design shall comply with the site specific seismic design criteria recommendations of a geotechnical engineer. Facility design shall also comply with the seismic design requirements of the UBC and with applicable provisions and policies of the San Joaquin County and Stanislaus County General Plans. ***EIR-Identified Mitigation*** **4.6.1b:** To protect on-site personnel, ensure the integrity of the WTP facility infrastructure, and minimize any disruption to WTP operations in the event of a major earthquake, SSJID may prepare an Earthquake Response Plan. The Earthquake Response Plan may also include post-earthquake inspection and repair plans to evaluate any damage that may have occurred, ensure the integrity of the mechanical systems, and make the facility operational as soon as possible.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.6.2: In the event of a major earthquake in the region, ground shaking could potentially expose people and the proposed facility to seismic hazards, including localized liquefaction, differential settlement, or inundation from dam failure. Less than significant with mitigation.	***District-Proposed Mitigation*** **4.6.2a:** Facility design shall comply with the site specific geotechnical design criteria recommendations of a geotechnical engineer, applicable requirements of the UBC, and applicable provisions and policies of the San Joaquin County and Stanislaus County General Plans.	Less than significant
4.6.3: Proposed facilities could incur damage as a result of underlying soil properties (subsidence, high shrink-swell potential, and corrosivity). Less than significant with mitigation.	***District-Proposed Mitigation*** **4.6.3a:** Facility design shall comply with the site specific geotechnical design criteria recommendations of a geotechnical engineer, applicable requirements of the UBC, and applicable provisions and policies of the San Joaquin County and Stanislaus County General Plans.	Less than significant
Section 4.7: Biological Resources		
4.7.1: Construction of project facilities could result in the loss of jurisdictional wetlands. Potentially significant, less than significant with mitigation for Raw Water Intake and Pipelines and the Tracy Pump Station. Less than significant with mitigation for Water Treatment Plant and Water Transmission Lines.	***District-Proposed Mitigation*** **4.7.1a:** A delineation of jurisdictional wetlands and other waters of the U.S., following the methodology identified in the 1989 Corps guidelines, shall be conducted at all project facility sites prior to construction activities. The District shall notify the U.S. Army Corps of Engineers to request a field verification on the wetland delineation and to make a determination on the appropriate permit required for placement of fill. If no wetlands are delineated within the final project sites, no further mitigation is necessary. During final design project facilities shall be sited (to the extent feasible) to avoid potential jurisdictional wetlands.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.7.1: (cont.)	**4.7.1b:** For potential permanent fills to wetlands associated with the construction of the water treatment plant, compensation for filled wetland shall be required. Two acres of wetlands shall be created for each acre of filled wetland. On-site mitigation shall be conducted if feasible. A Wetland Monitoring Program shall be prepared and provided to the Corps for review and approval. The Wetland Monitoring Program shall identify the monitoring parameters and success criteria for each parameter. Remediation measures shall be identified for conditions where success criteria are not met. The monitoring program shall, at a minimum, consist of the filing of an annual report to the Corps for five years. The mitigation shall be considered successful if criteria are met for three consecutive years. The District or their appointed agent shall maintain the mitigation site in perpetuity. As previously stated, wetland creation and preservation shall be conducted on-site if possible. If not, off-site mitigation shall be accomplished, including the purchase of credits at an approved mitigation bank. **4.7.1c:** Where open trench construction and excavation is employed at drainage crossings, the following mitigation shall be implemented: ▪ Conduct all trenching and construction activities across drainages and seasonal wetlands during low-flow or dry periods. ▪ Place sediment curtains upstream and downstream of the construction zone to prevent sediment disturbed during trenching activities from being transported and deposited outside of the construction zone.	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.7.1: (cont.)	▪ Locate spoil sites such that they do not drain directly into the drainages and/or seasonal wetlands. If a spoil site drains into a drainage channel or seasonal wetland, catch basins shall be constructed to intercept sediment before it reaches the drainage or wetland. Spoil sites shall be flattened to reduce the potential for erosion. ▪ Store equipment and materials away from the drainages and wetland areas. No debris shall be deposited within 25 feet of the drainages and wetland areas. ▪ Following pipeline installation, any impacted wetland area shall be returned to original grade. Any wetland area left bare following construction shall be revegetated using plugs of cattails, tules, or other native vegetation taken by hand from plants in adjacent wetland. Open trench construction in drainages and wetlands shall also require approval from the Corps to fill wetlands and other waters of the U.S. The project is likely to proceed under Nationwide Permit #12 (Utility Line Backfill and Bedding) pursuant to Section 404 of the Clean Water Act. Water quality certification from the RWQCB shall also be required pursuant to Section 401 of the Clean Water Act. In addition, CDFG has jurisdiction in drainages pursuant to Section 1601 of the State Fish & Game Code, and pipeline construction in channel bottoms shall require a Streambed Alteration Agreement between SSJID and the CDFG. Terms of these permits and agreements may include additional provisions.	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.7.2: Construction of facilities associated with the South County Surface Water Supply Project could result in the loss of special-status plants and animals supported by wetlands. Potentially significant, less than significant with mitigation.	***District-Proposed Mitigation*** **4.7.2a:** Prior to the commencement of construction activities, on-site wetlands at all facilities shall be examined by a USFWS biologist to determine their suitability as listed shrimp habitat. If threatened vernal pool crustacean species do not occur in these areas, no further mitigation for this impact is required. If it is determined that the site may contain suitable habitat for special-status vernal pool crustaceans, SSJID shall either retain a qualified biologist to conduct pre-construction surveys for fairy shrimp and tadpole shrimp, following the USFWS *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods* (1996) to determine presence / absence, or assume presence. If occupied habitat is detected or assumed present on or within 250 feet of the development footprint, measures to avoid, minimize or mitigate direct and indirect (within 250 feet of the project) impacts to vernal pool fairy shrimp and vernal pool tadpole shrimp shall be incorporated into the project. Such mitigation measures shall include the following: ▪ **Preservation component.** For every acre of habitat directly or indirectly affected, at least two vernal pools credits shall be dedicated within a USFWS-approved ecosystem preservation bank, or, based on USFWS evaluation of site-specific conservation values, three acres of vernal pool habitat may be preserved on the project site or on another non-bank site as approved by the USFWS.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.7.2: (cont.)	▪ **Creation component.** For every acre of habitat directly affected, at least one vernal pool creation credit shall be dedicated within a USFWS-approved habitat mitigation bank, or, based on USFWS evaluation of site-specific conservation values, two acres of vernal pool habitat shall be created and monitored on the project site or on another non-bank site as approved by the USFWS. ▪ **On-site mitigation banking.** Vernal pool habitat and associated upland habitat used as on-site mitigation shall be protected from adverse impacts and managed in perpetuity or until the Corps, the applicant and the USFWS agree on a process to exchange such areas for credits within a USFWS-approved mitigation banking system. ▪ **Site inspections.** If habitat is avoided on site, then a USFWS-approved biologist (monitor) shall inspect any construction-related activities at the proposed project site to ensure that no unnecessary take of listed species or destruction of their habitat occurs. The biologist shall have the authority to stop all activities that may result in such take or destruction until appropriate corrective measures have been completed. The biologist also shall be required to report immediately any unauthorized impacts to the USFWS and the CDFG. ▪ **Fencing.** Adequate fencing shall be placed and maintained around any avoided vernal pool habitat to prevent impacts from vehicles.	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.7.2: (cont.)	During installation of pipelines, occupied habitat shall be avoided. Avoidance of habitat shall be accomplished through pipeline realignment or alternative pipeline installation techniques such as jacking and boring or directional drilling. **4.7.2b:** A qualified biologist shall conduct a pre-construction survey to determine if special-status plant species associated with wetlands occur within the construction zones of the project facilities. Surveys shall be conducted during the blooming period of the plants identified in Tables 4.7-1 and 4.7-4. If no special-status plants are identified, no further mitigation for this impact is necessary. If special-status plants are identified, excavation of the facility sites shall be relocated to avoid all populations of these species where possible. If removal of special-status plant species is necessary, replacement of populations shall be required. Replacement shall be on-site and in the ratio of two acres created or restored to each acre removed. A Mitigation and Monitoring Plan shall be prepared and provided with the appropriate agency for review and approval. The Mitigation and Monitoring Plan shall include the specifications for site preparation and revegetation, the identification of monitoring parameters and their associated success criteria, and remediation measures. Monitoring shall occur no less than annually for five years. Mitigation sites shall be placed within a conservation easement for perpetuity. For the water treatment plant, mitigation may be conducted in conjunction with Mitigation Measure 4.6.1b.	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.7.3: Implementation of the proposed project could result in the removal of annual grassland and cause permanent or temporary impacts to special-status plants and animals supported by annual grassland. Potentially significant, less than significant with mitigation for the Water Treatment Plant, Water Transmission Lines, and the Tracy Pump Station.	***District-Proposed Mitigation*** **4.7.3a:** SSJID shall retain a qualified biologist to conduct a survey for ground nesting raptors (in March or April) prior to construction activities (i.e., grading) in areas containing suitable nesting habitat. Active raptor nests located within 500 feet of construction activity shall be mapped. **4.7.3b:** If active raptor nests are located on or within 500 feet of an a construction site, a minimum of 500 feet buffer area shall be established in consultation with CDFG, and construction activities shall be prohibited within this buffer zone until the end of the nesting season (April through August) or until the young have fledged. A qualified wildlife biologist shall monitor the nest to determine when the young have fledged and submit weekly reports to CDFG throughout the nesting season. **4.7.3c:** Pre-construction surveys for Swainson's hawk shall be conducted at the water treatment plant in accordance with state protocol. If pre-construction surveys indicate presence of Swainson's hawk, SSJID shall provide Habitat Mitigation (HM) lands to CDFG at a mitigation ratio of 0.5 acre of HM lands for each acre of suitable foraging land disturbed. **4.7.3d:** SSJID shall retain a qualified biologist to conduct a pre-construction survey for active San Joaquin kit fox dens. If any occupied dens are identified, construction of the project site shall be planned to avoid breeding months (March through August). Dens shall be monitored prior to grading to assure abandonment.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.7.3: *(cont.)*	SSJID shall retain a qualified biologist to conduct a pre-construction survey for San Joaquin kit fox use. The District shall provide HM lands to CDFG at a mitigation ratio of 0.5 acre of HM lands for each acre of occupied land disturbed. **Measure 4.7-3e:** A qualified biologist shall conduct a pre-construction survey to determine if special-status plant species associated with annual grasslands occur within the construction zones of the project sites. Surveys shall be conducted during the blooming period of the plants identified in Tables 4.7-1 and 4.7-4. If no special-status plants are identified, no further mitigation for this impact is necessary. If special-status plants are identified at the facilities, excavation of the facility sites shall be located to avoid all populations of these species, where possible. If removal of special-status plant species is necessary, replacement of populations shall be required. Replacement shall be on-site and in the ratio of one acre created or restored to each acre removed. A Mitigation and Monitoring Plan shall be prepared and provided with the appropriate agency for review and approval. The Mitigation and Monitoring Plan shall include the specifications for site preparation and revegetation, the identification of monitoring parameters and their associated success criteria and remediation measures. Monitoring shall occur no less than annually for five years. Mitigation sites shall be placed within a conservation easement for perpetuity.	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.7-4: Construction of the Water Transmission Lines and the Tracy Pump Station could result in the removal of sensitive tree resources. Loss of trees could result in the disturbance of nesting raptors and other bird species that are protected by California Fish and Game Code 3503 and the Migratory Bird Treat Act. Potentially significant, less than significant with mitigation.	***District-Proposed Mitigation*** **4.7.4a:** SSJID shall retain a qualified biologist to conduct a survey for nesting raptors (in March or April) prior to construction activity (i.e., grading) in areas containing suitable nesting habitat. Active raptor nests located within 500 feet of construction activity shall be mapped. **4.7.4b:** If active raptor nests are located on or within 500 feet of a construction site, a minimum of 500 feet buffer area shall be established in consultation with CDFG, and construction activities shall be prohibited within this buffer zone until the end of the nesting season (April through August) or until the young have fledged. A qualified wildlife biologist shall monitor the nest to determine when the young have fledged and submit weekly reports to CDFG throughout the nesting season. **4.7.4c:** Identified trees with active nests shall only be removed prior to the onset of the nesting season (March) or after young have fledged (late August).	Less than significant
4.7.5: Construction of the Water Transmission Lines could result in temporary impacts to riparian habitats and to the special-status plants and animals that they support. Less than significant with mitigation.	***District-Proposed Mitigation*** **4.7.5a:** At jack and bore locations, the bore pits shall be excavated at least 50 feet outside the edge of riparian vegetation to avoid impacts. A biological monitor shall be present during jack and bore construction to alert construction crews to the possible presence of any special-status amphibian or reptile at risk during the crossing. With specific regards to giant garter snake, the following measures shall be implemented:	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.7.5: (cont.)	▪ Construction at stream crossings with riparian and/or emergent vegetation shall be limited to the active period for giant garter snake to facilitate detection and reduce the potential of direct mortality. The USFWS Sacramento Field office shall be contacted in the event that construction needs to occur between October 2 and April 30 to determine if additional measures are necessary to minimize and avoid take. ▪ Two weeks prior to any ground-disturbing activity at stream crossings with riparian and/or emergent vegetation, the bore pit, staging area, and access routes shall be fenced with snake-proof fencing. Two days prior to construction, a biological monitor with appropriate state and federal permits shall survey the fenced-in areas to determine if any giant garter snakes are present. If present, the monitor shall relocate snakes a minimum of 500 feet from construction activities. During construction, the monitor shall be present on-site to ensure that no snakes are in the disturbance area, that all excavated areas are backfilled or covered, and to educate the construction personnel as appropriate.	
Section 4.8: Noise		
4.8.1: Construction of the proposed project facilities would temporarily increase noise levels in nearby areas. Less than significant for the Raw Water Intake and Pipelines and the Tracy Pump Station. Less than significant with mitigation for the Water Treatment Plant and Water Transmission Lines.	***District-Proposed Mitigation*** **4.8.1a:** Construction activities within residential areas shall be limited to the hours and days specified by each jurisdiction as follows: ▪ Construction activity is limited to hours and days when noise standard exemptions apply, per encroachment permit.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.8.1: (cont.)	▪ If construction outside those exempt time periods is proposed, SSJID shall obtain a variance from the appropriate jurisdiction. ▪ Where no construction exemption is granted, construction shall be scheduled between 7:00 a.m. to 7:00 p.m., Monday to Sunday, or other hours and days as established by the appropriate local jurisdiction in applicable encroachment permits. **4.8.1b:** SSJID shall require in construction specifications that the contractor select staging areas as far as feasibly possible from existing residences. Activities within these staging areas shall conform to the time limitations established in Mitigation Measure 4.8.1a. **4.8.1c:** SSJID shall require in construction specifications that the contractor maintain all construction equipment with manufacturers specified noise muffling devices. **4.8.1d:** SSJID shall require in construction specifications that the contractor place all stationary noise generating construction equipment as far away as feasibly possible from sensitive receptors or in an orientation minimizing noise impacts (i.e., behind existing barriers or storage piles, etc.). **4.8.1e:** As part of the Traffic Control Plan (see Measures 4.11.1a and 4.11.2a), SSJID shall develop the haul route plan to route construction traffic away from residential areas when feasible routing alternatives exist.	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.8.2: The WTP would constitute a new noise source in the area and WTP operation would generate noise. Less than significant with mitigation.	***District-Proposed Mitigation*** **4.8.2a:** The WTP design and operation shall comply with a noise performance standard that achieves and maintains a noise level of 60 dBA at the WTP site property boundary. Shielding and other specified measures as deemed appropriate and effective by the design engineer to comply with this performance standard shall be incorporated in final WTP plant design. Noise reduction measures may include, but not necessary be limited to: ▪ Incorporation of equipment enclosures, fan silencers, mufflers, acoustical louvers, noise barriers, acoustical panels, etc.; ▪ Location of particularly noisy equipment as far away as feasibly possible from surrounding sensitive land uses and orientation of acoustical exits (i.e., features allowing the escape of noise) toward less sensitive land uses; and ▪ Incorporation of landscaping, where possible, to absorb and/or redirect noise.	Less than significant
4.8.3: Operation of the Tracy Pump Station would result in the generation of noise from pump machinery. Less than significant with mitigation.	***District-Proposed Mitigation*** **4.8.3a:** Based on a final site location determination, SSJID's design engineer shall incorporate acoustical dampening features capable of complying with the noise performance standards of San Joaquin County's General Plan Noise Element and County Noise Control Ordinance (residential L_{dn} of 65 dBA). Design features may include, but not be limited to:	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.8.3: (cont.)	▪ Incorporation of equipment enclosures, fan silencers, mufflers, acoustical louvers, noise barriers, acoustical panels, etc.; ▪ orientation of acoustical exits (i.e., features allowing the escape of noise) toward less sensitive land uses; and ▪ Incorporation of landscaping (hard and soft), where possible, to absorb and/or redirect noise.	
Section 4.9: Hazardous Materials/Public Health		
4.9.1: Operation of the Water Treatment Plant would include the storage and use of hazardous materials that could pose a hazard to workers, the public, and the environment. Potentially significant, less than significant with mitigation.	***District-Proposed Mitigation*** **4.9.1a:** The SSJID design engineer shall design the WTP to comply with all pertinent sections of the Uniform Building Code and Uniform Fire Code. Final project design shall include, but not be limited to, the following design features and measures: ▪ Incompatible chemicals shall be physically separated; ▪ Fire suppression and control systems in chemical storage areas shall utilize the appropriate fire retardant; ▪ All spill collection systems, containment, and aprons shall be contained on site for truck pick up and not routed to any storm drain system; ▪ Outdoor storage vessels shall be protected from accidental vehicle contact; and ▪ Bulk liquid hazardous materials delivery areas shall include a delivery vehicle spill containment with collection sump.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.9.1: (cont.)	**4.9.1b:** SSJID shall consult with the appropriate certified unified program agency (CUPA) regarding its responsibilities concerning hazardous materials and their inventory, handling, and emergency response training. SSJID shall also consult with the CUPA regarding compliance with all relevant sections of the State Health and Safety Code. Upon consultation with these agencies, SSJID shall prepare and implement all required/requested documentation.	
4.9.3: Construction of the proposed project components may expose construction workers, the general public, and the environment to pre-existing hazardous materials contamination. Potentially significant, less than significant with mitigation.	***District-Proposed Mitigation*** **4.9.3a:** Conduct a Phase I Environmental Site Assessment per ASTM protocol of the Dedicated Right-of-Way Alignment, if selected as the preferred alternative. **4.9.3b:** Implement the recommendations of the limited Phase I Environmental Assessment, including but not limited to: ▪ A detailed file review for all properties located within or adjacent to the proposed project; ▪ Further analysis of known areas of significant soil and groundwater contamination; ▪ Surface soil sampling to evaluate concentrations of aerially deposited contamination along existing roadways; ▪ Surface soil testing for presence of agricultural chemicals in agricultural areas; and ▪ Proper disposal of identified drums and containers, scrap metal, and other debris in the project area.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.9.3: (cont.)	**4.9.3c:** SSJID shall implement Mitigation Measure 4.5.1a (Air Quality) for the control of fugitive dust and associated potential for inhalation of contaminated dust.	
Section 4.10: Visual Resources		
4.10.1: The proposed project would affect the visual quality of the project area. Less than significant with mitigation for the Water Treatment Plant and Tracy Pump Station. Less than significant for the Raw Water Intake and Pipelines and the Water Transmission Lines.	***District-Proposed Mitigation*** **4.10.1a:** Lighting at the WTP and the Tracy Pump Station shall be positioned downward and shielded in order to prevent glare, reduce offsite lighting, and disruption of adjacent neighbors. **4.10.1b:** Natural landscaping, which blends with the surrounding aesthetic features, shall be placed along the perimeter of the Tracy Pump Station.	Less than significant
Transportation and Traffic Circulation		
4.11.1: Construction of the Water Transmission Lines would reduce the number of, or the available width of, travel lanes on public roads, resulting in short-term traffic delays for vehicles traveling past the construction zone on the affected roadways. Less than significant with mitigation.	***EIR-Identified Mitigation*** **4.11.1a:** Once a final detailed pipeline alignment design is prepared, SSJID shall arrange for a Traffic Control Plan to be prepared by a licensed traffic engineer, for all project-affected roadways and intersections. The Traffic Control Plan shall comply with requirements in encroachment permits issued by San Joaquin County, Stanislaus County, the City of Manteca, and the City of Lathrop. The Traffic Control Plan required to be prepared by the construction contractor shall include, but shall not be limited to, the following measures:	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.11.1: (cont.)	▪ Maintain the maximum amount of travel lane capacity during non-construction periods, with all trenches covered with steel plates, and provide flagger-control at all construction sites to manage traffic control. ▪ Limit the construction work zone in each block to a width that, at a minimum, maintains alternate one-way traffic flow past the construction zone. Alternatively, use detour signing on alternate access streets when temporary full street closure is required. ▪ Restrict construction to non-peak traffic periods as required for specific work sites in encroachment permits. Weekend and night work shifts may be considered in non-residential areas only. ▪ Coordinate construction activities (time of year and duration) to minimize traffic disturbances adjacent to commercial areas (e.g., avoid peak of Christmas, holiday shopping period), dairies, and the Atlanta Cemetery. ▪ Post advanced warning of construction activities (e.g., signs, articles in newspapers, notices on radio/TV, etc.) to allow motorists to select alternative routes in advance. **4.11.1b:** In consultation with the appropriate local agencies (*i.e.*, San Joaquin County, Stanislaus County, City of Manteca, City of Lathrop), SSJID shall identify areas where night construction may be appropriate. Candidate locations are non-residential zones where there are no or few sensitive noise receptors. **4.11.1c:** SSJID shall expedite construction by using multiple work crews so that disturbances are kept as short in duration as possible.	

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.11.1: (cont.)	**4.11.1d:** SSJID shall arrange for a 24-hour telephone hotline resource to address public questions and complaints during project construction, and to offer information about detours, carpooling opportunities, etc. **4.11.1e:** SSJID shall apply for, and comply with the requirements of, encroachment permits for pipeline construction within or across railroad ROWs.	
4.11.2: Construction of the proposed project would generate short-term increases in vehicle trips by construction workers and construction vehicles. Less than significant with mitigation.	***EIR-Identified Mitigation*** **4.11.2a:** As part of the Traffic Control Plan for roadway segments and intersections (see Measure 4.10.1a), SSJID (and the construction contractor) shall, specify designated haul routes for the project after consultation with Caltrans and other agencies with local roadway jurisdiction. **4.11.2b:** To the extent possible, SSJID shall schedule the daily work sites such that their relative locations shall disperse truck trips over a number of different haul routes, thereby lessening the number of truck trips on any one road. In addition, avoid construction worker and truck trips during peak traffic periods, to the extent possible.	Less than significant
4.11.3: Construction of the proposed project would affect access to adjacent land uses and streets for both general and emergency traffic, and for bicycle/pedestrian access. Less than significant with mitigation.	***EIR-Identified Mitigation*** **4.11.3a:** As part of the Traffic Control Plan for roadway segments and intersections (see Measure 4.10.1a), SSJID shall develop comprehensive strategies for maintaining emergency access for sensitive land uses such as police and fire stations, and schools in consultation with the facility owner or administrator. Strategies shall include, but not be limited to, maintaining steel trench plates at the construction sites to restore access across open trenches, parking of	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.11.3: (cont.)	fire trucks outside the firehouse on the side of the street opposite the construction during affected work hours, and identification of alternate routing around construction zones. Also, police, fire, and other emergency service providers shall be notified of the timing, location, and duration of construction activities throughout the project, and the location of detours and lane closures. **4.11.3b:** In consultation with the appropriate local agencies (*i.e.*, San Joaquin County, Stanislaus County, City of Manteca, City of Lathrop), SSJID shall identify areas where night construction may be appropriate (areas where there are no sensitive noise receptors). **4.11.3c:** SSJID shall use detour signing on alternate access streets established when temporary full street closure is required. **4.11.3d:** SSJID shall require a minimum 72-hour advance notice of access restrictions for residents and businesses. Affected residents and businesses shall be advised of requirement for moving motor vehicles out of the area to be closed.	
4.11.4: Construction of the proposed project would cause disruptions to transit service on pipeline alignment routes. Less than significant with mitigation.	***EIR-Identified Mitigation*** **4.11.4a:** As part of the Traffic Control Plan for roadway segments and intersections (see Measure 4.11.1a), SSJID shall incorporate a plan, as needed, for the temporary relocation of the bus stop on Lathrop Road, between Crestwood and Redwood Roads. SSJID shall coordinate with the San Joaquin Regional Transit District.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.11.6: Construction of the proposed project would increase potential traffic safety hazards for vehicles, bicyclists, and pedestrians on public roadways. Less than significant with mitigation.	***EIR-Identified Mitigation*** **4.11.6a:** As part of the Traffic Control Plan(s) for roadway segments and intersections (see Measure 4.11.1a), SSJID shall ensure that such plans stress advance "Road Work Ahead" warning signs and speed control (including signs informing drivers of State-legislated double fines for speed infractions in a construction zone) to achieve required speed reductions for safe traffic flow through the work zone. **4.11.6b:** SSJID shall incorporate into contract specifications for all project components the requirement that traffic control plans (see Measure 4.10.1a) include detours for bicyclists and pedestrians in all areas potentially affected by project construction.	Less than significant
4.11.7: Construction of the proposed project would increase wear-and-tear on the designated haul routes used by construction vehicles to access the project work site(s). Less than significant with mitigation.	***EIR-Identified Mitigation*** **4.11.7a:** Prior to start-up of project construction, SSJID shall prepare a videotape of road conditions for all routes that shall be used by project-related vehicles. SSJID shall prepare a similar videotape of road conditions after project construction is completed. The pre- and post-construction conditions of the haul routes shall be reviewed by the staff of the County and local Public Works Departments. An agreement shall be entered into prior to construction that shall detail the pre-construction conditions and post-construction requirements of the rehabilitation program. **4.11.7b:** SSJID shall obtain encroachment permits from affected jurisdictions prior to construction of the project, and comply with haul route designations, and roadway wear monitoring and repairs conditions.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.11.8: Construction of the proposed project could disrupt newly repaved streets. Less than significant with mitigation.	***EIR-Identified Mitigation*** **4.11.8a:** SSJID shall comply with encroachment permit standards negotiated with by San Joaquin County, Stanislaus County, the City of Manteca, and the City of Escalon with respect to rehabilitation of roadways.	Less than significant
4.11.9: Construction and operation of the pipeline alignments could prohibit or limit use of internal dirt roads by vehicles associated with agricultural operations. Potentially significant, less than significant with mitigation.	***District-Proposed Mitigation*** **4.11.9a:** SSJID shall establish a procedure for routing vehicle traffic associated with active agricultural operations in the pipeline easement area, including adequate access points and maintenance of controlled access.	Less than significant
Section 4.12: Public Services and Utilities / Energy		
4.12.1: Pipeline construction could result in temporary, planned, or accidental disruption to utility services. Less than significant with mitigation.	***District-Proposed Mitigation*** **4.12.1a:** A detailed study identifying utilities in the project area shall be conducted during the pre-design stages of the project. For project components with adverse impacts, the following mitigations are identified: ▪ Utility excavation or encroachment permits shall be required from the appropriate agencies. These permits include measures to minimize utility disruption. SSJID and its contractors shall comply with permit conditions, and such conditions shall be included in construction contract specifications. ▪ Utility locations shall be verified through field survey (potholing) and use of the Underground Service Alert (USA) services.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.12.1: (cont.)	▪ Detailed specifications shall be prepared as part of the design plans to include procedures for the excavation, support, and fill of areas around utility cables and pipes. All affected utility services shall be notified of SSJID construction plans and schedule. Arrangements may be made with these entities regarding protection, relocation, or temporary disconnection of services. ▪ SSJID shall employ special construction techniques in areas where the water transmission pipeline is located parallel to wastewater pipelines. These special measures, which shall be included in the engineering specifications, may include trench wall-support measures to guard against trench wall failure and possible resulting loss of structural support for the water pipeline. ▪ Residents and businesses in the project area shall be notified of planned utility service disruption two to four days in advance, in conformance with county and state standards.	
4.12.2: Construction in specific segments of the proposed Water Transmission Lines may result in utility conflicts. Less than significant with mitigation.	***District-Proposed Mitigation*** **4.12.2a:** In order to reduce potential impacts associated with utility conflicts, the following measures shall be implemented in conjunction with Measure 4.12.1a: ▪ Disconnected cables and lines shall be reconnected promptly. ▪ Based on the utilities investigation to be conducted under Measure 4.12.1a, SSJID shall consult with any entities having utility conflicts with the proposed project to negotiate relocation efforts or other plans to resolve the conflict.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.12.2: (cont.)	▪ SSJID shall observe DHS standards which require: 1) a 10-foot horizontal separation between parallel sewer and water pipelines (gravity or force pipelines); 2) 1-foot vertical separation between perpendicular water and sewer line crossings (in the event that separation requirements may not be maintained, SSJID shall obtain DHS variance through provisions of sewer encasement, or other means deemed suitable by DHS); and 3) encasing water pipelines in protective sleeves where the pipeline crosses under or over an existing wastewater pipeline.	
4.12.3: Pipeline construction could temporarily block access routes for city police departments, San Joaquin and Stanislaus County Sheriff's Department, fire departments, and emergency services. Less than significant with mitigation.	***District-Proposed Mitigation*** **4.12.3a:** SSJID shall coordinate with the Manteca-Lathrop Fire District and the Tracy Rural Fire District to maintain the required 24-hour access to Fire Station #3 and Fire Station #4, respectively. **4.12.3b:** In order to avoid blocking access to St. Dominic's Hospital, SSJID and its contractors shall schedule work on sections of the alignment so that multiple access points to the hospital are not blocked simultaneously. **4.12.3c:** SSJID shall provide, upon request, a copy of the Traffic Control Plan to the sheriff's departments, local police departments, county fire departments, and local fire departments for their review prior to construction. SSJID shall provide 72-hour notice to the local emergency service providers prior to construction of individual pipeline segments. Discussion on the Traffic Control Plan is provided in Section 4.11, Traffic and Circulation, under Measure 4.11-1a.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.12.3: (cont.)	**4.12.3d:** SSJID shall include, as part of construction contract specification provisions, steel trench plates at the construction site to maintain emergency access. Steel trench plates shall be used to cover trenches at night.	
4.12.4: Construction activities for all facilities could require short-term police and fire protection services to assist in traffic management or to respond to a construction-related accidents. Less than significant with mitigation.	***District-Proposed Mitigation*** **4.12.4a:** Implementation of Measure 4.12.3c, above, to reduce potential impacts to a less than significant level. No additional measures are required.	Less than significant
Section 4.13: Cultural Resources		
4.13.1: Construction of the proposed project could result in damage to known and/or unknown prehistoric archeological, historical, or paleontological resources within the project area. Less than significant with mitigation.	***District-Proposed Mitigation*** **4.13.1a:** A cultural resource specialist shall be retained to conduct an on-the-ground inspection of the final pipeline alignment for cultural resources. **4.13.1b:** In the event that any prehistoric or historic subsurface cultural resources are discovered during construction-related earth-moving activities, all work within 50 feet of the resources shall be halted and the District shall consult with a qualified archeologist (or paleontologist) to assess the significance of the find. If any find is determined to be significant by the archeologist, representatives of the District and the archeologist shall determine the appropriate course for action. If the discovery includes human remains of Native American origin, the District shall coordinate activities with the Native American Heritage Commission. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the archaeologist, according to current professional standards.	Less than significant

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Section 4.14: Cumulative Impacts		
4.14.1: Concurrent construction of several projects within the project area would result in cumulative short-term impacts associated with construction activities. These include short-term impacts to surface water quality, noise, air quality, land use, traffic, and visual resources. In some areas, while individually short term in nature, impacts would be potentially significant due to their aggregate effect; however, construction-related impacts would not result in long-term alteration of the environment. Less than significant with mitigation.	***EIR-Identified Mitigation*** **4.14.1a:** SSJID shall coordinate construction activities along the selected alignment and near other project components with County/city planning departments, Caltrans, and County/city public works departments to identify overlapping pipeline routes, project areas, and construction schedules. To the extent feasible, construction activities shall be coordinated to consolidate the occurrence of short-term construction-related impacts. Such coordination shall minimize multiple disruptions to the same street segments and land uses. **4.14.1b:** The Traffic Control Plan shall include consideration of any other planned traffic detours related to concurrent construction projects.	Less than significant
Chapter 5.0: Water Resources and Beneficial Uses		
There are no project significant effects to surface water and groundwater resources, and associated beneficial uses.		

TABLE 1-1 (Continued)
SUMMARY OF SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

ENVIRONMENTAL IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Chapter 7.0: Growth Inducement		
7.1: The SSJID South County Surface Water Supply Project would accommodate planned growth in the Participating Cities. Implementation of planned growth would result in secondary environmental effects. The effects of planned growth have been identified and addressed in the EIRs on the General Plans, and associated Specific Plans and General Plan Amendments adopted by each of the four Participating Cities. Some of these secondary effects of growth are significant and unavoidable; others are significant but can be mitigated. Potentially significant, unavoidable impacts as a result of planned growth in the South County area have been identified in the following areas: traffic congestion, air pollution, loss of agricultural resources, loss of wildlife habitat, alteration of the region's visual character, increased water demand and need for supply and facilities, degradation of groundwater resources, increased traffic noise, seismic hazards, lack of wastewater disposal capacity, increased flooding potential, increased urban runoff pollutants, and increased energy demand. The proposed project would address two of the impacts: need for additional water supply and infrastructure, and groundwater overdraft and water quality degradation. The project would not address nor alter (improve or worsen) the other significant and unavoidable impacts, which would remain significant and unavoidable.		The proposed project addresses two of the impacts: need for additional water supply and infrastructure, and groundwater overdraft and water quality degradation within the four Participating Cities. The project would not address nor alter (improve or worsen) the other secondary impacts of planned growth in the project area, and the significant and unavoidable impacts of planned growth would remain significant and unavoidable.

Appendix C

USFWS Special-Status Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

August 18, 2005

Document Number: 050818020833

Angela Alcala
Jones & Stokes
2600 V Street
Sacramento, CA, CA 95818

Subject: Species List for City of Manteca Water Master Plan

Dear: Ms.

We are sending this official species list in response to your August 18, 2005 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested. You have stated that this list is not for consultation with the Fish & Wildlife Service.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed, candidate and special concern 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 November 16, 2005.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at sacramento.fws.gov/es/branches.htm.

Endangered Species Division

TAKE PRIDE IN AMERICA

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: 050818020833
Database Last Updated: August 8, 2005

NOTE: The Fish & Wildlife Service has published its revised designation of critical habitat for 15 vernal pool species in California and Oregon. The rule becomes effective September 12.

The National Oceanic & Atmospheric Administration Marine Fisheries Service has released its final critical habitat designation for 19 evolutionarily significant units of salmon and steelhead in California and the Northwest.

We are in the process of revising our species lists to reflect these changes. Visit the Sacramento Fish & Wildlife Office home page at www.fws.gov/pacific/sacramento for more information about vernal pool critical habitat. Visit the Marine Fisheries web page at http://swr.nmfs.noaa.gov/salmon.htm for information about salmon and steelhead critical habitat.

Quad Lists

MANTECA (461C)

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

Hypomesus transpacificus - Critical habitat, delta smelt (X)

Hypomesus transpacificus - delta smelt (T)

Oncorhynchus mykiss - Central Valley steelhead (T)

Oncorhynchus tshawytscha - Central Valley spring-run chinook salmon (T)

Oncorhynchus tshawytscha - winter-run chinook salmon, Sacramento River (E)

Amphibians

Ambystoma californiense - California tiger salamander (T)

Rana aurora draytonii - California red-legged frog (T)

Reptiles

Thamnophis gigas - giant garter snake (T)

Birds

Haliaeetus leucocephalus - bald eagle (T)

Mammals

Vulpes macrotis mutica - San Joaquin kit fox (E)

Proposed Species

Fish

Acipenser medirostris - green sturgeon (P)

Candidate Species

Fish

Oncorhynchus tshawytscha - Central Valley fall/late fall-run chinook salmon (C)

Species of Concern

Invertebrates

Branchinecta mesovallensis - Midvalley fairy shrimp (SC)
Linderiella occidentalis - California linderiella fairy shrimp (SC)
Lytta moesta - moestan blister beetle (SC)
Lytta molesta - molestan blister beetle (SC)

Fish

Lampetra ayresi - river lamprey (SC)
Lampetra hubbsi - Kern brook lamprey (SC)
Lampetra tridentata - Pacific lamprey (SC)
Pogonichthys macrolepidotus - Sacramento splittail (SC)
Spirinchus thaleichthys - longfin smelt (SC)

Reptiles

Anniella pulchra pulchra - silvery legless lizard (SC)
Clemmys marmorata marmorata - northwestern pond turtle (SC)
Clemmys marmorata pallida - southwestern pond turtle (SC)
Phrynosoma coronatum frontale - California horned lizard (SC)

Birds

Agelaius tricolor - tricolored blackbird (SC)
Athene cunicularia hypugaea - western burrowing owl (SC)
Branta canadensis leucopareia - Aleutian Canada goose (D)
Buteo regalis - ferruginous hawk (SC)
Buteo Swainsoni - Swainson's hawk (CA)
Carduelis lawrencei - Lawrence's goldfinch (SC)
Chaetura vauxi - Vaux's swift (SC)
Charadrius montanus - mountain plover (SC)
Elanus leucurus - white-tailed (=black shouldered) kite (SC)
Empidonax traillii brewsteri - little willow flycatcher (CA)
Falco peregrinus anatum - American peregrine falcon (D)
Grus canadensis tabida - greater sandhill crane (CA)
Lanius ludovicianus - loggerhead shrike (SC)
Melanerpes lewis - Lewis' woodpecker (SC)
Numenius americanus - long-billed curlew (SC)
Picoides nuttallii - Nuttall's woodpecker (SLC)
Plegadis chihi - white-faced ibis (SC)
Selasphorus rufus - rufous hummingbird (SC)

Mammals

Corynorhinus (=Plecotus) townsendii townsendii - Pacific western big-eared bat (SC)
Eumops perotis californicus - greater western mastiff-bat (SC)
Myotis ciliolabrum - small-footed myotis bat (SC)
Myotis volans - long-legged myotis bat (SC)
Myotis yumanensis - Yuma myotis bat (SC)
Perognathus inornatus - San Joaquin pocket mouse (SC)

County Lists

San Joaquin County

Listed Species

Invertebrates

Branchinecta conservatio - Conservancy fairy shrimp (E)
Branchinecta longiantenna - longhorn fairy shrimp (E)
Branchinecta lynchi - Critical habitat, vernal pool fairy shrimp (X)
Branchinecta lynchi - vernal pool fairy shrimp (T)
Desmocerus californicus dimorphus - valley elderberry longhorn beetle (T)
Lepidurus packardi - vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus - Critical habitat, delta smelt (X)
Hypomesus transpacificus - delta smelt (T)
Oncorhynchus mykiss - Central Valley steelhead (T)
Oncorhynchus tshawytscha - Critical habitat, winter-run chinook salmon (X)
Oncorhynchus tshawytscha - winter-run chinook salmon, Sacramento River (E)

Amphibians

Ambystoma californiense - California tiger salamander (T)
Rana aurora draytonii - California red-legged frog (T)

Reptiles

Masticophis lateralis euryxanthus - Alameda whipsnake (T)
Thamnophis gigas - giant garter snake (T)

Birds

Haliaeetus leucocephalus - bald eagle (T)

Mammals

Neotoma fuscipes riparia - riparian (San Joaquin Valley) woodrat (E)
Sylvilagus bachmani riparius - riparian brush rabbit (E)
Vulpes macrotis mutica - San Joaquin kit fox (E)

Plants

Amsinckia grandiflora - Critical habitat, large-flowered fiddleneck (X)
Amsinckia grandiflora - large-flowered fiddleneck (E)
Castilleja campestris ssp. succulenta - Critical habitat, succulent (=fleshy) owl's-clover (X)
Castilleja campestris ssp. succulenta - succulent (=fleshy) owl's-clover (T)

Proposed Species

Fish

Acipenser medirostris - green sturgeon (P)
Oncorhynchus mykiss - Critical habitat, Central Valley steelhead (PX)

Amphibians

Ambystoma californiense - Critical habitat, CA tiger salamander (PX)
Rana aurora draytonii - Critical habitat, California red-legged frog (PX)

Candidate Species

Fish

Oncorhynchus tshawytscha - Central Valley fall/late fall-run chinook salmon (C)
Oncorhynchus tshawytscha - Critical habitat, Central Valley fall/late fall-run chinook (C)

Species of Concern

Invertebrates

Anthicus antiochensis - Antioch Dunes anthicid beetle (SC)
Anthicus sacramento - Sacramento anthicid beetle (SC)
Branchinecta mesovallensis - Midvalley fairy shrimp (SC)
Hygrotus curvipes - curved-foot hygrotus diving beetle (SC)
Linderiella occidentalis - California linderiella fairy shrimp (SC)
Lytta moesta - moestan blister beetle (SC)
Lytta molesta - molestan blister beetle (SC)

Fish

Lampetra ayresi - river lamprey (SC)
Lampetra hubbsi - Kern brook lamprey (SC)

Lampetra tridentata - Pacific lamprey (SC)
Pogonichthys macrolepidotus - Sacramento splittail (SC)
Spirinchus thaleichthys - longfin smelt (SC)

Amphibians

Rana boylii - foothill yellow-legged frog (SC)
Spea hammondii (was Scaphiopus h.) - western spadefoot toad (SC)

Reptiles

Anniella pulchra pulchra - silvery legless lizard (SC)
Clemmys marmorata marmorata - northwestern pond turtle (SC)
Clemmys marmorata pallida - southwestern pond turtle (SC)
Masticophis flagellum ruddocki - San Joaquin coachwhip (=whipsnake) (SC)
Phrynosoma coronatum frontale - California horned lizard (SC)

Birds

Agelaius tricolor - tricolored blackbird (SC)
Amphispiza belli belli - Bell's sage sparrow (SC)
Athene cunicularia hypugaea - western burrowing owl (SC)
Baeolophus inornatus - oak titmouse (SLC)
Botaurus lentiginosus - American bittern (SC)
Branta canadensis leucopareia - Aleutian Canada goose (D)
Buteo regalis - ferruginous hawk (SC)
Buteo Swainsoni - Swainson's hawk (CA)
Carduelis lawrencei - Lawrence's goldfinch (SC)
Charadrius montanus - mountain plover (SC)
Contopus cooperi - olive-sided flycatcher (SC)
Elanus leucurus - white-tailed (=black shouldered) kite (SC)
Empidonax traillii brewsteri - little willow flycatcher (CA)
Falco peregrinus anatum - American peregrine falcon (D)
Grus canadensis tabida - greater sandhill crane (CA)
Lanius ludovicianus - loggerhead shrike (SC)
Laterallus jamaicensis coturniculus - black rail (CA)
Limosa fedoa - marbled godwit (SC)
Melanerpes lewis - Lewis' woodpecker (SC)
Numenius americanus - long-billed curlew (SC)
Picoides nuttallii - Nuttall's woodpecker (SLC)
Plegadis chihi - white-faced ibis (SC)
Riparia riparia - bank swallow (CA)
Selasphorus rufus - rufous hummingbird (SC)
Sphyrapicus ruber - red-breasted sapsucker (SC)
Toxostoma redivivum - California thrasher (SC)

Mammals

Corynorhinus (=Plecotus) townsendii townsendii - Pacific western big-eared bat (SC)
Dipodomys heermanni dixoni - Merced kangaroo rat (SC)
Eumops perotis californicus - greater western mastiff-bat (SC)
Myotis ciliolabrum - small-footed myotis bat (SC)
Myotis evotis - long-eared myotis bat (SC)
Myotis thysanodes - fringed myotis bat (SC)
Myotis volans - long-legged myotis bat (SC)
Myotis yumanensis - Yuma myotis bat (SC)
Perognathus inornatus - San Joaquin pocket mouse (SC)

Plants

Aster lentus - Suisun Marsh aster (SC)
Caulanthus coulteri var lemmonii - Lemmon's jewelflower (SLC)
Cirsium crassicaule - slough thistle (SC)
Cryptantha hooveri - Hoover's cryptantha (SLC)
Delphinium californicum ssp. interius - interior California (Hospital Canyon) larkspur (SC)
Gratiola heterosepala - Boggs Lake hedge-hyssop (CA)
Lathyrus jepsonii var. jepsonii - delta tule-pea (SC)
Lilaeopsis masonii - Mason's lilaeopsis (SC)
Sagittaria sanfordii - valley sagittaria (=Sanford's arrowhead) (SC)

Key:

(E) *Endangered* - Listed (in the Federal Register) 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 Marine 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.
(CA) Listed by the State of California but not by the Fish & Wildlife Service.
(D) *Delisted* - Species will be monitored for 5 years.
(SC) *Species of Concern*/(SLC) Species of Local Concern - Other species of concern to the Sacramento Fish & Wildlife Office.
(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 regard-less of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the quad or quads covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the nine 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 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.

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.

State-Listed Species

If a species has been listed as threatened or endangered by the State of California, but not by us nor by the National Marine Fisheries Service, it will appear on your list as a Species of Concern. However you should contact the California Department of Fish and Game Wildlife and Habitat Data Analysis Branch for official information about these species.

Your Responsibilities Under the Endangered Species Act

All plants and 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 compen-sates 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 critical habitat page for maps.

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

Your list may contain a section called Species of Concern. This is an informal term that refers to those species that the Sacramento Fish and Wildlife Office believes might be in need of concentrated conservation actions. Such conservation actions vary depending on the health of the populations and degree and types of threats. At one extreme, there may only need to be periodic monitoring of populations and threats to the species and its habitat. At the other extreme, a species may need to be listed as a Federal threatened or endangered species. Species of concern receive no legal protection and the use of the term does not necessarily mean that the species will eventually be proposed for listing as a threatened or endangered species.

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, candidate and special concern 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 November 16, 2005.

Acronyms & Abbreviations

2023 General Plan	City of Manteca 2023 General Plan
AADT	Average Annual Daily Traffic
ACBM	asbestos containing building material
ACE	Altamont Commuter Express
Act	Clean Air Act
ADAM	Aerometric Data Analysis and Management System
af/yr	acre-feet per year
afa/y	acre-foot per acre per year
AICUZ	Air Installation Compatible Use Zone
ARB	Air Resources Board
ATCM	Airborne Toxic Control Measure
Basin Plan	Water Quality Control Plan
BCT	best conventional pollutant control technology
BMP	best management practices
Business Plan Act	Hazardous Materials Release Response Plans and Inventory Act
CAAA	Clean Air Act Amendments of 1990
CAAQS	California ambient air quality standards
CALFED ROD	CALFED Programmatic Record of Decision
Cal-OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CAT	County Area Transit
CBSC	California Building Standards Code
CCIC	Central California Information Center
CCR	California Code of Regulations
CCTS	Central California Taxonomic System
CEQA	California Environmental Quality Act of 1970 (CEQA)
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGC	California Government Code
CHP	California Highway Patrol
CIH	capital improvement project
City	City of Manteca
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
COA	Coordinated Operations Agreement
County	San Joaquin County
CPRR	Central Pacific Railroad
CRHR	California Register of Historical Resources
CVP	Central Valley Project
CWA	Clean Water Act
D-1641	State Water Resource Control Board Decision 1641
dB	decibel
dbA	A-Weighted Decibel
DBCP	dibromochlorophropoane
Delta	Sacramento–San Joaquin River Delta
DFG	Department of Fish and Game
DOI	U.S. Department of the Interior
DPM	diesel particulate matter
DPR	Department of Parks and Recreation
DTSC	California Department of Toxic Substances Control
DUE	dwelling unit equivalent
DWR	Department of Water Resources
E&P	oil exploration and production
EC	Electromagnetic Conductivity

edu	equivalent dwelling unit
EIR	environmental impact report
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FDOT	Florida Department of Transportation
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act
FR	Federal Register
FTA	Federal Transit Administration
General Construction Permit	NPDES General Permit for Construction Activities
gpd	gallons per day
gpm	gallons per minute
HCD	State Housing and Community Development Department
hp	horsepower
I-5	Interstate 5
ISO	Insurance Services Office
JPA	joint powers authority
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
lf	linear feet
L_{min}, L_{max}	minimum and maximum sound levels
LOS	Level of service
LUST	leaking underground storage tank
L_{xx}	percentile-exceeded sound levels
MCL	maximum contaminant level
MEIR	Master Environmental Impact Report
MFD	Manteca Fire Department
mgd	million gallons per day
μ/m^3	micrograms per cubic meter
mmBtu/hr	million British thermal units per hour
mph	miles per hour
MUSD	Manteca Unified School District
NAHC	Native American Heritage Commission
NAAQS	national ambient air quality standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMHC	non-methane hydrocarbon
NOAA Fisheries	National Marine Fisheries Service
NOI	notice of intent
NOP	Notice of Preparation
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPDWR	National Primary Drinking Water Regulations
NPL	National Priorities List
NRHP	National Register of Historic Places
NWP	Nationwide permit
OHWM	ordinary high-water mark
PFIP	Public Facilities Implementation Plan
PG&E	Pacific Gas & Electric company, Inc.
PM 2.5	particulate matter 2.5 microns or less in diameter
PM10	particulate matter less than 10 microns in diameter
ppm	parts per million
PPMP	Pollution Prevention and Monitoring Program
ppv	peak particle velocity
program EIR	program environmental impact report
PUSA	Primary Urban Service Area
RCRA	Resource Conservation and Recovery Act
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
ROG	reactive organic gases
ROWs	rights-of-way
RWQCB	Regional Water Quality Control Board
SCS	Soil Conservation Service
SCSWSP	South County Surface Water Supply Project
sf/yr	square feet per year
SHPO	State Historic Preservation Officer
SJCOG	San Joaquin Council of Governments
SJMSCP	San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
SJRTD	San Joaquin Regional Transit District

SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMART	Stockton Metropolitan Area Rapid Transit
SPCCP	Spill Prevention, Control and Countermeasure Program
SPRR	Southern Pacific Railroad
SR	State Route
SSJID	South San Joaquin Irrigation District
State Water Board	State Water Quality Control Board
Superfund	Comprehensive Environmental Response, Compensation, and Liability Act
SWP	State Water Project
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TACs	Toxic air contaminants
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
UBC	Uniform Building Code
UPRR	Union Pacific Railroad
USDA	United States Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USACE	U.S. Army Corps of Engineers
USC	U.S. Government Code
USGS	U.S. Geological Survey
V/C	Volume to capacity ratio
VOC	volatile organic compounds
Williamson Act	California Land Conservation Act of 1965
WMP	Water Master Plan
WPRR	Western Pacific Railroad
WQCF	The City of Manteca Wastewater Quality Control Facility

City of Manteca
2005 Water Master Plan
Final Environmental Impact Report

SCH# 2005082080

Prepared for:

City of Manteca
Public Works Department
1001 West Center Street
Manteca, CA 95337
Contact: Keith Conarroe
(209) 825-2577

Prepared by:

Jones & Stokes
268 Grand Avenue
Oakland, CA 94610
Contact: Rosalyn Stewart
(510) 433-8962

April 2007

Jones & Stokes. 2007. *City of Manteca 2005 Water Master Plan Final Environmental Impact Report*. April. (J&S 05013.05.) Oakland, CA.

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Chapter 1
Introduction

CEQA Compliance

This final environmental impact report (FEIR) for the City of Manteca 2005 Water Master Plan (WMS) has been prepared in accordance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines.

Section 15132 of the CEQA Guidelines requires that a final environmental impact report (FEIR) consist of the following components:

- The draft environmental impact report (DEIR) or a revision of the DEIR;
- Comments and recommendations received on the DEIR, either verbatim or in summary;
- A list of persons, organizations, and public agencies commenting on the DEIR;
- The responses of the lead agency to significant environmental concerns raised in the review and consultation process;
- Any other information added by the lead agency.

The DEIR, published November 2006, together with the responses to comments on the DEIR constitute the FEIR for the proposed project. The FEIR is an informational document prepared by the lead agency that must be considered by decision-makers before approving or denying the proposed project. Although a subsequent EIR was prepared for this project, the same CEQA requirements apply.

Format and Organization of the FEIR

When certified by the lead agency, the FEIR will consist of two parts: 1) City of Manteca Water Master Plan Draft Environmental Impact Report, published in November 2006; and 2) City of Manteca Water Master Plan Final Environmental Impact Report, including:

- all comments received on the DEIR either orally or in writing;

- responses to those comments; and
- any changes or revisions to the DEIR.

This FEIR comprises three chapters and an appendix containing the information required by the CEQA Guidelines, as outlined above.

- ***Chapter 1*** describes the public review process for the DEIR and provides a list of organizations, public agencies, and members of the public that commented on the DEIR, as well as a list of people involved in the preparation of the responses to comments.
- ***Chapter 2*** contains comment letters received on the DEIR, along with the City of Manteca's (City's) responses to those comments.
- ***Chapter 3*** presents changes made to the DEIR in response to comments. Changes to the DEIR are presented in errata format in Chapter 3 and are also referenced in the Chapter 2 responses.
- ***Appendix A*** contains the Mitigation Monitoring and Reporting Plan (MMRP) for the Proposed Project. The MMRP identifies the required actions and responsible agencies for the implementation of proscribed mitigation.

Public Review of the DEIR

Upon completion of the DEIR, the City filed a Notice of Completion with the State Clearinghouse and issued a Notice of Availability, consistent with CEQA Guidelines Sections 15085 and 15087. The Notice of Availability provided notice of the public comment period that began on Friday October 27, 2006 and ended on Tuesday December 12, 2006. The DEIR was submitted to the State Clearinghouse for circulation to responsible and trustee agencies. In addition, the City distributed 25 copies of the DEIR to state, regional, and local agencies, as well as individuals. The City and consultants have responded to all comments received during the public comment period.

Copies of the DEIR were made available for public review at the following locations:

City of Manteca
Planning Department (copy 1)
Public Works Department (copy 2)
City Clerks Office (copy 3)
1001 West Center Street
Manteca, CA 95337

Stockton-San Joaquin County Public Library
Manteca Branch Library (copy 4)
320 West Center Street
Manteca, CA 95336

Public Meeting on the DEIR

A public meeting was noticed in the Notice of Availability; the meeting was held on Thursday November 30, 2006, at the City of Manteca Council Chambers (1001 West Center Street, Manteca, CA 95337). Although members of the public were invited to voice their comments at this meeting, no one attended the meeting.

Revisions to the DEIR

In response to comments received on the DEIR, the City made minor changes to the text of the EIR. The changes do not result in any new significant environmental impacts or substantially increase the severity of any environmental impacts. Therefore, pursuant to Section 15088.5 of the CEQA Guidelines, recirculation of the DEIR prior to certification is not required.

Comments Received on the DEIR

The following persons, organizations, and public agencies submitted comments on the DEIR:

- George Quaresma, City of Manteca Fire Chief (November 6, 2006)
- California Department of Transportation (November 29, 2006)
- Pacific Gas & Electric (December 8, 2006)
- San Joaquin County, Environmental Health Department (December 12, 2006)
- San Joaquin Valley Air Pollution Control District (No Date)
- State Clearinghouse and Planning Unit (December 15, 2006)
- San Joaquin Council of Governments (SJCOG, Inc.) (December 20, 2006)

Preparation of the FEIR

The FEIR was prepared by the City of Manteca and the following consultants. All work reflects the City's independent judgment and analysis.

Lead Agency

City of Manteca

City of Manteca
Public Works Department
1001 West Center Street
Manteca, CA 95337
(209) 825-2577

City Contact—Keith Conarroe

FEIR Authors

Jones & Stokes

Jones & Stokes
268 Grand Avenue
Oakland, CA 94610
(510) 433-8962

Project Director—Sally Zeff, AICP
Project Manager—Rosalyn Stewart, AICP
Project Coordinator—Sandra Devoto

Chapter 2
Comments and Responses

Introduction

Copies of the comment letters and testimony received on the City of Manteca 2005 Water Master Plan DEIR and responses to each comment are included in this chapter. The purpose of the public review process was to receive input on the content of the proposed program and the DEIR. CEQA requires that the City make a good-faith reasoned analysis and respond to comments received (CEQA Guidelines, Section 15088).

Each comment letter received on the DEIR has been assigned a number, and comments within each letter are lettered consecutively (e.g., 1-A, 1-B, 2-A, 2-B) in the right margin adjacent to the individual comment. Each comment letter is followed by the City's responses to that letter. The responses are numbered to correspond with the comments as identified in the right margin of the letter. Where the response indicates that a change has been made to the DEIR, the relevant text change can be found in Chapter 3 of this FEIR.

Comments and Responses

The following presents the City's responses to all comments received during the public comment period (October 27, 2006 – December 12, 2006). A total of six letters were received. Listed below are the sources of the comment letters and the dates they were received, as well as the numbers assigned to each of the comment letters.

- George Quaresma, City of Manteca Fire Chief (November 6, 2006)—Letter 1
- California Department of Transportation (November 29, 2006)—Letter 2
- Pacific Gas & Electric (December 8, 2006)—Letter 3
- San Joaquin County, Environmental Health Department (December 12, 2006)—Letter 4

- San Joaquin Valley Air Pollution Control District (No Date)—Letter 5
- State Clearinghouse and Planning Unit (December 15, 2006)—Letter 6
- San Joaquin Council of Governments (SJCOG, Inc.) (December 20, 2006)—Letter 7

Letter #1

Conarroe, Keith

From: Brinton, Mike
Sent: Monday, November 06, 2006 10:32 AM
To: Podesta, Jim; Clark, Frederic; Conarroe, Keith
Subject: FW: Draft EIR for 2005 Water Master Plan

??

From: Quaresma, George
Sent: Monday, November 06, 2006 10:24 AM
To: Brinton, Mike
Subject: Draft EIR for 2005 Water Master Plan

Having perused through the Draft E.I.R. for the 2005 Water Master Plan I have only 1 comment. The EIR considers the current 300,000 gallon water tower within the report as being a part of our water system through 2025. I don't know if it has a significant impact on the report, but isn't the water tower O.O.S. and planned for demolition? Shouldn't it's impact on the 2005 Water Master Plan be non existent and eliminated? 1-A

Response to George Quaresma, City of Manteca Fire Chief (November 6, 2006)

Response to Comment 1-A: The current water tower was constructed in 1961. When constructed, the water tower provided peak capacity and emergency reserve function for the City water system. With the further development of the City water system since 1961, the functions provided by the water tower have diminished and the water tower is no longer a necessary part of the system.

A structural evaluation of the water tower was completed after the 2005 Water Master Plan and DEIR were completed. The seismic evaluation found that the water tower did not meet current seismic design standards. The water tower was drained and taken out of service. The Manteca City Council then determined that the water tower should be demolished. Various City communication systems that are mounted on the water tower will need to be relocated before the water tower can be demolished.

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

DEPARTMENT OF TRANSPORTAT.
O. BOX 2048 STOCKTON, CA 95201
.976 E. CHARTER WAY/1976 E. DR. MARTIN
LUTHER KING JR. BLVD. 95205)
TTY: California Relay Service (800) 735-2929
PHONE (209) 941-1921
FAX (209) 948-7194

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To Scott Morgan	From Dan Brewer
Co. State Clearinghouse	Co. Caltrans
Dept.	Phone # 948-7142
Fax # 916 323-3018	Fax # 948-7194

GEIGER, Governor

your power! gy efficient!

Letter #2

November 29, 2006

10-SJ-Various
SCH 2005082080 (DEIR)
Manteca Water Master Plan

RECEIVED
NOV 29 2006
STATE CLEARING HOUSE

Keith Conarroe
City of Manteca
Community Development Department
1001 West Center Street
Manteca, CA 95337

Dear Mr. Conarroe:

The California Department of Transportation (Department) appreciates the opportunity to have reviewed the Draft Environmental Impact Report (DEIR) for the Manteca Water Master Plan to improve and expand the City of Manteca (City) water system.

The DEIR states that State Route 99 and State Route 120 could be temporarily impacted due to construction related activities. These activities could include the implementation of traffic controls, temporary lane closures, temporary road closures with detours and placement of construction warning signs. An Encroachment Permit will be required for work any work done within the Department's right of way. This work is subject to the California Environmental Quality Act. Therefore, additional biological, archaeological, or other environmental studies may be required as part of the encroachment permits application. A qualified professional must conduct any such studies undertaken to satisfy the Department's environmental review responsibilities. Ground disturbing activities to the site prior to completion and/or approval of required environmental documents may affect the Department's ability to issue a permit for the project. Furthermore, if engineering plans or drawings will be part of your permit application, they should be prepared in standard units. 2-A

If you have any questions or would like to discuss our comments in more detail, please contact Dan Brewer at (209) 948-7142 (e-mail: dan.brewer@dot.ca.gov) or me at (209) 941-1921.

Sincerely,

Dan H. Brewer for

TOM DUMAS, Chief
Office of Intermodal Planning

c: SMorgan State Clearinghouse

Response to California Department of Transportation (November 29, 2006)

Response to Comment 2-A: The City of Manteca understands that it will be required to obtain an encroachment permit prior to the start of any work within the California Department of Transportation (Caltrans) rights-of-way. The Water Master Plan DEIR and FEIR will be submitted with the permit application. In accordance with Caltrans standards, any additional environmental studies will be conducted by qualified personnel. All engineering plans and drawings will be prepared in standard units.

Letter #3

Land Services, 4040 West Lane, Stockton, CA 95204

December 8, 2006

City of Manteca
c/o Community Development Dept.
Planning Division
1001 West Center Street
Manteca, CA 95337
Attn: Keith Conarroe
fax: 209-239-8495

RE: Draft Environmental Impact Report (DEIR)
For: 2005 Water Master Plan project
Loc: s/o Woodward Rd., e/o Hwy. 99 and n/o Lathrop Rd., Manteca
PG&E File : 2006-WL595- 40618523, 40138970

Dear Mr. Conarroe,

Thank you for this opportunity to comment on this Draft Environmental Impact Report (DEIR) for the above Project. PG&E has the following comments to offer:

PG&E owns and operates gas and electric facilities which are located within and adjacent to the proposed project. To promote the safe and reliable maintenance and operation of utility facilities, the California Public Utilities Commission (CPUC) has mandated specific clearance requirements between utility facilities and surrounding objects or construction activities. To ensure compliance with these standards, project proponents should coordinate with PG&E early in the development of their project plans. Any proposed development plans should provide for unrestricted utility access and prevent easement encroachments that might impair the safe and reliable maintenance and operation of PG&E's facilities. 3-A

The requesting party will be responsible for the costs associated with the relocation of existing PG&E facilities to accommodate their proposed development. Because facilities relocation's require long lead times and are not always feasible, the requesting party should be encouraged to consult with PG&E as early in their planning stages as possible.

Relocations of PG&E's electric transmission and substation facilities (50,000 volts and above) could also require formal approval from the California Public Utilities Commission. If required, this approval process could take up to two years to complete. Proponents with development plans which could affect such electric transmission facilities should be referred to PG&E for additional information and assistance in the development of their project schedules. 3-B

We would also like to note that continued development consistent with the City's General Plans will have a cumulative impact on PG&E's gas and electric systems and may require on-site and off-site additions and improvements to the facilities which supply these services. Because utility facilities are operated as an integrated system, the presence of an existing gas or electric transmission or distribution facility does not necessarily mean the facility has capacity to connect new loads.

Expansion of distribution and transmission lines and related facilities is a necessary consequence of growth and development. In addition to adding new distribution feeders, the range of electric system improvements needed to accommodate growth may include upgrading existing substation and transmission line equipment, expanding existing substations to their ultimate buildout capacity, and building new substations and interconnecting transmission lines. Comparable upgrades or additions needed to accommodate additional load on the gas system could include facilities such as regulator stations, odorizer stations, valve lots, distribution and transmission lines. 3-C

We would like to recommend that environmental documents for proposed development projects include adequate evaluation of cumulative impacts to utility systems, the utility facilities needed to serve those developments and any potential environmental issues associated with extending utility service to the proposed project. This will assure the project's compliance with CEQA and reduce potential delays to the project schedule. 3-D

PG&E remains committed to working with the City to provide timely, reliable and cost effective gas and electric service to the planned area. We would also appreciate being copied on future correspondence regarding this subject as this project develops.

The California Constitution vests in the California Public Utilities Commission (CPUC) exclusive power and sole authority with respect to the regulation of privately owned or investor owned public utilities such as PG&E. This exclusive power extends to all aspects of the location, design, construction, maintenance and operation of public utility facilities. Nevertheless, the CPUC has provisions for regulated utilities to work closely with local governments and give due consideration to their concerns. PG&E must balance our commitment to provide due consideration to local concerns with our obligation to provide the public with a safe, reliable, cost-effective energy supply in compliance with the rules and tariffs of the CPUC. 3-E

Should you require any additional information or have any questions, please call me at (209) 942-1419.

Sincerely,

Alfred Poon
Land Agent
Land Rights Protection
Northern Area
External: (209) 942-1419
Fax: (209) 942-1485

Response to Pacific Gas & Electric (December 8, 2006)

Response to Comment 3-A: Construction of all program elements will be in accordance with California Public Utilities Commission (CPUC) standards. Mitigation Measure PSU-3 (in Chapter 3.12, *Public Services, Utilities, and Recreation*, Impacts and Mitigation Measures) has been revised as follows to ensure early coordination with PG&E and other service providers.

> The City of Manteca and its program contractor will coordinate with PG&E and other service providers early in the development of individual program elements to ensure adequate access to utility lines or to discuss any necessary utility relocation.

Response to Comment 3-B: As noted in Response to Comment 3-A, Mitigation Measure PSU-3 (in Chapter 3.12, *Public Services, Utilities, and Recreation*, Impacts and Mitigation Measures) has been revised to ensure early coordination with PG&E and other service providers. The City of Manteca understands its responsibility for relocation costs due to program construction, as well as the potential necessity for formal approval from the CPUC.

Response to Comment 3-C: The City of Manteca recognizes the potential cumulative impacts of General Plan buildout on PG&E's gas and electrical systems; however, the cumulative analysis in the DEIR is limited to the contribution of the proposed WMP elements on those systems. The DEIR (Chapter 5, *Other CEQA Findings*, Cumulative Impacts, Program Contribution to Cumulative Impacts) has been revised as follows to address this.

> Continued development under the City's 2023 General Plan will have a cumulative impact on PG&E's gas and electric systems. Construction of various program elements that require electrical connections will result in a minor increase in demand for electricity, but will not result in a considerable contribution to the cumulative impact.

Additionally, the growth-inducing analysis in the DEIR (Chapter 5, *Other CEQA Findings*, Growth-Inducing Impacts, Growth-Related Impacts of the Proposed Program, Indirect Impacts) recognizes the potential impacts of program implementation on future City growth and subsequent demands on public services and utilities.

Response to Comment 3-D: The commenter notes that, as required by CEQA Guidelines Section 15130, all environmental documents for proposed development projects shall consider a project's potential contribution to cumulative impacts, including those related to gas and electrical services.

Response to Comment 3-E: The City of Manteca appreciates PG&E's commitment to providing timely, reliable, and cost-effective gas and electric service to the City's Primary Urban Service Area. Then commenter's request to be notified of further action on this project is noted.

ENVIRONMENTAL HEALTH DEPARTMENT

SAN JOAQUIN COUNTY

Donna K. Heran, R.E.H.S.
Director
Laurie A. Cotulla, R.E.H.S.
Program Manager

304 East Weber Avenue, Third Floor
Stockton, California 95202-2708
Telephone: (209) 468-3420
Fax: (209) 464-0138
Website: www.sjgov.org/ehd/

Unit Supervisors
Carl Borgman, R.E.H.S.
Mike Huggins, R.E.H.S., R.D.I.
Douglas W. Wilson, R.E.H.S.
Margaret Lagorio, R.E.H.S.
Robert McClellon, R.E.H.S.
Jeff Carruesco, R.E.H.S.

December 12, 2006

Letter #4

Keith Conarroe
Associate Civil Engineer
City of Manteca
Public Works Department
1001 West Center Street
Manteca, California 95337

RE: PUBLIC REVIEW OF THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE CITY OF MANTECA WATER MASTER PLAN

The San Joaquin County Environmental Health Department requests the following comments be added to the above project for consideration:

1. Any abandoned wells shall be destroyed under permit and inspection by the Environmental Health Department. 4-A

Should you have any questions or need further assistance please call Steven C. Shih, Lead Senior R.E.H.S., at (209) 468-9850.

Donna Heran, R.E.H.S., Director

Steven C. Shih for

Mike Huggins, Supervising R.E.H.S., R.D.I., Program Coordinator
Environmental Health Department

MH:tl

Response to San Joaquin County, Environmental Health Department (December 12, 2006)

Response to Comment 4-A: The text of the DEIR (Chapter 2, *Program Description*, Required Permits and Approvals) has been revised as follows to note that the City of Manteca will need to obtain a permit from the San Joaquin County Environmental Health Department for well abandonment.

- San Joaquin County, Environmental Health Department: well abandonment and destruction;

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

Letter #5

DEC 18 2006

Keith Conarroe
City of Manteca
Public Works Department
1001 West Center Street
Manteca, CA 95337

Project: 2005 Water Master Plan Draft Environmental Impact Report (DEIR)

Subject: CEQA comments regarding the City of Manteca 2005 Water Master Plan

District Reference No: C200602473

Dear Mr. Conarroe:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the project referenced above and offers the following comments:

Findings of Significance

Upon review of the project and its alternatives, the District concurs that:

- The DEIR accurately describes the environmental settings and regulatory environment, and identifies applicable District rules.
- Compliance with the District's Regulation VIII requirements will reduce the temporary increase in construction-related PM10 (dust) emissions to a level of insignificance.
- Although the temporary increase in construction-related mobile emissions generated by on-road vehicles (increased road congestion from pipeline construction) may be significant, the implementation of a Traffic Control Plan would reduce these emissions. 5-A
- Generation of operations-related stationary source emissions are expected to be less than significant through compliance with District's permitting requirements.

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
2700 M Street, Suite 275
Bakersfield, CA 93301-2373
Tel: (661) 326-6900 FAX: (661) 326-6985

www.valleyair.org

Printed on recycled paper.

- Generation of operations-related mobile emissions from maintenance vehicles and equipment are expected to have a less-than-significant effect on air quality. 5-A

District Recommendations

The District recommends the following changes and/or additions to the DEIR to improve the documents accuracy:

- Chapter 2. Program Description, Required Permits and Approvals, Final Bullet states the California Air Resources Board requires and Authority to Construct (ATC). Please note the project may need a District issued ATC as part of the project's permitting requirements. 5-B

- Chapter 3.0 Environmental Analysis §3.3 Air Quality discusses construction-related PM10 (page 3.3-11) and cancer risk from diesel exhaust (page 3.3-13). Section 3.13 Transportation discusses construction-related on-road (vehicle) emissions. However, construction-related ROG and NOx emissions were not discussed. 5-C

- As ROG, NOx, and diesel exhaust emissions were not quantified, the District recommends an Air Quality Impact Analysis be included in the document. As stated in the District's response to the Notice of Preparation (District reference # C20061225, dated June 22, 2006), "*The EIR needs to address the short-term and long term local and regional adverse air quality impacts associated with the operation of construction equipment (reactive organic gases, nitrogen oxides, carbon monoxide, and PM10) and emission generated from stationary and mobile sources. The EIR should identify the components and phases of the project. The EIR should provide emissions projections for the project at the build out of each phase (including ongoing emissions from each previous phase). URBEMIS 2002 Version 8.7 may be used to quantify these emissions.*" 5-D

Recommended Mitigation Measures

There are a number of features that could be incorporated into the construction and operation of this project to provide additional reductions of the overall level of emissions. The suggestions listed below should not be considered all-inclusive and remain options that the agency with the land-use authority should consider for incorporation into the project.

Construction activity mitigation measures include: 5-E

- Limit area subject to excavation, grading, and other construction activity at any one time
- Limit the hours of operation of heavy duty equipment and/or the amount of equipment in use
- Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set)

- Require that all diesel engines be shut off when not in use to reduce emissions from idling
- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways, and "Spare the Air Days" declared by the District.
- Implement activity management (e.g. rescheduling activities to reduce short-term impacts) 5-E
- During the smog season (May through October), lengthen the construction period to minimize the number of vehicles and equipment operating at the same time.
- Off road trucks should be equipped with on-road engines when possible.
- Minimize obstruction of traffic on adjacent roadways.

The District encourages the applicant and fleet operators using the facility to take advantage of the District's Heavy-Duty Engine program to reduce project emissions. The Heavy Duty program provides incentives for the replacement of older diesel engines with new, cleaner, fuel-efficient diesel engines. The program also provides incentives for the re-power of older, heavy-duty trucks with cleaner diesel engines or alternative fuel engines. New alternative fuel heavy-duty trucks also qualify. For more information regarding this program contact the District at (559) 230-5858 or visit our website at www.valleyair.org/transportation/heavydutyidx.htm. 5-F

District staff is available to meet with you and/or the applicant to further discuss the regulatory requirements that are associated with this project. If you have any questions or require further information, please call Jessica Willis at (559) 230-5818 and provide the reference number at the top of this letter.

Sincerely,

David Warner
Director of Permits Services

Jessica R. Willis

for Arnaud Marjollet
Permit Services Manager

DW:jrw

cc: File

Response to San Joaquin Valley Air Pollution Control District (No Date)

Response to Comment 5-A: The commenter, the San Joaquin Valley Air Pollution Control District (SJVAPCD), expresses it's concurrence with the DEIR's findings of significance. No response is required.

Response to Comment 5-B: The text of the DEIR (Chapter 2, *Program Description*, Required Permits and Approvals) has been revised as follows to note that the "Authority To Construct" permit from SJVAPCD may also be required for the project.

- San Joaquin Valley Air Pollution Control District: authority to construct.

Response to Comment 5-C: It is anticipated that construction of the proposed program would occur on an as-needed basis from 2005 through 2025. Additional well construction would be timed with urban expansion. Construction emissions have not been quantified in the DEIR because the construction scheduling and equipment inventory is not known at this stage to adequately estimate emissions. It is anticipated that once this information is known, emissions may be adequately estimated in the environmental documentation prepared for the individual program components. Finally, impacts related to construction activities have been addressed following guidance published in the SJVAPCD's *Guide for Mitigation Air Quality Impacts* (San Joaquin County Valley Air Pollution Control District 2002) in Impact AQ-1: Temporary Increase in Construction-Related Emissions during Construction Activities (Chapter 3.3, *Air Quality*, Impacts and Mitigation Measures). No revisions have been made to the DEIR.

Response to Comment 5-D: Please see Response to Comment 5-C.

Response to Comment 5-E: All of the suggested measures for construction activity are included as activities in Mitigation Measure AQ-1a: Prepare and Implement a Dust Control Plan (Chapter 3.3, *Air Quality*, Impacts and Mitigation Measures) as described in the DEIR on pages 3.3-12 through 3.3-13.

Response to Comment 5-F: The District's information regarding the SJVAPCD's Heavy-Duty Engine program is noted.

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Arnold Schwarzenegger
Governor

Sean Walsh
Director

December 15, 2006

Letter #6

Keith Conarroe
City of Manteca
1001 W. Center Street
Manteca, CA 95337

Subject: City of Manteca Water Master Plan
SCH#: 2005082080

Dear Keith Conarroe:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on December 14, 2006, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

6-A

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2005082080
Project Title City of Manteca Water Master Plan
Lead Agency Manteca, City of

Type EIR Draft EIR

Description The City of Manteca Water Master Plan was developed to guide improvement and expansion of the City's water system to meet current and future needs for safe, reliable water supply and distribution system. The Water Master Plan addresses the water requirements of the City of Manteca 2023 General Plan and recommends capital improvements to support existing infrastructure and customer demands as well as planned new development. The City is proposing to construct and operate new wells and wellhead treatment facilities, blending facilities, storage tanks, pipelines, and associated facilities. All of these facilities are needed to provide adequate municipal and industrial water supply within the City's service area.

Lead Agency Contact

Name Keith Conarroe
Agency City of Manteca
Phone (209) 825-2577 **Fax**
email
Address 1001 W. Center Street
City Manteca **State** CA **Zip** 95337

Project Location

County San Joaquin
City Manteca
Region
Cross Streets
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways
Airports
Railways
Waterways
Schools
Land Use

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Cumulative Effects; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Growth Inducing; Landuse; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife

Reviewing Agencies Resources Agency; Regional Water Quality Control Bd., Region 5 (Sacramento); Department of Parks and Recreation; Native American Heritage Commission; Department of Fish and Game, Region 2; Department of Water Resources; California Highway Patrol; Caltrans, District 10; State Water Resources Control Board, Division of Water Rights; State Water Resources Control Board, Clean Water Program; Department of Health Services

Date Received 10/31/2006 **Start of Review** 10/31/2006 **End of Review** 12/14/2006

Note: Blanks in data fields result from insufficient information provided by lead agency.

Response to State Clearinghouse and Planning Unit (December 15, 2006)

Response to Comment 6-A: The State Clearinghouse provides information on the distribution of the DEIR to responsible public agencies. The City of Manteca has received and responded to all agency comments within this FEIR.

Letter #7

S J C O G, Inc.

555 East Weber Avenue • Stockton, CA 95202 • (209) 468-3913 • FAX (209) 468-1084

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

SJMSCP RESPONSE TO LEAD AGENCY ADVISORY AGENCY NOTICE TO SJCOG, Inc.

To: Keith Canarroe, City of Manteca Community Development Department

From: Erin Sickler, SJCOG, Inc.

Date: December 20, 2006

Re: **Lead Agency Project Title:** Water Master Plan EIR

Lead Agency Project Number: N/A

Assessor Parcel Number(s): multiple

Total Acres to be converted from Open Space Use: To be determined by SJMSCP biologist

Habitat Types to be Disturbed: To be determined by SJMSCP Biologist

Species Impact Findings: Findings to be determined by SJMSCP biologist.

Dear Mr. Canarroe:

SJCOG, Inc. has reviewed the City of Manteca Water Master Plan Draft Environmental Impact Report. It is suggested that projects within the EIR participate in the SJMSCP. Also the fee structure referenced in the EIR has been changed and has a routine multiplier that is taken into effect on the first of every year. The general process to be included in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) is also listed below for your review. 7-A

San Joaquin County is a signatory to San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). Participation in the SJMSCP satisfies requirements of both the state and federal endangered species acts, and ensures that the impacts are mitigated below a level of significance in compliance with the California Environmental Quality Act (CEQA). Although participation in the SJMSCP is voluntary, lead agents should be aware that if project applicants choose against participating in the SJMSCP, they will be required to provide alternative mitigation in an amount and kind equal to that provided in the SJMSCP. 7-B

Please see second page.

This Project is subject to the SJMSCP. This can be up to a 30 day process and it is recommended that the project applicant contact SJMSCP staff as early as possible.

Please contact SJMSCP staff regarding completing the following steps to satisfy SJMSCP requirements:

- Schedule a SJMSCP Biologist to perform a pre-construction survey ***prior to any ground disturbance***
- Sign and Return Incidental Take Minimization Measures to SJMSCP staff (given to project applicant after pre-construction survey is completed)
- Pay appropriate fee based on SJMSCP findings
- Receive your Certificate of Payment and release the required permit

7-B

If you have any questions, please call (209) 468-3913.

San Joaquin Council of Governments (SJCOG, Inc.) (December 20, 2006)

Response to Comment 7-A: The DEIR discusses the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) on page 3.4-12. In addition, the DEIR (Chapter 3.4, *Biological Resources*, Regulatory Context, Local Regulations and Policies) has been revised as follows to reflect the published development fees and to include a statement regarding the annual adjustment of these fees based on the California Construction Cost Index.

> To determine the appropriate fees and mitigation ratios, habitat types have been divided into the following three categories and corresponding development fees (interim fees January 1, 2007 to April 1, 2007 / updated fees effective April 1, 2007 ~~(as of m005)~~):
>
> - Multipurpose open space (~~$909~~ 1,731 / $6,341 per acre).
> - Agriculture and natural land (~~$1,819~~ 3,463 / $13,022 per acre).
> - ~~Vernal pools ($6,074 per acre for upland habitat and $36,381 per acre for wetted habitat).~~
> - Vernal pools – upland habitat ($10,565 / $34,958 per acre).
> - Vernal pools – wetted habitat (~~$36,381~~ $63,227 / $69,858 per acre).
>
> These impact fees are adjusted annually to keep pace with inflation at a rate that is consistent with the California Construction Cost Index (CCCI).

Response to Comment 7-B: Mitigation Measure BIO-5c (in Chapter 3.4, *Biological Resources*, Impacts and Mitigation Measures) requires coordination with resource agencies and development of appropriate compensation plans for state- and federally listed wildlife species. The mitigation measure has been revised as follows to clarify that voluntary participation in the SJMSCP is a form of implementation.

> Voluntary participation in the SJMSCP can satisfy requirements of both the state and federal endangered species acts, and ensure that impacts are mitigated below the significance threshold.

Chapter 3

Revisions to Draft Environmental Impact Report

Introduction

This chapter provides changes or revisions to the DEIR made in response to comments. Changes to the DEIR are presented in errata format. New text is shown underlined. Deleted text is shown in ~~strikeout~~.

DEIR Revisions

In response to Comments 4-A and 5-B, the following text has been added to Chapter 2, *Program Description*, Required Permits and Approvals, second paragraph and bulleted list (pg 2-15):

The EIR may also be used by regulatory and responsible agencies, which are responsible for issuing permits and approvals that may be needed to proceed with the proposed program or regulate the implementation of best management practices. Subsequent permits and approvals may include the following:

- San Joaquin County, Public Works Department: encroachment permit (county roadways); grading permit; approval of road closures, detours, and traffic control plan;
- San Joaquin County, Environmental Health Department: well abandonment and destruction;
- California Occupational Safety and Health Administration: Preliminary Gas Classification (microtunnelling); excavation/trenching permit;
- California Department of Fish and Game (DFG): Streambed Alteration Agreement;
- California Department of Transportation (Caltrans): encroachment permit (state highways);
- U.S. Army Corps of Engineers: Section 404 permit;

- Regional Water Quality Control Board (RWQCB): 401 Certification; NPDES Stormwater General Construction Permit;
- U.S. Fish & Wildlife Service: incidental take permit under Section 10 of the federal Endangered Species Act (ESA); consultation under Section 7 of the federal ESA;
- State Historic Preservation Office: compliance with Section 106 of the National Historic Preservation Act; ~~and~~
- California Air Resources Board: authority to construct; and
- San Joaquin Valley Air Pollution Control District: Authority To Construct.

In response to Comment 7A, the following text has been added to Chapter 3.4, *Biological Resources*, Regulatory Context, Local Regulations and Policies (pg 3.4-12):

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

The SJMSCP has been prepared by the County and its cities to provide a regional approach to mitigating development impacts on the 100 listed and non-listed plant, fish, and wildlife species covered by the SJMSCP and to compensate for the conversion of open space to non-open-space uses. In addition, the SJMSCP provides some compensation to offset the impacts of open space land conversions on other beneficial open space uses such as recreation, agriculture, scenic values, educational purposes, flood control, and use by common plant, fish, and wildlife species that are not included in the list of SJMSCP-covered species. The plan allows a development impact fee to be paid by project applicants whose projects would cause the loss of biological resources or conversion of habitats.

To determine the appropriate fees and mitigation ratios, habitat types have been divided into the following three categories and corresponding development fees (interim fees January 1, 2007 to April 1, 2007 / updated fees effective April 1, 2007 ~~(as of m005)~~):

- Multipurpose open space ($~~909~~ 1,731 / $6,341 per acre).
- Agriculture and natural land ($~~1,819~~ 3,463 / $13,022 per acre).
- ~~Vernal pools ($6,074 per acre for upland habitat and $36,381 per acre for wetted habitat).~~
- Vernal pools – upland habitat ($10,565 / $34,958 per acre).
- Vernal pools – wetted habitat ($63,227 / $69,858 per acre).

These impact fees are adjusted annually to keep pace with inflation at a rate that is consistent with the California Construction Cost Index (CCCI).

In response to Comment 7-B, Mitigation Measure BIO-5c in Chapter 3.4, *Biological Resources*, Impacts and Mitigation Measures, has been revised as follows (pg 3.4-24):

> **Mitigation Measure BIO-5c: Coordinate with Resource Agencies and Develop Appropriate Compensation Plans for State- and Federally Listed Wildlife Species.** In the event that, despite implementation of Mitigation Measure BIO-5b, construction activities would result in significant impacts on state- or federally listed wildlife species, the City will develop a compensation plan in coordination with the appropriate resource agency (DFG, USFWS, SJCOG), and/or require that their compensation guidelines be followed, to reduce the impact to a less-than-significant level. Voluntary participation in the SJMSCP can satisfy requirements of both the state and federal endangered species acts, and ensure that impacts are mitigated below the significance threshold.
>
> Compensation guidelines have been identified for several special-status wildlife species, including valley elderberry longhorn beetle, vernal pool branchiopods, giant garter snake, Swainson's hawk, and burrowing owl. The amount of compensation will vary depending on the amount of habitat loss or degree of habitat disturbance anticipated. The compensation plan will be developed and implemented in coordination with the appropriate state or federal agency and would involve identifying an agency-approved mitigation bank or site (on- or off-site); transplanting (elderberry shrubs), re-creating (burrows and vernal pools), or preserving additional habitat for special-status wildlife species; monitoring the mitigation site; or funding the management of the mitigation site.

In response to Comments 3-A and 3-B, Mitigation Measure PSU-3 in Chapter 3.12, *Public Services, Utilities, and Recreation*, Impacts and Mitigation Measures, has been revised as follows (pg 3.12-9):

> **Mitigation Measure PSU-3a: Identify and Relocate Existing Utilities Where Necessary.** The City of Manteca and its program contractors will coordinate with PG&E and other service providers early in the development of individual program elements to ensure adequate access to utility lines or to discuss any necessary utility relocation. The City's program contractor shall identify all underground utilities in the areas of proposed excavations for all program elements. Prior to beginning

construction, Underground Services Alert shall be contacted to identify underground utilities. Where possible, design and specifications for program elements shall avoid existing utilities. In instances where utilities cannot be avoided, the City will relocate existing utilities either before, or during, program construction.

In response to Comment 3-C, the following text has been added to Chapter 5, *Other CEQA Findings*, Cumulative Impacts, Program Contribution to Cumulative Impacts, following the Noise section (page 5-11):

Public Services and Utilities

Continued development under the City's 2023 General Plan will have a cumulative impact on PG&E's gas and electric systems. Construction of various program elements that require electrical connections will result in a minor increase in demand for electricity, but will not result in a considerable contribution to the cumulative impact.

Appendix A

Mitigation Monitoring and Reporting Plan

City of Manteca
2005 Water Master Plan
Mitigation Monitoring and Reporting Plan

Prepared for:

City of Manteca
Public Works Department
1001 West Center Street
Manteca, CA 95337
Contact: Keith Conarroe
(209) 825-2577

Prepared by:

Jones & Stokes
268 Grand Avenue
Oakland, CA 94610
Contact: Rosalyn Stewart
(510) 433-8962

March 2007

Jones & Stokes. 2007. *City of Manteca 2005 Water Master Plan Mitigation Monitoring and Reporting Plan.* March. (J&S 05013.05) Oakland, CA.

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Purpose of and Need for Monitoring 1

Project Description 2

Mitigation Monitoring Program 3

Table 1. Mitigation Monitoring and Reporting Plan for MRWTP Phase Two Expansion, Mitigation Measures ..... follows page 3

Acronyms and Abbreviations

CEQA	California Environmental Quality Act
FSEIR	final subsequent environmental impact report
City	City of Manteca
MMRP	Mitigation Monitoring and Reporting Plan
afa	acre-feet annually
SWRCB	State Water Resources Control Board

Introduction

Purpose of and Need for Monitoring

In compliance with the California Environmental Quality Act (CEQA), a final environmental impact report (FEIR) was prepared for the City of Manteca 2005 Water Master Plan (proposed program). The FEIR identified potentially significant impacts in the resource areas listed below. The FEIR also identified mitigation measures to reduce these impacts to a less-than-significant level, where feasible.

- Aesthetics and Visual Resources
- Agricultural Resources
- Air Quality
- Water Resources
- Noise
- Population and Housing
- Recreation
- Cultural Resources
- Biological Resources
- Transportation

CEQA requires that a lead agency adopt a mitigation monitoring and reporting plan (MMRP) for the measures the agency has proposed to avoid or mitigate significant environmental effects (CEQA Guidelines Section 15097). The purpose of the MMRP is to ensure that the program mitigation measures identified in the FEIR are implemented and to identify who is responsible for their implementation.

Table 1 of this MMRP, which follows this introductory section, identifies the mitigation measures for the proposed program, the parties responsible for implementing and monitoring the mitigation measures, the timing of each mitigation measure, and a summary of the actions necessary to implement and monitor each measure.

Program Description

The City developed the proposed program to guide improvement and expansion of the City's water system to meet current and future needs for a safe, reliable water supply and distribution system. The proposed program addresses the water

requirements of the City of Manteca 2023 General Plan (City of Manteca 2003b) and recommends capital improvements to support existing infrastructure and customer demands as well as planned new development.

Program Purpose and Objectives

The purpose of the proposed program (City of Manteca 2005b) is to provide a comprehensive planning document to guide improvement and expansion of the City of Manteca's water system to meet current and future needs for a safe, reliable water supply and distribution system. The proposed program addresses the water requirements of the 2023 General Plan and recommends capital improvements to support existing infrastructure and customer demands, as well as planned new development.

The objectives of the proposed program are to:

- provide a strategic approach to compliance with the new maximum contaminant level (MCL) of 10 ug/l;
- evaluate planned water system improvements to facilitate delivery of the SSJID's surface water supply to the combined service area;.
- develop a groundwater supply and storage plan to meet a conjunctive groundwater/surface water use approach by the City without exceeding the aquifer's safe yield;
- prepare a time-phased capital improvement project (CIP) for the water system;
- implement the goals and objectives of the City of Manteca 2023 General Plan; and
- identify water use conservation programs and recycled water use options.

Program Characteristics

The City developed the 2005 WMP to guide improvement and expansion of the City's water system to meet current and future needs for a safe, reliable water supply and distribution system. The proposed program will include:

- implementation of a conjunctive use program, using groundwater wells in the City along with deliveries of treated surface water from the SSJID;
- consideration of groundwater recharge and recycled water use;
- construction of wellhead treatment systems for arsenic;
- construction of additional groundwater wells and/or storage tanks and associated pump stations for existing wells;

- construction of blending facilities for blending of groundwater with SSJID surface water supplies;
- expansion of the City's water distribution system (which includes two turnouts, water storage tanks, and associated pump stations), with the potential future construction of an additional turnout, water storage tank, and associated pump station;
- upgrades to existing distribution mains; and
- construction of additional distribution mains associated with new development.

Construction of these facilities will be staged over time as the need develops.

Mitigation Monitoring Program

This MMRP has been prepared for the proposed program in accordance with Public Resources Code 21081.6, which specifies that when a public agency makes findings required by paragraph (1) of subdivision (a) of Section 21081, it "...shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment." Public Resources Code 21081.6 further specifies that the MMRP will "...ensure compliance during project implementation."

This MMRP is intended to ensure the effective implementation of mitigation measures that are within the City's authority to implement, including monitoring where identified, throughout all phases of development and operation of the proposed program.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
3.1. Aesthetics				
Mitigation Measure AES-2a: Siting and Screening of Construction Staging Areas The City shall require all program contractors to site construction staging areas for equipment, personal vehicle parking, and material storage to minimize visual impacts to surrounding parcels. Prior to and during use of construction staging areas, screening, berming, and vegetation will be installed as appropriate for the zoning at the site. Screening will be maximized in residential areas, while lower levels are appropriate in commercial, industrial, or rural districts. The locations and screening methods to be used at the staging areas will be reflected in contract documents.	During construction	Program contractors	City of Manteca	Require in contract documents. Verify before issuance of contract. Verify periodically during construction.
Mitigation Measure AES-2b: Landscaping of Disturbed Areas The City shall require all program contractors to replace all existing landscaping that is removed or damaged during construction. Following completion of construction at each site, the contractor will replant landscape vegetation and replace irrigation hardware. Undeveloped lands without landscaping that are disturbed by construction will be allowed to return to a natural vegetated state. Standard erosion control practices will be implemented in compliance with current state regulations to ensure restoration is successful (see additional mitigation in Section 3.8, *Hydrology and Water Resources*). The landscaping to be replaced/planted at program element sites will be reflected in contract documents.	After construction	Program contractors	City of Manteca	Incorporate in project design. Verify before issuance of contract. Verify after completion of construction.
Mitigation Measure AES-3a: Siting and Design of Storage Tanks During design and planning of storage tanks, the City and its contractor shall adhere to the following design guidelines: ■ To reduce visibility from roads and sensitive land uses, storage tanks will be placed well away from the parcel boundaries, and be designed to conform to the existing character of the surrounding land use through use of matching paint colors, fencing materials, and landscaping. ■ The painting palette for each storage tank will be selected to match the colors and tones of the surrounding neighborhood. Building materials used in the tanks will be selected to match the character of surrounding land uses. ■ Gates and fencing that are visible from public roadways will be similar to those existing in nearby residential neighborhoods.	During design and planning	Program contractors	City of Manteca	Incorporate in project design. Verify prior to construction.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
The City shall be responsible for ensuring that design of all storage tanks conforms to these guidelines.				
Mitigation Measure AES-3b: Landscaping of Storage Tanks The City shall require all program contractors to provide a combination of earth berms, landscaping, and/or tree screening along the perimeter of the storage tank sites. The City's Landscape Standards will be used for storage tank sites. The primary goal of the landscaping along public roadways and around new facilities will be to screen views, minimize exposed surface area, and maintain consistency with the surrounding character. Species selection should reflect and respect the existing mature vegetation associated with the area. Plant variety will increase the effectiveness of the screen by providing multiple layers, seasonality, more diverse habitat, and reduced susceptibility to disease. The landscaping to be planted at the storage tank sites will be reflected in contract documents. The City will be responsible for maintenance of vegetation on the storage tank sites.	During and after construction	Program contractors – installation; City of Manteca – maintenance	City of Manteca	Incorporate in project design. Verify before issuance of contract. Maintain landscaping after completion of construction.
Mitigation Measure AES-3c: Burial of Storage Tanks in Sensitive Areas If, at the time of storage tank construction, the land surrounding the selected tank site is already developed with residential uses, the City shall consider partial or full burial of storage tanks where feasible, taking into account high groundwater levels and other factors (e.g., cost).	During design and planning	Program contractors	City of Manteca	Consider in design and planning.
Mitigation Measure AES-4a: Surface Treatment to Reduce Daytime Glare To minimize any effects from introduced light sources and reflected light, the City shall consider finishing structures and hardware surfaces with paint or other treatments that minimize daytime glare and reflectivity, including components such as grates, railings, piping, roofs, and other metal fixtures. The City will evaluate each new facility on a case-by-case basis with regard to surrounding land uses, and cover appropriate facilities with non-glare surfacing.	During construction	Program contractors	City of Manteca	Consider in design and planning. Verify during project element review.
Mitigation Measure AES-4b: Shielding of Nighttime Lights To reduce the effects of night illumination, the City shall consider shielding nighttime lights and direct them away from sensitive uses and the sky as appropriate for the zoning at the site. Shielding will be maximized in residential areas, while lower levels are appropriate in commercial, industrial, or rural districts. Lighting will be internally directed with low-level intensity, sufficient only to detect movement within facility grounds. The quantity of lights used will be the minimum	During construction	Program contractors	City of Manteca	Incorporate in project design. Verify after completion of construction.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
required for property security to minimize incidental light. Lights will be cutoff-type fixtures that cast low-angle illumination to minimize incidental spillover of light onto adjacent properties and open space. All lights will provide good color rendering and natural light qualities. The City will annually check that nighttime lighting at program element sites conforms to these guidelines.				Annual monitoring.
3.2. Agricultural Resources				
Mitigation Measure AG-2: Prevent the Premature Conversion of Agricultural Land in the Program Area The City of Manteca will limit the premature conversion of agricultural land, including land under Williamson Act contract, by avoiding active farmland during construction of program elements. The City will follow all legal requirements for farmland conversion if development on agricultural land is necessary during WMP implementation.	During design and planning	City of Manteca	City of Manteca	Control during development planning. Follow legal requirements for farmland conversion as necessary.
3.3. Air Quality				
Mitigation Measure AQ-1a: Prepare and Implement a Dust Control Plan To control the generation of construction-related PM10 emissions, the City will require program contractors to prepare and submit a Dust Control Plan to the SJVAPCD at least 10 working days prior to any earthmoving or construction activities; the plan shall be reviewed and approved by the SJVAPCD prior to onset of any construction activities. The City's dust control requirements will be reflected in contract documents. Requirements of the Dust Control Plan for construction activities can include the following. ■ Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent. ■ Limit area subject to excavation, grading, and other construction activity at any one time. ■ Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use. ■ Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).	Prior to construction	Program contractors	City of Manteca	Incorporate into contract documents. Verify prior to issuance of contract. Verify Dust Control Plan prior to construction. Verify periodically during construction.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
■ Apply idling time limits or require that all diesel engines be shut off when not in use on the premises to reduce emissions from idling. ■ Curtail construction during periods of high ambient pollutant concentrations. This may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways, and "Spare the Air Days" declared by the SJVAPCD. ■ Implement activity management (e.g., rescheduling activities to reduce short-term impacts). ■ During the smog season (May through October), lengthen the construction period to minimize the number of vehicles and equipment operating at the same time. ■ Equip off-road trucks with on-road engines when possible. ■ Minimize obstruction of traffic on adjacent roadways.				
Mitigation Measure AQ-1b: Use ARB Certified Engines The City will require construction equipment engines that meet the current off-road engine emission standard (as certified by the ARB), or be re-powered with an engine that meets this standard. Tier I and Tier II engines have significantly less NOx and PM emissions compared to uncontrolled engines. Additionally, the City will require use of ARB-certified alternative fueled engines in construction equipment, where practicable, to reduce ROG, NOx, and PM emissions. Alternative fueled equipment may be powered by Compressed Natural Gas (CNG), Propane (LPG), electric motors, or other ARB certified off-road technologies. Program contractors will follow all SJVAPCD requirements and regulations for engine emission standards. Use of ARB-certified engines and/or alternative fueled engines will be reflected in contract documents.	During construction	Program contractors	City of Manteca	Incorporate into contract documents. Verify prior to issuance of contract.
Mitigation Measure AQ-3: Ensure All Emergency Backup Generators and Diesel Engines Meet EPA Tier 2 and ATCM Standards To minimize emissions resulting from operation of the emergency diesel generators, the City will install only generators that meet EPA Tier 2 standards for non-methane hydrocarbon (NMHC), Nox, and CO; and ARB ATCM standards for PM_{10}. The City will follow all SJVAPCD requirements and regulations for engine emission standards.	During construction	Program contractors	City of Manteca	Incorporate in project design. Verify after completion of construction.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
3.4. Biological Resources				
Mitigation Measure BIO-1a: Document Special-Status Plant Populations Prior to design or construction of individual program elements on undisturbed lands, the City will document special status species populations. The City will retain a qualified botanist to document the presence or absence of special-status plants on or near to the individual program element site before implementation. Alternatively, the City may use certified environmental documentation to identify special-status plant populations on well sites within proposed development areas. To document plant populations, the following steps will be undertaken before construction of program elements. At any point during implementation of this mitigation measure, the City may choose to re-design or modify the program elements to avoid direct and indirect impacts on special-status plants, and will not need to complete the remaining steps identified in this mitigation measure. ■ **Review Existing Information.** The botanist will review existing information to develop a list of special-status plants that could grow on sites selected for individual program elements. Sources of information consulted will include the CNDDB; USFWS list of endangered, threatened, and proposed species for the program region; previously prepared environmental documents; City and County general plans; habitat conservation plans; and the CNPS electronic inventory. ■ **Coordinate with Agencies**. The botanist will coordinate with the appropriate agencies (DFG and USFWS) to discuss botanical resource issues and determine the appropriate level of surveys necessary to document special-status plants. ■ **Conduct Field Studies**. The botanist will evaluate existing habitat conditions for each site selected for construction of program elements, and determine what level of botanical surveys may be required. The type of botanical survey will depend on species richness, habitat type and quality, and the probability of special-status species occurring in a particular habitat type. Depending on these factors and the proposed construction activity, one or more of the following levels of survey may be required: ❑ **Habitat Assessment.** A habitat assessment determines whether suitable habitat is present. This type of assessment can be conducted at any time of year and is used to assess and characterize habitat conditions and	During design and planning	City of Manteca	City of Manteca	Perform assessment prior to design and construction. Incorporate information into project design.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
determine whether return surveys are necessary. If no suitable habitat is present, no additional surveys will be required. ❑ **Species-Focused Surveys.** Species-focused surveys (or target species surveys) will be conducted if suitable habitat is present for special-status plants. The surveys will focus on special-status plants that could grow in the region, and would be conducted during a period when the target species are evident and identifiable. ❑ **Floristic Protocol-Level Surveys.** Floristic surveys that follow the CNPS Botanical Survey Guidelines (revised Nelson 1987 surveys, approved by the CNPS board on June 2, 2001) will be conducted in areas that are relatively undisturbed or have moderate to high potential to support special-status plants. The CNPS Botanical Survey Guidelines require that all species be identified to the level necessary to determine whether they qualify as special-status plants or are plant species with unusual or significant range extensions. The guidelines also require that field surveys be conducted when special-status plants that could occur in the area are evident and identifiable. To account for different special-status plant identification periods, one or more series of field surveys may be required in spring and summer. Special-status plant populations identified during the field surveys will be mapped and documented. The City shall implement Mitigation Measure BIO-1b in conjunction with this mitigation measure to avoid or minimize significant impacts on special-status plants.				
Mitigation Measure BIO-1b: Avoid or Minimize Impacts on Special-Status Plant Populations by Redesigning the Program Elements, Protecting Special-Status Plant Populations, and/or Developing a Transplantation Plan (If Necessary) Where a program element would have potential to result in direct loss or indirect disturbance to special-status plants, the City will implement the following measures to avoid or minimize impacts on special-status plants: ■ Redesign or modify the program elements during future site design to avoid direct and indirect impacts on special-status plants, if feasible. ■ During design and construction of wells and wellhead treatment facilities, blending stations, booster pumps, storage tanks, or distribution pipelines,	Prior to and during construction	City of Manteca	City of Manteca	Incorporate in project design. Incorporate into contract documents. Verify prior to issuance of contract. Verify periodically during construction.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
protect special-status plants by installing environmentally sensitive area fencing (orange construction barrier fencing) around special-status plant populations. The environmentally sensitive area fencing will be installed at least 20 feet from the edge of the population. The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area. ■ Coordinate with the appropriate resource agencies and local experts to determine whether transplantation is feasible. If the agencies concur that transplantation is a feasible mitigation measure, the botanist will develop and implement a transplantation plan through coordination with the appropriate agencies. The special-status plant transplantation plan will involve identifying a suitable transplant site; moving the plant material and seed bank to the transplant site; collecting seed material and propagating it in a nursery; and monitoring the transplant sites to document recruitment and survival rates.				
Mitigation Measure BIO-2a: Conduct a Noxious Weed Survey and Document Noxious Weed Infestation Prior to construction of program elements on undisturbed lands or adjacent to agricultural areas, the City will address noxious weed impacts. The City will hire a qualified botanist to determine whether noxious weeds are an issue for the program and whether they could displace native plants and natural habitats, affect the quality of forage on rangelands, or affect cropland productivity. Alternatively, the City may use certified environmental documentation to determine noxious weed impacts on well sites within proposed development areas. If noxious weeds are an issue, the City will review the County Agricultural Commission's noxious weed list; California Department of Food and Agriculture's A, B, and C lists of noxious weeds; and California Exotic Pest Plant Council's list of pest plants of ecological concern. These lists will be used to identify weeds that will be targeted during field surveys by the botanist. Surveys will focus on target weed species that are considered locally important for documentation and control purposes. If noxious weed infestations are located during the field surveys, they will be mapped and documented. The City will implement Mitigation Measure BIO-2b to	During design and planning	City of Manteca	City of Manteca	Perform assessment prior to design and construction. Incorporate information into project design.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
avoid the dispersal of noxious weeds into uninfested areas.				
Mitigation Measure BIO-2b: Avoid the Dispersal of Noxious Weeds into Uninfested Areas To avoid the introduction or spread of noxious weeds into uninfested areas, the City will incorporate the following measures into construction project plans and specifications: ■ Use certified, weed-free, imported erosion-control materials (or rice straw in upland areas). ■ Coordinate with the County Agricultural Commissioner and land management agencies to ensure that the appropriate best management practices (BMPs) are implemented. ■ Educate construction supervisors and managers about weed identification and the importance of controlling and preventing the spread of noxious weeds. ■ Clean equipment at designated wash stations after leaving noxious weed infestation areas. The noxious weed avoidance measures will be reflected in contract documents and implemented by the program contractor.	Prior to and during construction	Program contractor	City of Manteca	Incorporate in project design. Incorporate into contract documents. Verify prior to issuance of contract. Verify periodically during construction.
Mitigation Measure BIO-3a: Identify and Document Riparian Habitat During design of individual program elements, the City will retain a qualified botanist to document the location, type, extent, and habitat functions and values for riparian habitat that could be affected by an individual program element. This information will be mapped and documented. Mitigation Measures BIO-3b and BIO-3c will be implemented as necessary to avoid, minimize, or compensate for impacts on riparian habitats.	During design and planning	City of Manteca	City of Manteca	Perform assessment prior to design and construction. Incorporate information into project design.
Mitigation Measure BIO-3b: Avoid and Minimize Disturbance of Riparian Habitats To the extent possible, the City will avoid impacts on riparian habitats by implementing the following measures: ■ Redesign or modify wells and wellhead treatment facilities, blending stations, booster pumps, storage tanks, or distribution pipelines to avoid direct and indirect impacts on riparian habitats, if feasible.	Prior to and during construction	City of Manteca; Program contractors	City of Manteca	Incorporate in project design. Incorporate into contract documents. Verify prior to issuance of contract. Verify periodically

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
■ Protect riparian habitats that occur near the project site by installing environmentally sensitive area fencing at least 20 feet from the edge of the riparian vegetation. Depending on site-specific conditions, this buffer may be narrower or wider than 20 feet. The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area. ■ Minimize the potential for long-term loss of riparian vegetation by trimming vegetation, rather than removing the entire shrub. Shrub vegetation will be cut at least 1 foot above ground level to leave the root systems intact and allow for more-rapid regeneration of the species. Cutting will be limited to a minimum area necessary within the construction zone. The riparian habitat avoidance measures will be reflected in contract documents and implemented by the program contractor.				during construction.
Mitigation Measure BIO-3c: Compensate for the Loss of Riparian Habitat If riparian habitat is removed as part of the program elements, the City will compensate for the loss of riparian vegetation to ensure no net loss of habitat functions and values. Compensation ratios will be based on site-specific information and determined through coordination with state and federal agencies (including DFG, USFWS, USACE, and NOAA Fisheries). Compensation will be provided at a minimum 1:1 ratio (1 acre restored or created for every 1 acre removed) and may be a combination of on-site restoration/creation, off-site restoration, and mitigation credits. The City will develop a restoration and monitoring plan that describes how riparian habitat will be enhanced or re-created and monitored over a minimum period of time, as determined by the appropriate state and federal agencies. The City will implement the restoration and monitoring plan.	Prior to, during, and after construction	City of Manteca	City of Manteca	Incorporate in project design. Develop and implement the restoration and monitoring plan.
Mitigation Measure BIO-4a: Identify and Delineate Waters of the United States (Including Wetlands) During design and siting of individual program elements, the City will retain a qualified botanist to identify areas that could qualify as waters of the United States, including wetlands, assuming such features exist on the program element site. Wetlands will be identified using both the USACE and USFWS/DFG definitions of	During design and planning	City of Manteca	City of Manteca	Perform assessment prior to design and construction. Incorporate information into project design.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
wetlands. USACE jurisdictional wetlands shall be delineated using the methods outlined in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987). The jurisdictional boundary of other waters of the United States will be identified based on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area (33 CFR 328.3[e]). This information will be mapped and documented as part of wetland delineation reports. Mitigation Measures BIO-4b and BIO-4c will be implemented as necessary to avoid, minimize, or compensate for impacts on waters of the United States, including wetland habitats.				
Mitigation Measure BIO-4b: Avoid and Minimize Disturbance of Waters of the United States, Including Wetland Communities To the extent possible, the City will avoid and minimize impacts on wetlands and other waters of the United States (creeks, steams, and rivers) by implementing the following measures: ■ Redesign or modify wells and wellhead treatment facilities, blending stations, booster pumps, storage tanks, or distribution pipelines to avoid direct and indirect impacts on wetland habitats, if feasible. For pipelines, this may be accomplished through the use of trenchless installation methods (e.g., jack and bore). ■ Protect wetland habitats that occur near the project site by installing environmentally sensitive area fencing at least 20 feet from the edge of the wetland. Depending on site-specific conditions and permit requirements, this buffer may be wider than 20 feet (e.g., 250 feet for seasonal wetlands considered special-status fairy shrimp habitat). The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area. ■ Avoid installation activities in saturated or ponded wetlands during the wet season (spring and winter) to the maximum extent possible. Where such activities are unavoidable, protective practices, such as use of padding or	Prior to and during construction	City of Manteca; Program contractors	City of Manteca	Incorporate in project design. Incorporate into contract documents. Verify prior to issuance of contract. Verify periodically during construction.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
vehicles with balloon tires, will be used. ■ Where determined necessary by resource specialists, use geotextile cushions and other materials (e.g., timber pads, prefabricated equipment pads, or geotextile fabric) in saturated conditions to minimize damage to the substrate and vegetation. ■ Stabilize exposed slopes and streambanks immediately on completion of installation activities. Other waters of the United States will be restored in a manner that encourages vegetation to re-establish to its pre-program condition and that reduces the effects of erosion on the drainage system. ■ In highly erodible stream systems, stabilize banks using a non-vegetative material that will bind the soil initially and break down within a few years. If the project engineers determine that more-aggressive erosion control treatments are needed, use geotextile mats, excelsior blankets, or other soil stabilization products. ■ During construction, remove trees, shrubs, debris, or soils that are inadvertently deposited below the OHWM of drainages in a manner that minimizes disturbance of the drainage bed and bank. These measures will be incorporated into contract specifications and implemented by the program contractor. In addition, the City will ensure that the contractor incorporates all permit conditions into construction specifications.				
Mitigation Measure BIO-4c: Compensate for the Loss of Wetland Habitat If wetlands are filled or disturbed as part of the program, the City will compensate for the loss of wetland habitat to ensure no net loss of habitat functions and values. Compensation ratios will be based on site-specific information and determined through coordination with state and federal agencies (including DFG, USFWS, and USACE). The compensation will be at a minimum 1:1 ratio (1 acre restored or created for every 1 acre filled) and may be a combination of on-site restoration/creation, off-site restoration, and mitigation credits. A restoration and monitoring plan will be developed and implemented that describes how wetlands will be created and monitored over a minimum period of time.	Prior to, during, and after construction	City of Manteca	City of Manteca	Incorporate in project design. Develop and implement the restoration and monitoring plan.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Mitigation Measure BIO-5a: Document Special-Status Wildlife Species and Their Habitats Prior to construction of individual program elements on undisturbed lands, the City will document special-status wildlife species and their habitats. The City will retain a qualified wildlife biologist to document the presence or absence of special-status wildlife before implementation. Alternatively, the City may use certified environmental documentation to identify wildlife populations on well sites within proposed development areas. To document special-status wildlife, the following steps will be undertaken before construction of program elements. At any point during implementation of this mitigation measure, the City may choose to redesign or modify the program element(s) to avoid direct and indirect impacts on special-status wildlife, and will not need to complete the remaining steps identified in this mitigation measure. ■ **Review Existing Information.** The wildlife biologist will review existing information to develop a list of special-status wildlife species that could occur in the program area. The following information will be reviewed as part of this process: the USFWS special-status species list for the project region, CNDDB, previously prepared environmental documents, City and County general plans, SJMSCP, and USFWS-issued biological opinions for previous projects. ■ **Coordinate with State and Federal Agencies.** The wildlife biologist will coordinate with the appropriate agencies (the DFG or USFWS) to discuss wildlife resource issues in the region and determine the appropriate level of surveys necessary to document special-status wildlife and their habitats. ■ **Conduct Field Studies.** The wildlife biologist will evaluate existing habitat conditions and determine what level of biological surveys may be required. The type of survey required will depend on species richness, habitat type and quality, and the probability of special-status species occurring in a particular habitat type. Depending on the existing conditions in the program area and the proposed construction activity, one or more of the following levels of survey may be required: ❑ **Habitat Assessment.** A habitat assessment determines whether suitable habitat is present. This type of assessment can be conducted at any time of year and is used to assess and characterize habitat conditions and to determine whether return surveys are necessary. If no suitable habitat is	During design and planning	City of Manteca	City of Manteca	Perform assessment prior to design and construction. Incorporate information into project design.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
present, no additional surveys will be required. ❑ **Species-Focused Surveys**. Species-focused surveys (or target species surveys) will be conducted if suitable habitat is present for special-status wildlife and if it is necessary to determine the presence or absence of the species in the program area. The surveys will focus on special-status wildlife species that have the potential to occur in the program area (Table 3.4-2). The surveys will be conducted during a period when the target species are present and/or active. ❑ **Protocol-Level Wildlife Surveys.** The City will comply with protocols and guidelines issued by responsible agencies for certain special-status species. The USFWS and DFG have issued survey protocols and guidelines for several special-status wildlife species that could occur in the program region, including valley elderberry longhorn beetle, vernal pool branchiopods, California tiger salamander, and western burrowing owl. In some cases, the City may choose to assume the presence of the species rather than conduct a protocol-level survey. The protocols and guidelines may require that surveys be conducted during a particular time of year or time of day when the species is present and active. Many survey protocols require that only a USFWS- or DFG-approved biologist perform the surveys. The City will coordinate with the appropriate state or federal agency biologist before the initiation of protocol-level surveys to ensure that the survey results will be valid. Because some species can be difficult to detect or observe, multiple field techniques may be used during a survey period and additional surveys may be required in subsequent seasons or years as outlined in the protocol or guidelines for each species. Special-status wildlife or suitable habitat identified during the field surveys will be mapped and documented. The City shall implement Mitigation Measure BIO-1b in conjunction with the following mitigation measure to avoid or minimize significant impacts on special-status wildlife.				
Mitigation Measure BIO-5b: Avoid and Minimize Impacts on Special-Status Wildlife Species by Redesigning Program Elements, Protecting Special-Status Wildlife Habitat, and Developing a Mitigation Monitoring Plan (If Necessary) The City shall attempt to avoid and minimize direct and indirect effects on special-status wildlife. The City will implement the following measures during planning	Prior to, during, and after construction	City of Manteca; Program contractors	City of Manteca	Incorporate in project design. Incorporate into contract documents.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
and design of program elements:				
■ Conduct pre-construction surveys, as required by Mitigation Measure BIO-5a.				Verify prior to issuance of contract.
■ Redesign or modify program elements to avoid direct and indirect impacts on special-status wildlife or their habitats, if feasible.				Verify periodically during construction.
■ Protect special-status wildlife and their habitats near the project site by installing environmentally sensitive area fencing around habitat features, such as seasonal wetlands, burrows, and nest trees. The environmentally sensitive area fencing or staking will be installed at a minimum distance from the edge of the resource as determined through coordination with state and federal agency biologists (the USFWS and DFG). The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area.				
■ Restrict construction-related activities to the non-breeding season for special-status wildlife species that could occur in the project area. Timing restrictions may vary depending on the species and could occur during any time of the year.				
■ Coordinate with the appropriate resource agencies to determine whether a monitoring plan for special-status wildlife is necessary as part of all program elements. If a monitoring plan is required, it will be developed and implemented in coordination with appropriate agencies and will include:				
❑ a description of each of the wildlife species and suitable habitat for species that could occur in the program area;				
❑ the location and size of no-disturbance zones in and adjacent to environmentally sensitive areas for wildlife;				
❑ directions on the handling and relocating of special-status wildlife species found on the project site that are in immediate danger of being destroyed; and				
❑ notification and reporting requirements for special-status species that are identified in the program area.				

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
The City may also use certified environmental documentation to identify, avoid, and minimize impacts to wildlife populations on well sites within proposed development areas.				
Mitigation Measure BIO-5c: Coordinate with Resource Agencies and Develop Appropriate Compensation Plans for State- and Federally-Listed Wildlife Species In the event that, despite implementation of Mitigation Measure BIO-5b, construction activities would result in significant impacts on state- or federally listed wildlife species, the City will develop a compensation plan in coordination with the appropriate resource agency (DFG, USFWS, SJCOG), and/or require that their compensation guidelines be followed, to reduce the impact to a less-than-significant level. Voluntary participation in the SJMSCP can satisfy requirements of both the state and federal endangered species acts, and ensure that impacts are mitigated below the significance threshold. Compensation guidelines have been identified for several special-status wildlife species, including valley elderberry longhorn beetle, vernal pool branchiopods, giant garter snake, Swainson's hawk, and burrowing owl. The amount of compensation will vary depending on the amount of habitat loss or degree of habitat disturbance anticipated. The compensation plan will be developed and implemented in coordination with the appropriate state or federal agency and would involve identifying an agency-approved mitigation bank or site (on- or off-site); transplanting (elderberry shrubs), re-creating (burrows and vernal pools), or preserving additional habitat for special-status wildlife species; monitoring the mitigation site; or funding the management of the mitigation site.	Prior to, during, and after construction	City of Manteca	City of Manteca	Incorporate in project design. Develop and implement the conservation plan.
3.5. Cultural Resources				
Mitigation Measure CR-1: Conduct Cultural Resource Studies During project design, the City will require that archaeological and built environment inventories are conducted at locations proposed for the construction of distribution pipelines, storage tanks, blending stations, wells, and wellhead treatment facilities prior to construction. Alternatively, the City may use certified environmental documentation to identify cultural resources on well sites within proposed development areas. These studies will include conducting a records search at the Central California Information Center, contacting the NAHC and Native American representatives,	During design and planning	City of Manteca	City of Manteca	Perform assessment prior to design and construction. Incorporate information into project design.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
contacting other interested parties, conducting background research, and conducting a pedestrian inventory of the program area. All resources located as a result of a survey will be recorded on the appropriate Department of Parks and Recreation (DPR) 523 forms, photographed, and mapped. Archaeological resources will be plotted on a 7.5-minute U.S. Geological Survey (USGS) topographic map using data collected with a GPS receiver. Site records will be produced and forwarded to the Central California Information Center (CCIC). The significance of resources will be evaluated using criteria for listing in the CRHR. Impacts to historical resources located as a result of a survey will be analyzed and mitigated, if they cannot be avoided. Mitigation measures may include archaeological excavation, monitoring, or recording to particular standards.				
Mitigation Measure CR-2: Stop Work in Case of Accidental Discovery of Buried Archeological or Paleontological Resources If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, human bone, or fossils, are inadvertently discovered during ground-disturbing activities, the program contractors will stop work within 100 feet of the find until a qualified archaeologist and/or paleontologist can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the City and other appropriate agencies. If human remains of Native American origin are discovered during project construction, it is necessary to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (Pub. Res. Code Sec. 5097). If any human remains are discovered or recognized in any location other than a dedicated cemetery, the program contractors will conduct no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: ■ the coroner of the county has been informed and has determined that no investigation of the cause of death is required; and ■ if the remains are of Native American origin, ❑ the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or	During construction	Program contractors	City of Manteca	Require in contract documents. Verify before issuance of contract.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
❑ the Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission. According to California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission. The above provisions will be included in contract documents.				
3.6. Geology, Minerals, and Soils				
Mitigation Measure GEO-2a: Adherence to California Building Standards Code (CBSC) and American Water Works Requirements The City shall require that all new water supply and distribution infrastructure be designed and constructed to meet or exceed requirements of the current CBSC and the American Water Works Association. This provision shall be written into contract documents for construction of all program elements.	During design and planning	Program contractors	City of Manteca	Require in contract documents. Verify prior to issuance of contract. Incorporate in project design.
Mitigation Measure GEO-2b: Adherence to Recommendations Developed from Site-Specific Geotechnical Studies for Program Elements During design of new water supply and distribution infrastructure, the City shall consider preparation of site-specific geotechnical studies by a qualified geotechnical engineer. A geotechnical study will be required for construction of large or unusual structures, such as water storage tanks. The City may use developer's geotechnical reports to consider geologic and soils impacts on well sites within proposed development areas. Design and construction of program infrastructure will conform to all recommendations of these investigations. This provision shall be written into contract documents.	During design and planning	Program contractors	City of Manteca	Perform assessment prior to design and construction. Incorporate information into project design. Require in contract documents Verify prior to issuance of contract.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
3.7. Hazards and Hazardous Materials				
Mitigation Measure HAZ-1a: Containment of Hazardous Materials Used during Wellhead Treatment Operations The City Fire Department, with oversight from the County Office of Emergency Services, has jurisdiction over containment requirements for production, use, storage, and transport of hazardous chemicals with the city limits. The requirements enforced are contained in the Uniform Fire Code, the Uniform Building Code, and the National Fire Protection Association Series. The City will implement double containment for all chemicals stored onsite at wellhead treatment facilities, and a scrubbing system for pressurized or liquefied gases that are hazardous or would create a nuisance if released. The City Fire Department or County Office of Emergency Services shall verify proper implementation of this measure through routine inspections.	During operation	City of Manteca	City of Manteca Fire Department or County Office of Emergency Services	Incorporate in project design. Verify through routine monitoring after construction.
Mitigation Measure HAZ-1b: Development and Implementation of Plans to Reduce Risk of Exposure of People and the Environment to Hazardous Materials during Wellhead Treatment Operations Any chemicals used during treatment will be regulated under the Hazardous Materials Release Response Plans and Inventory Law of 1985, which requires that a Hazardous Materials Business Plan be prepared for emergency response to a release or threatened release of a hazardous material. In the event an accidental release should occur, this emergency response plan will provide emergency responders with a protocol for containing and disposing of the unintentional release. The City will prepare and implement the Hazardous Materials Business Plan as required.	During design and planning	City of Manteca	City of Manteca	Prepare hazardous materials business plan during design and planning. Implement plan as necessary.
Mitigation Measure HAZ-2: Proper Disposal of Hazardous Materials Any and all residual materials from wellhead treatment that contains arsenic or other constituents of concern at concentrations that meet the standards for "designated" or "hazardous" waste will be stored, handled, and disposed of by the City at the appropriate collection and treatment facility (a Class I landfill) according to Title 27 California Code of Regulations §20210.	During operation	City of Manteca	City of Manteca	Incorporate in project design. Implement during project operations.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Mitigation Measure HAZ-3a: Develop and Implement Plans to Reduce Exposure of People and the Environment to Hazardous Conditions during Construction Activities The City shall require program contractors to develop plans to prevent the pollution of surface water and groundwater and to promote the health and safety of workers and other people in the program vicinity. These plans shall include an operations and maintenance plan, a site-specific safety plan, and a fire prevention plan, in addition to the stormwater pollution prevention plan (SWPPP) required for hydrology impacts (see Mitigation Measure HWQ-1 in Section 3.8, *Hydrology and Water Resources*). The plans are required by law and shall require approval by several responsible agencies. Required approvals include the SWPPP shall be approved by the RWQCB, the site-specific safety plan and the operations and maintenance plan shall be approved by Cal-OSHA, and the fire safety plan shall be approved by the City of Manteca Fire Department. The City shall also require program contractors to develop and implement a hazardous materials management plan that addresses public health and safety issues by providing safety measures, including release prevention measures; employee training, notification, and evacuation procedures; and adequate emergency response protocols and cleanup procedures. Finally, the City shall require program contractors to comply with Cal-OSHA, as well as federal standards, for the storage and handling of fuels, flammable materials, and common construction-related hazardous materials and for fire prevention. Cal-OSHA requirements can be found in the California Labor Code, Division 5, Chapter 2.5 Hazardous Substances Information and Training. Federal standards can be found in Occupational Safety and Health Administration Regulations, Standards—29 CFR, Part 1926 Safety and Health Regulations for Construction. The provisions listed herein will be incorporated into contract documents.	Prior to and during construction	Program contractors	City of Manteca	Require in contract documents. Verify prior to issuance of contract. Verify required approvals prior to construction.
Mitigation Measure HAZ-3b: Follow City of Manteca Fire Department and Other Guidelines for Storage and Handling of Hazardous Materials The City shall require program contractors to transport, store, and handle hazardous materials required for construction in a manner consistent with relevant regulations and guidelines, including those recommended and enforced by the City of Manteca Fire Department. This provision will be reflected in contract documents.	During construction	Program contractors	City of Manteca Fire Department	Require in contract documents. Verify prior to issuance of contract. Implement during project operations.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Mitigation Measure HAZ-3c: Immediately Contain Spills, Excavate Spill-Contaminated Soil, and Dispose of It at an Approved Facility The City shall require that in the event of a spill of hazardous materials in an amount reportable to the City of Manteca Fire Department (as established by fire department guidelines), the program contractor will immediately control the source of the leak and contain the spill. If required by the Fire Department or other regulatory agencies, the contractor will excavate contaminated soils and dispose of them off-site at a facility approved to accept such soils. This provision will be reflected in contract documents.	During construction	Program contractors	City of Manteca Fire Department	Require in contract documents Verify prior to issuance of contract.
Mitigation Measure HAZ-3d: Perform Hazards Records Search Prior to Development of All Program Sites and Implement Necessary Remediation Prior to development of program sites, the City will perform hazardous records searches to determine if the site is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public or the environment. If any hazardous sites are discovered, the City will implement necessary remediation actions as required by law before developing the site.	During design and planning	City of Manteca	City of Manteca	Perform assessment prior to design and construction. Incorporate information into project design.
Mitigation Measure HAZ-3e: Screen Surface Soils in the Program Area for Residuals from Agricultural Chemicals (Fertilizers and Pesticides) To reduce the potential for human exposure to potentially harmful pesticide and fertilizer residues, for program elements being constructed in areas with potential for harmful pesticide and fertilizer residues, the City will require that surface soils in the area be sampled or field screened by a qualified hazardous materials consultant for residuals from agricultural chemicals during construction. Alternatively, the City may use developer's soils reports to determine the presence of agricultural residues on well sites within proposed development areas. The San Joaquin County Environmental Health Department will review the results of soils sampling or screening and identify appropriate handling in accordance with the Department's guidelines. In the event that soil sampling or field screening indicates the presence of hazardous concentrations of agricultural chemicals, the following measures shall apply. Program activities will not be performed within lands where agricultural chemicals have been applied until completion of the restricted access period, to ensure that the concentrations of hazardous agricultural chemicals on the site have been reduced to a	During design and planning	Program contractors	San Joaquin County Environmental Health Department	Perform assessment during construction. Incorporate information into project design. Require in contract documents Verify prior to issuance of contract.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
safe level. The use of appropriate personal protective gear shall be required when working within or adjacent to agricultural lands during the 30 days following the application of agricultural chemicals.				
Mitigation Measure HAZ-5: Incorporate Emergency Access Routes During Construction The City of Manteca Fire Department shall have oversight on emergency access during construction of the program elements. Prior to ground-breaking, program contractors will notify the Fire Department of all construction plans and potential traffic impacts. The Fire Department will verify that adequate emergency access throughout the program area continues during project construction. If emergency access is deemed inadequate during program construction, the Fire Department will identify alternate routes for emergency response. The Fire Department and other emergency service providers will be notified of lane closures and detours at least one week in advance of the closure so that adequate alternate routes can be determined. This provision will be reflected in contract documents.	Prior to construction	Program contractors	City of Manteca Fire Department	Require in contract documents Verify prior to issuance of contract. Verify at start of construction.
Mitigation Measure HAZ-6a: Before Construction Begins, Clear Materials That Could Serve as Fire Fuel from Areas Slated for Construction Activities If dry vegetation or other fire fuels exist on or near construction staging areas, welding areas, or any other area on which equipment will be operated, program contractors shall clear the immediate area of fire fuel. To maintain a firebreak and minimize the availability of fire fuels, the City will require contractors to maintain areas subject to construction activities clear of combustible natural materials to the extent feasible. This provision will be reflected in contract documents.	Prior to construction	Program contractors	City of Manteca	Require in contract documents. Verify prior to issuance of contract. Verify at start of construction.
Mitigation Measure HAZ-6b: Require That Spark-Generating Construction Equipment Be Equipped with Manufacturers' Recommended Spark Arresters Prior to construction of program elements on undisturbed lands or adjacent to agricultural areas, the City will require program contractors to equip any construction equipment that normally includes a spark arrester with an arrester in good working order. Subject equipment includes, but is not limited to, heavy equipment and chainsaws. This provision will be reflected in contract documents to minimize a source of construction-related fire.	Prior to construction	Program contractors	City of Manteca	Require in contract documents. Verify prior to issuance of contract.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
3.8. Hydrology and Water Resources				
Mitigation Measure HWQ-1a: Implement Erosion and Sediment Control Measures Before onset of construction activities on construction sites of one acre or more, the City's program contractor shall obtain coverage under the General Construction Permit. The City will be responsible for ensuring that construction activities comply with the conditions in this permit, which require development of a SWPPP, implementation of BMPs identified in the SWPPP, and monitoring to ensure that effects on water quality are minimized. As a performance standard, the General Construction Permit shall require controls of pollutant discharges that utilize the best available technology (BAT) that is economically achievable, best conventional technology (BCT) to reduce pollutants, and any more stringent controls necessary to meet water quality standards. For construction sites smaller than one acre, the program contractor will comply with City's established SWPPP requirements and BMPs. The following erosion and sediment control BMPs are examples of BMPs that may be part of the SWPPP in order to be included in the construction specifications and project performance specifications, based on standard City measures and standard dust-reduction measures: ■ cover or apply nontoxic soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more) that could contribute sediment to waterways; ■ enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways; ■ control and contain soil and filter runoff from disturbed areas. This will be done by using berms, silt fencing, straw bales or wattles, plastic sheeting or geofabric, silt/sediment traps and catch basins, silt fencing, sand bag dikes, temporary vegetation or other groundcover, or other means necessary to prevent the escape of sediment from the disturbed area; ■ ensure that no earth or organic material shall be deposited or placed where it may be directly carried into a stream, marsh, slough, lagoon, or body of standing water; ■ prohibit the following types of materials from being rinsed or washed into the	Prior to and during construction	Program contractors	City of Manteca	Require in contract documents. Verify prior to issuance of contract. Verify required SWPPP prior to construction. Verify compliance during construction through routine inspections.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
streets, shoulder areas, or gutters: concrete; solvents and adhesives; thinners; paints; fuels; sawdust; dirt; gasoline; asphalt and concrete saw slurry; and heavily chlorinated water; ■ ensure that dewatering activities shall be conducted according to the provisions of the SWPPP. No dewatered materials shall be placed in local water bodies or in storm drains leading to such bodies without implementation of proper construction water quality control measures; ■ ensure that drainage facilities in downstream off-site areas will be protected from sediment using BMPs acceptable to City of Manteca and the Central Valley RWQCB; and ■ ensure that grass or other vegetative cover will be established on the construction site as soon as possible after disturbance. Preparation and implementation of a SWPPP will be conducted by the City or its program contractors. The City will review the SWPPP and ensure that its contractors have submitted an NOI to comply with the General Construction Permit to the Central Valley RWQCB before construction begins. The City or its agent will perform routine inspections of the construction area to verify that the BMPs specified in the SWPPP are properly implemented and maintained. The City will notify its contractors immediately if there is a noncompliance issue and will require compliance.				
Mitigation Measure HWQ-1b: Develop and Implement a Spill Prevention, Control, and Countermeasure Program for Construction Activities The program contractor will develop and implement a Spill Prevention, Control, and Countermeasure Program (SPCCP) to minimize the potential for and effects from spills of hazardous, toxic, or petroleum substances during construction activities. The SPCCP will be completed before any construction activities begin. Implementation of this measure shall comply with state and federal water quality regulations. The federal reportable spill quantity for petroleum products, as defined in 40 CFR 110, is any oil spill that: ■ violates applicable water quality standards, ■ causes a film or sheen on or discoloration of the water surface or adjoining	Prior to and during construction	Program contractors	City of Manteca	Require in contract documents. Verify prior to issuance of contract. Verify required SPCCP prior to construction. Verify compliance through routine inspection during construction.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
shoreline, or ■ causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines. If a spill is reportable, the contractor's superintendent will notify the City and take action to contact the appropriate safety and cleanup crews to implement the SPCCP. A written description of reportable releases must be submitted to the Central Valley RWQCB. This submittal must contain a description of the release, including the type of material and an estimate of the amount spilled, the date of the release, an explanation of why the spill occurred, and a description of the steps taken to prevent and control future releases. The releases shall be documented on a spill report form. If an appreciable spill has occurred and results determine that program activities have adversely affected surface water or groundwater quality, a detailed analysis shall be performed to identify the likely cause of contamination, and recommendations shall be made for reducing or eliminating the source or mechanisms of contamination. Based on this analysis, the program contractor will select and implement measures to control contamination, with a performance standard that surface and/or groundwater quality must be returned to baseline conditions. These measures will be subject to review by the City. The City will review the SPCCP before onset of construction activities as required. The City will routinely inspect the construction area to verify that the measures specified in the SPCCP are properly implemented and maintained. The City will notify its contractors immediately if there is a noncompliance issue and will require compliance.				
Mitigation Measure HWQ-1c: Develop and Implement a Frac-Out Contingency Plan for Jack and Bore Activities For tunneling activities that use drilling lubricants (e.g., construction of pipelines using jack-and-bore methods), the program contractor will prepare and implement a Frac-Out Contingency Plan that is intended to minimize the potential for a frac-out associated with tunneling activities, provide for the timely detection of frac-outs, and ensure an organized, timely, and "minimum-impact" response in the event of a frac-out and release of drilling lubricant (i.e., bentonite). The Contingency Plan will require, at a minimum, the following measures. ■ A full-time monitor will attend all drilling to look for observable frac-out	Prior to and during construction	Program contractors	City of Manteca	Require in contract documents. Verify prior to issuance of contract. Verify Frac-Out Contingency Plan prior to construction.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
conditions or lowered pressure readings on drilling equipment. ■ If a frac-out is identified, all work will stop, including the recycling of drilling lubricant. In the event of a frac-out into water, the pressure of water above the tunnel will keep excess mud from escaping through the fracture. The location and extent of the frac-out will be determined, and the frac-out will be monitored for 4 hours to determine whether the drilling lubricant congeals (bentonite will usually harden, effectively sealing the frac-out location). ■ If the drilling lubricant congeals, no other actions will be taken that potentially suspend sediments in the water column. ■ Surface releases of bentonite will be allowed to harden and then will be removed. ■ The Contingency Plan will identify additional measures to be taken to contain or remove the drilling lubricant if it does not congeal. Preparation and implementation of a Frac-Out Contingency Plan will be reflected in contract documents.				
Mitigation Measure HWQ-2a: Use Trenchless Technology. Where distribution pipelines cross water bodies, the City will require its program contractor to use trenchless technology (microtunneling or jack-and-bore), where feasible. Frac-out plans as described in Mitigation Measure HWQ-1c shall be implemented as necessary.	During construction	Program contractors	City of Manteca	Require in contract documents. Incorporate in project design. Verify prior to issuance of contract.
Mitigation Measure HWQ-2b: Dry-Season Construction. Where Mitigation Measure HWQ-2a is not feasible, and flows in the water body (or area) are seasonal, construction shall be conducted during the dry season. The program site will be restored prior to the onset of the rainy season to minimize the potential for erosion. This proposed mitigation is subject to additional conditions as a result of negotiations of the required permits from USACE, DFG, and the Central Valley RWQCB.	During and after construction	Program contractors	City of Manteca	Require in contract documents. Incorporate in project design. Verify prior to issuance of contract.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Mitigation Measure HWQ-2c: Implement Measures to Maintain Water Quality. Where construction in a water body is unavoidable, the City will require its program contractor to control the release of sediment during construction by installing a sheet-pile cofferdam or another method that will control turbidity to the specifications listed below. This will ensure that construction activities result in minimal increases in turbidity or suspended solids. The City will require its program contractor to monitor turbidity and suspended solids during the installation and removal of the cofferdam and periods of dewatering during installation of the outfall. If levels exceed the Basin Plan standards, the City will stop work until levels are within Basin Plan limits. Basin Plan standards for turbidity state that project activities will not cause an increase in ambient river turbidity by more than 20% above background turbidity (California Regional Water Quality Control Board 1998). During the first week of construction, turbidity measurements will be taken in the river channel upstream of construction for baseline comparison conditions and at distances of 200 and 600 feet downstream of the program site. Measurements will be taken three times per day during the construction period, and measurements shall be taken where flow regime is applicable to the relative flow regime around the construction zone so the sample is representative of the water quality affected by construction. If turbidity violates the Basin Plan standard described above, operations will stop and the RWQCB will be notified. Investigation of the cause of the significant turbidity increase will be conducted and corrections will be made in construction operations where applicable. If necessary, the frequency and duration of monitoring may be revised in coordination with the RWQCB as part of the NPDES permit process. This mitigation measure is subject to alteration through negotiations of the other required permits from USACE, DFG, and the Central Valley RWQCB.	During and after construction	Program contractors	City of Manteca	Require in contract documents. Incorporate in project design. Verify prior to issuance of contract. Verify monitoring during the construction period.
Mitigation Measure HWQ-2d: Provisions for Dewatering. Dewatering effluent shall be discharged to the SSJID drainage system and is subject to the SSJID-City of Manteca Storm Drainage Agreement. Before discharging any substance that could reach surface waters, the City's program contractors shall obtain an NPDES permit and WDRs from the Central Valley RWQCB. Depending on the volume and characteristics of the discharge, coverage under the RWQCB's General Construction Permit or General Dewatering Permit is possible. As part of the permit, the program contractors will design and implement measures as	Prior to and during construction	Program contractors	City of Manteca	Require in contract documents. Incorporate in project design. Verify prior to issuance of contract. Verify NPDES

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
necessary so that the discharge limits identified in the relevant permit are met. As a performance standard, these measures will be selected to achieve maximum sediment removal and represent the BAT that is economically achievable. Implemented measures may include retention of dewatering effluent until particulate matter has settled before it is discharged, use of infiltration areas, and other BMPs. Final selection of water quality control measures will be subject to review by the City of Manteca. The City of Manteca will verify that coverage under the appropriate NPDES permit has been obtained before allowing dewatering activities to begin. The City or its agent shall perform routine inspections of the construction area to verify that the water quality control measures are properly implemented and maintained. The City will notify its contractors immediately if there is a noncompliance issue and will require compliance.				permit prior to construction. Verify compliance during dewatering thorough routine inspection.
3.9. Land Use and Planning				
None				
3.10. Noise				
Mitigation Measure NOI-1a: Limit Hours of Construction. The City will require all program contractors to comply with the City's 2023 General Plan Noise Element, Noise Ordinance, and zoning regulations. Construction activities for water supply infrastructure, except distribution pipelines, shall be limited to the hours between 7:00 a.m. and 10:00 p.m. All wells, wellhead treatment facilities, turn-outs, storage tanks, and other infrastructure outside of roadway ROWs shall adhere to these construction limits. However, this requirement is not applicable to construction of distribution mains in ROWs, when traffic conditions necessitate that construction activities occur on a 24-hour-per-day basis. During phases of 24-hour-per-day construction in ROWs, program contractors shall notice all neighbors within 500-feet of the pipeline segment a minimum of three weeks prior to ground-breaking. This provision will be reflected in contract documents.	During construction	Program contractors	City of Manteca	Require in contract documents. Verify prior to issuance of contract. Verify periodically during construction.
Mitigation Measure NOI-1b: Prepare a Noise Control Plan. The City will require its program contractor to prepare a detailed Noise Control Plan based on the construction methods proposed. This plan will identify specific measurement that will be taken to ensure compliance with the noise limits specified	Prior to construction	Program contractors	City of Manteca	Require in contract documents. Verify prior to issuance of contract.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
above. The Noise Control Plan shall be reviewed and approved by City staff before any noise-generating construction activity begins. As part of this Plan, the City's program contractor shall employ noise-reducing construction practices such that noise standards in the City's 2023 General Plan Noise Element, Noise Ordinance, and zoning regulations are not exceeded. Measures that shall be used to limit noise include, but are not limited to: ■ locating equipment as far a practical from noise sensitive uses, ■ using mufflers on all standard equipment, ■ selecting haul routes that affect the fewest number of people, ■ using noise-reducing enclosures around noise-generating equipment, ■ constructing barriers between noise sources and noise-sensitive land uses or taking advantage of existing barrier features (terrain, structures) to block sound transmission, and ■ enclosing equipment. In the event that the construction engineer is unable to mitigate construction-related noise to the levels specified, the program contractor shall cease construction activities and employ additional mitigation measures sufficient to meet the noise levels above or offer to temporarily relocate residents (i.e., provide hotel vouchers). This provision will be reflected in contract documents.				Verify Noise Control Plan prior to construction.
Mitigation Measure NOI-1c: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking Program. The program contractor shall notify all residents and businesses within 500 feet of construction areas of the construction schedule in writing a minimum of three weeks prior to ground-breaking. The program contractor will designate a noise-disturbance coordinator who will be responsible for responding to complaints regarding construction noise. The coordinator will determine the cause of the complaint and will ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the noise-disturbance coordinator will be conspicuously posted on construction site fences and will be included in the written notification of the construction schedule sent to nearby residents. This provision will be reflected in contract documents.	Prior to construction	Program contractors	City of Manteca	Require in contract documents. Verify prior to issuance of contract. Verify status of Complaint/Response Tracking Program periodically during construction.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Mitigation Measure NOI-2: Employ Vibration-Reducing Construction Practices The City's program contractor shall employ vibration-reducing construction practices such that vibration standards in the City's 2023 General Plan Noise Element, Noise Ordinance, and zoning regulations are not exceeded. Measures that may be used to limit vibration include, but are not limited to: ■ locating vibration-generating equipment as far as possible from vibration-sensitive land uses; ■ avoiding simultaneous operation of multiple pieces of vibration-generating equipment; ■ avoiding nighttime construction in residential areas; ■ avoiding construction processes that generate high vibration levels (for example, vibration from pile driving can be reduced or eliminated by using pre-drilled holes, pushed piles, or shielded pile drivers); and ■ avoiding the use of vibratory rollers near vibration-sensitive uses. This provision will be reflected in contract documents.	During construction	Program contractors	City of Manteca	Require in contract documents. Verify prior to issuance of contract.
Mitigation Measure NOI-3: Design Pump Stations, Other Noise-Generating Facilities, and Building Enclosures to Meet Local Noise Standards The City will design the new booster pump stations, other noise-generating facilities, and building enclosures so that noise levels do not exceed applicable City noise standards and ordinances. Prior to field acceptance, the City shall retain an acoustical consultant to measure noise levels from the operating facility. If program-generated noise exceeds the noise ordinance performance standards, additional noise-attenuation measures shall be implemented to meet the standards. The proposed facility shall not receive final acceptance until the required noise standards are met. This measure shall be made a condition of the final design review.	During design and planning	Program contractors	City of Manteca	Require in contract documents. Perform assessment prior to field acceptance. Incorporate information into project design. Verify standard compliance prior to facility operation.
3.11. Population and Housing				
None				

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
3.12. Public Services, Utilities, and Recreation				
Mitigation Measure PSU-3a: Identify and Relocate Existing Utilities Where Necessary The City of Manteca and its program contractors will coordinate with PG&E and other service providers early in the development of individual program elements to ensure adequate access to utility lines or to discuss any necessary utility relocation. The City's program contractor shall identify all underground utilities in the areas of proposed excavations for all program elements. Prior to beginning construction, Underground Services Alert shall be contacted to identify underground utilities. Where possible, design and specifications for program elements shall avoid existing utilities. In instances where utilities cannot be avoided, the City will relocate existing utilities either before, or during, program construction.	Prior to construction	Program contractors	City of Manteca	Require in contract documents. Incorporate in project design. Verify prior to issuance of contract.
3.13. Transportation				
Mitigation Measure TR-1: Develop and Implement a Traffic Control Plan In accordance with the City of Manteca's policy on street closures and traffic diversion for arterial and collector roadways, the program contractor will prepare a Traffic Control Plan (to be approved by the City Engineer) prior to construction. The Traffic Control Plan will include: ■ a street layout showing location of construction activity and surrounding streets to be used as detour routes, including "special signage;" ■ a tentative start date and construction duration period for each phase of construction; ■ the name, address, and emergency contact number for those responsible for maintaining the traffic control devices during the course of construction; and ■ written approval to implement traffic control from other agencies, including Caltrans and the County, as needed. Additionally, the Traffic Control Plan will include, but may not be limited to, the following stipulations: ■ provide access for emergency vehicles at all times; ■ maintain access for driveways and private roads, except for brief periods of construction, in which case property owners will be notified;	Prior to and during construction	Program contractors	City of Manteca	Require in contract documents. Verify prior to issuance of contract. Verify Traffic Control Plan prior to construction.

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
■ provide adequate off-street parking or use designated public parking areas for construction-related vehicles not in use through the construction period and construction workers' personal vehicles;				
■ restrict delivery of construction materials to between the hours of 9:00 a.m. and 3:00 p.m. to avoid more congested morning and evening hours;				
■ identify roadway segments or intersections that are at or approaching LOS that exceeds local standards and provide for construction-generated traffic to avoid these locations at the peak periods, either by traveling different routes or by traveling at non-peak times of day. Locations listed in Table 3.13-7 and Table 3.13-8 will potentially be identified if construction occurs prior to City-planned transportation improvements reflected in Table 3.13-9;				
■ maintain pedestrian and bicycle access and circulation during project construction where safe to do so. If construction encroaches on a sidewalk, a safe detour will be provided for pedestrians at the nearest painted crosswalk. If construction encroaches on a bike lane, warning signs will be posted that indicate bicycles and vehicles are sharing the roadway;				
■ include traffic controls such as flag persons wearing OSHA-approved vests and using the "Stop/Slow" paddle to warn motorists of construction activity;				
■ maintain access to transit and ensure that public transit vehicles are detoured if temporary road closures occur;				
■ post standard construction warning signs in advance of the construction area and at any intersection that provides access to the construction area;				
■ post construction warning signs in accordance with local standards or those set forth in the Manual on Uniform Traffic Control Devices (Federal Highway Administration 2001) in advance of the construction area and at any intersection that provides access to the construction area;				
■ during lane closures, notify the Manteca Fire Department and Manteca Police Department of construction locations and ensure that alternative evacuation and emergency routes are designed to maintain response times during construction periods, if necessary;				
■ provide written notification to appropriate contractors regarding appropriate routes to and from construction sites and weight and speed limits for local roads used to access construction sites. Submit a copy of all such written				

Mitigation Measures	Timing	Implementing Party	Monitoring Party	Monitoring Actions
notifications to the Manteca Planning Department; and ■ repair or restore the road right-of-way to its original condition or better upon completion of the work. Preparation and implementation of a Traffic Control Plan will be reflected in contract documents.				

Addendum to the Manteca Water Master Plan Environmental Impact Report

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Acronyms and Abbreviations

2023 General Plan	*City of Manteca 2023 General Plan*
CEQA	California Environmental Quality Act
EIR	environment impact report
MCL	maximum contaminant level
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SSJID	South San Joaquin Irrigation District
the City	City of Manteca
WMP	Water Master Plan

Chapter 1
Introduction

Project History

The City of Manteca (City) prepared a Water Master Plan (WMP) in 2005 and adopted the WMP in 2007 (hereinafter called the 2007 WMP). In implementing the 2007 WMP, the City has developed more detailed information about specific water treatment facilities that was not available at the time of certification of the program environmental impact report (EIR) for the 2007 WMP. Specifically, the City has determined the type and location of improvements needed to reduce arsenic and/or nitrate concentrations to acceptable levels. The City now plans to construct these improvements.

2007 Water Master Plan Environmental Impact Report

The City developed a WMP to guide improvement and expansion of the City's water system to meet current and future needs for a safe, reliable water supply and distribution system. The proposed program addressed the water requirements of the *City of Manteca 2023 General Plan* (2023 General Plan) and recommends capital improvements to support existing infrastructure and customer demands as well as planned new development.

The City proposes to construct and operate new wells and wellhead treatment facilities, blending facilities, storage tanks, pipelines, and associated facilities.

All of these facilities were considered necessary to provide adequate municipal and industrial water supply within the City's service area.

A program EIR for the WMP was prepared in 2005 to analyze the impacts of the WMP. The Draft EIR and Final EIR were certified in 2007, hereinafter called the 2007 WMP EIR.

Developments Subsequent to the Environmental Impact Report

In implementing the WMP, the City developed more detailed information about specific water treatment facilities that was not available at the time of certification of the EIR. Specifically, the City has determined the type and location of improvements needed to reduce arsenic and/or nitrate concentrations to acceptable levels. The City now plans to construct these improvements.

Addendum Requirements

The California Environmental Quality Act (CEQA), Section 15164 provides for the preparation of an addendum to an EIR and, in part, states the following.

(a) The lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.

(b) An addendum to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred.

Section15162(a) requires preparation of a subsequent EIR under the following circumstances.

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

(2) Substantial changes occur with respect to the circumstances under which the project is under-taken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project

proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

None of the provisions of Section15162 apply to the proposed change; therefore, an addendum (rather than a Subsequent EIR) has been prepared. Specifically, there are no new significant effects or substantial increases in the severity of previously identified effects; no changes to the circumstances under which the project is undertaken; and no new information of substantial importance.

Scope of the Addendum

Topics Evaluated in the Addendum

The following are the resource areas and topics evaluated in this addendum.

- Aesthetics and Visual Resources.
- Agricultural Resources.
- Air Quality.
- Biological Resources.
- Cultural Resources.
- Geology and Soils.
- Hazards and Hazardous Materials.
- Hydrology and Water Quality.
- Land Use and Planning.
- Noise.
- Population and Housing.
- Public Services.
- Traffic/Transportation.
- Cumulative Impacts.
- Growth Inducing Impacts.

Levels of Significance

The following terminology is used to evaluate the level of significance of impacts discussed in this addendum.

- A finding of *no impact* is made when the analysis concludes that the proposed project would not affect the particular environmental resource.
- An impact is considered *less than significant* if the analysis concludes that there would be no substantial adverse change in the environment without mitigation.
- An impact is considered *significant* if the analysis concludes that there could be a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the proposed project; these physical conditions include land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. A significant impact is considered:
  - *less than significant with mitigation* if the analysis concludes that there would be no substantial adverse change in the environment with the inclusion of the mitigation measure(s) described; or
  - *significant and unavoidable* if the analysis concludes that there could be a substantial adverse effect on the environment, and no feasible mitigation measures are available to reduce the impact to a less-than-significant level.

Mitigation refers to specific measures or activities adopted to avoid an impact, reduce its severity, or compensate for it. Section 15370 of the State CEQA Guidelines defines *mitigation* as any of the following actions.

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

(c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

(e) Compensating for the impact by replacing or providing substitute resources or environments.

CEQA requires that lead, responsible, and trustee agencies avoid or substantially reduce, to the maximum extent feasible, the significant adverse environmental effects of a project through the imposition of mitigation measures and alternatives prior to approving a project. This addendum includes mitigation measures to reduce the otherwise significant impacts discussed in this addendum.

Public Participation

Pursuant to CEQA (§15164(c)), "[a]n addendum need not be circulated for public review but can be included in or attached to the final EIR or adopted negative declaration." This addendum will not be formally circulated for public review in the same manner as the EIR, but will be included in the final WMP EIR.

Lead and Responsible Agencies and Permit Approvals

This addendum may be used by several responsible or trustee agencies that also have review authority over the proposed project. As stated in State CEQA Guidelines Section 15231:

> A final EIR prepared by a lead agency or a negative declaration adopted by a lead agency shall be conclusively presumed to comply with CEQA for purposes of use by responsible agencies which were consulted pursuant to Sections 15072 or 15082 unless one of the following conditions occurs:
>
> (a) The EIR or Negative Declaration is finally adjudged in a legal proceeding not to comply with the requirements of CEQA, or
>
> (b) A subsequent EIR is made necessary by Section 15162 of these Guidelines.

The various local, state, and federal agencies that may use the EIR are identified in Chapter 2, *Project Description.*

Document Organization

This draft addendum has been organized by section (according to State CEQA Guidelines) and by the analysis required for the purposes of this addendum.

- **Chapter 1, *Introduction,*** provides an overview of the proposed project, the use of an addendum, the scope of the addendum, the public review process, and document organization.
- **Chapter 2, *Project Description,*** identifies project objectives, the location, existing site conditions, project characteristics, and lead and responsible agencies.
- **Chapter 3, *Resources Analyzed,*** provides updated setting information, impacts evaluation, and mitigation requirements for resource areas analyzed as part of this addendum. Included in this chapter, under *Resource Topics Evaluated in the Addendum,* are the resource topics listed above.
- **Chapter 4, *References Cited,*** includes a listing of all sources used for the preparation of this addendum.

Chapter 2
Project Description

Project Location

The proposed project is located within the city of Manteca in San Joaquin County (Figure 2-1). The proposed project would consist of onsite treatment improvements at existing wellheads that are part of the City's water supply system. The proposed project would also includes the installation of a central treatment facility located at a City-owned parcel to provide treatment for three well sites where there is insufficient space available to accommodate an onsite treatment facility. Moreover, the proposed project would include the construction of pipelines to transport high-quality surface water to these wellheads for blending purposes. The pipelines would be placed under existing City roadways, except for a pipeline being constructed from Austin Road to well 19, which will cut across multiple existing parcels within city limits (Figure 2-2), and a pipeline being constructed from South Powers Avenue to Bessemer Avenue, which will cut across one existing parcel (Figure 2-3).

Project Objectives

The objective of the proposed project is to provide a strategic approach for obtaining compliance with the state and federally mandated maximum contaminant levels (MCL) for arsenic and nitrate.

Project Characteristics

The proposed project will include the installation of treatment systems for arsenic and/or nitrate. Although these systems were contemplated at a program level in the City's WMP EIR, the City has developed more detailed information about these arsenic and nitrate treatment facilities that was not available at the time of EIR certification. These treatment systems will include three primary elements: installation of wellhead treatment facilities; installation of blending treatment facilities; and installation of pipelines to transport high-quality surface water to the blending treatment facilities. Each of these elements is described in greater detail below.

Wellhead Treatment Facilities

Wellhead treatment involves installing a treatment system at a well site to reduce arsenic and/or nitrate concentrations to below the state and federal mandated MCL. The exception to onsite treatment is for wells 13, 19 and 21. There is insufficient space available at these well sites to accommodate an onsite treatment facility, and as such, the City plans to locate a treatment system at a City-owned parcel to provide central treatment for these three wells. As shown on Figure 2-3, new pipelines will convey untreated water from wells 13, 19 and 21 to a central location for treatment. After treatment a single new pipeline will introduce the treated water into the City's potable water system. All well sites that will receive wellhead treatment may eventually receive blending as well, but will initially only receive wellhead treatment. The well sites scheduled for wellhead treatment initially, then blending in the future, are wells 13, 14, 19, 20, 21, 24, and 25, as depicted in Figure 2-2.

Wellhead treatment facilities have already been installed at wells 14, 24, and 25, and installation is underway at well 20. The wellhead treatment facilities at wells 20, 24, and 25 were the subjects of separate environmental documents in compliance with CEQA (State Clearinghouse Number 2008122020 for well 20 and 2008022006 for wells 24 And 25). Therefore, installation of wellhead treatment facilities at these sites is not considered in this addendum.

Wellhead treatment facilities that are to be located at the various well sites and at the central treatment location will consist of a filtration system. Each filtration system will be comprised of two steel, cylindrical filtration vessels that are approximately 18 feet in height and 12 feet in diameter. The vessels will be located adjacent to the wellhead and filled with a filtration media approved by the California Department of Public Health for removal of arsenic and/or nitrate. New 6-inch-diameter piping will convey untreated well water to the filtration vessels and new 6-inch-diameter piping will convey treated water from the filtration vessels to the City's potable water system. The filter media removes arsenic and nitrate through adsorption, and thus the filter media must be replaced with fresh media every 6 to 12 months. The used filter media will be hauled to an appropriate landfill for disposal.

With the exception of well 14, an adsorptive-type filter media will be used at the central treatment location and at all well sites scheduled to receive well head treatment. Regarding well 14, a filtration system already exists at this well site to reduce manganese levels to comply with state and federal requirements. Although the well 14 filtration system contains similar filtration vessels and piping as noted above, it does not use an adsorptive-type media for the filtration process. Instead, the well 14 filtration system uses chemicals and a sand-based media to remove manganese through coagulation and filtration. By adding another chemical (ferric chloride) into the filtration process, the well 14 filtration system is also capable of removing arsenic. The well 14 filter media is backwashed on a routine basis and reused, rather than replaced. The backwash water is discharged to the City's sanitary sewer system where it is treated at the City's wastewater treatment plant.

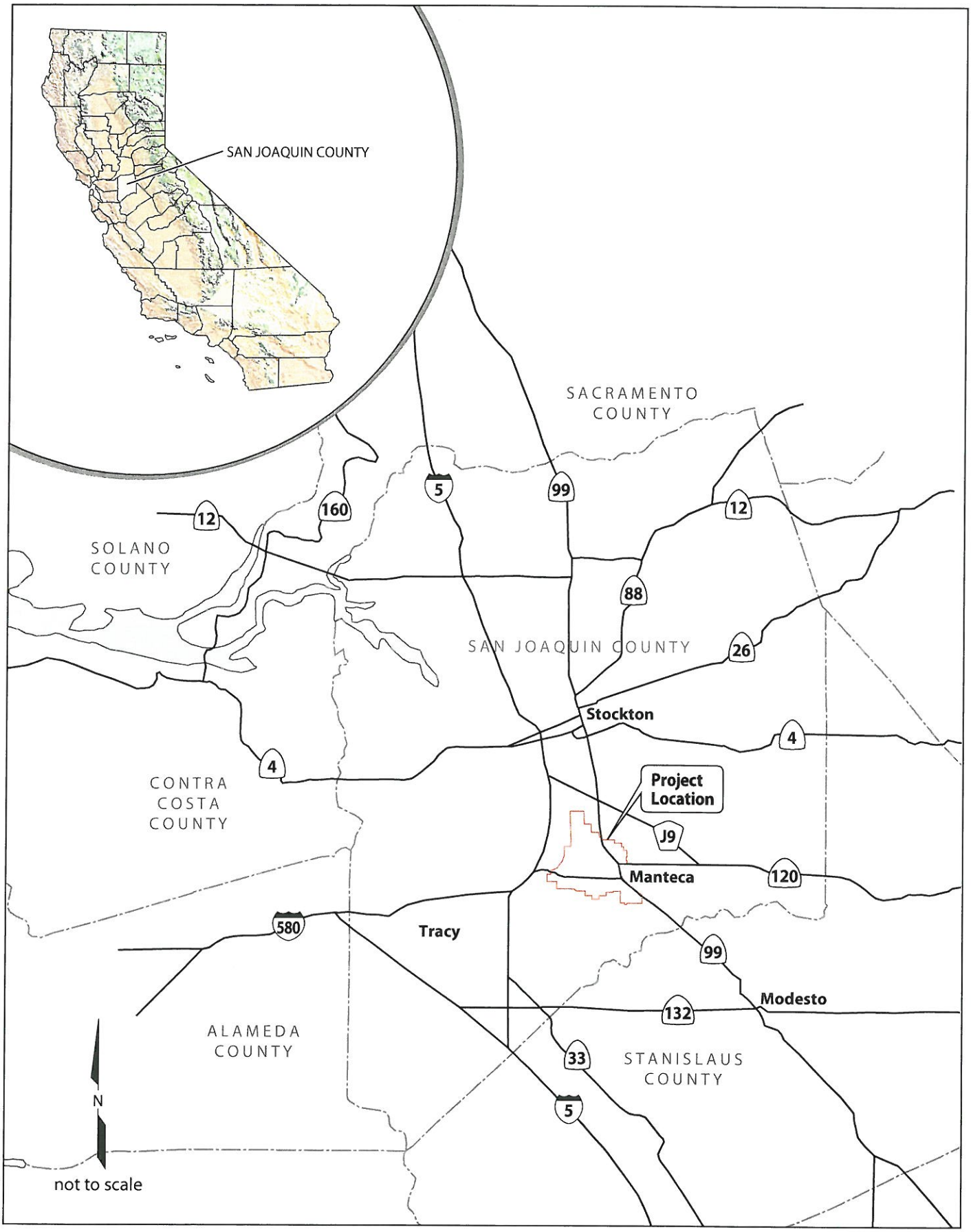

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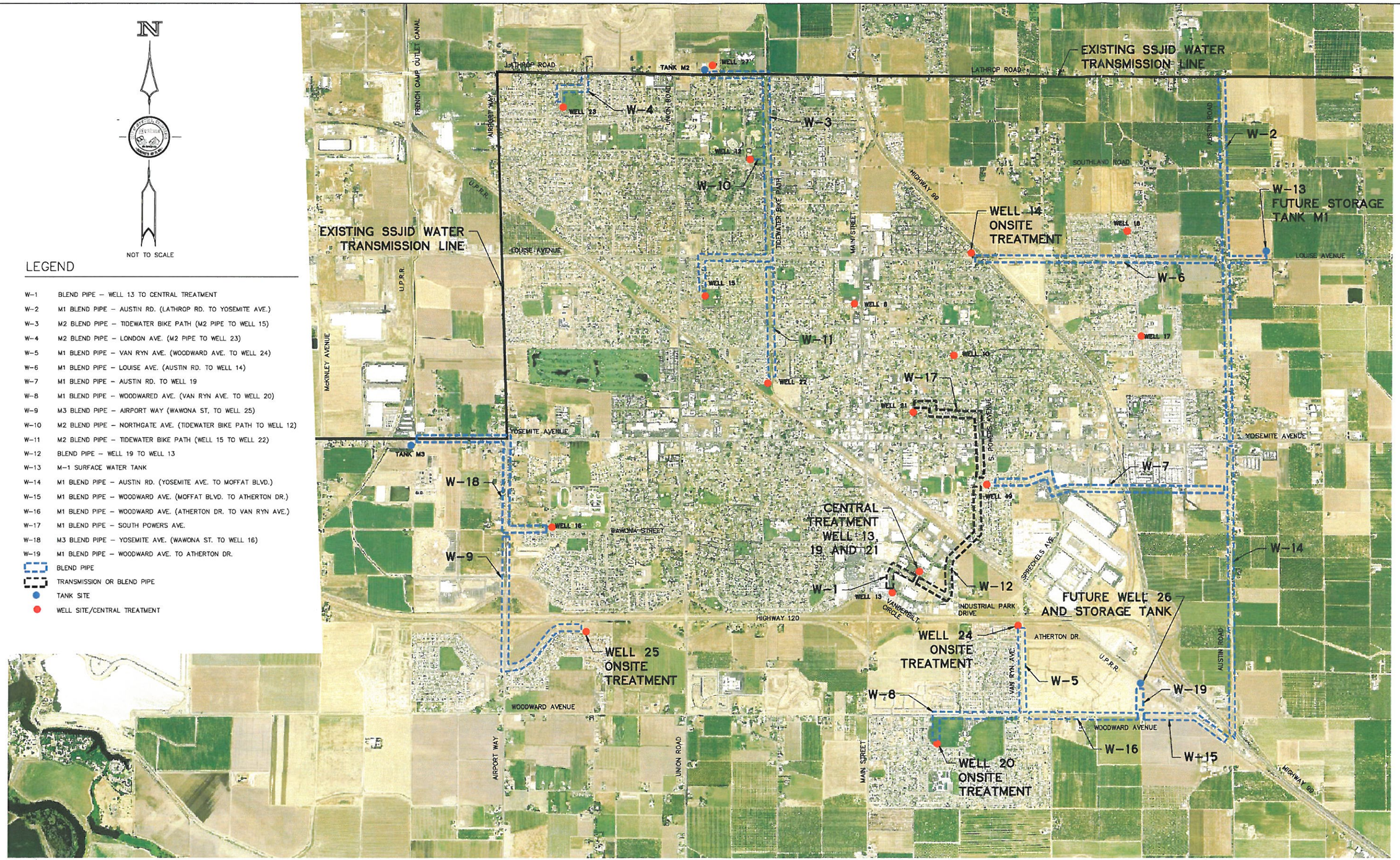
Figure 2-1
Project Vicinity Map



Source: City of Manteca, 2009.

ICF Jones & Stokes
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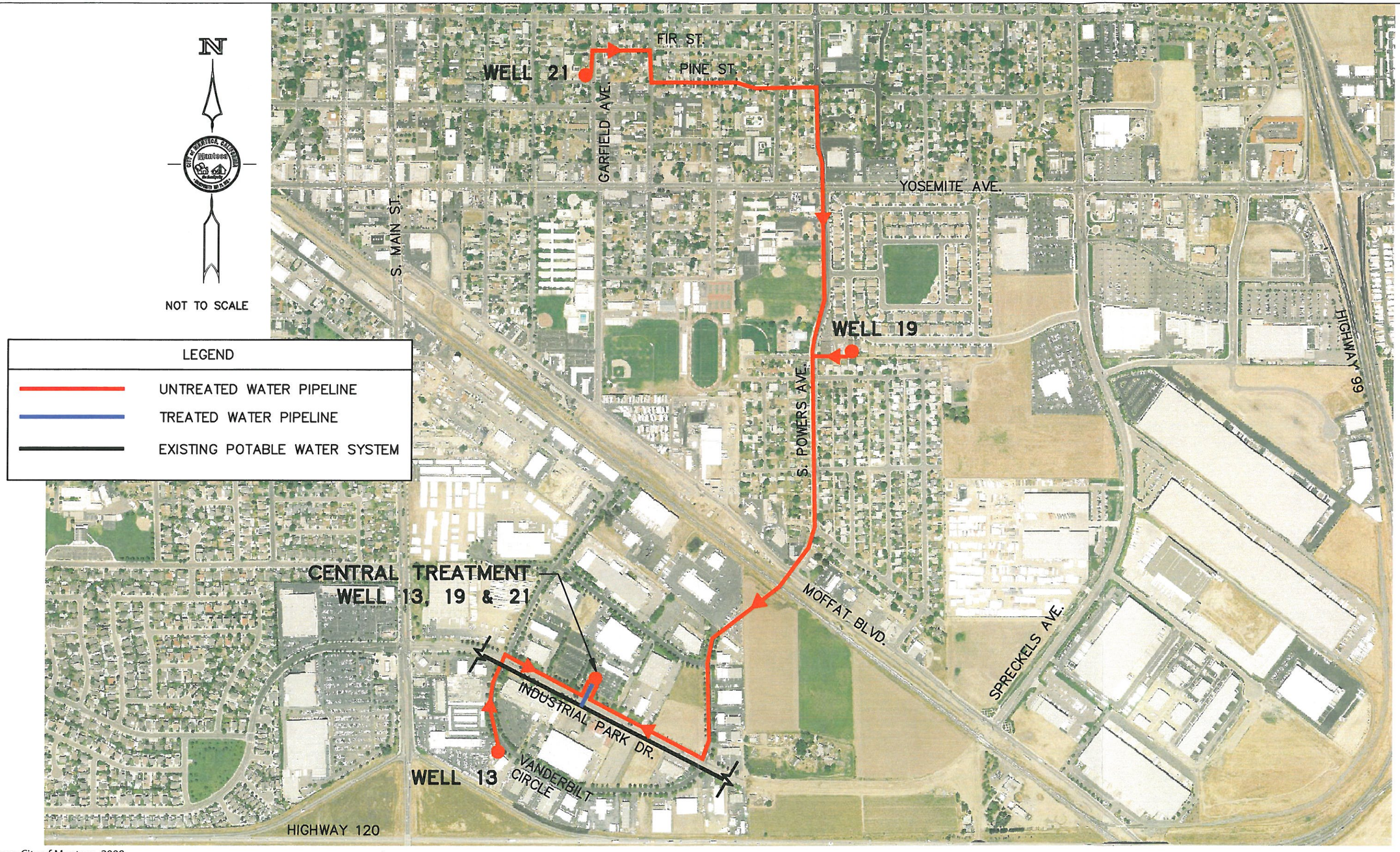
Figure 2-2
Project Location

00246.09 (3-09)



Source: City of Manteca, 2009.

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Figure 2-3
Well 13, 19 and 21 Central Treatment Location

Blending Treatment Facilities

Blending involves mixing the City's well water with high-quality surface water to achieve arsenic and/or nitrate concentrations below the state and federally mandated MCL. The well sites scheduled for blending only are wells 12, 15, 16, 22, and 23. The well sites scheduled for wellhead treatment initially, then blending in the future, are wells 13, 14, 19, 20, 21, 24, and 25. For those well sites that have both treatment facilities, one or both facilities may operate at any time.

Pipeline Construction

The source of the high-quality surface water for blending treatment is the South San Joaquin Irrigation District's (SSJID) south county water treatment plant. To deliver the high-quality SSJID surface water to the well sites, pipelines will be constructed from SSJID's surface water transmission pipelines to the well sites.

All pipelines will be installed in existing roadways, with two exceptions: the pipeline to well 19 and the pipeline connecting wells 19 and 21 to the central treatment facility. The blending pipeline for well 19 will cut across multiple existing parcels within city limits, including parcels with agricultural and commercial uses. (Figure 2-2) The untreated water pipeline connecting wells 19 and 21 to the central treatment facility would cut across one existing parcel, which is currently an agricultural use (Figure 2-3). The trench for the proposed pipeline would be approximately 4–5 feet deep and 3 feet wide.

Untreated Wells

Some wells described in the WMP EIR do not need any sort of wellhead or blending treatment. Wells 5 and 9 have been abandoned or converted to landscape irrigation uses. Wells 8, 10, 17, and 18 are currently compliant with arsenic and nitrate regulations.

Project Phasing

The proposed project will occur in two phases. Phase 1 involves installing pipelines to the blending-only wells (wells 12, 15, 16, 22, and 23) and concurrently installing Wellhead treatment at the remaining wells (wells 13, 14, 19, 20, 21, 24, and 25). Phase 2 involves installing blending pipelines to wells 13, 14, 19, 20, 21, 24, and 25.

Intended Uses of this Addendum

This addendum is intended to provide additional information to the 2007 WMP EIR, in order to provide environmental review for the proposed installation of a treatment system for arsenic and/or nitrate not described in detail in the WMP EIR.

Lead and Responsible Agencies and Permit Approval

The City is the lead agency for this environmental document.

This addendum to the WMP EIR will be used by the City to document the potential impacts and to determine whether the impacts related to the proposed project could be avoided or mitigated to less-than-significant levels. The addendum to the WMP EIR may also be used by regulatory and responsible agencies such as state agencies. Such agencies are responsible for issuing permits and approvals that may be needed to proceed with the proposed project. Potential future permits may include those listed below.

- Amendment of the City's water permit by the California Department of Public Health.
- San Joaquin County, Public Works Department: encroachment permit (county roadways); grading permit; approval of road closures, detours, and traffic control plan.
- San Joaquin County, Environmental Health Department: well abandonment and destruction.
- California Occupational Safety and Health Administration: Preliminary Gas Classification (microtunnelling); excavation/trenching permit.
- California Department of Fish and Game: streambed alteration agreement.
- California Department of Transportation: encroachment permit (state highways).
- U.S. Army Corps of Engineers: Section 404 permit.
- Regional Water Quality Control Board: Section 401 Certification; National Pollutant Discharge Elimination System Stormwater General Construction Permit.
- U.S. Fish & Wildlife Service: incidental take permit under Section 10 of the federal Endangered Species Act; consultation under Section 7 of the federal Endangered Species Act.
- State Historic Preservation Office: compliance with Section 106 of the National Historic Preservation Act.
- California Air Resources Board: authority to construct.

- San Joaquin Valley Air Pollution Control District: authority to construct.
- California Department of Toxic Substance Control.

Chapter 3
Resources Analyzed

Introduction

This chapter identifies and discusses resource areas analyzed for the purposes of this addendum.

Resource Topics Analyzed in the Addendum

Following a review of the EIR, it was determined that analysis was needed for the following resource areas.

- Aesthetics/Visual Resources.
- Agricultural Resources.
- Air Quality.
- Biological Resources.
- Cultural Resources.
- Geology and Soils.
- Hazards and Hazardous Materials.
- Hydrology and Water Quality.
- Land Use and Planning.
- Noise.
- Population and Housing.
- Public Services.
- Traffic/Transportation.
- Cumulative Impacts.
- Growth-Inducing Impacts.

Aesthetics/Visual Resources

Changes to Setting

The 2007 WMP EIR project considered the entire city of Manteca as the environmental setting for aesthetics and visual resources because the specific locations of improvements were unknown at the time, and the proposed project area was considered in the 2007 WMP EIR. However, specific locations are known for the proposed project, and the proposed project would affect a smaller area than that analyzed in the 2007 WMP EIR.

There have been no significant changes related to aesthetics or visual resources to the regulatory or environmental setting of the proposed project area since the certification of the 2007 WMP EIR.

Impact Analysis

Due to its flat topography, the proposed project area does not provide scenic vistas that would be adversely impacted by the proposed project elements. The proposed project would cause temporary visual disturbances resulting from construction; however, with implementation of mitigation measures *AES 2a: Siting and Screening of Construction Staging Areas* and *AES 2b: Landscaping of Disturbed Areas*, as described in the 2007 WMP EIR, this impact would be reduced to a less-than-significant level. Because the project would not include any water storage tanks, there would be no visual impacts related to such tanks. The proposed project does not include any new sources of lighting and therefore would not adversely affect daytime or nighttime views in the proposed project area.

Agricultural Resources

Changes to Setting

The 2007 WMP EIR considered the entire city of Manteca as the environmental setting for agricultural resources because the specific locations of improvements were unknown at the time, and the proposed project area was considered in the 2007 WMP EIR. However, specific locations are known for the proposed project, and the proposed project would affect a smaller area than that analyzed in the 2007 WMP EIR. Because the proposed project would primarily involve installing pipeline under existing roadways and improving existing wellheads, the only areas of the proposed project that could potentially affect agricultural resources are the area where pipeline W-7 would be installed and the area where the untreated water pipeline connecting wells 19 and 21 to the central treatment facility would be located.

The W-7 pipeline corridor will run east-west and will be approximately 7,370 feet in length, 3 feet wide, and 4 to 5 feet deep (Figure 2-2). The W-7 route extends from the corner of S. Whelan Way and E. Norman Drive, continues east along E. Norman Drive for approximately 1,800 feet, then turns south on Spreckles Avenue for 490 feet. It continues east on Phoenix Drive for 980 feet, then east beyond Phoenix Drive along the property lot lines of several commercial developments, a residential neighborhood, and agricultural fields for 4,100 feet until it intersects S. Austin Road.

The pipeline connecting wells 19 and 21 to the central treatment facility will run northeast-southwest, and the length of the pipeline that will cross undeveloped land is approximately 710 feet in length, 3 feet wide, and 4 to 5 feet deep (Figure 2-3). The pipeline's route extends from the terminus of South Powers Avenue to the terminus of Bessemer Avenue.

There have been no significant changes related to agricultural resources to the regulatory or environmental setting of the proposed project area since the certification of the 2007 WMP EIR.

Impact Analysis

The 2007 WMP EIR determined that there could be potential impacts to Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Other Farmland as land with these designations is located within the city limits of Manteca and the exact locations of the proposed improvements were unknown at the time. However, the location of the proposed project is now known. All wellhead treatments would occur at existing well sites and a specified City-owned parcel, and all new pipelines would be constructed under existing roadways, with the exceptions of pipeline W-7 and the pipeline connecting wells 19 and 21 to the central treatment facility. The path of pipeline W-7 crosses land with the designation of Urban and Built-Up Land and would not cross any lands with the designation of Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Other Farmland. The pipeline connecting wells 19 and 21 to the central treatment facility crosses land with the designation of Farmland of Local Importance (California Department of Conservation 2006). However, disturbance of this farmland would be temporary and would affect less than 1 acre of farmland. Due to the temporary nature of the disturbance and the small site size, this is considered a less than significant impact.

The 2007 WMP EIR also determined that the proposed project could conflict with existing zoning for agricultural use or a Williamson Act contract as land with these designations is located within the city limits of Manteca and the exact location of the proposed improvements were unknown at the time. However, the location of the proposed project is now known. All wellhead treatments would occur at existing well sites and a specified City-owned parcel, and all new pipelines would be constructed under existing roadways, except for the pipeline W-7 and the pipeline connecting wells 19 and 21 to the central treatment facility. The path of pipeline W-7 and the pipeline connecting wells 19 and 21 to the central treatment facility would not cross any lands with an agricultural general

plan designation (City of Manteca 2009). The path of pipeline W-7 would not cross any lands under a Williamson Act contract; however, the path of the pipeline connecting wells 19 and 21 to the central treatment facility would cross land under a Williamson Act contract (California Department of Conservation 2007). However, the affect of the proposed project on land under a Williamson Act contract would be temporary during construction only. Implementation of mitigation measure *AG-2: Prevent the Premature Conversion of Agricultural Land in the Program Area* would reduce this impact to a less-than-significant level.

Air Quality

Changes to Setting

The 2007 WMP EIR considered the entire city of Manteca as the environmental setting for air quality because the specific locations of improvements were unknown at the time, and the proposed project's environmental setting remains the San Joaquin Valley Air Basin (SJVAB). Air quality conditions in the SJVAB are regulated by the San Joaquin Valley Air Pollution Control District (SJVAPCD). The region is classified as a nonattainment area for several air pollutants.

There have been no significant changes related to air quality to the regulatory or environmental setting of the proposed project area since the certification of the 2007 WMP EIR.

Impact Analysis

The proposed project would include construction activities related to trenching needed to lay pipeline. Therefore, temporary increases in construction-related emissions during construction activities would occur, as outlined in the 2007 WMP EIR. Implementation of mitigation measures *AQ-1a: Prepare and Implement a Dust Control Plan* and *AQ-1b: Use ARB Certified Engines,* as described in the WMP EIR, will be sufficient to reduce this impact to a less-than-significant level.

As stated in the 2007 WMP EIR, conversation with SJVAPCD staff indicates that the district does not consider diesel construction equipment-related cancer risks to be an issue because of the short-term nature of construction activities. Consequently, construction activities associated with the proposed project would be considered to be less than significant.

The proposed project's operations are not anticipated to use equipment that would generate pollutant emissions because facility pumps and motors would be powered by electricity. However, in the event of an electrical power failure, the proposed project would utilize power coming from diesel engines used to power emergency generators at the facilities. Although these generators have already

been constructed and installed, the proposed project could contribute to the need for the use of these generators, which could cause impacts to air quality. Implementation of mitigation measures *AQ-3: Ensure All Emergency Backup Generators and Diesel Engines Meet EPA Tier 2 and ATCM Standards*, as described in the WMP EIR, will ensure that this impact will be less than significant.

Biological Resources

Changes to Setting

The 2007 WMP EIR considered the entire city of Manteca as the environmental setting for biological resources as the specific locations of improvements were unknown at the time, and the proposed project area was considered in the 2007 WMP EIR. However, specific locations are known for the proposed project, and the proposed project would affect a smaller area than that analyzed in the 2007 WMP EIR. Because the proposed project would primarily involve installing pipeline under existing roadways and improving existing wellheads, the only areas of the proposed project that could potentially affect biological resources are the area where pipeline W-7 would be installed and the area where the pipeline connecting wells 19 and 21 to the central treatment facility would be installed.

There have been no significant changes related to biological resources to the regulatory or environmental setting of the proposed project area since the certification of the 2007 WMP EIR.

Impact Analysis

Construction of pipeline W-7 and the pipeline connecting wells 19 and 21 to the central treatment facility could result in the direct loss or indirect disturbance of special-status plants (or those identified as special status in the future) that are known to grow or that could grow in the city of Manteca. Impacts on special-status plants could result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. Implementation of mitigation measures *BIO-1a: Document Special-Status Plant Populations* and *BIO-1b: Avoid or Minimize Impacts on Special Status Plant Populations by Redesigning the Project Elements, Protecting Special-Status Plant Populations, and/or Developing a Transplantation Plan (If Necessary),* as described in the WMP EIR, will reduce this impact to a less-than-significant level.

Construction activities associated with the proposed project could introduce or spread noxious weeds into currently uninfested areas, possibly resulting in the displacement of special-status plant species and degradation of habitat for special-status wildlife. Plants or seeds may be dispersed on construction equipment if the appropriate measures are not implemented, which could result in a substantial reduction or elimination of species diversity or abundance. Implementation of mitigation measures *BIO-2a: Conduct a Noxious Weed Survey*

and Document Noxious Weed Infestation Mitigation Measure and *BIO-2b: Avoid the Dispersal of Noxious Weed into Uninfested Areas* will reduce this impact to a less-than-significant level.

A potential wetland is located on the corner of Commerce Avenue and Phoenix Drive, which the alignment of pipeline W-7 cuts through. A potential wetland is also located at the southern edge of the Union Pacific Railroad, immediately south of South Powers Avenue, which the alignment of the pipeline connecting wells 19 and 21 to the central treatment facility cuts through. Construction activities associated with the proposed project could result in the disturbance or loss of this wetland through direct removal, filling, hydrological interruption (including dewatering), alteration of bed and bank, and other construction-related activities. However, implementation of mitigation measures *BIO-4a: Identify and Delineate Waters of the United States (Including Wetlands)*; *BIO-4b: Avoid and Minimize Disturbance of Waters of the United States, Including Wetland Communities*; and *BIO-4c: Compensate for the Loss of Wetland Habitat,* as described in the WMP EIR, will reduce this impact to a less-than-significant level.

The proposed project's alignment of pipeline W-7 and of the pipeline connecting wells 19 and 21 to the central treatment facility would affect an area that serves as potential habitat for burrowing owl, vernal pool fairy shrimp, and vernal pool tadpole shrimp. Construction and improvement activities associated with the proposed project could result in the direct loss or indirect disturbance of burrowing owl, vernal pool fairy shrimp, and vernal pool tadpole shrimp or their habitats, which could result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. However, implementation of mitigation measures *BIO-5a: Document Special-Status Wildlife Species and Their Habitats*; *BIO-5b: Avoid and Minimize Impacts on Special-Status Wildlife Species by Redesigning Project Elements, Protecting Special-Status Wildlife Habitat, and Developing a Mitigation Monitoring Plan (If Necessary)*; and *BIO-5c: Coordinate with Resource Agencies and Develop Appropriate Compensation Plans for State- and Federally Listed Wildlife Species* will reduce this impact to a less-than-significant level.

As described in the 2007 WMP EIR, implementation of mitigation measures BIO-1a through BIO-5c will reduce any impacts related to conflict with local policies or ordinances protecting biological resources to a less-than-significant level.

Cultural Resources

Changes to Setting

The 2007 WMP EIR considered the entire city of Manteca as the environmental setting for cultural resources as the specific locations of improvements were unknown at the time, and the proposed project area was considered in the 2007 WMP EIR. However, specific locations are known for the proposed project, and

the proposed project would affect a smaller area than that analyzed in the 2007 WMP EIR. Because the proposed project would primarily involve installing pipeline under existing roadways and improving existing wellheads, the only areas of the proposed project that could potentially affect cultural resources are where pipeline W-7 and the pipeline connecting wells 19 and 21 to the central treatment facility would be installed.

There have been no significant changes related to cultural resources to the regulatory or environmental setting of the proposed project area since the certification of the 2007 WMP EIR.

Impact Analysis

A records search for the proposed pipeline W-7 was conducted on March 26, 2009. The records search included a review of all site records and cultural resource studies on file within the immediate W-7 corridor. No previously recorded prehistoric or historic resources were identified within the proposed pipeline W-7 corridor.

A second records search for the pipeline connecting wells 19 and 21 to the central treatment facility was conducted on May 14, 2009. This records search also included a review of all site records and cultural resource studies on file within the immediate pipeline connection wells 19 and 21 to the central treatment facility corridor. No previously recorded prehistoric resources were identified within the proposed corridor. However, the records search did reveal that an unrecorded segment of the Southern Pacific Railroad's San Joaquin Valley Mainline (formerly the Visalia Branch of the Central Pacific Railroad) transects the proposed corridor.

Approximately 5% of the Manteca area has been previously surveyed. Cultural resources are located within the proposed project area, and additional resources may also be located in the project area that may be affected directly or indirectly by the construction of the proposed project. Implementation of mitigation measures *CR-1: Conduct Cultural Resource Studies* and *CR-2: Stop Work in Case of Accidental Discovery of Buried Archeological or Paleontological Resources,* as described in the WMP EIR, will be sufficient to address any potential impact associated with the proposed project.

Geology and Soils

Changes to Setting

The 2007 WMP EIR considered the entire city of Manteca as the environmental setting for agricultural resources because the specific locations of improvements were unknown at the time, and the proposed project area was considered in the 2007 WMP EIR. However, specific locations are known for the proposed project, and the proposed project would affect a smaller area than that analyzed in the

2007 WMP EIR. Because the proposed project would primarily involve installing pipeline under existing roadways and improving existing wellheads, the only areas of the proposed project that could potentially affect geologic resources and soils are where pipeline W-7 and the pipeline connecting wells 19 and 21 to the central treatment facility would be installed.

There have been no significant changes related to geology and soils to the regulatory or environmental setting of the proposed project area since the certification of the 2007 WMP EIR.

Impact Analysis

The proposed project area is not located within an Alquist-Priolo Fault-Rupture Hazard Zone, and no active faults, potentially active faults, or earthquake fault zones are located in or immediately adjacent to the project area. Therefore, the proposed project is not expected to expose people or infrastructure to risks related to surface fault rupture.

The proposed project could be subject to groundshaking as a result of earthquake activity on any of a number of faults, and the wellhead treatment facilities, blending stations, and distribution pipelines are potentially subject to damage from earthquakes. The proposed project's new infrastructure also has the potential to be damaged as a result of seismically induced liquefaction or other ground failure due to this groundshaking. Finally, expansion and contraction of the soils caused by seasonal moisture changes in these areas could damage the distribution pipelines. However, with the implementation of mitigation measures *GEO-2a: Adherence to California Building Standards Code and American Water Works Requirements* and *GEO-2b: Adherence to Recommendations Developed from Site-Specific Geotechnical Studies for Project Elements,* as described in the WMP EIR, will reduce this impact to a less-than-significant level.

Activities required for construction of the proposed project, including vegetation removal and excavation, have the potential to cause soil erosion. Accelerated soil erosion and sedimentation resulting from construction-related ground disturbance could adversely affect water quality in nearby surface waters. However, implementation of mitigation measure *HWQ-1a: Implement Erosion and Sediment Control Measures,* as described in the WMP EIR, will reduce this impact to a less-than-significant level.

No known significant aggregate resources are located within the proposed project area, and there would be no impacts related to the extraction of aggregate resources.

Hazards and Hazardous Materials

Changes to Setting

The 2007 WMP EIR considered the entire city of Manteca as the environmental setting for hazards and hazardous materials because the specific locations of improvements were unknown at the time, and the proposed project area was considered in the 2007 WMP EIR. However, specific locations are known for the proposed project, and the proposed project would affect a smaller area than that analyzed in the 2007 WMP EIR.

There have been no significant changes related to hazards or hazardous materials to the regulatory or environmental setting of the proposed project area since the certification of the 2007 WMP EIR.

Impact Analysis

The wellhead treatment facilities would involve the use and storage of hazardous materials for treatment. Chemicals stored, used, or transported within the city limits for use in arsenic treatment would have the potential to significantly harm the public or environment through accidental release. Implementation of mitigation measure *HAZ-1a: Containment of Hazardous Materials Used during Wellhead Treatment Operations* and *HAZ-1b: Development and Implementation of Plans to Reduce Risk of Exposure of People and the Environment to Hazardous Materials during Wellhead Treatment Operations,* as described in the WMP EIR, will reduce this impact to a less-than-significant level.

The arsenic treatment process and nitrate treatment process would also produce arsenic-laden and nitrate-laden waste in the form of brine or solid cake that would require disposal. Waste containing arsenic or other constituents of concern at concentrations which meet or exceed the state standards for "designated" or "hazardous" waste would pose a significant risk to public health and the environment. Implementation of mitigation measure *HAZ-2: Proper Disposal of Hazardous Materials,* as described in the WMP EIR, will reduce this impact to a less-than-significant level.

Construction of the proposed project could expose construction workers, the public, or the environment to hazardous materials through accidental spill or release of hazardous materials. Small quantities of potentially toxic substances (e.g., petroleum and other chemicals used to operate and maintain construction equipment) would be used and disposed of at the project sites and transported to and from the site during construction. Accidental releases of small quantities of these substances could contaminate soils and degrade the quality of surface water and groundwater, resulting in a public safety hazard. In addition, construction of the proposed project would require excavation and movement of soils, and it is possible that potentially hazardous sites are located within the project area. Implementation of mitigation measures *HAZ-3a: Develop and Implement Plans to Reduce Exposure of People and the Environment to Hazardous Conditions*

during Construction Activities; *HAZ-3b: Follow City of Manteca Fire Department and Other Guidelines for Storage and Handling of Hazardous Materials*; *HAZ-3c: Immediately Contain Spills, Excavate Spill-Contaminated Soil, and Dispose of It at an Approved Facility,* and *HAZ-3d: Perform Hazards Records Search Prior to Development of All Project Sites and Implement Necessary Remediation,* as described in the WMP EIR, will reduce this impact to a less-than-significant level.

The proposed project would emit hazardous emissions, including handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing school. The construction of pipeline W-7, for example, would occur within 0.25 mile of Manteca Day School. Implementation of the mitigation measures HAZ-1a, HAZ-1b, HAZ-2, and HAZ-3a through HAZ-3d will reduce this impact to a less-than-significant level.

The proposed project would not result in long-term modifications in existing circulation within the project area. Short-term lane closures or slight detours during project construction may be required, which has the potential to interfere with the implementation of emergency response or evacuation plans. Implementation of mitigation measure *HAZ-5: Incorporate Emergency Access Routes During Construction,* as described in the WMP EIR, will reduce this impact to a less-than-significant level.

Hydrology and Water Quality

Changes to Setting

The 2007 WMP EIR considered the entire city of Manteca as the environmental setting for hydrology and water quality because the specific locations of improvements were unknown at the time, and the proposed project area was considered in the 2007 WMP EIR. However, specific locations are known for the proposed project, and the proposed project would affect a smaller area than that analyzed in the 2007 WMP EIR.

There have been no significant changes related to hydrology and water quality to the regulatory or environmental setting of the proposed project area since the certification of the 2007 WMP EIR.

Impact Analysis

Construction of the proposed project would require grading and excavation, along with disturbances of soils and vegetation. Construction has the potential to expose bare soils during the winter rainfall period. Stormwater runoff could cause soil erosion of disturbed sites and transport other construction-related contaminants (e.g., fuels, oil, concrete, paint) to nearby receiving waters, thereby impairing water quality and aquatic organisms and their habitats. Implementation of mitigation measures *HWQ-1a: Implement Erosion and Sediment Control*

Measures and *HWQ-1b: Develop and Implement a Spill Prevention, Control, and Countermeasure Project for Construction Activities*, as described in the WMP EIR, will reduce this impact to a less-than-significant level.

Due to the presence of shallow groundwater within the city, trenching and excavation activities associated with the proposed project could reach a depth that could expose the water table, through which it would immediately and directly become available for contaminants to enter the groundwater system. Discharge of construction-related dewatering effluent could also result in the release of contaminants to surface water. Primary construction-related hazardous materials that could be discharged include oil and grease and construction-related hazardous materials. In addition, short-term water quality impacts are possible, such as local changes in turbidity and possibly changes in dissolved oxygen. Implementation of mitigation measures *HWQ-2b: Dry-Season Construction, HWQ-2c: Implement Measures to Maintain Water Quality* and *HWQ-2d: Provisions for Dewatering,* as described in the WMP EIR, will reduce this impact to a less-than-significant level.

The wellhead treatment facilities would involve the use/storage of hazardous materials, as well as produce an arsenic-laden and nitrate-laden brine or solid cake that will require proper disposal. Accidental leaks/upsets in the treatment process or improper disposal of generated waste could result in degradation of water quality. Implementation of mitigation measures HWQ-1b, as well as HAZ-1a–HAZ-1b, HAZ-2, and HAZ-3a–HAZ-3d, as described in the WMP EIR, will reduce this impact to a less-than-significant level.

Discharge of potable water associated with periodic maintenance of distribution pipelines and wells may be required. Impacts could include reductions in water quality where the water released is of lower quality than ambient conditions. Discharge could also result in erosion and sedimentation in waterways. Implementation of mitigation measure HWQ-2d, as described in the 2007 WMP EIR, will reduce this impact to a less-than-significant level.

Land Use and Planning

Changes to Setting

The 2007 WMP EIR considered the entire city of Manteca as the environmental setting for land use and planning because the specific locations of improvements were unknown at the time, and the proposed project area was considered in the 2007 WMP EIR. However, specific locations are known for the proposed project, and the proposed project would affect a smaller area than that analyzed in the 2007 WMP EIR.

There have been no significant changes related to land use and planning to the regulatory or environmental setting of the proposed project area since the certification of the 2007 WMP EIR.

Impact Analysis

Because the proposed project would primarily involve installing pipeline under existing roadways and improving existing well sites and a specific City-owned parcel, the only areas of the proposed project that could potentially affect land uses are where pipeline W-7 and the pipeline connecting wells 19 and 21 to the central treatment facility would be installed. Construction of these pipelines would not divide an established community as its construction would be a short-term activity and disruption of existing neighborhoods and access routes within the city would be temporary. The proposed project implements the goals, policies, and objectives of the 2023 General Plan and would not conflict with any land use plan.

Construction of the distribution pipelines generally within existing roadway rights of way would comply with existing land use designations for the sites; in addition, construction activities would be temporary and the sites would be restored to preconstruction conditions once pipeline construction is completed. Wellhead treatment facilities, blending stations, and distribution pipelines would represent a minimal change in existing land uses. Therefore, the proposed project's impacts related to land use and planning would be less than significant.

Noise

Changes to Setting

The 2007 WMP EIR considered the entire city of Manteca as the environmental setting for agricultural resources because the specific locations of improvements were unknown at the time, and the proposed project area was considered in the 2007 WMP EIR. However, specific locations are known for the proposed project, and the proposed project would affect a smaller area than that analyzed in the 2007 WMP EIR.

There have been no significant changes related to noise to the regulatory or environmental setting of the proposed project area since the certification of the 2007 WMP EIR.

Impact Analysis

Construction associated with the proposed project would temporarily increase noise and increase ambient noise levels in the vicinity of proposed project. Noise increases would result both from onsite construction activities—especially during site preparation, grading, and other earthmoving activities—as well as from construction-related vehicle traffic delivering materials to and from the construction site. Implementation of mitigation measures *NOI-1a: Limit Hours of Construction, NOI-1b: Prepare a Noise Control Plan* and *NOI-1c: Disseminate Essential Information to Residences and Implement a Complaint/Response*

Tracking Project, as described in the WMP EIR, will reduce this impact to a less-than-significant level.

Construction activities may result in some minor amount of ground vibration as it is anticipated that installation of pipelines would require a backhoe or other trenching equipment. Implementation of mitigation measure *NOI-2: Employ Vibration-Reducing Construction Practices,* as described in the WMP EIR, will reduce this impact to a less-than-significant level.

Population and Housing

Changes to Setting

The 2007 WMP EIR considered the entire city of Manteca as the environmental setting for population and housing because the specific locations of improvements were unknown at the time, and the proposed project area was considered in the 2007 WMP EIR.

There have been no significant changes related to population and housing to the regulatory or environmental setting of the proposed project area since the certification of the 2007 WMP EIR.

Impact Analysis

The 2007 WMP EIR found that implementation of the WMP would remove infrastructural obstacles to growth in Manteca through the treatment, storage, and distribution of potable water. The proposed project would also remove infrastructural obstacles to growth through the treatment of potable water. Additionally, construction of the proposed project would slightly increase local employment, which may impact housing needs in the area. An impact related to population, housing, and growth inducement was identified as significant and unavoidable in the City's 2023 General Plan EIR. In accordance with this determination, the 2007 WMP EIR identified growth-inducing impacts of the WMP as significant and unavoidable. The proposed project would be a part of the overall program found in the 2007 WMP EIR to result in a growth-inducing impact, and would therefore contribute to the significant and unavoidable impact disclosed in the 2007 WMP EIR. As disclosed in the 2007 WMP EIR, no mitigation is available.

Public Services

Changes to Setting

The 2007 WMP EIR considered the entire city of Manteca as the environmental setting for public services because the specific locations of improvements were

unknown at the time, and the proposed project area was considered in the 2007 WMP EIR.

There have been no significant changes related to public services to the regulatory or environmental setting of the proposed project area since the certification of the 2007 WMP EIR.

Impact Analysis

Road closures or detours may occur during construction of wellhead treatment facilities, blending stations, and pipelines. Standard construction methods would be utilized to maintain access to all providers of emergency services. Non-recyclable construction waste would be hauled offsite for disposal at the Forward Landfill. With a closure date of January 1, 2020, this landfill will have adequate capacity to receive construction debris. Although dewatering of the project sites would also generate wastewater, such wastewater would be disposed of via the City's storm drain system and would not result in the need for sewerage services or capacity.

Utility services could be disrupted as a result of the proposed project. All utility lines and cables that would be disrupted during project construction would be identified during the design phase for individual project elements. Reasonable efforts would be made to provide temporary bypass around the affected utilities during construction, so interruptions in service are eliminated or minimized. Accidental disruption of utilities would be possible, and disruptions to major utility lines, such as natural gas or sewer lines, would be considered significant. Implementation of mitigation measure *PSU-3a: Identify and Relocate Existing Utilities Where Necessary,* as described in the WMP EIR, will reduce this impact to a less-than-significant level.

Traffic/Transportation

Changes to Setting

The 2007 WMP EIR considered the entire city of Manteca as the environmental setting for traffic and transportation because the specific locations of improvements were unknown at the time, and the proposed project was considered in the 2007 WMP EIR. However, specific locations are known for the proposed project, and the proposed project would affect a smaller area than that analyzed in the 2007 WMP EIR.

There have been no significant changes related to traffic and transportation to the regulatory or environmental setting of the proposed project area since the certification of the 2007 WMP EIR.

Impact Analysis

Construction-generated traffic would consist primarily of daily commutes by construction workers and periodic delivery and removal of materials to and from the project site over the course of the construction period. Nearly all construction activities would be confined to the project site. The addition of these trips would temporarily increase the traffic volumes on local roadways. Any closure of lanes or detouring of traffic that would result from pipeline construction would potentially increase delays and congestion. Implementation of mitigation measure *TR-1: Develop and Implement a Traffic Control Plan,* as described in the WMP EIR, will reduce this impact, though a short-term significant and unavoidable impact during construction would remain.

Distribution pipeline construction in the roadway could affect general traffic flows, use of bicycle lanes, and/or pedestrian access to the activity centers throughout the city. Emergency access through the project area could potentially be affected by construction of project elements, particularly installation of distribution pipelines. Road closures, detours, and construction-related traffic could delay or obstruct the movement of emergency vehicles.

Construction of the proposed project elements would result in temporary demand in parking for construction workers and staging/parking for construction vehicles. Construction of project elements, particularly installation of distribution pipelines, could temporarily disrupt transit service. Implementation of mitigation measure *TR-1: Develop and Implement a Traffic Control Plan,* as described in the WMP EIR, will reduce these impacts to a less-than-significant level.

Cumulative Impacts

Changes to Setting

The 2007 WMP EIR considered the implementation of the city of Manteca WMP, as well as a proposed local projects and Sacramento–San Joaquin River Delta projects, as the environmental setting for cumulative impacts. No significant changes to this setting have occurred since the certification of the 2007 WMP EIR, and the same setting is utilized to analyze impacts associated with the proposed project.

Impact Analysis

Aesthetics

The 2007 WMP EIR found that implementation of the WMP concurrent with construction of other Manteca area projects would result in short-term visual impacts during construction. Construction activities would require the use of heavy equipment and storage of materials at the construction zone. During

construction, excavated trenches, stockpiled soils, and other materials in the construction easement would constitute negative aesthetic elements in the visual landscape that would directly affect the area. These impacts would be temporary during project construction and would not be considered significant on a project basis. However, the 2007 WMP EIR identified these impacts as cumulatively significant, short-term, and unavoidable impacts when considered in combination with associated projects. The proposed project would be a part of the overall program found in the 2007 WMP EIR to result in an aesthetic impact and would therefore contribute to the cumulatively significant, short-term, and unavoidable impacts disclosed in the 2007 WMP EIR.

Agricultural Resources

The Manteca 2023 General Plan EIR found that buildout of the 2023 General Plan would result in the conversion of 5,912.8 acres of Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance to nonagricultural uses. This conversion was considered a potentially significant impact, and mitigation measures were identified to reduce this impact. The 2023 General Plan EIR concluded that the mitigation measures reduced the impact, but not to a less-than significant level, and that the impact was therefore considered to be significant and unavoidable. In accordance with this determination, the 2007 WMP EIR identified impacts related to agricultural resources of the WMP as cumulatively considerable. The proposed project would be a part of the overall program found in the 2007 WMP EIR to result in impacts related to agricultural resources and would therefore contribute to the cumulatively considerable impact disclosed in the 2007 WMP EIR.

Air Quality

The 2007 WMP EIR found that operation of the proposed WMP program would generate minimal increases in pollutant emissions, primarily associated with a small additional amount of periodic emissions that would be generated by vehicles used in maintenance and inspection visits. The 2007 WMP EIR also stated that the proposed program's principal direct contribution to cumulative regional air quality issues would likely occur during construction and identified this impact as cumulatively considerable due to its potential to result in increased local generation of PM10 (including PM2.5), ozone precursors in gasoline and diesel vehicle exhaust, and carcinogenic particulates in diesel exhaust. The proposed project would be a part of the overall program found in the 2007 WMP EIR to result in an air quality impact and would therefore contribute to the cumulatively considerable impact disclosed in the 2007 WMP EIR.

Biological Resources

The 2007 WMP EIR found that construction of the proposed program could impact special-status species, resulting in a substantial reduction in local

population size, lowered reproductive success, and/or habitat fragmentation. The 2007 WMP EIR also stated that construction activities associated with the proposed program could introduce or spread noxious weeds into currently uninfested areas and could contribute to the cumulative displacement of special-status plant species and impacts on special-status wildlife. However, because of the inclusion of appropriate mitigation measures, the 2007 WMP EIR concluded that the contribution of the proposed program was not cumulatively considerable. In addition, other projects in the project area have completed or will be required to complete the appropriate level of CEQA compliance and permitting, including the establishment of mitigation measures to avoid or minimize disturbance of biological resources. The proposed project would be a part of the overall program found in the 2007 WMP EIR and would complete the appropriate mitigation measures from the 2007 WMP EIR identified in this addendum. Therefore, the contribution of the proposed project would not be considered cumulatively considerable.

Cultural Resources

The 2007 WMP EIR found that potential impacts to unknown cultural resources that may occur within construction footprints of the proposed program would be reduced by implementation of mitigation identified in the WMP EIR. In addition, other projects in the project area have completed or will be required to complete the appropriate level of CEQA compliance and permitting, including the establishment of mitigation measures to avoid or minimize disturbance of cultural resources. The proposed project would be a part of the overall program found in the 2007 WMP EIR and would complete the appropriate mitigation measures from the 2007 WMP EIR identified in this addendum. Therefore, the contribution of the proposed project would not be considered cumulatively considerable.

Hydrology and Water Quality

The 2007 WMP EIR concluded that concurrent construction of the proposed program and other projects in the Manteca area could result in increased erosion and subsequent sedimentation, with impacts on storm drain capacity and water quality in downstream water bodies. Additionally, discharge of groundwater, release of fuels, or release of other hazardous materials associated with construction activities could degrade water quality. The 2007 WMP EIR stated that preparation of a stormwater pollution prevention plan for the proposed program, and compliance with the measures identified in the stormwater pollution prevention plan, would ensure compliance with state regulatory policies to minimize the potential for water quality impacts from construction activities associated with the proposed program. In addition, other projects in the Manteca area include similar requirements, and compliance with the General Permit, and the Clean Water Act as a whole, is mandatory. The proposed project would be a part of the overall program found in the 2007 WMP EIR and would complete the appropriate mitigation measures from the 2007 WMP EIR identified in this

addendum. Therefore, the contribution of the proposed project would not be considered cumulatively considerable.

Land Use

The 2007 WMP EIR concluded that the construction-related disturbance of surrounding land uses by the proposed program would not be considered significant on an individual project basis because of the implementation of traffic control measures and the temporary nature of construction activities. These factors and other mitigation measures would minimize these impacts to the degree feasible. However, when considered in combination with the other projects in the Manteca area, the 2007 WMP EIR identified this impact as a cumulatively significant, short-term, and unavoidable impact. The proposed project would be a part of the overall program found in the 2007 WMP EIR to result in a land use impact, and would therefore contribute to the cumulatively significant, short-term, and unavoidable impact disclosed in the 2007 WMP EIR.

Noise

The 2007 WMP EIR found that Manteca is situated in a largely agricultural area, and sounds generated by construction of the proposed program concurrent with other infrastructure projects are likely to be perceived as intrusive or disruptive. The 2007 WMP EIR stated that mitigation measures are available to reduce the level of impact to some extent, but cumulative construction noise and vibration impacts would remain significant and unavoidable in the short-term. Therefore, the 2007 WMP EIR concluded that the proposed program would make a cumulatively considerable contribution to areawide noise concerns and its contribution to cumulative short-term noise impacts would also be unavoidable. The proposed project would be a part of the overall program found in the 2007 WMP EIR to result in a noise impact and would therefore contribute to the cumulatively considerable impact disclosed in the 2007 WMP EIR.

Traffic

The 2007 WMP EIR found that construction of proposed program elements would result in temporary lane closures, detours, open trenches near transit routes or closure of transit stops, and the addition of construction trucks and equipment on the surrounding roadway system. Although a traffic control plan would be implemented construction would potentially increase delays and congestion, the 2007 WMP EIR identified a significant and unavoidable impact in the short-term during construction. The proposed project would be a part of the overall program found in the 2007 WMP EIR to result in a traffic impact and would therefore contribute to the cumulatively considerable impact disclosed in the 2007 WMP EIR.

Growth-Inducing Impacts

Changes to Setting

The 2007 WMP EIR considered the city of Manteca as the environmental setting for growth-inducing impacts. This setting remains accurate for the proposed project.

Impact Analysis

Direct Impacts

The proposed project would improve the city's water system to meet current and future needs for a safe, reliable water supply and distribution system. Specifically, implementation of the project would result in improvements to the existing water system to facilitate delivery of potable water. These improvements would include construction of new wellhead treatment facilities and distribution pipelines. The project will support planned development in the Manteca area. By implementing the proposed project to facilitate delivery of potable water, the project would, at least in part, remove this existing obstacle to growth.

The proposed project would not induce unplanned growth or growth at rates in excess of those supported by existing planning and land use policies. However, it does facilitate delivery of additional domestic water supply and would enable growth and development. The proposed project's direct impacts related to population growth are considered significant and unavoidable.

Indirect Impacts

Population growth in the city resulting from the proposed project is expected to lead to a number of indirect impacts on the natural and built environment. Growth enabled by the proposed project would not exceed that modeled in the 2023 General Plan, and the impacts of the growth envisioned under the general plan are addressed by mitigation included in the 2023 General Plan itself as well as the 2023 General Plan EIR. Development projects subject to the City's discretionary action are required to complete project-level CEQA environmental review to identify and mitigate project-specific impacts. The City is responsible for effectively implementing general plan policies and other measures intended to mitigate the potential adverse impacts of future growth. Although growth enabled by the proposed project is within the range identified by the general plan, the proposed project would enable growth. No further analysis is required, and no additional mitigation beyond that identified in the 2023 General Plan EIR and this addendum is proposed. The overall secondary impacts of growth facilitated by the proposed project are considered significant and unavoidable.

Chapter 4
References Cited

California Department of Conservation. 2006. San Joaquin County Important Farmland Map.

California Department of Conservation. 2007. San Joaquin County Williamson Act Lands Map.

City of Manteca. 2009. Zoning Map. Manteca, CA.