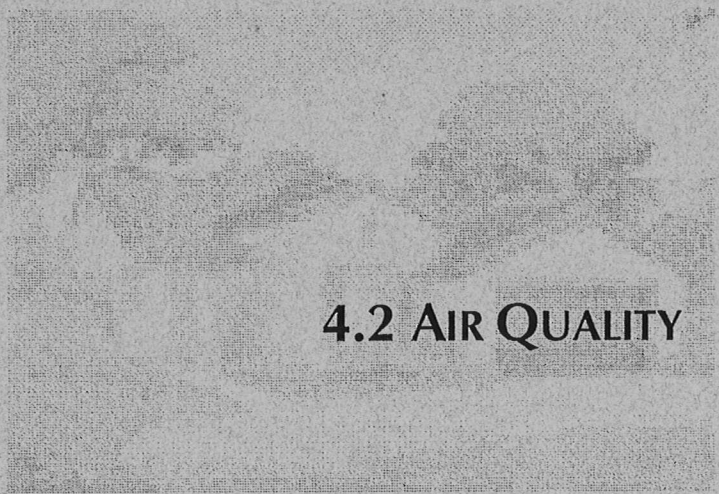

4.2 Air Quality

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MrSID Viewer

This section describes the impacts of the project on local and regional air quality. The section has been prepared using methodologies and assumptions recommended by the San Joaquin Valley Unified Air Pollution Control District. In keeping with these recommendations the chapter describes existing air quality, construction-related impacts, direct and indirect emissions associated with the project and the impacts of these emissions on both the local and regional scale, and mitigation measures warranted to reduce or eliminate any identified significant impacts. This section was primarily based upon a report prepared by Don Ballanti, an air quality specialist.

4.2.1 EXISTING SETTING

AIR POLLUTION CLIMATOLOGY

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

The climate of the project area is typical of inland valleys in California, with hot dry summers and cool, mild winters. Daytime temperatures in the summer often exceed 100 degrees, with lows in the 60's. In winter daytime temperatures are usually in the 50's, with lows around 35 degrees. Radiation fog is common in the winter, and may persist for days. Winds are predominantly up-valley (from the north) in all seasons, but more so in the summer and spring months. Winds in the fall and winter are generally lighter and more variable in direction (CARB, 1974).

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

AMBIENT AIR QUALITY STANDARDS

Both the U. S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants that represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents.

The federal and California state ambient air quality standards are summarized in **Table 4.2-1** for criteria pollutants established by the EPA. The federal and state ambient standards were developed independently with differing purposes and methods, although both processes attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the

California state standards are more stringent. This is particularly true for ozone and particulate matter ($PM_{2.5}$ and PM_{10}).

TABLE 4.2-1
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	Federal Primary Standard	State Standard
Ozone	1-Hour 8-Hour	0.12 ppm 0.08 ppm	0.09 ppm –
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm 35.0 ppm	9.0 ppm 20.0 ppm
Nitrogen Dioxide	Annual 1-Hour	0.05 ppm –	– 0.25 ppm
Sulfur Dioxide	Annual 24-Hour 1-Hour	0.03 ppm 0.14 ppm –	– 0.05 ppm 0.25 ppm
PM_{10}	Annual 24-Hour	50 ug/m^3 150 ug/m^3	20 ug/m^3 50 ug/m^3
$PM_{2.5}$	Annual 24-Hour	15 ug/m^3 65 ug/m^3	12 ug/m^3 –
Lead	30-Day Avg. 3-Month Avg.	– 1.5 ug/m^3	1.5 ug/m^3 –

ppm = parts per million
ug/m^3 = micrograms per cubic meter

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

AMBIENT AIR QUALITY

The San Joaquin Valley Air Pollution Control District and California Air Resources Board (CARB) operate air monitoring sites throughout the San Joaquin Valley Air Basin. The monitoring sites closest to the project sites are located in Stockton about 10 miles to the north. There are two monitoring sites in Stockton. The East Mariposa monitoring site measures only ozone. The Hazelton Street monitoring site monitors ozone, particulate matter, carbon monoxide and nitrogen dioxide. **Table 4.2-2** summarizes recorded exceedances of State and Federal standards at these monitoring sites for the period 2000-2002. As **Table 4.2-2** shows, the federal and state standards for ozone and particulate matter are frequently exceeded in the project area.

Federal and state air quality laws require identification of areas not meeting the ambient air quality standards. These areas must develop regional air quality plans to eventually attain the standards. Under both the federal and state Clean Air Acts, the San Joaquin Valley Air Basin is a non-attainment area (standards have not been attained) for ozone and PM_{10}. The air basin is either attainment or unclassified for other ambient standards.

TABLE 4.2-2
AMBIENT AIR QUALITY AT STOCKTON MONITORING SITES

Pollutant	Standard	Days Exceeding Standard in:		
		2000	2001	2002
East Mariposa Monitoring Site				
Ozone	1-Hour State	4	5	5
	1-Hour Federal	0	0	0
	8-Hour Federal	0	1	1
Hazelton Street Monitoring Site				
Ozone	1-Hour State	4	5	2
	1-Hour Federal	0	0	0
	8-Hour Federal	0	1	0
Carbon Monoxide	8-Hour State/Fed.	0	0	0
	1-Hour State	0	0	0
Nitrogen Dioxide	1-Hour State	0	0	0
PM_{10}	24-Hour State	9	10	10
	24-Hour Federal	0	0	0
$PM_{2.5}$	24-Hour Federal	1	2	0

Source: California Air Resources Board, Aerometric Data Analysis and Management System (ADAM), (www.arb.ca.gov/adam/), 2004.

4.2.2 REGULATORY FRAMEWORK

CALIFORNIA AIR RESOURCES BOARD

The California Air Resources Board (CARB) is responsible for enforcing the federally-required State Implementation Plan (SIP) in an effort to achieve and maintain the national ambient air quality standards. In addition, CARB has established State Ambient Air Quality Standards for the Federal "criteria" pollutants as well as for other pollutants for which there are no corresponding Federal standards. CARB is responsible for determining air basin attainment designations in California, and has the authority over mobile sources of pollutants.

SAN JOAQUIN AIR POLLUTION CONTROL DISTRICT

The SJVAPCD is the local air quality agency and is responsible for preparing regional air quality plans under the state and federal Clean Air Acts. The District's boundaries are contiguous with the San Joaquin Valley Air Basin. In addition to planning responsibilities, SJVAPCD has permitting authority over stationary sources of pollutants. Other District activities include review of CEQA documents, enforcement in nuisance situations, and identification of significant thresholds.

AIR QUALITY PLANS

To meet federal Clean Air Act requirements, the District has adopted an Ozone Attainment Demonstration Plan and a PM_{10} Attainment Demonstration Plan. In addition, to meet California Clean Air Act requirements, the District has also adopted and updated an Air Quality Attainment Plan addressing the California ozone standard.

The California Legislature, when it passed the California Clean Air Act in 1988, recognized the relative intractability of the particulate matter problem with respect to the state ambient standard and excluded it from the basic planning requirements of the Act. The Act did require the CARB to prepare a report to the Legislature regarding the prospect of achieving the State ambient air quality standard for PM_{10}. This report recommended a menu of actions, but did not recommend imposing a planning process similar to that for ozone or other pollutants for achievement of the standard within a certain period of time.

CITY OF MANTECA GENERAL PLAN GOALS AND POLICIES

The City of Manteca General Plan contains goals and policies in the Conservation and Open Space Element related to air quality impacts of development. The goals and policies applicable to the proposed project are listed in **Table 4.2-3**, which also summarizes the project's consistency with the General Plan.

TABLE 4.2-3
PROJECT CONSISTENCY WITH THE GENERAL PLAN AIR QUALITY ELEMENT

General Plan Goals and Policies	Consistency with General Plan	Analysis
Goal AQ-1. Improve air quality by: • Achieving and maintaining ambient air quality standards established by the U.S. Environmental Protection Agency, the California Air Resources Board, and the San Joaquin Air Pollution Control District; • Minimizing public exposure to toxic or hazardous air pollutants; and • Minimizing public exposure to pollutants that create a public nuisance, such as unpleasant odors.	No	Although mitigation measures discussed in this section would reduce the amount of emissions generated by the project, it would not eliminate the cumulative impact the project would have on air quality in the San Joaquin Valley Air Basin.
Goal AQ-2. Integrate air quality planning with land use and transportation planning processes in order to reduce vehicle miles traveled in the City and by commuters.	Yes, with mitigation	Mitigation measures discussed in this section would encourage more use of buses and other alternative modes of transportation.
Goal AQ-3. Increase opportunities for alternatives to internal combustion automobiles including, but not limited to, public transportation, bicycles, walking and alternative fuel vehicles including hybrid gas-electric, electric and compressed natural gas.	Yes, with mitigation	The project site is located adjacent to an existing bus line and would be adjacent to a designated Class II bicycle lane. The project would install sidewalks along streets within the project site. Mitigation measures discussed in this section would further increase opportunities for the use of alternative modes of transportation.
Goal AQ-4. Reduce air emissions through energy conservation.	Yes, with mitigation	Mitigation measures discussed in this section would require the use of energy-efficient design and devices by the project.
Policy AQ-P-4. Develop and maintain street	Yes, with	Mitigation measures described in Section

TABLE 4.2-3
PROJECT CONSISTENCY WITH THE GENERAL PLAN AIR QUALITY ELEMENT

General Plan Goals and Policies	Consistency with General Plan	Analysis
systems that provide for efficient traffic flow and thereby minimize air pollution from automobile emissions.	mitigation	4.10, Transportation and Circulation, would ensure that traffic in the project vicinity operates at City standards, thereby minimizing automobile emissions.
Policy AQ-P-5. Develop and maintain circulation systems that provide alternative uses to the automobile for transportation, including bicycle routes, pedestrian paths, bus transit, and carpooling.	Yes, with mitigation	The project site is located adjacent to an existing bus line and would be adjacent to a designated Class II bicycle lane. The project would install sidewalks along streets within the project site. Mitigation measures discussed in this section would further increase opportunities for the use of alternative modes of transportation.
Policy AQ-P-7. New construction will be managed to minimize fugitive dust and construction vehicle emissions.	Yes, with mitigation	Mitigation measures discussed in this section, along with compliance with SJVAPCD Regulation VIII, would control dust and construction vehicle emissions.
Policy AQ-P-8. Woodburning devices shall meet current standards for controlling particulate air pollution.	Yes	SJVAPCD's recently adopted Regulation 4901 prohibits wood burning fireplaces within the project, and limits the number of wood burning heaters that can be constructed.
Policy AQ-P-10. Encourage energy-efficient building designs.	Yes, with mitigation	Mitigation measures discussed in this section would require the use of energy-efficient design and devices by the project.

4.2.3 IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE STANDARDS

The San Joaquin Valley Air Pollution Control District (SJVAPCD) has established the following standards of significance (SJVAPCD, 1998):

- A project results in estimated carbon monoxide concentrations exceeding the California Ambient Air Quality Standard of 9 parts per million averaged over 8 hours and 20 ppm for 1-hour.
- A project results in new direct or indirect emissions of ozone precursors (ROG or NOx) in excess of 10 tons per year.
- A project that has the potential to frequently expose members of the public to objectionable odors will be deemed to have a significant impact.
- A project has the potential to expose sensitive receptors (including residential areas) or the general public to substantial levels of toxic air contaminants would be deemed to have a potentially significant impact.

While SJVAPCD CEQA guidance recognizes that PM_{10} is a major air quality issue in the basin, it has not established numerical thresholds for significance for PM_{10} to date. However, for the purposes of this analysis, a PM_{10} emission of 15 tons per year was used as a significance threshold. This emission is the SJVAPCD threshold level at which new stationary sources requiring permits from the District must provide emissions "offsets." This threshold of significance for PM_{10} is consistent with the District's ROG and NO_x thresholds of ten tons per year, which are also the offset thresholds established in SJVAPCD Rule 2201 New and Modified Stationary Source Review Rule.

Despite the establishment of both federal and state standards for $PM_{2.5}$ (particulate matter 2.5 microns in diameter or less), the SJVAPCD has not developed a threshold of significance for this pollutant. For this analysis, $PM_{2.5}$ impacts would be considered significant if project emissions of PM_{10} exceed 10 tons per year.

SJVAPCD CEQA guidance does not recommend quantitative analysis of construction emissions. The SJVAPCD significance threshold for construction dust impacts is based on the appropriateness of construction dust controls. The SJVAPCD guidelines provide feasible control measures for construction emission of PM_{10} beyond that required by district regulations. If the appropriate construction controls are to be implemented, then air pollutant emissions for construction activities would be considered less than significant.

METHODOLOGY

Estimates of operational emissions generated by project traffic and project area sources were made using a program called URBEMIS-2002 (Jones and Stokes, 2003). URBEMIS-2002 is a program that estimates the emissions that result from various land use development projects. Land use projects can include residential uses such as single-family dwelling units, apartments and condominiums, and nonresidential uses such as shopping centers, office buildings, and industrial parks. URBEMIS-2002 contains default values for much of the information needed to calculate emissions. However, project-specific, user-supplied information can also be used when it is available. The URBEMIS-2002 was run to calculate annual emissions assuming a year 2008 completion date. The URBEMIS-2002 output is included as **Appendix B**.

Inputs to the URBEMIS-2002 program include trip generation rates, vehicle mix, average trip length by trip type, and average speed. Trip generation rates for project land uses were provided by the transportation consultant for this analysis. Average trip lengths and vehicle mixes for the San Joaquin Valley Air Basin were used.

Wood burning emissions calculated by URBEMIS-2002 were modified to reflect residential wood-burning restrictions imposed by the SJVAPCD's recently adopted Regulation 4901. Regulation 4901 prohibits wood burning fireplaces within the project, and limits the number of wood burning heaters that can be constructed. The URBEMIS-2002 program was run assuming no open fireplaces, and the predicted wood stove emission was reduced by 49 percent to reflect the cap on wood stoves imposed by Regulation 4901. The cap on wood stoves, which is based on acreage, was calculated using a residential acreage of 196.27 acres for the proposed project.

Construction emissions were evaluated qualitatively. These temporary emissions were assessed for potential effects on nearby land uses and the potential for dust complaints.

PROJECT IMPACTS AND MITIGATION MEASURES

Construction Emissions

Impact 4.2.1 **Construction activities would generate exhaust emissions and fugitive particulate matter emissions that would temporarily affect local air quality for adjacent land uses. [SM]**

Construction would result in numerous activities that would generate dust. The fine, silty soils in the project area and often strong afternoon winds exacerbate the potential for dust, particularly in the summer months. Clearing, grading, leveling, earthmoving and excavation are the activities that generate the most PM_{10} emissions. Impacts would be localized and variable. Construction impacts would last for a period of several months at any one location. Construction dust impacts are considered to be potentially significant on a localized basis. Because of the prevailing northwest wind direction, properties east and south of the project would be most affected by construction emissions. These properties include existing residential areas. The potential for dust nuisance would exist during early stages of construction, when disturbance of soil is greatest.

Construction equipment and vehicles would also generate exhaust emissions during active construction. Although operated temporarily at construction sites, construction equipment is a substantial source category within the San Joaquin Valley Air Basin, generating ozone precursors as well as PM_{10}. Since construction equipment is normally considered part of the existing inventory of sources, quantification of this emission is not recommended by the SJVAPCD except for very large projects. Nevertheless, this impact, along with the potential dust emissions, is considered **significant**.

Mitigation Measures

The San Joaquin Valley Air Pollution Control District regulates construction emissions through its Regulation VIII. The provisions of Regulation VIII pertaining to construction activities require the following:

- Effective dust suppression for land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill and demolition activities.
- Effective stabilization of all disturbed areas of a construction site, including storage piles, not used for seven or more days.
- Control of fugitive dust from on-site unpaved roads and off-site unpaved access roads.
- Removal of accumulations of mud or dirt at the end of the work day or once every 24 hours from public paved roads, shoulders and access ways adjacent to the site.

Regulation VIII requires that a dust control plan be prepared, and violations of the requirements of Regulation VIII are subject to enforcement action. Violations are indicated by the generation of visible dust clouds and/or generation of complaints.

In addition, the following mitigation measures shall be implemented:

MM 4.2.1a The project developer shall prepare and submit a dust control plan to the SJVAPCD that incorporates all provisions of Regulation VIII and the following additional measures:

- Limit traffic speeds on unpaved roads to 15 mph.
- Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site.
- Suspend excavation and grading activities when winds exceed 20 mph.
- Limit size of area subject to excavation, grading or other construction activity at any one time to avoid excessive dust.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- Expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring.

Timing/Implementation: Prior to issuance of grading permit.
Enforcement/Monitoring: City of Manteca Community Development Department, San Joaquin Valley Air Pollution Control District.

MM 4.2.1b The project developer shall implement the following measures to reduce exhaust emissions during construction:

- Equipment not in use for more than ten minutes should be turned off.
- Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- Whenever feasible and cost effective, use electrically driven equipment, provided they are not run via a portable generator set.

Timing/Implementation: Upon commencement of construction activities.
Enforcement/Monitoring: City of Manteca Community Development Department, San Joaquin Valley Air Pollution Control District.

With implementation of Regulation VIII controls and the above mitigation measures, construction impacts on air quality would be reduced to a level that is **less than significant.**

Carbon Monoxide

Impact 4.2.2 **The project would change traffic volumes and congestion levels, changing carbon monoxide concentrations at land uses near the roadway. [LS]**

Carbon monoxide is a local pollutant in that high concentrations are found only very near the source. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations, therefore, are usually only found near areas of high traffic volumes.

The SJVAPCD's *Guide for Assessing and Mitigation Air Quality Impacts* provides screening criteria to identify situations where modeling is warranted. If neither of the following criteria is met at intersections affected by the project, the project is concluded to have no potential to create a violation of the carbon monoxide standards:

- The Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F, and
- The project will substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

Although not stated explicitly, the above criteria are to be applied to signal controlled intersections rather than stop sign controlled intersections.

The project is served by mostly rural streets with good levels of service, indicating little potential for exceedance of the carbon monoxide standards. The proposed project would not result in any signalized intersections degrading below LOS D with planned roadway and signal improvements (T.Y. Lin International/CCS, 2004). Considering that the project is in an area of low background carbon monoxide concentrations and that the region is an attainment area for the carbon monoxide ambient air quality standards, the increases in carbon monoxide concentrations resulting from project would not result in violations of any state or federal ambient air quality standard for this pollutant. Project impacts on carbon monoxide concentrations would be **less than significant.**

Project Air Emissions

Impact 4.2.3 **Trips to and from the project site, and area sources within the project site, would result in new air pollutant emissions within the air basin. [SU]**

The project would be an indirect source of air pollutants, in that it would attract and cause an increase in vehicle trips in the region. The project would also be an area source of emissions, primarily from the combustion of natural gas for space and water heating, wood burning and landscaping activities. **Table 4.2-4** shows the new auto and area source emissions of regional pollutants that would result from the proposed project, based upon output from the URBEMIS-2002 computer program. Also shown are the San Joaquin Valley Air Pollution Control District's thresholds of significance.

TABLE 4.2-4
PROJECT AUTO AND AREA-SOURCE EMISSIONS (TONS PER YEAR)

	ROG	NOx	PM_{10}
Auto Emissions	32.53	46.22	50.06
Area Source Emissions	14.14	3.36	7.00
Total	**46.67**	**49.58**	**57.06**
Significance Threshold	10.00	10.00	15.00

Source: San Joaquin Valley Air Pollution Control District.

The San Joaquin Valley Air Pollution Control District has established a threshold of significance for ozone precursors of 10 tons per year, and 15 tons per year has been assumed to represent a significant impact for PM_{10}. Project-related emissions exceed the thresholds of significance for all three pollutants, so project impacts on regional air quality would be **significant and unavoidable.**

Mitigation Measures

MM 4.2.3 The following are mitigation measures deemed feasible and effective for the proposed project:

- Use energy-efficient design including automated control systems for heating/air conditioning, utilize lighting controls and energy-efficient lighting in buildings and use light colored roof materials to reflect heat.
- Plant deciduous trees on the south and westerly facing sides of buildings.
- Provide low nitrogen oxide (NO_x) emitting and/or high efficiency water heaters.
- Appropriate easements should be reserved to provide for future improvements such as bus turnouts, loading areas, and shelters.
- Sidewalks and bike paths should be installed throughout as much of the project as possible and should be connected to any nearby open space areas, parks, schools, commercial areas, etc
- Provide for efficient interior circulation and pedestrian access within the project area and provide logical connection points for future development on the surrounding properties.
- Provide secure bicycle parking to encourage non-motorized forms of transportation to and from the site.
- Natural gas lines and electrical outlets should be installed in patio areas to encourage the use of gas and/or electric barbeques.
- All housing units should include as part of the purchase price an electric lawn mower and an electric edger.

Timing/Implementation: Prior to final site plan approval.
Enforcement/Monitoring: City of Manteca Community Development Department, San Joaquin Valley Air Pollution Control District.

The above measures have the potential to reduce project emissions by 5-10 percent. There is currently no feasible mitigation available that would reduce emissions by the 83 percent that would be necessary to reduce project impacts to below the SJVAPCD's significance thresholds. Even after mitigation, regional air quality impacts would remain **significant and unavoidable.**

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Impact 4.2.4 **The project would contribute to cumulative air pollutant emissions within the San Joaquin Valley Air Basin. [SU]**

The project is located in the San Joaquin Valley Air Basin, an air basin with severe air quality problems. In particular, the air basin is currently in nonattainment status for ozone and PM_{10}, under both state and federal standards. These problems are related to the cumulative emissions from numerous sources in the region and transport from outside the region. While individual sources are unlikely to have a measurable impact by themselves, each contributes to the cumulative problem. The proposed project is part of a pattern of urbanization of agricultural lands within the air basin that exacerbates regional air pollution problems.

Efforts to attain the state and federal ambient air quality standards are made more difficult by continuing growth in population, vehicle use and industrialization within the air basin. Since substantial reductions in emissions of ozone precursors and particulate matter will be necessary to attain the ambient air quality standards, the introduction of a new source of emissions would delay the attainment of the standards. The impacts of the proposed project were singularly found to be significant and would also be **significant and unavoidable** cumulatively, considering the effects of similar development within the air basin in the past, present and foreseeable future.

REFERENCES

California Air Resources Board (CARB). 1974. *Climate of the San Joaquin Valley Air Basin.*

City of Manteca. 2003. Draft General Plan 2003. May 2003.

Jones and Stokes Associates. *Software User's Guide: URBEMIS2002 for Windows with Enhanced Construction Module, Version 7.4.* May 2003.

T.Y. Lin International/CCS. 2004. *Villa Ticino West Draft Traffic Impact Analysis.* Sacramento, Calif., February 2004.

San Joaquin Valley Unified Air Pollution Control District (SJVAPCD). 1998. *Guidance for Assessing and Mitigating Air Quality Impacts.*

4.3 Biological Resources

This section evaluates biological resource impacts associated with the proposed project. Issues evaluated in this section include wildlife habitats, special-status species, and wetlands and other jurisdictional waters. Information contained in this section is primarily based upon a biological resource study conducted by May and Associates.

4.3.1 EXISTING SETTING

GENERAL BACKGROUND

The project site is located in south central San Joaquin County, which is part of the Central Valley of California. Now predominantly agricultural, the Central Valley once supported grassland, marshes, extensive riparian woodlands, and islands of valley-oak savanna (Hickman 1993). The County is characterized by the San Joaquin River Delta to the northwest, rolling foothills to the west, relatively flat and mostly agricultural land in the San Joaquin Valley in the central portion of the County, and rolling foothills to the east.

COMMON HABITATS

As part of the biological resource study, a field survey of the project was conducted on October 14, 2003. The field survey identified three distinct habitats on the project site, characterized by vegetation, amount of disturbance, and presence of water among other factors. **Figure 4.3-1** illustrates the habitats on the project site. These habitats, and the plant and animal species found within them, are described below.

Agricultural

The majority of the project site, approximately 204.7 acres, is agricultural and was farmed in alfalfa, corn, and oat hay in 2003. For the project site, agricultural habitat includes irrigated hayfield (alfalfa), dryland row and grain crops (corn and oat hay), and disked field. Alfalfa fields in the project site are irrigated during the growing season. Row and grain crop fields in the project site are not irrigated during the growing season. Some fields in the project site were disked at the time of the field survey.

VEGETATION

Vegetation in the agricultural areas likely changes from year to year as different crops are planted. Farmed crops may include, but are not limited to, alfalfa, corn and oat hay.

WILDLIFE

Agricultural areas provide food and temporary cover for common wildlife species. These areas are not likely to be used for nesting or burrowing, due to the high level of disturbance from agricultural operations. The following wildlife species were observed in the agricultural portions of the project site: killdeer, rock dove, mourning dove, American crow, yellow-billed magpie, Brewer's blackbird, and western meadowlark.

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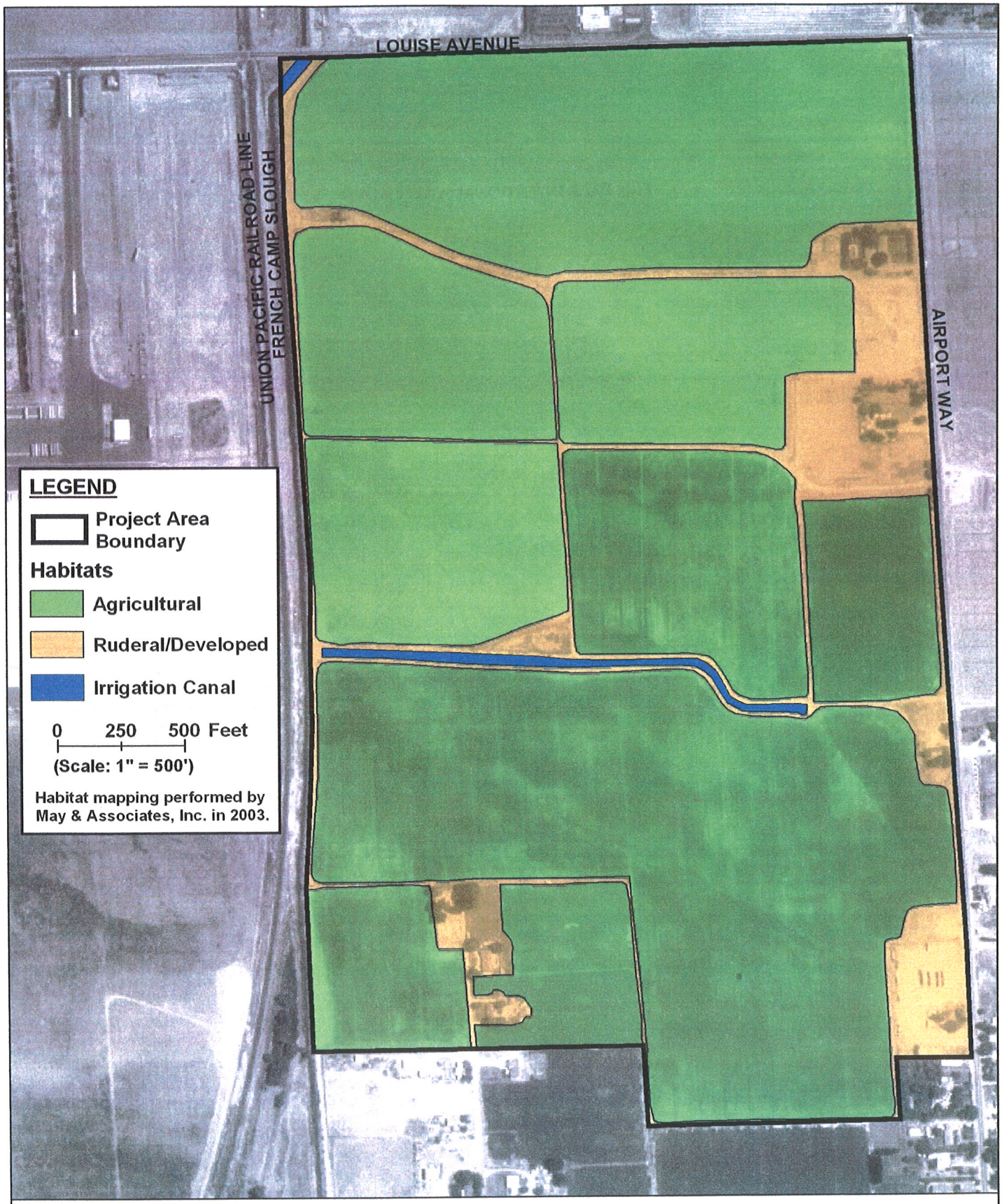

Figure 4.3-1. Habitats in the Villa Ticino West Project Area

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Ruderal/Developed

Ruderal habitat refers to those areas that have been subject to a considerable amount of human disturbance, either in the recent past or ongoing, or some form of development (e.g., buildings, roads, grading, construction debris, pumps). Many of these areas are largely unvegetated. Those areas that are vegetated show evidence of significant soil disturbance, such as past grading or disking. Ruderal/Developed areas comprise approximately 30.7 acres of the project site. There are two developed areas in the project site that have buildings. There are three water pumps near the canal on the western edge of the project site. Ruderal/developed vegetation is also present around field edges and along roads in the project site.

Vegetation

Vegetated areas within the ruderal habitat are dominated by introduced annual grasses and forbs. Dominant plant species include Russian thistle, Bermuda grass, and summer mustard. Other plant species observed include ripgut brome, telegraph weed, yellow starthistle, honey locust, amaranth, tree tobacco, narrowleaf plantain, spurge, willow-herb, jimson weed, western sunflower, cheeseweed, horseweed, dove weed, and land caltrop. Vegetation around buildings includes the following ornamental species: eucalyptus, pecan, orange firethorn and ornamental *Prunus* sp.

Wildlife

Common wildlife species such as sparrows, ground squirrels, and jackrabbits likely use the ruderal/developed areas for cover, roosting, and/or nesting. Ruderal/developed areas may also provide food for common wildlife species. The following wildlife species were observed in the ruderal portions of the project site: gopher snake, red-tailed hawk, American crow, rock dove, mourning dove, Brewer's blackbird, northern mockingbird, white-crowned sparrow, savannah sparrow, western meadowlark, California ground squirrel, and black-tailed jackrabbit.

Irrigation Canal

An irrigation canal totaling approximately 1.6 acres runs along the southern edge of the project site. The irrigation canal and associated vegetation are supported exclusively by irrigation water for the purpose of watering onsite crops. This irrigation canal may be considered a jurisdictional "water of the United States" by the U.S. Army Corps of Engineers, pursuant to Section 404 of the federal Clean Water Act. This issue is discussed later in this section.

Vegetation

The canal itself is sparsely vegetated. However, the following plant species were observed in the irrigation canal: smartweed, umbrella sedge, curly dock, vervain, tree-of-heaven, bearded strangletop, sow thistle, prostrate amaranth, Mexican tea, woolly everlasting, yellow sweetclover, barnyard grass, alkali heliotrope, and common purslane. An example of vegetation found in an irrigation canal is presented in **Photo 4.3-1** below, which shows the ditch along the western boundary of the project site.

Photo 4.3-1 Irrigation ditch along railroad tracks

Wildlife

Common fish species are resident in the canal. Common wildlife species may use the canal for drinking and bathing. Other species, such as the great blue heron, may use the canal for feeding. The following wildlife species were observed in the irrigation canal in the project site: Asiatic clams, mosquitofish, and great blue heron.

SPECIAL-STATUS SPECIES

Special-status species are defined as plants and animals that are legally protected under the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA) or under other regulations, considered sufficiently rare by the scientific community to qualify for such listing, or considered sensitive because they are unique, declining regionally or locally, or at the extent of their natural range.

Special-Status Plants

Special-status plant species are:

- Plants listed or proposed for listing as threatened or endangered under the Federal ESA (50 CFR 17.12 for listed plants and various notices in the Federal Register for proposed species).
- Plants that are candidates for possible future listing as threatened or endangered under the Federal ESA (50 CFT Part 17, June 13, 2002; 40657-40679).
- Plants that meet the definitions of rare or endangered species under CEQA (CEQA Guidelines, Section 15380).
- Plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered" in California (Lists 1B and 2 in CNPS [2001]).
- Locally important occurrences of plants listed by CNPS as plants which more information is needed and plants of limited distribution (Lists 3 and 4, respectively, in CNPS [2001]).
- Plants listed or proposed for listing by the State of California as threatened or endangered under the California ESA (14 CCR 670.5).
- Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.).
- Plants considered sensitive by other federal agencies (i.e., U.S. Forest Service, Bureau of Land Management) or state and local agencies or jurisdictions.

- Plants considered sensitive or unique by the scientific community or occurring at the limits of its natural range (CEQA Guidelines, Appendix G).

Table 4.3-1 lists special-status plant species with the potential to occur on the project site. Ten special-status plant species were considered to be potentially occurring. No special-status plant species are known to occur in the project site, and no special-status plant species were observed during field surveys.

TABLE 4.3-1
SPECIAL-STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR ON THE PROJECT SITE

Common Name *Scientific Name*	Listing Status*			Ecological Information	Occurrence on the Project Site
	Federal	State	CNPS		
Alkali milk-vetch *Astragalus tener* var. *tener*	FSC	–	1B	Occurs in valley and foothill playas, grassland (adobe clay), and vernal pools with alkaline soil. Identification period is March – June.	Not expected to occur in the project site due to lack of suitable habitat. Covered by the SJMSCP.
San Jacinto Valley crownscale *Atriplex coronata* var. *notatior*	FE	–	1B	Occurs in the Central Valley in chenopod scrub, valley and foothill grassland, and vernal pools with alkaline soil. Identification period is March-October.	Not expected to occur in the project site due to lack of suitable habitat. Not covered by the SJMSCP.
Slough thistle *Cirsium crassicaule*	–	–	1B	Occurs in freshwater marsh in San Joaquin, Kings, and Kern Counties. Identification period is May-August.	Not expected to occur in the project site due to lack of suitable habitat (i.e., freshwater marsh). Covered by the SJMSCP.
Delta button-celery *Eryngium racemosum*	FSC	SE	1B	Occurs in mesic clay depressions within floodplains or riparian scrub of the San Joaquin Valley in Calaveras, Merced, and Stanislaus Counties. Presumed extirpated from San Joaquin County. Identification period is June-August.	Not expected to occur in the project site due to lack of suitable habitat (i.e., mesic clay depressions within a floodplain or riparian habitat). Covered by the SJMSCP.
California hibiscus *Hibiscus lasiocarpus*	–	–	2	Occurs in freshwater marsh in scattered small locations in central California, from Butte County to San Joaquin County. Identification period is August-September.	Not expected to occur in the project site due to lack of suitable habitat (i.e., freshwater marsh). Covered by the SJMSCP.
Delta tule pea *Lathyrus jepsonii* var. *jepsonii*	–	–	1B	Occurs in freshwater and brackish marsh in the Sacramento/San Joaquin River delta, south San Francisco Bay area. Identification period is May-June.	Not expected to occur in the project site due to lack of suitable habitat (i.e., freshwater or brackish marsh). Covered by the SJMSCP.
Mason's lilaeopsis *Lilaeopsis masonii*	–	R	1B	Occurs in the tidal zone of freshwater and brackish marsh in the Sacramento-San Joaquin River delta. Identification period	Not expected to occur in the project site due to lack of suitable habitat (i.e., tidally influenced freshwater or

Common Name *Scientific Name*	Listing Status* Federal	State	CNPS	Ecological Information	Occurrence on the Project Site
				is June-August.	brackish marsh). Covered by the SJMSCP.
Sanford's arrowhead *Sagittaria sanfordii*	–	–	1B	Occurs in freshwater marsh, shallow streams, and ditches in the Central Valley. Identification period is May-August.	Suitable habitat (i.e., irrigation canal) is present in the project site. Covered by the SJMSCP.
Wright's trichocoronis *Trichocoronis wrightii var. wrightii*	–	–	2	Occurs in the Central Valley in alkaline meadows and seeps, marshes and swamps, riparian scrub, vernal pools. Identification period is May - September.	Not expected to occur in the project site due to lack of suitable habitat. Covered by the SJMSCP.
Caper-fruited tropidocarpum *Tropidocarpum capparideum*	–	–	1A	Occurs in annual grassland, oak woodland, on alkaline-clay soils of the east San Francisco Bay area. Identification period is March-April.	Not expected to occur in the project site due to lack of suitable habitat. Covered by the SJMSCP.

*Listing Status Codes:

Federal:
FE = Endangered; FT = Threatened; PE = Proposed Endangered; PT = Proposed Threatened, FPD = Proposed Delisted pursuant to the Federal Endangered Species Act of 1973, as amended;
FSC = considered a Federal Special Concern species by the USFWS;
MNBMC = considered a Migratory Nongame Bird of Management Concern by the USFWS;
FSS = considered a U.S. Forest Service Sensitive species;
– = no listing status.

State:
CE = Endangered; CT = Threatened; CPE = Proposed Endangered; CPT = Proposed Threatened pursuant to Sects. 2074.2 and 2075.5 of the California Endangered Species Act of 1984;
CSC = considered a California Species of Concern by the CDFG;
FP = a Fully Protected species that may not be taken without a take permit from the CDFG;
– = no listing status.

California Native Plant Society (CNPS):
1B = List 1B species: rare, threatened or endangered in California and elsewhere;
2 = List 2 species: rare, threatened or endangered in California, more common elsewhere;
3 = List 3 species: plants for which more information is needed to determine rarity;
4 = List 4 species: plants of limited distribution, a watch list.

Source: CDFG 2003b.

Of the ten plant species listed in **Table 4.3-1**, nine were removed from further consideration because the project site lacks suitable habitat, or the project site is out of their known range. The one remaining special status plant species, Sanford's arrowhead, was considered to have potential to occur in the project site due to suitable existing conditions. This species is discussed further below.

Sanford's Arrowhead

Sanford's arrowhead is an emergent aquatic perennial herb that is a member of the water-plantain family. Its emergent leaves are long, linear, and three-angled or narrowly ovate. Unlike other arrowhead species, the leaves are typically not sagittate (i.e., arrow-shaped). Early submerged leaves are thin and strap-shaped. The plant flowers from May through October (CNPS 2001). The flowering unit is generally borne on an emergent peduncle, and it displays three-petaled flowers.

Sanford's arrowhead is typically found growing in shallow slow-water habitats, including sloughs, oxbow lakes, ditches and some areas of tidally affected emergent marsh. Currently, Sanford's arrowhead is found below 2,000 feet elevation (Hickman 1993) in Butte, Del Norte, Fresno, Merced, Sacramento, Shasta, San Joaquin and Tehama Counties. Although widely distributed in California, the species is uncommon within areas of suitable habitat. CNPS considers Sanford's arrowhead rare in California and elsewhere (List 1B). This species is extirpated from most of its former range, and remaining populations are threatened by grazing, development and channel alteration. (CNPS 2001)

No Sanford's arrowhead plants were observed during the field survey. However, suitable habitat for the species is present within the project site, namely the irrigation canal.

Special-Status Wildlife

Special-status wildlife species are:

- Animals listed or proposed for listing as threatened or endangered under the Federal ESA (50 CFR 17.11 for listed animals and various notices in the Federal Register for proposed species).
- Animals that are candidates for possible future listing as threatened or endangered under the Federal ESA (54 CFR 554).
- Animals that meet the definitions of rare or endangered species under CEQA (CEQA Guidelines, Section 15380).
- Animals listed or proposed for listing by the State of California as threatened and endangered under the California ESA (14 CCR 670.5).
- Animal species of special concern to the California Department of Fish and Game (CDFG) (CDFG 2003b) or of concern to federal agencies such as the U.S. Fish and Wildlife Service (USFWS) and the U.S. Forest Service.
- Animal species that are fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians] [CDFG 2003b]).

Table 4.3-2 lists special-status wildlife species with the potential to occur on the project site. Eleven special-status plant species were considered to be potentially occurring. No special-status wildlife species, or evidence of their presence, were observed in the project site during the field survey. The probability of special-status wildlife species occurring in the project site is considered low due to habitat conditions (i.e., current and historic agricultural use) and the proximity to human

disturbance (i.e., adjacent roads, railroad, and development). Special-status wildlife species associated with large trees or old growth forest are considered unlikely to occur.

Of the species listed in **Table 4.3-2**, five were removed from further consideration because the project site lacks suitable habitat; the project site is outside of their known range; they were not detected during detailed site surveys; they were considered not to occur in the project site due to the existing level of human disturbance; or they were otherwise considered unlikely to occur in the project site based on the habitats present at the site. The remaining six special-status wildlife species were considered to have potential to occur in the project site: giant garter snake, Swainson's hawk, western burrowing owl, California horned lark, San Joaquin pocket mouse, and San Joaquin kit fox. These species are described in more detail below.

TABLE 4.3-2
SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR ON THE PROJECT SITE

Common Name *Scientific Name*	Listing Status*		Ecological Information	Occurrence on the Project Site
	Federal	State		
INVERTEBRATES				
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T	–	Central Valley and surrounding foothills below 1,500 feet. Dependent on elderberry shrubs (host plant) as a food plant. Potential habitat is shrubs with stems 1 inch in diameter within Central Valley.	Not expected to occur in or adjacent to the project site due to lack of suitable habitat (i.e., blue elderberry shrubs). Covered by the SJMSCP.
AMPHIBIANS				
California tiger salamander *Ambystoma californiense*	FSC	CSC	Central Valley, including Sierra Nevada foothills up to 1,000 feet and Coastal regions from Butte County south to Santa Barbara County. Annual grasslands and valley-foothill woodlands; breeds in seasonal wetlands such as vernal pools and swales. Burrows in underground refuges such as ground squirrel holes.	Not expected to occur in or adjacent to the project site due to lack of suitable aquatic habitat (i.e., vernal pools, vernal swales). There are no seasonal wetlands in the project site that pond long enough to support breeding California tiger salamanders. Covered by the SJMSCP.
REPTILES				
Giant garter snake *Thamnophis gigas*	FT	ST	Occurs in the Central Valley from Fresno north to the Gridley/Sutter Buttes area; has been extirpated from areas south of Fresno. Found in 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.	Potentially occurs in the project site. Although not observed during the October 14, 2003 survey, low-quality suitable aquatic habitat (i.e., irrigation canal) is present in the project site. Covered by the SJMSCP.

Common Name *Scientific Name*	Listing Status*		Ecological Information	Occurrence on the Project Site
	Federal	State		
BIRDS				
Swainson's hawk *Buteo swainsoni* (nesting)	FSC; MNBMC	ST	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Nests in oaks or cottonwoods in or near riparian habitats; forages in grasslands, irrigated pastures, and grain fields.	Not expected to nest in or adjacent to the project site due to lack of suitable nesting habitat (i.e., trees); however, high-quality suitable foraging habitat (i.e., agricultural fields) is present in the project site. Swainson's hawks likely forage in the project site. Covered by the SMJSCP.
Western burrowing owl *Athene cunicularia hypugea*	FSC; MNBMC	CSC	Central and southern coastal habitats, Central Valley, Great Basin and deserts. Open annual grasslands or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Dependent upon burrowing mammals (especially California ground squirrel) for burrows.	Potentially nests and/or winters in the project site. Although not observed during the October 14, 2003 survey, suitable nesting and/or wintering habitat (i.e., California ground squirrel burrows) is present in the ruderal/developed portions of the project site. Covered by the SJMSCP.
Tricolored blackbird *Agelaius tricolor* (nesting colonies)	FSC; MNBMC	CSC	Sacramento-San Joaquin Valleys and low foothills of coast ranges and the Sierra Nevada; Great Basin. Nests colonially in vicinity of freshwater marshes. Prefers dense stands of tules, cattails, and brambles.	Not expected to nest in or adjacent to the project site due to lack of suitable habitat (i.e., tules, cattails, brambles). Covered by the SJMSCP.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FC; MNBMC	SE	Nests along the upper Sacramento, Lower Feather, south fork of the Kern Ammargosa, Santa Ana, and Colorado Rivers. Found in large, dense riparian forests with a thick understory of willows for nesting.	Not expected to occur in or adjacent to the project site due to lack of suitable habitat (i.e., riparian forest, willow scrub). Covered by the SJMSCP.
California horned lark *Eremophila alpestris*	–	CSC	Widespread in suitable habitat in coastal counties and the San Joaquin Valley. Desert scrub, short grass plains, grasslands interrupted by bare ground, grassy hillsides, mesas and ridges, plowed agricultural land, sagebrush flats, alpine meadows and fell-fields, alkali flats.	Potentially occurs in the project site. Although not observed during the October 14, 2003 survey, suitable habitat (i.e., grassy areas and agricultural land) is present in the project site. Covered by the SJMSCP.
MAMMALS				
San Joaquin pocket mouse *Perognathus inornatus inornatus*	FSC	–	Grasslands and blue oak savannas. Coastal scrub, valley/foothill grassland; needs friable soils.	Not likely to occur in the project site due to the existing level of disturbance (i.e., farming) and small amount of suitable habitat (i.e., along field edges) present in the project site. Covered by the SJMSCP.

Common Name *Scientific Name*	Listing Status*		Ecological Information	Occurrence on the Project Site
	Federal	State		
Riparian (=San Joaquin Valley) woodrat *Neotoma fuscipes riparia*	FE	CSC	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.	Not expected to occur in or adjacent to the project site, as the project site lacks suitable habitat (i.e., riparian habitat). Covered by the SJMSCP.
San Joaquin kit fox *Vulpes macrotis mutica*	FE	ST	Principally occurs in the San Joaquin Valley and adjacent open foothills to the west; recent records from 17 counties extending from Kern County north to Contra Costa County. Saltbush scrub, grassland, oak, savanna, and agricultural fields.	Not likely to occur in the project site due to the existing level of disturbance (i.e., farming) and small amount of suitable denning habitat (i.e., along field edges) present in the project site. Covered by the SJMSCP.

*Listing Status Codes:

Federal:
FE = Endangered; FT = Threatened; PE = Proposed Endangered; PT = Proposed Threatened, FPD = Proposed Delisted pursuant to the Federal Endangered Species Act of 1973, as amended;
FSC = considered a Federal Special Concern species by the USFWS;
MNBMC = considered a Migratory Nongame Bird of Management Concern by the USFWS;
FSS = considered a U.S. Forest Service Sensitive species;
– = no listing status.

State:
CE = Endangered; CT = Threatened; CPE = Proposed Endangered; CPT = Proposed Threatened pursuant to Sects. 2074.2 and 2075.5 of the California Endangered Species Act of 1984;
CSC = considered a California Species of Concern by the CDFG;
FP = a Fully Protected species that may not be taken without a take permit from the CDFG;
– = no listing status.

Source: CDFG 2003b.

Giant Garter Snake

The giant garter snake is federally and state listed as threatened (CDFG 2003b). It is endemic to wetlands in the Central Valley of California. The giant garter snake inhabits agricultural wetlands and other waterways, such as irrigation and drainage canals, rice lands, marshes, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands in the Central Valley. This species prefers freshwater marshes and low gradient streams, and has adapted to drainage canals and irrigation ditches for habitat. This species is the most aquatic of the garter snakes in California. (Hansen 1988)

Generally, the habitat components most important to giant garter snake survival are (1) water, including permanent water that persists through the summer months; (2) emergent aquatic vegetation and steep, vegetated banks for cover; and (3) an abundant food supply. Other important components are adjacent upland areas with small mammal burrows or other suitable winter retreats, and habitat diversity. The giant garter snake occurs in a combination of permanent and seasonal freshwater habitats and conducts most of its activities within the immediate vicinity of water. Giant garter snakes usually occur within a few feet of water (i.e., within escape distance) and are often found between the water level and the top of adjacent banks or embankments. During the past 40 years the giant garter snake has disappeared from most sites in the San Joaquin Valley that formerly supported its populations (Hanson and Brode 1980; USFWS 1999). The reasons for

this include habitat loss because of water diversion and manipulation, urban and agricultural expansion, and perhaps because of environmental toxins and exotic predators (Brode 1988).

Suitable potential aquatic habitat for the giant garter snake is present in the project site, namely the irrigation canal with some emergent aquatic vegetation and adjacent upland areas. The nearest reported occurrence of giant garter snake is approximately 10 miles north of the project site (CDFG 2003a).

Swainson's Hawk

The Swainson's hawk (nesting) is considered a Species of Concern and Migratory Non-Game Bird of Management Concern by USFWS, and is state listed as threatened (CDFG 2003b). It occurs in the San Joaquin and lower Sacramento Valleys, the Klamath Basin, and Butte Valley. The hawks nest most often in oaks or cottonwoods in or near riparian habitats, and forage in grasslands, irrigated pastures, and grain fields. Swainson's hawks migrate south for the winter, some as far south as Central and South America, and return in the spring to breed.

Conversion of native grassland and woodland communities to agricultural uses is the primary cause for the decline of the Swainson's hawk, although several agricultural crops are considered suitable Swainson's hawk foraging habitat, including grain and vegetable crops, alfalfa, and pasture. Typical Swainson's hawk habitat consists of a riparian corridor for nesting and suitable agricultural crops for foraging. In the Central Valley, Swainson's hawks feed primarily on small rodents and large insects, usually in fields that support low vegetative cover and provide the highest densities of prey. Swainson's hawks are also sensitive to habitat fragmentation and will avoid low-density development, even though suitable prey conditions may exist (Estep and Teresa 1992).

Marginally suitable nest trees are present in the developed portions of the project site, but Swainson's hawks are unlikely to nest in the project site due to the existing high level of disturbance. The nearest reported nesting occurrence of this species is approximately 0.25 miles southwest of the project site (CDFG 2003a). High-quality suitable foraging habitat – the agricultural fields - is present in the project site, and Swainson's hawks may potentially forage there.

Western Burrowing Owl

The western burrowing owl is considered a Species of Concern and Migratory Non-Game Bird of Management Concern by USFWS, and is considered a Species of Special Concern by CDFG (CDFG 2003b). Western burrowing owls are year-round residents of open, dry grassland and desert habitats, and in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. They are also found in large urban vacant lots. Individuals in northern parts of the range may winter to the south, but most remain within California. They usually nest in old burrows of ground squirrels or other small mammals, but may dig their own burrow in soft soil or use pipes, culverts, and nest boxes where burrows are scarce. (CDFG 2000) Burrowing owls use burrows for nesting, wintering and cover during migration stopovers. They often use the same area for nesting, wintering and foraging for several years.

Suitable habitat for western burrowing owl exists at and adjacent to the project site – the ruderal areas. There is an active ground squirrel population in the project site that provides suitable burrows for western burrowing owl. Although no western burrowing owls or evidence of burrowing owls was observed in the project site, this species potentially breeds and/or winters in

the site. The nearest reported occurrence of this species is approximately 0.2 miles southwest of the project site (CDFG 2003a).

California Horned Lark

The California horned lark is considered a Species of Special Concern by CDFG (CDFG 2003b). It is a resident along the California Coast Range and the San Joaquin Valley, occurring primarily from Capetown in Humboldt County south to Baja California (Behle 1942). The California horned lark occurs in open habitats, including the fallow grain fields, short-grass prairies, grazed grasslands, alkali flats, open coastal plains, mountain meadows and valley floors (Behle 1942, Grinnell and Miller 1944). California horned larks are abundant on low, level or rolling open pastureland. During the breeding season, the subspecies ranges from sea level to 8,500 feet in elevation (Behle 1942).

Horned larks nest in dry grasslands and rangelands that have low, sparse cover. They prefer closely cropped, barren areas for nesting, although they often place their nests adjacent to dense clumps of grasses and forbs. Horned larks forage in open herbaceous habitats, where they feed upon the seeds of grains, forbs and grasses, and on small insects (Bent 1942). Habitat loss to urban and agricultural development is the primary reason for population declines for the species.

Although horned larks were not observed in the project site during the field survey, the species potentially nests in the ruderal habitat located there.

San Joaquin Pocket Mouse

The San Joaquin pocket mouse is considered a Species of Concern by USFWS (CDFG 2003b). The San Joaquin pocket mouse occurs in dry, open grasslands or alkali scrub areas on fine-textured soils in the Central and San Joaquin Valleys. The species digs burrows for cover. Little information is available about this species. (CDFG 2000)

The ruderal areas in the project site provide marginally suitable habitat for this species. The majority of the project site is farmed, with the soil being subject to frequent disking. The quality of the habitat in the project site is diminished by high levels of both present and past disturbance, and by surrounding residential development and agriculture.

No San Joaquin pocket mice were observed during the field survey. The nearest reported occurrence of this species is approximately 12 miles west of the project site (CDFG 2003a). Because the habitat onsite has been both historically and currently subjected to high disturbance, it is unlikely that San Joaquin pocket mouse occurs in the project site.

San Joaquin Kit Fox

The San Joaquin kit fox is federally listed as endangered and state listed as threatened (CDFG 2003b). The San Joaquin kit fox is an uncommon to rare, permanent resident of arid regions of the southern half of the state - primarily the San Joaquin Valley and adjacent open foothills to the west. It lives in annual grasslands or grassy open stages of vegetation dominated by scattered brush, shrubs, and scrub. They dig dens in open, level areas with loose-textured, sandy and loamy soils. (CDFG 2000)

Suitable habitat for the San Joaquin kit fox is lacking from the project site due to past and present land practices, continuous high levels of disturbance, and surrounding residential development and agriculture. No San Joaquin kit fox, evidence of kit fox, or suitable burrows was observed during the October 14, 2003 site survey. The nearest reported occurrence of this species is approximately 18 miles south of the project site (CDFG 2003a). The San Joaquin kit fox is not likely to occur in the project site.

RAPTORS AND MIGRATORY BIRDS

Common raptor species (birds of prey), such as red-tailed hawk and great-horned owl, are not considered special-status species because they are not rare or protected under the ESA or CESA. However, nests of these species are still protected under the Migratory Bird Treaty Act (MBTA) and Section 3503.5 of the CDFG Code. Trees within the developed portions of the project site may provide marginally suitable nesting habitat for common raptors. **Photo 4.3-2** shows some of the trees located on the project site. As previously illustrated, most of the site is agricultural field .

Photo 4.3-2 Trees on project site

A large number of common bird species are migratory and fall under the jurisdiction of the MBTA. Migratory bird species have the potential to nest within the project site.

4.3.2 REGULATORY FRAMEWORK

FEDERAL REGULATIONS

Federal Endangered Species Act

The federal Endangered Species Act (ESA) prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming (including significantly modifying or degrading habitat), pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (16 USC 1532, 50 CFR 17.3). Actions that result in unauthorized take can result in civil or criminal penalties. If a project has a likelihood that it would result in take of a federally listed species, either an incidental take permit, under Section 10(a) of the ESA, or a federal interagency consultation, under Section 7 of the ESA, is required.

Migratory Bird and Raptor Regulations

Raptors and migratory birds are protected by a number of state and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds, eggs, nests or parts except in accordance with regulations prescribed by the Secretary of Interior. Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

Clean Water Act, Section 404

The U.S. Army Corps of Engineers (Corps) and the Environmental Protection Agency (EPA) regulate the discharge of dredged and fill material into "waters of the United States" under Section 404 of the Clean Water Act (CWA). Corps jurisdiction over nontidal "waters of the United States" extends to the "ordinary high water mark, provided the jurisdiction is not extended by the presence of "wetlands" (33 CFR Part 328, Section 328.4). The Corps typically exerts jurisdiction over that portion of a project area that contains waters of the United States and adjacent or isolated wetlands. This translates approximately to the bank-to-bank portion of a creek along its entire length, up to the ordinary high-water mark, and adjacent wetland areas that will either be directly or indirectly adversely affected by a proposed project. Irrigation canals may also fall under Corps jurisdiction under certain circumstances.

STATE REGULATIONS

California Endangered Species Act

The California Endangered Species Act (CESA) is similar to the federal Endangered Species Act (ESA) but pertains to state-listed endangered and threatened species. Pursuant to CESA and Section 2081 of the Fish and Game Code, a permit from the California Department of Fish and Game (CDFG) is required for projects that could result in the take of a state-listed Threatened or Endangered species. Under 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," as the federal act does. As a result, the threshold for take under CESA is higher than that under the ESA.

In addition to formal listing under ESA and CESA, some rare plant and wildlife species may receive consideration during the CEQA process, including "Species of Special Concern," as identified by CDFG.

California Native Plant Society – Native Plant Species List

The California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California (CNPS 2001). Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The following identifies the definitions of the CNPS listings:

List 1A: Plants believed extinct.

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

List 2: Plants rare, threatened, or endangered in California, but more numerous elsewhere.

List 3: Plants about which we need more information - a review list.

List 4: Plants of limited distribution - a watch list.

Section 1601 and 1603 Streambed Alteration Agreements

Under Chapter 6 of the California Fish and Game Code, CDFG is responsible for protecting and conserving the state's fish and wildlife resources. Section 1601 and 1603 of the code describes CDFG's responsibilities and states that public and private applicants, respectively, are required to obtain an agreement to "divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which those resources derive benefit, or will use material from the streambeds designated by the department."

The local CDFG warden or unit biologist typically has responsibility for issuing Section 1601 and 1603 agreements. These agreements usually include specific requirements related to construction techniques and remedial and compensatory measures to mitigate adverse impacts. CDFG also may require long-term monitoring as part of a Section 1601 or 1603 agreement to assess the effectiveness of the proposed mitigation.

Clean Water Act, Section 401 - Water Quality Certification

To successfully obtain a Section 404 wetland fill permit, if one is necessary, a project applicant would need to obtain water quality certification from the Central Valley Regional Water Quality Control Board (RWQCB). A project must also mitigate potential indirect effects to wetlands and others waters of the U.S. due to storm water runoff.

SAN JOAQUIN COUNTY MULTI-SPECIES HABITAT CONSERVATION AND OPEN SPACE PLAN

The San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) was prepared by the San Joaquin County Council of Governments (SJCOG). It is a Habitat Conservation Plan prepared in accordance with Section 10 of ESA and Section 2081(b) of CESA, allowing for the issuance of incidental take permits for listed species. The SJMSCP provides objectives and strategies for the long-term management of plant, fish and wildlife species in San Joaquin County. It identifies measures to minimize and mitigate for impacts to 97 plant and wildlife species under protection from FESA, CESA and CEQA (SJMSCP 2000). Relevant minimization and mitigation measures identified in the SJMSCP are applied in this impact assessment.

CITY OF MANTECA GENERAL PLAN GOALS AND POLICIES

The City of Manteca General Plan Resource Conservation Element identifies goals, objectives, and policies to provide further protection to natural resources within the City limits. Relevant General Plan goals and policies, as well as the project's consistency with these measures, are analyzed and discussed in **Table 4.3-3**.

TABLE 4.3-3
PROJECT CONSISTENCY WITH THE GENERAL PLAN RESOURCE CONSERVATION ELEMENT

General Plan Goals and Policies	Consistency with General Plan	Analysis
Goal RC-8. To provide adequate land for open space as a framework for urban development, to meet the passive recreation needs of the community, and to set aside wildlife habitat.	Yes	Mitigation measures put forth in the SJMSCP, and summarized in this section, require the project applicant to mitigate for loss of agricultural habitat at a 1:1 ratio. Furthermore, the applicant must also mitigate for the loss of Swainson's hawk foraging habitat at a 1:1 ratio. The mitigation area will most likely be located outside the City of Manteca.
Goal RC-10. Protect sensitive native vegetation and wildlife communities and habitat in Manteca.	Yes	Measures put forth in the SJMSCP, and summarized in this section, require the project applicant to minimize impacts to sensitive native vegetation and wildlife communities, and to provide mitigation for unavoidable impacts.
Policy RC-P-29. Minimize impact of new development on native vegetation and wildlife.	Yes	Measures put forth in the SJMSCP, and summarized in this section, require the project applicant to minimize impacts to sensitive native vegetation and wildlife communities, and to provide mitigation for unavoidable impacts.
Policy RC-P-30. Condition new development in the vicinity of the San Joaquin River and Walthall Slough to promote and protect riparian habitat, wetlands, and other native vegetation and wildlife communities and habitats.	Not applicable	The project is not in the vicinity of the San Joaquin River or Walthall Slough.
Policy RC-P-32. Protect special status species and other species that are sensitive to human activity.	Yes	Measures put forth in the SJMSCP, and summarized in this section, require the project applicant to minimize impacts to special-status species and other species that are sensitive to human activity, and to provide mitigation for unavoidable impacts.
Policy RC-P-33. Allow contiguous habitat areas.	Yes	Mitigation measures put forth in the SJMSCP, and summarized in this section, require the project applicant to mitigate for loss of agricultural habitat at a 1:1 ratio. Furthermore, the applicant must also mitigate for the loss of Swainson's hawk foraging habitat at a 1:1 ratio. The mitigation area will most likely be located outside the City of Manteca.
Policy RC-P-34. Consider the development of new drainage channels planted with native vegetation, which would provide habitat as well as drainage.	Yes, with mitigation	Mitigation measures proposed in this section require that if the project will result in moving an irrigation canal, the newly created canal must be planted with native vegetation.

4.3.3 IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE STANDARDS

A biological resource impact is considered significant if implementation of the proposed project would result in any of the following:

- Has a substantial adverse effect, either directly or through habitat modifications, on any species identified as an endangered, threatened, or rare species or their habitats (including, but not limited to, plants, fish, insects, animals, and birds). This would include project activities that would reduce the number or restrict the range of endangered, rare or threatened species.

- Has a substantial adverse effect on any natural communities identified as sensitive in local or regional plans, policies or regulations or by the CDFG and the USFWS.

- Has a substantial adverse effect on significant ecological resources, including:
  a) Wetland areas;
  b) Stream environment zones;
  c) Critical deer ranges (winter and summer), migratory routes, and fawning habitat;
  d) Large areas of non-fragmented natural habitat that support endangered, threatened or rare species;
  e) Obstruct wildlife movement zones, including but not limited to, non-fragmented stream environment zones, avian and mammalian routes, and known concentration areas of waterfowl within the Pacific Flyway; and/or
  f) Important spawning areas for anadromous fish.

- Causes a fish or wildlife population to drop below self-sustaining levels.

- Threatens to eliminate a plant or animal community.

METHODOLOGY

Information on biological resources for the proposed project site is derived primarily from a biological site survey performed by May & Associates, Inc. on October 14, 2003. As part of the survey, May & Associates reviewed existing literature and performed a search of CDFG's California Natural Diversity Database (CDFG 2003a) and CNPS's Inventory of Rare and Endangered Vascular Plants of California (CNPS 2001). An additional information source was the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan.

The project site was surveyed by May & Associates, Inc. on October 14, 2003 in order to evaluate the potential for special-status species and to determine whether or not sensitive habitats occur in, or adjacent to, the project site. The survey focused on classifying, describing, and mapping natural communities; and identifying special-status plant and wildlife species and suitable habitat to support special-status plant and wildlife species at or adjacent to the project site that could be affected by project implementation.

Plant surveys followed guidelines established by CDFG (CDFG 1998). Due to survey timing, a reconnaissance-level assessment was conducted to identify perennial plants and to determine the

potential of the site to support special-status plants known from the region. A systematic search of the entire site was conducted using meandering transects to sample all terrestrial and aquatic habitats present. All plant species encountered during the survey were identified to the level necessary to determine if they met the definition of special-status species. All plants not identifiable to the species level were collected then keyed by May & Associates, Inc. botanist Matt Gause. Plants were identified using identification keys in The Jepson Manual (Hickman *et al.* 1993). Major natural vegetation types were classified based on the *Preliminary Descriptions of the Terrestrial Vegetation of California* (Holland 1986) and the Manual of California Vegetation (Sawyer and Keeler-Wolf 1995).

Wildlife surveys followed methods recommended by CDFG and USFWS. A systematic search of the project site was conducted using meandering transects to sample all habitats present and to detect as many wildlife species as possible. Visual surveys were made for flying and soaring birds. Special attention was also given to waterways and other wetland habitats, and to nesting and/or foraging habitats for special-status species identified as potentially occurring in the project site. All wildlife species that were detected were noted. Signs of wildlife presence such as tracks, scat, burrows, feather piles, and dead animals were also noted.

PROJECT IMPACTS AND MITIGATION MEASURES

Agricultural Habitat

Impact 4.3.1 **The project would result in the loss or disturbance of approximately 204.7 acres of agricultural habitat. [LS]**

Section 4.12, Agricultural Resources, discusses the issue of agricultural lands in more detail. From a biological perspective, agricultural habitat is locally and regionally abundant. Furthermore, it is comprised of non-native horticultural species and is of little botanical value. The loss or disturbance of agricultural habitat as a result of project implementation is considered **less than significant.**

Ruderal/Developed Habitat

Impact 4.3.2 **The project would result in the loss or disturbance of approximately 30.7 acres of ruderal/developed habitat. [LS]**

Ruderal/developed areas in the project site are largely graded and/or paved. The small portions that are not graded are dominated by non-native plant species, and are of little botanical value. The loss or disturbance of ruderal/developed areas as a result of project implementation is considered **less than significant.**

Sanford's Arrowhead

Impact 4.3.3 **The project may result in the loss of habitat or loss or disturbance of Sanford's arrowhead. [SM]**

As previously described, Sanford's arrowhead is a special-status plant species that could potentially occur on the project site, although none were identified during the field survey. Since the plant flowers from May to October, and since the survey was conducted in November, it is possible that

unidentified plants exist. The project would result in the loss and/or disturbance of an irrigation canal that potentially supports Sanford's arrowhead. This impact is considered **significant.**

Mitigation Measures

MM 4.3.3a During project plan development, the project applicant shall conduct a rare plant survey. Surveys shall be conducted by qualified biologists in accordance with the most current CDFG and/or USFWS guidelines or protocols and shall be conducted at the time of year when Sanford's arrowhead is identifiable (i.e., May – August). Based on the results of the survey, the project applicant shall determine whether the project would result in a significant impact to any special-status plant species, in consultation with CDFG and/or USFWS.

If the survey reveals no occurrences of any special-status plant species, or if it is determined that no significant impacts to any special-status plant species would result from project implementation, then no further mitigation would be required. Should one or more special-status plant species occur in the project site, and a determination of significant impact be made, the project applicant shall prepare and implement a mitigation plan that reduces impacts to special-status plants, in consultation with CDFG and/or USFWS. Mitigation measures should include one or more of the following options:

- Avoid and preserve the population.
- Reduce impacts to the special-status plant population by altering project plans.
- Develop and implement a plan to remove and transplant the subject population, as approved by CDFG and/or USFWS.

The mitigation plan must be in accordance with any applicable state and/or federal statutes and laws.

Timing/Implementation: Prior to issuance of grading permit or recordation of final map, whichever occurs first.
Enforcement/Monitoring: City of Manteca Community Development Department, California Department of Fish and Game, U.S. Fish and Wildlife Service.

Alternatively, this mitigation measure may be implemented:

MM 4.3.3b As an alternative to **MM 4.3.3a**, the project applicant may choose to participate in the SJMSCP. If the project applicant chooses to participate in the SJMSCP, the project applicant shall notify SJCOG of plans to commence ground disturbance to allow for pre-construction surveys for special-status plants. If Sanford's arrowhead or other special-status plant species is/are identified in the project site during preconstruction surveys, the Joint Powers Authority (JPA), in consultation with the SJCOG Technical Advisory Committee (TAC), will determine whether or not additional measures will be required to ensure that the long-term survival of the species will not be

jeopardized. Additional measures may include project redesign, relocation of the special-status plant population, and/or seed collection.

Timing/Implementation: Prior to issuance of grading permit or recordation of final map, whichever occurs first.
Enforcement/Monitoring: SJCOG Technical Advisory Committee, City of Manteca Community Development Department.

Implementation of any of the above mitigation measures would ensure that impacts on any special-status plant species found on the project site would be minimized or avoided. Impacts after mitigation would be **less than significant.**

Resident and Migratory Species

Impact 4.3.4 **The project may result in the loss of habitat or loss or disturbance of common resident and migratory wildlife species in the project site. [LS]**

Common resident and migratory wildlife species may utilize habitats within the project site for foraging, shelter, and breeding. Regionally and locally, common wildlife species could be disturbed during construction of the proposed project, both directly through loss of wildlife and indirectly through loss of habitat and increased human presence. While some resident wildlife species could adapt to and live within developed conditions, some species would be displaced and would have to compete with existing resident populations in adjoining areas for resources. However, these common species currently receive no protection from federal, state, or local resource agencies and are considered abundant. In addition, implementation of the proposed project would not result in any of these species dropping below self-sustaining levels. Therefore, the removal of habitat, or disturbance of these species is considered a **less than significant** impact.

Giant Garter Snake

Impact 4.3.5 **The project may result in the loss of habitat for or loss and/or disturbance of giant garter snake. [PSM]**

The proposed project would result in the loss or disturbance of approximately 1.6 acres of suitable aquatic giant garter snake habitat, namely the irrigation canal, plus additional acreage of suitable upland habitat. Therefore, implementation of the proposed project has potential to directly impact giant garter snake, or indirectly through loss of habitat. The giant garter snake is federally and state listed as a threatened species. Therefore, this impact is considered **potentially significant.**

Mitigation Measures

The following mitigation measures are based upon guidance provided in the USFWS "Programmatic Formal Consultation for U.S. Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California" (Giant Garter Snake Programmatic) dated November 13, 1997 (USFWS 1997).

MM 4.3.5a The project applicant may choose to minimize the loss of giant garter snake habitat through project redesign (e.g., reducing the size of the project site, or

providing for preserved areas). Full avoidance of impacts to giant garter snake would require the project to avoid all suitable aquatic habitat (i.e., irrigation canal) and adjacent upland habitat (i.e., within 200 feet of suitable aquatic habitat). The amount of aquatic and upland habitat present in the project site will be determined by the USFWS based upon a U.S. Army Corps of Engineers verified wetland delineation. The wetland delineation will be performed as a requirement of mitigation measure **MM 4.3.10** below.

Timing/Implementation: Prior to issuance of grading permit or recordation of final map, whichever occurs first.
Enforcement/Monitoring: City of Manteca Community Development Department, U.S. Fish and Wildlife Service.

MM 4.3.5b After implementation of **MM 4.3.5a**, if the project applicant cannot fully avoid impacts to giant garter snake aquatic and adjacent upland habitat, the project applicant shall mitigate for loss of giant garter snake habitat at a 3:1 replacement ratio by providing for:

- The preservation and management (in perpetuity) of off-site giant garter snake habitat;
- By providing in-lieu fees to USFWS for such purposes; and/or
- Restoration and/or construction of on-site replacement habitat following the "Guidelines for Restoration and/or Replacement of Giant Garter Snake Habitat" outlined in the Giant Garter Snake Programmatic, **Appendix C** (USFWS 1997).

*Timing/Implementation: After implementation of **MM 4.3.5a** and prior to issuance of grading permit or recordation of final map, whichever occurs first.*
Enforcement/Monitoring: City of Manteca Community Development Department, U.S. Fish and Wildlife Service.

MM 4.3.5c Upon commencement of project construction, incidental take and minimization measures according to the Giant Garter Snake Programmatic (USFWS 1997) shall be implemented. Incidental take and minimization measures may include, but are not limited to:

- All construction activity within giant garter snake habitat shall be conducted between May 1 and October 1 (the active period for giant garter snake). Between October 2 and April 30 contact the USFWS to determine if additional measures are necessary to minimize and avoid take.
- Any dewatered habitat must remain dry for at least 15 consecutive days after April 15 and prior to excavating or filling of the dewatered habitat.
- Prior to construction activities, a qualified biologist approved by the USFWS shall conduct an environmental awareness training session for construction personnel.

- Within 24 hours prior to commencement of construction activities, the site shall be inspected by a qualified biologist who is approved by the USFWS. The biologist will provide the USFWS with a field report form documenting the monitoring efforts within 24 hours of commencement of construction activities. The project site shall be reinspected whenever a lapse in construction activity of two weeks or greater has occurred.
- Clearing of wetland vegetation will be confined to the minimal area necessary to excavate toe of bank for riprap of fill placement. Excavation of channel for removal of accumulated sediments will be accomplished by using equipment located on and operated from top of banks, with the least interference practical for emergent vegetation.
- Movement of heavy equipment to and from the project site shall be restricted to established roadways to minimize habitat disturbance.
- Preserved giant garter snake habitat shall be designated as environmentally sensitive areas and shall be flagged by a qualified biologist approved by the USFWS and avoided by all construction personnel.
- After completion of construction activities, any temporary fill and construction debris shall be removed and, wherever feasible, disturbed areas shall be restored to pre-project conditions.

Timing/Implementation: Upon commencement of project construction. Enforcement/Monitoring: City of Manteca Community Development Department, USFWS.

Alternatively, this mitigation measure may be implemented:

MM 4.3.5d As an alternative to **MM 4.3.5a, MM 4.3.5b** and **MM 4.3.5c**, the project applicant may choose to participate in the SJMSCP. If the project applicant chooses to participate in the SJMSCP, the project applicant will either fully avoid impacts to the species or be required to provide compensation for agricultural habitat land conversion, including irrigation canals, which would include the giant garter snake aquatic and upland habitat in the project site.

In accordance with Section 5.5.9 of the SJMSCP, if the project applicant chooses full avoidance of impacts to potential giant garter snake habitat, buffers must be established around potential habitat. Buffers shall be a minimum of 275 feet, and up to 525 feet, from the edge of the suitable aquatic habitat (i.e., a minimum of 275 feet from the edge of the irrigation canals). The size of the buffer shall be determined on a case-by-case basis in consultation with the TAC and with the concurrence of the permitting agencies (i.e., USFWS and CDFG). Additionally, the following measures must be implemented:

- Construction and other ground disturbances (e.g., working areas, spoils, and equipment storage areas) shall be prohibited within established setbacks. Natural vegetation shall be maintained within the setback.

The use of insecticides, herbicides and fertilizers is not permitted within established setbacks.

- All on-site construction personnel shall be given instruction regarding the presence of listed species and the importance of avoiding impacts to these species and their habitats. Instruction shall be provided by a biologist qualified by the TAC, and shall occur on the first day of construction, prior to any ground-breaking activities.
- Maintain water quality and limit construction runoff into aquatic areas through use of hay bales, filter fences, vegetative buffer strips, or other accepted equivalents.
- Setbacks shall be marked by brightly colored fencing or flagging throughout the construction process. Setbacks shall be indicated on recorded maps, whenever projects involve parcel or subdivision maps.

If the project applicant chooses to compensate for habitat loss (instead of full avoidance), compensation would provide for establishment of preserves to mitigate for loss of habitat for giant garter snake. Compensation would be provided as directed in mitigation measure **MM 4.3.6b**.

In addition to either full avoidance or compensation, all on-site construction personnel shall be given instruction regarding the potential presence of giant garter snake and the importance of avoiding impacts to the species and its habitat. Instruction shall be provided by a biologist qualified by the TAC, and shall occur on the first day of construction, prior to any ground-breaking activities.

Timing/Implementation: Prior to issuance of grading permit or recordation of final map, whichever occurs first.
Enforcement/Monitoring: SJCOG Technical Advisory Committee, City of Manteca Community Development Department.

Implementation of any of the above mitigation measures would ensure that impacts on giant garter snake and its habitat on the project site would be avoided, minimized or compensated. Impacts after mitigation would be **less than significant.**

Swainson's Hawk Habitat

Impact 4.3.6 **The project may result in the loss of approximately 204.7 acres of suitable Swainson's hawk foraging habitat. [PSM]**

The proposed project would result in the loss of approximately 204.7 acres of agricultural habitat that provides suitable foraging habitat for Swainson's hawk. The Swainson's hawk is considered a Species of Concern and Migratory Non-Game Bird of Management Concern by USFWS, and is state listed as a threatened species. Therefore, this impact is considered **potentially significant**. Potential impacts on Swainson's hawk nests are discussed in **Impact 4.3.7** below.

Mitigation Measures

MM 4.3.6a The project applicant may choose to minimize the loss of Swainson's hawk foraging habitat through project redesign (e.g., reducing the size of the project site, or providing for open space areas). If project redesign is not feasible, the project applicant shall mitigate for the loss of Swainson's hawk foraging habitat by providing for the preservation and management (in perpetuity) of off-site Swainson's hawk foraging habitat, or by providing in-lieu fees to CDFG for such purposes. The mitigation ratio will be determined in consultation with CDFG.

Timing/Implementation: Prior to issuance of grading permit or recordation of final map, whichever occurs first.
Enforcement/Monitoring: City of Manteca Community Development Department, California Department of Fish and Game.

Alternatively, this mitigation measure may be implemented:

MM 4.3.6b As an alternative to **MM 4.3.6a**, the project applicant may choose to participate in the SJMSCP. If the project applicant chooses to participate in the SJMSCP, the project applicant will be required to provide compensation for agricultural habitat land conversion, which would include the Swainson's hawk foraging habitat in the project site. Compensation would provide for establishment of preserves to mitigate for loss of Swainson's hawk foraging habitat.

As outlined in Section 4.1 of the SJMSCP, the project applicant shall mitigate at a 1:1 ratio for every acre of agricultural land impacted (SJCOG, 2000). Methods by which the project applicant may provide mitigation are outlined in Section 5.3.2 of the SJMSCP, and may include one or more of the following options:

A. Provide impact fees at the current rate (contact SJCOG for current rates) per acre of agricultural land impacted;
B. Dedicate, as conservation easements or fee title, or in-lieu dedications (at a ratio of 1:1) as specified in Sections 5.3.2.2 and 5.3.2.3 of the SJMSCP;
C. Purchase approved mitigation bank credits (at a ratio of 1:1) as specified in Section 5.3.2.4 of the SJMSCP;
D. Propose an alternative mitigation plan that is consistent with the goals of the SJMSCP and equivalent in biological value to options A, B, or C above, subject to approval by the JPA with the concurrence of the permitting agencies; representatives on the TAC.

Establishment of preserves shall follow preserve design criteria outlined in Section 5.4.4 of the SJMSCP.

Timing/Implementation: As outlined in Section 5.3.2.3 of the SJMSCP, collection of fees/purchase of mitigation banking credits will occur prior to

issuance of a grading permit, or prior to ground disturbance. Land dedications in lieu of fees payments/mitigation banking credits shall occur prior to the issuance of a grading or building permit, whichever comes first. Enforcement/Monitoring: SJCOG Technical Advisory Committee, City of Manteca Community Development Department.

Implementation of any of the above mitigation measures would ensure that impacts on Swainson's hawk habitat on the project site would be avoided, minimized or compensated. Impacts after mitigation would be **less than significant.**

Raptors

Impact 4.3.7 **The project could adversely affect raptors and other migratory birds through disturbance and/or direct impacts during breeding and nesting season. [PSM]**

Within developed areas, the project site contains marginal nesting habitat for raptor species such as red-tailed hawk, Swainson's hawk, and red-shouldered hawk. Raptors and raptor nests are protected under Section 3503.5 of the California Fish and Game Code. Although habitat is marginal for these species in the project site, there is potential for them to be present during construction activities. Construction within occupied habitat that requires the removal or disturbance of trees and vegetation could cause direct impacts to nesting activities. Removal of this habitat would be considered a direct and significant impact if special-status bird species were taken or deterred from breeding and nesting locations. Construction could also result in noise, dust, and other indirect disturbances to nesting bird species in the vicinity, resulting in potential nest abandonment and mortality to eggs and chicks. This impact is considered **potentially significant.**

Mitigation Measures

MM 4.3.7a The project applicant shall retain qualified personnel to conduct a focused survey for active raptor nest sites within one-half (0.5) mile prior to (i.e., within 30 days of) the onset of each construction phase initiated during the nesting season (March 15 – August 15). Surveys shall be conducted in accordance with the most current CDFG and/or USFWS guidelines or protocols. If active nests of target species are located during preconstruction surveys, CDFG and/or USFWS shall be notified on the status of the nests, and construction delayed within 0.5-mile of the nest to avoid disturbance until the birds leave the nest, or a time deemed acceptable (e.g., when the juveniles have fledged) by CDFG and/or USFWS. CDFG and/or USFWS may choose to reduce the 0.5-mile buffer based on various factors, such as vegetative and topographic screening, existing disturbance levels (e.g., roads, train tracks, development) and apparent sensitivity (or lack thereof) of the birds. If it is not feasible to maintain a 0.5-mile distance from an active nest, CDFG and/or USFWS shall be consulted to develop alternative mitigation measures (e.g., reduce the buffer zone, artificial screening).

Timing/Implementation: Within 30 days prior to commencement of each construction phase initiated during the nesting season (March 15 – August 15).

Enforcement/Monitoring: City of Manteca Community Development Department, California Department of Fish and Game and/or U.S. Fish and Wildlife Service.

Alternatively, this mitigation measure may be implemented:

MM 4.3.7b As an alternative to **MM 4.3.7a**, the project applicant may choose to participate in the SJMSCP. Under the SJMSCP, the project applicant has the option of retaining potential nest trees or removing the nest trees. Known and potential nest trees may be removed during the non-breeding season (typically between September 1st and February 15th), either before raptors begin nesting, or after young have fledged and are independent of the nest tree.

If the project applicant elects to retain a nest tree, the following measures shall be implemented during construction activities:

- Between 14 and 30 calendar days before ground disturbance, the project applicant shall notify SJCOG of plans to commence ground disturbance to allow for preconstruction surveys for nesting raptors (e.g., Swainson's hawk, red-tailed hawk, red-shouldered hawk). Preconstruction surveys shall be conducted by a qualified biologist for all suitable nesting areas in the project site, and within 500 feet of the project site.
- If any raptor nests are located in the project site, a minimum 500-foot setback will be established around nests until the fledglings have left the nest. The setback area will be clearly marked with brightly colored fencing. Setbacks may be reduced if a qualified biologist determines that the setback can be reduced without undue disturbance to the nesting hawks. No nest trees will be removed until the young fledge and are independent of the nest tree.
- If a nest tree becomes occupied during construction activities, then all construction activities shall remain a distance of two times the dripline of the tree, measured from the nest.

Timing/Implementation: Within 30 days prior to commencement of project construction.
Enforcement/Monitoring: SJCOG Technical Advisory Committee, City of Manteca Community Development Department.

Implementation of any of the mitigation measures would reduce any potentially significant impacts to active nest sites of raptors by avoiding disturbance of active nests or minimizing impacts on such nests. Impacts after mitigation would be **less than significant.**

Western Burrowing Owl

Impact 4.3.8 **The project may result in the loss of habitat of loss or disturbance of western burrowing owl. [SM]**

The project site contains suitable nesting and wintering habitat for western burrowing owl. Construction within occupied habitat would likely cause disturbance of vegetation that could cause direct impacts to nesting activities. Loss or disturbance of habitat would be considered a direct and significant impact if burrowing owls were taken or deterred from breeding and nesting locations. Construction could also result in noise, dust, and other indirect disturbances to burrowing owls in the vicinity. This impact is considered **significant.**

Mitigation Measures

MM 4.3.8a Within 30 days prior to start of construction, qualified personnel shall conduct preconstruction surveys for western burrowing owl, in accordance with the most current CDFG guidelines. If these surveys reveal no occurrences of western burrowing owl, then no further mitigation would be required. If western burrowing owls occur on the project site, the project applicant shall prepare and implement a mitigation plan that reduces impacts to western burrowing owl, in consultation with CDFG. The mitigation plan must be in accordance with any applicable state and/or federal statutes and laws. The mitigation plan may include any or all of the following mitigation measures (adapted from CDFG 1995):

- Minimization of impacts to the species through avoidance of occupied burrows (i.e., no ground disturbing activities within approximately 250 feet during the breeding season [February 1 through August 31], and within approximately 160 feet during the non-breeding season [September 1 through August 31]);
- On-site mitigation by retaining a minimum of 6.5 acres of suitable habitat per pair or resident bird;
- When destruction of occupied burrows is unavoidable, off-site mitigation at a 2:1 ratio on a protected lands site;
- Passive relocation of western burrowing owls during the non-breeding season (September 1 through August 31);
- Funding for long-term management and monitoring of the protected lands; and
- Mitigation success criteria, remedial measures, and reporting requirements.

Timing/Implementation: Survey within 30 days prior to commencement of project construction. Mitigation plan, if necessary, to be implemented upon commencement of project construction.
Enforcement/Monitoring: City of Manteca Community Development Department, California Department of Fish and Game.

Alternatively, this mitigation measure may be implemented:

MM 4.3.8b As an alternative to **MM 4.3.8a**, the project applicant may choose to participate in the SJMSCP. If the project applicant chooses to participate in the SJMSCP, the project applicant will be required to provide compensation for agricultural habitat land conversion, which would include the burrowing owl nesting/wintering and foraging habitat in the project site. Compensation would provide for establishment of preserves to mitigate for loss of habitat for western burrowing owl. Compensation would be provided as directed in Mitigation Measure **MM 4.3.6b**. Additionally, under the SJMSCP, the project applicant must notify SJCOG between 14 and 30 calendar days before ground disturbance to allow for preconstruction surveys for the burrowing owl.

If burrowing owls are found during the non-breeding season (September 1 through January 31), burrowing owls occupying the project site shall be evicted from the project site by passive relocation as described in the California Department of Fish and Game's Staff Report on Burrowing Owls (CDFG 1995).

If burrowing owls are found during the breeding season (February 1 through August 31), occupied burrows shall not be disturbed and shall be provided with a 75 meter (approximately 250-foot) protective buffer until and unless the TAC, with the concurrence of the Permitting Agencies' representatives on the TAC; or unless a qualified biologist approved by the Permitting Agencies verifies through non-invasive means that either: 1) the birds have not begun egg laying, or 2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Once the fledglings are capable of independent survival, the burrow can be destroyed. One-way eviction doors shall be installed over active burrows for a minimum of three days prior to the time any burrow is destroyed.

If burrowing owls are not known to use the project site, or have been passively relocated from the project site, additional measures to discourage occupation or re-occupation shall be implemented. Section 5.2.4.15 of the SJMSCP provides several methods for discouraging burrowing owls from using a project site, including retaining tall vegetation on the site, disking or plowing the site, or using various chemicals or traps to kill ground squirrels.

Timing/Implementation: Within 30 days prior to commencement of project construction.
Enforcement/Monitoring: SJCOG Technical Advisory Committee, City of Manteca.

Implementation of any of these mitigation measures would ensure that impacts on western burrowing owl would be avoided, minimized or compensated. Impacts after mitigation would be **less than significant**.

California Horned Lark

Impact 4.3.9 **The project may result in the loss of habitat or loss or disturbance of California horned lark. [LS]**

The project site provides suitable habitat for California horned lark. This species is locally and regionally common. Impacts to this species resulting from project implementation would likely be minimal in the context of the range and distribution of the species and the abundance of potentially suitable habitat in the vicinity. Implementation of the proposed project would not have a substantial effect on this species or result in populations dropping below self-sustaining levels. Therefore, project impacts to California horned lark and its habitat are considered **less than significant.**

Waters of the United States

Impact 4.3.10 **The project may result in the loss or disturbance of approximately 1.6 acres of jurisdictional waters of the United States on the project site. [PSM]**

The irrigation canal in the project site is man-made, and the canal and associated vegetation are supported exclusively by irrigation water. The irrigation canal supports only a small amount of native vegetation and is therefore of little botanical value. The loss or disturbance of the irrigation canal as a result of project implementation in and of itself is considered less than significant. However, the irrigation canal has been identified as a potential jurisdictional water of the United States. Impacts to waters of the United States, including wetland impacts that may occur as a result of the proposed project include, but may not be limited to the following:

- Discharge of fill material into wetlands or waters;
- Bridges, culverts, or other types or road crossings;
- Flood-control measures;
- Channelization;
- Increased surface runoff (volume and/or velocity); and
- Increased sedimentation.

Impacts to wetlands can arise from direct impacts (e.g., fills) or indirect impacts (e.g., sedimentation from grading adjacent to wetland areas). Future development proposals that result in one or more of these direct or indirect impacts will constitute significant impact to Waters of the United States. The magnitude of each of these impacts is dependent upon project design.

Waters of the United States are subject to the jurisdiction of the Corps. The Corps and CDFG have adopted "no-net-loss" policies for wetlands, requiring compensation for lost wetland functions and values. Because of the documented scarcity of these types of wetlands, mitigation for their loss is required. The loss of jurisdictional waters of the United States at the project site as a result of project implementation is considered a **potentially significant** impact.

Mitigation Measures

MM 4.3.10 The project applicant shall retain a qualified biologist to conduct a wetland delineation for the project site. The wetland delineation shall be performed according to the Corps wetland delineation manual (Environmental Laboratory 1987), and meet the minimum requirements of the Sacramento District of the Corps. The wetland delineation shall be submitted to the Corps for verification. If the Corps determines that there are no jurisdictional Waters of the United States in the project site, then no further mitigation is necessary. If the Corps determines that any of the wetlands in the project site are jurisdictional Waters of the United States, then the project applicant shall obtain authorization for any fills, road crossings, utility crossings, or other direct impacts to Waters of the United States through a wetland fill permit from the Corps under Section 404 of the Clean Water Act, as specified by the Corps' permitting requirements. As part of this authorization, a mitigation plan shall be prepared and complied with for full compensation of Waters of the United States losses. Such a mitigation plan will include an on-site compensation or, if necessary, a combination of on-site and off-site compensation, and shall include provisions for re-evaluation in the event that mitigation success criteria are not met within specified time frames. The mitigation plan must also be submitted to the City Community Development Department as a component of individual project applications. A request for water quality certification from the Regional Water Quality Control Board (RWQCB) will also be required pursuant to Section 401 of the Clean Water Act.

Timing/Implementation: Prior to issuance of grading permit or recordation of final map, whichever occurs first.
Enforcement/Monitoring: City of Manteca Community Development Department, U.S. Army Corps of Engineers, RWQCB.

Implementation of the mitigation measure would ensure that impacts on jurisdictional waters of the United States would be avoided, minimized or compensated. Impacts after mitigation would be **less than significant.**

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Impact 4.3.11 **The project, in conjunction with other projects proposed in San Joaquin County, could potentially contribute to cumulative impacts on special-status plant and wildlife species. [SU]**

The cumulative setting for biological resource impacts is defined based upon the distribution of local resident and migratory wildlife in San Joaquin County. This takes into account the special-status species and their potential habitat found within the project site and within San Joaquin County, including giant garter snake, raptors and other migratory birds, and California horned lark. Past agriculture, water diversion projects, and urban development have caused cumulative significant impacts to biological resources in San Joaquin County, and in the San Joaquin Valley. These significant impacts include, but may not be limited to, loss of common and sensitive plant

communities, loss/disturbance of habitat for common and special-status wildlife species, and loss/disturbance of common and special-status wildlife.

Increased development and the concomitant increase in human population and associated activity would result in habitat loss and a reduction in overall habitat quality and condition of the natural environment. Proposed and conceptual development as to be provided under the City of Manteca General Plan, the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), and the San Joaquin County General Plan would contribute to cumulative biological resource impacts, including substantial habitat loss and fragmentation in areas designated for commercial or residential development. For example, it is anticipated that approximately 57,635 acres (or approximately 12.5 percent) of existing ditched and unditched row and field crops within San Joaquin County would be converted through the year 2049 by activities covered pursuant to the SJMSCP (SJCOG, 1999). The proposed project, in conjunction with other projects proposed in the local area and the San Joaquin Valley, would result in **significant and unavoidable** cumulative biological resource impacts in the San Joaquin Valley.

The policies and measures of the City of Manteca General Plan and the SJMSCP were designed to minimize and mitigate impacts to biological resources within the City of Manteca and San Joaquin County, respectively, to reduce impacts to a less than significant level. Implementation of minimization and mitigation measures identified in the SJMSCP (SJCOG, 2000) would aid in preserving and creating foraging, shelter, and breeding habitat for resident and migratory wildlife species.

Some project-specific significant impacts may be reduced to less than significant levels through project redesign or implementation of mitigation measures. Loss and fragmentation of habitat resulting from current and future projects in San Joaquin County would be reduced and/or mitigated by minimization and mitigation measures identified in the SJMSCP. However, in the San Joaquin Valley, cumulative impacts to biological resources resulting from implementation of current and future projects would be **significant and unavoidable.**

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4.4 Hazardous Materials

This section describes the potential impacts of the project as they relate to hazardous materials. Specifically, this section looks at the potential impacts of any use of hazardous materials associated with the project, along with the existence of hazardous material sites. This section is based upon a Phase I Environmental Site Assessment of the project site prepared by ENGEO, available in this document as **Appendix D**, as well as other documents.

4.4.1 EXISTING SETTING

HAZARDOUS MATERIALS

Title 22 of the California Code of Regulations (CCR) defines a hazardous material as follows:

> "...a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed" (California Code of Regulations, Title 22, Section 66260.10).

Chemical and physical properties cause a substance to be considered hazardous. Such properties include toxicity, ignitability, corrosivity and reactivity. CCR, Title 22, Sections 66261.20-66261.24 define the aforementioned properties. The release of hazardous materials into the environment could, among other effects, seriously contaminate soils and surface water supplies. Depending upon soil characteristics, hazardous materials could also percolate into the soil and contaminate groundwater supplies.

POTENTIAL HAZARDOUS MATERIAL SITES

ENGEO Incorporated conducted a Phase I Environmental Site Assessment of the project site. The Phase I Assessment served to identify recognized environmental conditions associated with the Rossi Property. The term "recognized environmental conditions" means the presence or likely presence of any hazardous substances or petroleum products on the property under conditions that indicate an existing release, a past release or a material threat of release of any hazardous substance or petroleum products into structures on the property or into the ground, groundwater or surface water property.

Within the project site, two 7,500-gallon diesel tanks and one 1,000-gallon waste oil tank located at the Rossi Hay Company at 511 South Airport Way were identified as potential recognized environmental conditions. Gravel and soil below the fuel pump at the south end of the tanks were stained with petroleum product. An attempt was made to ascertain the depth of the staining, but this could not be determined due to the wet conditions at the site. The waste oil tank was placed directly on the soil. The extent of the contamination associated with these facilities could not be determined without further research and/or field exploration.

The Phase I Assessment stated that the groundwater beneath the project site is potentially impacted with chemicals associated with documented releases, including soil and groundwater contamination from the Frank's One Stop gasoline station on 2072 Yosemite Avenue. Six underground fuel tanks were determined to be leaking detectable amounts of petroleum

hydrocarbons, benzene and MTBE to the northwest of the station. Samples taken from a water well at 495 South Airport Way detected concentrations of 1,2-dichloropropane that exceeded the California Department of Health Services maximum contaminant level (MCL) for drinking water for this substance. No other recognized environmental conditions were identified by the Phase I Assessment.

HAZARDOUS SUBSTANCE SITES

The state Department of Toxic Substances Control (DTSC) maintains a list of hazardous waste and substances sites, known commonly as the "Cortese List." The Cortese List includes contaminated or potentially contaminated hazardous waste sites, leaking underground storage tanks, and sanitary landfills with evidence of groundwater contamination. The most current list, from April 2000, shows no hazardous waste and substances sites on the project site. The nearest Cortese List site is the Manteca Unified School District facility at 2901 Louise Avenue, across the street from the project site. It was listed for having a leaking underground storage tank. According to the Phase I Assessment, there are five other Cortese List sites within one mile of the project site, four of which are along Yosemite Avenue. The other site is in the City of Lathrop.

The Phase I Assessment for the project site reviewed federal and State databases of contaminated sites. The project site was not listed in any of these databases. Three sites listed in the CALSITES database of known and potential hazardous substance and one site listed in the Leaking Underground Storage Tank (LUST) database of incidents are located within one mile of the project site. Both these databases are used to prepare the Cortese List. In addition, there are two sites within one mile of the project site that are listed in the federal CORRACTS database of Resource Conservation and Recovery Act (RCRA) corrective action activity. Two sites listed in the California Hazardous Material Incidents Report System (CHMIRS) database are located within one mile of the project site. Two sites within one mile of the project site are targeted for cleanup using State funds. Both are located in the City of Lathrop. It should be noted that some of the identified sites are in more than one database. Because of this, the total number of potential hazardous material sites in the vicinity is less than the total number of listings in databases.

The San Joaquin County Environmental Health Department was contacted by ENGEO during preparation of the Phase I Assessment for information related to the project site. The Environmental Health Department has a file on the Rossi Hay Company property within the project site. The file contains permits for a small quantity hazardous waste generator through the year 2003 for a 1,000-gallon aboveground storage tank for waste oil, containers of used oil filters, and a parts washers with solvent. No other files for the project site were identified from the review.

4.4.2 REGULATORY FRAMEWORK

DEPARTMENT OF TRANSPORTATION

The United States Department of Transportation (DOT) has detailed regulations concerning the transportation of hazardous materials. These regulations are contained in the Code of Federal Regulations (CFR), Title 49, Transportation, Parts 100-199. Among the issues covered are hazardous material classification and labeling, packaging and loading, documentation of shipments, carrier qualifications and incident reporting.

RESOURCE CONSERVATION AND RECOVERY ACT

The federal Resource Conservation and Recovery Act (RCRA) regulates facilities that engage in the treatment, storage and disposal of hazardous wastes. Transfer facilities that store waste for more than 144 hours are also included. The RCRA program controls hazardous waste from origin to ultimate disposal. Hazardous wastes are tracked from the point of generation, through transportation and treatment, to storage and disposal or destruction.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT

The federal Superfund Amendments and Reauthorization Act (SARA) was enacted in 1980 to address the cleanup of hazardous waste sites. The SARA program provides funding and regulations regarding the identification, classification and remediation of hazardous waste sites. Title III of SARA created a new nationwide program known as Emergency Planning and Community Right-to-Know. The law was designed to improve local hazardous materials emergency response capabilities and provide the public with information concerning hazardous and toxic chemicals in their community

STATE REGULATIONS

The California Environmental Protection Agency (Cal-EPA) has established rules governing the use of hazardous materials and the management of hazardous waste. California Health and Safety Code Section 25531 *et seq.* incorporates the requirements of SARA and the Clean Air Act as they pertain to hazardous materials. Health and Safety Code Section 25534 directs facility owners storing or handling acutely hazardous materials in reportable quantities to develop a Risk Management Plan (RMP) The RMP must be submitted to the appropriate local authorities, the designated local Administering Agency, and the U.S. Environmental Protection Agency (EPA) for review and approval. It must include the following:

- An evaluation of the potential impacts associated with an accidental release.
- The likelihood of an accidental release occurring.
- The magnitude of potential human exposure.
- Any preexisting evaluations or studies of the material.
- The likelihood of the substance being handled in the manner indicated.
- The accident history of the material.

The Aboveground Petroleum Storage Act requires owners or operators of aboveground petroleum storage tanks to file a storage statement, pay a fee by July 1, 1990, and implement measures to prevent spills. The storage statement must include a name and address of the tank facility, a contact person for the facility, and the total storage capacity of all petroleum storage tanks on the facility. The facility must also prepare a Spill Prevention Control and Countermeasure (SPCC) plan that complies with EPA regulations on oil pollution prevention. Sites with single aboveground storage tanks exceeding 660 gallons or a cumulative storage capacity of greater than 1,320 gallons are subject to the provisions of this act (State Water Resources Control Board, 1998). Underground storage tanks are subject to the provisions of the California Code of Regulations, Title 23, Division 3, Chapter 16, Underground Tank Regulations.

SAN JOAQUIN COUNTY REGULATIONS

Under authority of San Joaquin County Ordinance Code Sections 9-205.4(d), 9-1105.2, 1120.2-1120.3 the San Joaquin County Environmental Health Department's Land Use/Land Development program was established in order to prevent health hazards and environmental degradation related to land development projects. Department personnel serve in an advisory role to the County Planning Commission and evaluate land use applications. Projects are evaluated for compliance with laws regarding domestic water supply, sewage and solid waste disposal, and vector control.

San Joaquin County's Underground Storage Tank (UST) program attempts to protect public health, the environment and the county's groundwater from hazardous materials stored in underground tanks. The goals of the program are implemented through inspection, permitting, monitoring, repair, installation, and removal of underground storage tanks. Those sites identified as contaminated are referred to the county's Environmental Health Department Site Mitigation Unit for cleanup oversight. The programs and provisions of the county's Underground Storage Tank program is authorized under California Health and Safety Code Section 25280 et seq.; California Code of Regulations Title 23, Section 2620 et seq.; and San Joaquin County Board of Supervisors Resolution R-84-513.

The County's UST Local Oversight Program (LOP), authorized under California Health and Safety Code Section 25297.1, was established to ensure appropriate and adequate cleanup of petroleum contamination generated in connection with leaking UST's. Under a contract with the State Water Resources Control Board, the county's LOP provides personnel who oversee the investigation and cleanup activities at soil and groundwater contamination sites within San Joaquin County.

CITY OF MANTECA GENERAL PLAN GOALS AND POLICIES

The City of Manteca General Plan contains goals and policies in the Safety Element that are related to hazards. The goals and policies applicable to the proposed project are listed in **Table 4.4-1**, which also summarizes the project's consistency with the General Plan.

TABLE 4.4-1
PROJECT CONSISTENCY WITH THE GENERAL PLAN SAFETY ELEMENT

General Plan Goals and Policies	Consistency with General Plan	Analysis
Goal S-5. Protect the health, safety, natural resources, and property through regulation of use, storage, transport, and disposal of hazardous materials.	Yes	The project is a residential, commercial and public service facilities project. Generally, no hazardous materials other than construction chemicals (paints and solvents) and household chemicals waste (cleaners, paint) will be generated within the project site. Any use of significant amount of hazardous materials would be subject to federal, State and County regulations.
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	Yes	The uses proposed for the project area will involve the use of construction chemicals and generation of household wastes. No manufacturing of hazardous materials would

TABLE 4.4-1
PROJECT CONSISTENCY WITH THE GENERAL PLAN SAFETY ELEMENT

General Plan Goals and Policies	Consistency with General Plan	Analysis
reasonable controls on such hazardous materials.		occur on the site. Storage of materials classified as hazardous may occur (mainly fuels), but such storage must comply with federal, State and County regulations.

4.4.3 IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE STANDARDS

Significance standards were developed using criteria from the CEQA Guidelines; local regional plans and ordinances; and/or consultation with the City of Manteca. A project would generally be considered to have a significant adverse environmental impact if it would create a potential public health hazard; involve the use, production, or disposal of materials that pose a hazard to people, animal or plant populations in the area affected; or if it would interfere with emergency response plans or emergency evacuation plans. For the purposes of this EIR, hazardous materials impacts are considered to be significant if the following would result from implementation of the proposed project:

- Use, production or disposal of materials that pose a hazard to people or animal or plant populations in the area affected.
- Creation of a substantial potential public health or safety hazard due to risk of upset (accidents).
- Violation of applicable laws intended to protect human health and safety, or exposure of employees to working situations that do not meet health standards.

METHODOLOGY

ENGEO Incorporated conducted a Phase I Environmental Site Assessment of the project site during November 2003. This assessment is available in this document as **Appendix D**. The assessment report provided information and an assessment about potential impacts to the project site's soils and groundwater from hazardous substances and petroleum products. The site was observed for evidence of materials storage, staining or discoloration of surface soil, debris, stressed vegetation, or other conditions that may be indicative of chemicals discharges. The area was also observed for the presence of fill, ventilation pipes, ground subsidence, or other evidence of existing or preexisting underground storage tanks. The identification of hazardous substances and petroleum products could indicate existing release, past release, or threat of release from sources of hazardous substances or contaminated areas. Such introduction of hazardous substances into the environment could result in contamination of structures, soils, groundwater, or surface water found on the project site. Findings and information developed during the site assessment was incorporated into this EIR document. Research and analysis conducted under this assessment included:

- Review of publicly available local, state, and federal environmental records

- Review of publicly available standard historical sources, aerial photographs, fire insurance maps and physical setting sources
- Review of previous environmental reports prepared for the property
- Reconnaissance of the project site
- Interviews with knowledgably public and private sector officials
- Preparation of a final report including findings and recommendations

Information concerning hazards and hazardous materials was also obtained through a review of pertinent public documents, including the City of Manteca General Plan 2023 as well as the Environmental Impact Report For the City of Manteca General Plan 2023. The most recent Cortese List prepared by the Department of Toxic Substances Control was consulted, in addition to the information on hazardous materials sites contained in the Phase I Assessment.

PROJECT IMPACTS AND MITIGATION MEASURES

The project proposes the construction of a commercial center on the project site. Most commercial activities use and store a limited amount of materials considered hazardous. Some commercial activities, such as the sale of fuels, may require the storage of a greater amount of hazardous materials than is typical for other commercial activities, as well as require the transport of such materials to the commercial operation. As discussed in the Regulatory Framework portion of this section, the transport, use and storage of hazardous materials is subject to federal, State and County regulations designed to prevent or minimize hazardous material incidents. Also, in accordance with Chapter 6.95 of the California Health and Safety Code, City businesses that utilize hazardous materials are required to submit a Business Plan to the County Environmental Health Department, which includes a listing of materials, storage facilities and particular handling requirements.

Soil Contamination

Impact 4.4.1 **Development of the project site may expose people and property to risk associated with soil contamination. [SM]**

According to the Phase I Assessment, two diesel fuel tanks and a waste oil tank at the Rossi Hay Company facilities at 511 South Airport Way were located over stained gravel and soil. These facilities were identified as potential sites of soil contamination, although the extent of the contamination could not be determined. Future development of the project at this location could bring residences into contact with contaminated soils. The Phase I Assessment also noted the existence of batteries, buckets, drums and other chemical containers that could contain hazardous materials on properties within the project site. In the course of previous agricultural operations conducted on the project site, pesticides may have been applied and as a result, may currently be present in the soil. The Phase I Assessment conducted for this project did not involve soil sampling for agricultural chemicals. The stained soils, chemical containers and possible residual pesticide concentrations in the native soils found on site are considered **significant** impacts.

Mitigation Measures

MM 4.4.1a Prior to approval of the final map, a Phase II Environmental Site Assessment shall be performed to determine the extent of soil contamination at the diesel fuel tanks and waste oil tank locations at 511 South Airport Way. Also, soil sampling shall occur at random spots on the project site to determine the presence of agricultural chemicals. These soil samples shall be analyzed in order to determine if any hazardous materials found in the samples pose a health risk to human habitation. A registered environmental assessor shall conduct the sampling and analysis. The report documenting the soil sampling and analysis shall present conclusions and, if necessary, make recommendations for remediation. All feasible recommendations shall be implemented, with costs of remediation to be allocated in a manner to be determined by the City, the project applicant and other parties of interest.

Timing/Implementation: Prior to approval of final map.
Enforcement/Monitoring: City of Manteca Community Development Department, San Joaquin County Environmental Health Department.

MM 4.4.1b Prior to approval of the final map, all batteries, buckets, drums and other chemical containers that could contain hazardous materials shall be removed from the project site. If any stained soils are discovered during the removal of these materials, a registered environmental assessor shall be contacted to determine the extent and severity of the potential contamination and to recommend remediation if necessary.

Timing/Implementation: Prior to approval of final map.
Enforcement/Monitoring: City of Manteca Community Development Department, San Joaquin County Environmental Health Department.

Implementation of the mitigation measures would ensure that any potential soil contamination on the project site would be remediated. Impacts after mitigation would be **less than significant.**

Groundwater Contamination

Impact 4.4.2 **Development of the project site may expose people and property to risk associated with groundwater contamination. [LS]**

According to the Phase I Assessment, the groundwater beneath the project site is potentially impacted with chemicals associated with documented releases from Frank's One Stop, located southeast of the project site. Based upon the topography of the project site and the surrounding area, the groundwater flow was anticipated to be in a north/northwesterly direction, which is the approximate direction of the project site from Frank's One Stop. 1,2-dichloropropane was detected in a well located at 495 Airport Way in concentrations over the Department of Health Services maximum contamination level for drinking water for this substance. Water from other wells on the project site could be potentially contaminated, either now or in the future.

The project currently proposes to connect to the City's water system, which would supply potable water without requiring the use of wells on the project site. Therefore, this impact is considered **less than significant.**

Asbestos and Lead Exposure

Impact 4.4.3 **The demolition of existing buildings on the project site as part of the project could lead to exposure to asbestos and lead. [PSM]**

The Phase I Assessment notes the existing of several buildings on the project site, some of which appear to be old. Such buildings may have been constructed with materials containing asbestos or painted with lead-based paints. Both asbestos and lead paint present health hazards if released into the environment. The removal or disturbance of asbestos-containing materials and lead paint could potentially expose construction workers and the general public to asbestos fibers and lead. It is not known if any of the existing buildings on the project site do contain asbestos or lead paint. However, given the apparent age of some of the buildings, this impact is considered **potentially significant.**

Mitigation Measure

MM 4.4.3 As a condition of demolition permit approval for buildings within the project site, the project applicant shall implement the following measures:

1) Thoroughly survey the project site and existing structures for the presence of asbestos-containing material and/or lead paint. The survey shall be performed by a person who is properly certified by the California Occupational Safety and Health Administration (CalOSHA) and who has passed an EPA-approved building inspector course.

2) If building elements containing any amount of asbestos and/or lead paint are found, prepare an abatement plan describing activities and procedures for removal, handling and disposal of these building elements, using the most appropriate procedures, work practices and engineering controls.

3) Provide the survey findings, the abatement plan if necessary, and notification of intent to demolish to the San Joaquin County Environmental Health Department at least ten days prior to commencement of activity.

4) Perform removal of the identified asbestos-containing materials using a properly qualified contractor with properly trained workers. Workers shall be provided with personal protective equipment and shall utilize procedures to minimize the generation of airborne asbestos fibers. Air monitoring during removal of asbestos-containing materials shall be performed to confirm that concentrations of airborne fibers are in compliance with applicable standards.

Timing/Implementation: Prior to issuance of demolition permit.
Enforcement/Monitoring: City of Manteca Community Development Department, San Joaquin County Environmental Health Department.

Implementation of the mitigation measure would identify potential asbestos and lead paint sources, and lead to action to eliminate potential exposure to these substances. Impacts after mitigation would be **less than significant.**

PCB Exposure

Impact 4.4.4 **The potential removal of electrical transformers on the project site as part of the project could lead to exposure to PCBs. [PSM]**

The Phase I Assessment notes the existence of several electrical transformers on the project site, all along existing overhead power lines. Some of these transformers appear to be old, and some do not have a blue sticker certifying that the transformer does not have PCBs. Because of this, the potential exists that workers and the general public could be exposed to PCBs if the transformers are leaking or are damaged during work. It is not known if the project would involve such activities. Nevertheless, this impact is considered **potentially significant.**

Mitigation Measure

MM 4.4.4 Upon the start of any work on electrical lines on the project site, all electrical transformers not clearly certified as being free of PCBs shall be removed and replaced with PCB-free transformers.

Timing/Implementation: Upon commencement of electrical line work. Enforcement/Monitoring: City of Manteca Community Development Department, San Joaquin County Environmental Health Department.

Implementation of the mitigation measure would eliminate the potential hazard of PCBs within old transformers. Impacts after mitigation would be **less than significant.**

Hazardous Material Use and Storage

Impact 4.4.5 **The project would involve land use activities that may use and store materials considered hazardous. [LS]**

The proposed fire station may include storage tanks for fuel and other motor vehicle fluids, although no details on the fire station are currently available. Both aboveground and underground tanks utilize by the fire station would be subject to strict State regulations designed to minimize or eliminate incidents of spill or leakage, as described in the Regulatory Framework portion of this section. Therefore, project impacts associated with hazardous material use and storage are considered **less than significant.**

Construction Activities

Impact 4.4.6 **Construction activities associated with the project may involve hazardous materials that could be accidentally released into the local environment. [LS]**

Construction activities associated with the type of development proposed by the project typically include refueling and minor maintenance of construction equipment on location. This could lead to fuel and oil spills. Petroleum products are considered hazardous substances due to their

flammability. Fuel and oil spills during construction activities would be minor and would be readily diluted by precipitation. The use and handling of these hazardous materials would occur in accordance with applicable federal, state and local regulations, including CalOSHA requirements. Impacts from construction spills are considered **less than significant**.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Impact 4.4.7 **Hazardous materials impacts are site-specific and are generally not affected by, or do not affect, other development in the region. [LS]**

Impacts of a project as they relate to hazardous materials are generally limited to the project site. Given the strict regulations under which hazardous materials are transported, stored and disposed, it is not likely that a project would contribute significantly to a hazardous material problem in a region. Future projects that may use or store hazardous substances would be subject to the same hazardous material regulations that apply to this project.

The project is located in an area where hazardous material sites have been identified. However, the project would not affect any activities on these sites, including remediation. Also, the project would not contribute to any existing contamination associated with these identified sites. Therefore, cumulative impacts are considered **less than significant**.

REFERENCES

California Department of Toxic Substances Control. 2000. *Hazardous Waste and Substances Sites List.* Sacramento, Calif.

City of Manteca. 2003. Draft General Plan 2023. May 2003.

City of Manteca. 2003. *Environmental Impact Report For the City of Manteca General Plan 2023.* October 6, 2003.

ENGEO Incorporated. 2003. *Phase One Environmental Site Assessment, Villa Ticino West Development, Manteca, California.* Tracy, Calif., November 2003.

4.5 Geology and Soils

This section describes the geology of the project site. It also discusses the types of soils that have been identified on the site and their properties as they relate to development. Potential geologic and seismic hazards are evaluated, such as earthquakes and landslides. This section is based upon a geologic/geotechnical report prepared by ENGEO, the *Soil Survey of San Joaquin County*, and other public documents.

4.5.1 EXISTING SETTING

TOPOGRAPHY AND LOCAL GEOLOGY

The City of Manteca is located within the San Joaquin Valley, which is the southern half of the Central Valley. The San Joaquin Valley is a flat region between the Sierra Nevada to the east, the Coast Ranges to the west, and the Tehachapi Mountains to the south. The project site is located within former farmland located adjacent to the City's western municipal boundary. Field reconnaissance indicates that the site is relatively flat – an observation confirmed by topographic maps and aerial photography. Elevations of the site range from 20 to 25 feet above mean sea level. The Geological Map of California, San Jose sheet (Division of Mines and Geology, 1966) indicates that the underlying geology of the project site is Recent Alluvial Fan Deposits in the Great Valley. This geological unit consists of sediments deposited during flood stages of major streams in the areas between natural stream levees and fans.

SOILS

Photo 4.5-1 Soils on project site adjacent to Airport Way

The project site is covered with loose, sandy surface soils (**Photo 4.5-1**). *The Soil Survey of San Joaquin County, California*, prepared by the Soil Conservation Service of the U.S. Department of Agriculture, indicates that the majority of soils on the project site consist of Tinnin loamy coarse sand, 0-2 percent slopes. This is a very deep, well-drained, nearly level soil formed in alluvium derived from granitic rock sources. Permeability of this soil is rapid. Runoff is slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is low. The Tinnen soil offers few limitations to urban development, except that cutbacks have a tendency to cave and landscaping would be moderately difficult to establish.

The eastern portion of the project site contains Veritas fine loamy sand, 0-2 percent slopes. This is a well-drained, nearly level soil on low fan terraces that is deep to a hardpan. This soil is formed from alluvium derived form mixed rock sources. Permeability of this soil is moderately rapid. Runoff is slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is low. The Veritas soil offers few limitations to urban development, except that the soil is subject to rare instances of flooding, which occurs during years of abnormally high precipitation.

Parts of the central and southern portions of the project site contain Timor loamy sand, 0-2 percent slopes. This is a moderately well-drained, nearly level soil on low fan terraces. It is deep to a hardpan. This Timor soil is formed in alluvium derived from granitic rock sources. Permeability of this soil is rapid. Runoff is slow, and the hazard of water erosion is slight. The shrink-swell potential of this soil is low. The Timor soil offers few limitations to urban development, except that the soil is subject to rare instances of flooding, which occurs during years of abnormally high precipitation. Also, cutbacks in this soil have a tendency to cave.

FAULTING AND SEISMIC HAZARDS

A review of the Geologic Map of California showed that there were no know faults mapped within the project area. This was reconfirmed through a review of aerial photography and site inspection. According to the Uniform Building Code, the project site is in Earthquake Zone 3. The project area is, however, within a seismically active region of the state. The closest known fault classified as active by the State of California Geologic Survey (CGS) is the Greenville Fault, located approximately 23 miles to the west of the project site. Another potentially active fault is the Foothills Fault System located approximately 32 miles to the east of the project site. Although not classified as active by the CGS, the Great Valley – 7 fault is located approximately 14 miles to the west and has as estimated movement magnitude of 6.7. **Table 4.5-1** provides a description of the intensity effects that result from various intensities of earthquakes, as presented in the Modified Mercalli Scale.

TABLE 4.5-1
MODIFIED MERCALLI INTENSITY SCALE FOR EARTHQUAKES

Richter Magnitude Scale	Modified Mercalli Scale	Effects Of Intensity
0.1-0.9	I	Not felt except by a very few under especially favorable circumstances.
1.0-2.9	II	Felt by only a few persons at rest, especially on upper floors of building. Delicately suspended objects may swing.
3.0-3.9	III	Felt quite noticeably in doors, especially on upper floors of building, but many people do not recognize it as an earthquake. Standing cars may rock slightly. Vibration like passing a truck. Duration estimated.
4.0-4.5	IV	During the day felt indoors by many, outdoors by few. At night some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensation like heavy truck striking building. Standing cars rocked noticeably.
4.6-4.9	V	Felt by nearly everyone, many awakened. Some dishes, windows, and so on broken; cracked plaster in a few places; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.
5.0-5.5	VI	Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster and damaged chimneys. Damage slight.
5.6-6.4	VII	Everyone runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving cars.
6.5-6.9	VIII	Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monument, walls, and heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving in cars disturbed.
7.0-7.4	IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.
7.5-7.9	X	Some well built structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Railway lines bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed, slopped over banks.
8.0-8.4	XI	Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of services. Earth slumps and land slips in soft ground. Rails bent greatly.
8.5+	XII	Total damage. Waves seen on ground. Lines of sight and level distorted. Objects thrown into the air.

Intensity scale comparison by Richter (1958). Richter Magnitudes in parenthesis are by California Department of Mines and Geology. Modified Mercalli Intensity Table by Bolt.

4.5.2 REGULATORY FRAMEWORK

ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING ACT

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. Its main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The law requires the State Geologist to establish regulatory zones known as Earthquake Fault Zones around the surface traces of active faults and to issue appropriate maps. The maps are distributed to all affected cities, counties and state agencies for their use in planning and controlling new or renewed construction. Local agencies must regulate most development projects within the Earthquake Fault Zones. The project site is not included in an Alquist-Priolo earthquake hazard zone.

UNIFORM BUILDING CODE

The Uniform Building Code regulates the construction of structures within the state. The City has adopted the Uniform Building Code, Volume 1, 1997 edition with Appendix Chapter A, C, D, H, I, 3 Division II, Chapter 12 Division II, Chapter 15, Chapter 31 and Chapter 33 thereof; Uniform Building Code, Volume 2, 1997 edition; and Uniform Building Code, Volume 3, 1997 edition, together as adopted and amended by the state of California. The Code places the project site in Seismic Zone 3, defined as an area of potentially major damage from earthquakes corresponding to intensity VII and higher on the Modified Mercalli Scale. Special provisions are in the Uniform Building Code that pertain to construction in Seismic Zone 3.

CITY OF MANTECA GENERAL PLAN GOALS AND POLICIES

The City of Manteca General Plan contains goals and policies in both the Resource Conservation Element and the Safety Element that are related to geology and soils issues. The goals and policies applicable to the proposed project are listed in **Table 4.5-2**, which also summarizes the project's consistency with the General Plan.

TABLE 4.5-2
PROJECT CONSISTENCY WITH THE GENERAL PLAN RESOURCE CONSERVATION AND SAFETY ELEMENTS

General Plan Goals and Policies	Consistency with General Plan	Analysis
Resource Conservation Element		
Goal RC-6. Preserve and maintain Manteca's soils to avoid pollution of surface waters, decreased air quality, and loss of soil.	Yes, with mitigation	The project site is relatively flat and contains soils that are moderately to well drained and have moderate permeability. The hazard of water erosion is slight to moderate. The risk of wind erosion on these soils is moderate. Landscaping, structures and paving to be completed on the site would further reduce this erosion hazard as will the use of Best Management Practices during the construction phase.
Policy RC-P-9. Minimize soil erosion and loss of topsoil from land development activities, wind, and water flow.	Yes, with mitigation	Potential soil erosion problems can be mitigated through proper Best Management Practices such as various grading techniques, compaction of loose soils and construction of foundations designed to resist differential movement among others. In addition, a design level geotechnical exploration could be made to characterize loose surficial soils.
Safety Element		
Goal S-1. Prevent loss of lives, injury, and property damage due to geological hazards and seismic activity.	Yes	No active faults have been identified on the project site. As a result, with the exception of seismic ground shaking, the potential for seismic-related impacts on the site are minimal and would be mitigated through provisions in the adopted Uniform Building Code.
Goal S-2. Prevent 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.	Yes	No active faults have been identified on the project site. As a result, with the exception of seismic ground shaking, the potential for seismic related impacts on the site are minimal and would be mitigated through provisions in the adopted Uniform Building Code. In addition, provisions of the California Health and Safety Code pertaining to earthquakes require that buildings be designed to resist lateral forces caused by earthquakes.
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.	Yes, with mitigation	A Phase I Environmental Site Assessment Report has been prepared for the site and mitigation measures contained in this document would require additional geotechnical reports for the project site prior to issuance of grading permits. Subsidence hazards are not considered significant.

TABLE 4.5-2
PROJECT CONSISTENCY WITH THE GENERAL PLAN RESOURCE CONSERVATION AND SAFETY ELEMENTS

General Plan Goals and Policies	Consistency with General Plan	Analysis
Policy S-P-2. The City shall require new development to mitigate the potential impacts of geologic hazards through Building Plan review.	Yes	The city's Community Development Department has established a building plan review process whereby construction project details are compared with both City and adopted Uniform Building Code provisions.
Policy S-P-3. The City shall avoid potential seismic induced settlement of un-compacted fill and liquefaction (water-saturated soil) due to the presence of a high water table.	Yes, with mitigation	A review of well data in the vicinity of the project site found groundwater at 20 feet below ground surface. Site grading and utility plans should be designed with shallow ground water considerations in mind. The shallow ground water conditions should be taken into account when planning for storm water detention basins and other stormwater infrastructure. Dewatering may be required to perform excavations for utility installations at the site. Building regulations for the City abide by the provisions of the adopted Uniform Building Code, which include seismic standards for all habitable structures, both public and private. The provisions of the California Health and Safety Code pertaining to earthquakes also apply to the project.
Policy S-P-6. The City shall comply with the California State seismic and building standards in the design and sighting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous materials manufacturing and storage facilities, and large public assembly halls.	Yes	Building regulations for the City of Manteca abide by the provisions of the Uniform Building Code, which include seismic standards for all habitable structures both public and private. In addition, provisions of the California Health and Safety Code pertaining to earthquakes require that buildings be designed to resist lateral forces caused by earthquakes.

4.5.3 IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE STANDARDS

Appendix G of the CEQA Guidelines indicates that a project may have significant impacts on geology and soils if it does any of the following:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death, involving rupture of a known earthquake fault as defined by the previous of the Alquist Priolo Act.

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death, involving strong seismic ground shaking, seismic-related ground failure, soil liquefaction, and landslides.
- Expose people or structures to hazards from landslides, mudflows, or avalanches.
- Expose people or structures to hazards from tsunami or seiche inundation, or volcanic hazards.
- Result in substantial soil erosion or the loss of topsoil due to unstable soil conditions resulting from unstable soils conditions from excavation, grading, or filling.
- Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.
- Potential damage from expansive soils.

METHODOLOGY

Various geologic and soils publications and maps relevant to the project area were reviewed and analyzed for the preparation of this section. Among them was the *Soil Survey of San Joaquin County, California,* prepared by the Soil Conservation Service (now the Natural Resources Conservation Service) and issued in 1992. Information from the Preliminary Geotechnical Reconnaissance report, prepared by ENGEO Incorporated on November 10, 2003, was also used in this section. The ENGEO report is available in this document as **Appendix E.**

PROJECT IMPACTS AND MITIGATION MEASURES

Soil Erosion

Impact 4.5.1 **Construction activities associated with the project may increase the possibility of wind and waterborne soil erosion on the project site. [SM]**

Soils found in the project area consisted of those in the Tinnin and Veritas series. The surface texture of these soils was found to be sandy and loose. Such characteristics make these soils subject to both wind and water erosion. Improper grading and construction activities that remove vegetative cover from the site can expose these soils to wind erosion and surface erosion attributable to runoff occurring during a storm event. This is a **significant** impact.

Mitigation Measures

Regulation VIII of the San Joaquin Valley Unified Air Pollution Control District consists of a series of rules designed to reduce fugitive dust emissions as well as potential wind erosion hazards. In addition, construction activities associated with the project are subject to National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002, the provisions of which are administered by the Central Valley Regional Water Quality Control Board (RWQCB) (also see Section 4.6 for additional discussion of NPDES). As part of the General Permit process, a Storm Water Pollution Prevention Plan (SWPPP) must be prepared. The SWPPP typically includes project-specific measures, called Best Management Practices (BMPs), designed by the project applicant to

assure protection of water quality, including erosion control. In addition, **Mitigation Measure 4.5.1** shall be implemented.

MM 4.5.1 Project applicant shall demonstrate compliance with the provisions of NPDES General Permit No. CAS000002, including preparation of the SWPPP, prior to issuance of a grading permit. Project applicant shall implement provisions of the approved SWPPP during project construction activities.

Timing/Implementation: Compliance with General Permit procedures prior to issuance of grading permit. Implementation of SWPPP provisions upon commencement of project construction activities.
Enforcement/Monitoring: City of Manteca Community Development Department, City of Manteca Public Works Department.

Implementation of this mitigation measure, along with compliance with Regulation VIII and the provisions of the Stormwater Pollution Prevention Plan would reduce potential soil erosion impacts to a level that is **less than significant.**

Soil Suitability for Construction

Impact 4.5.2 **The project site may contain geotechnical constraints to project development. [SM]**

The ENGEO report states that the project site is suitable for the proposed development from a geotechnical engineering viewpoint. The report does note two concerns that could affect project development. One is the loose, sandy soils at the surface of the project site. The report notes that mitigation of these soils can be accomplished by proper grading techniques, compaction of loose soils, and foundations designed to resist differential movement. The other concern is the shallow groundwater table. Shallow groundwater is defined as groundwater less than 20 feet below the existing ground surface. California Department of Water Resources data indicate that groundwater levels at the project site range from 7.4 feet to 28 feet below ground surface. The shallow groundwater could affect any structures or installations that require excavation. These impacts are considered **significant.**

Mitigation Measures

MM 4.5.2a Prior to issuance of a grading permit, the project applicant shall submit a design-level geotechnical exploration report that characterizes the loose surficial soils on the project to determine specific criteria for grading and foundation design. These criteria shall be incorporated in the final design plans for the project, which shall be reviewed and approved by the City Engineer.

Timing/Implementation: Prior to issuance of grading permit.
Enforcement/Monitoring: City of Manteca Community Development Department, City Engineer.

MM 4.5.2b Prior to issuance of a grading permit, the project applicant shall submit design plans that incorporate consideration for shallow groundwater conditions. The project applicant shall also submit plans for the disposition of groundwater removed during potential dewatering operations associated with project construction. Such plans shall be reviewed and approved by the City Engineer.

Timing/Implementation: Prior to issuance of grading permit.
Enforcement/Monitoring: City of Manteca Community Development Department, City Engineer.

Implementation of the mitigation measures would ensure that project design would include measures that mitigate soil and groundwater impacts on project construction. Impacts after mitigation would be **less than significant.**

Ground Shaking

Impact 4.5.3 Structures constructed as part of the project may be subject to a ground shaking hazard. [LS]

The ENGEO report stated that there are primary and secondary seismic hazards. The primary seismic hazard is ground rupture, also known as surface faulting. Common secondary seismic hazards include ground shaking, lurch cracking, lateral spreading, liquefaction, landslides, tsunamis and seiches.

A review of the available fault and earthquake information for the area indicates that the potential for occurrence of primary seismic hazards is low, since no known active faults have been identified on the project site. Also, potential occurrences of most of the secondary seismic hazards on the project site are considered low to negligible. However, the report identified ground shaking from earthquakes as a potential hazard for project structures. The report notes that the site is located in a seismically active region.

As previously stated, the City is located in Seismic Zone 3 by the Uniform Building Code. This designation imposes standards for stricter seismic safety that are to be incorporated in construction projects. Also, buildings are required to comply with the provisions of California Health and safety Code Section 19100 *et seq.*, which requires that buildings be designed to resist stresses produced by natural forces such as earthquakes and wind. Compliance with the above would reduce potential ground shaking impacts to a level that is **less than significant.**

Liquefaction

Impact 4.5.4 The project site may contain a potential liquefaction hazard. [PSM]

Liquefaction is a phenomenon in which saturated soils are subject to a temporary, but essentially total, loss of shear strength because of pore pressure buildup under the reversing cyclic shear stresses associated with earthquakes. The sites are anticipated to be silty to clean sands, based upon geologic mapping and soils observed at the surface of the site during the reconnaissance. These soils may be susceptible to liquefaction, particularly with the shallow groundwater table. The risk is expected to be low because of low potential for high seismic ground shaking at the site.

However, the ENGEO report states that the risk of liquefaction should be evaluated during a design level geotechnical exploration to determine if the site requires special stabilization measures to reduce the risk of impact to the planned development. Therefore, this impact is considered **potentially significant** and subject to mitigation.

Mitigation Measures

MM 4.5.4 A characterization of the potential liquefaction hazard on the project site shall be included as part of the design-level geotechnical exploration report that the project applicant shall be required to submit (see **MM 4.5.2a**). If a liquefaction hazard is determined to exist, special stabilization measures shall be recommended to reduce the potential impact on project structures. These measures shall be incorporated in the final design plans for the project, which shall be reviewed and approved by the City Engineer.

Timing/Implementation: Prior to issuance of grading permit.
Enforcement/Monitoring: City of Manteca Community Development Department, City Engineer.

Implementation of the mitigation measure would ensure that measures to stabilize structures in the event of liquefaction would be implemented, if a liquefaction hazard is determined to exist. Impacts after mitigation would be **less than significant.**

Subsidence

Impact 4.5.5 **The project site may contain a potential subsidence hazard. [LS]**

Subsidence is the gradual, local settling or sinking of the earth's surface with little or no horizontal motion. It is usually the result of gas, oil or water extraction, hydrocompaction, or peat oxidation. In San Joaquin County, subsidence is generally attributed to the overdrafting of groundwater basins and from peat oxidation of the Delta islands. Overdrafting occurs when the groundwater is pumped out faster than it can be replenished, resulting in the sinking of overlying ground. Effects of subsidence include infrastructure failure and increased maintenance costs (San Joaquin County, 1992).

Given the shallow groundwater table beneath the project site, buildings and infrastructure constructed as part of the project could potentially be subject to subsidence if there is a significant amount of groundwater withdrawal in the area. Currently, the City of Manteca relies on wells for its water supply. However, this reliance is expected to decrease with the completion of the South San Joaquin Irrigation District (SSJID) pipeline that is expected to supply slightly over half of the City's water needs (see Section 4.11, Utilities and Service Systems). Therefore, future groundwater extraction in the area is expected to decrease, and the subsidence hazard would be reduced accordingly. It should be noted that the groundwater table in the Manteca area fluctuates seasonally, with a decrease in levels during the dry season, when groundwater extraction is greater and there is very little replenishment from precipitation. There have been no reported subsidence problems in the City due to the seasonal change in groundwater levels. Therefore, this impact is considered **less than significant.**

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Impact 4.5.6 **Due to the nature of geologic resources and soils, adverse impacts are site-specific and are generally not affected by, or do not affect, other development in the region. [LS]**

Geotechnical impacts tend to be site-specific rather than cumulative in nature. Each development site would be subject to, at a minimum, uniform site development and construction standards relative to seismic and other geologic conditions that are prevalent within the region. In addition, implementation of **MM 4.5.2a** will ensure a site-specific geotechnical investigation is prepared for the project prior to construction. This is considered a **less than significant** impact.

Impacts regarding surficial deposits, namely erosion and sediment deposition, can be cumulative in nature within a watershed. Section 4.6, Hydrology and Water Quality, discusses issues regarding cumulative water quality impacts. In general, issues associated with soil erosion can be mitigated through grading, drainage and revegetation BMPs that are typically included in a SWPPP, as discussed under **Impact 4.5.1**. Erosion impact also can be mitigated by other local, State, and federal regulatory efforts identified throughout this document. Therefore, cumulative impacts associated with geology and soils are considered **less than significant.**

REFERENCES

City of Manteca. 2003. Draft General Plan 2023. May 2003.

City of Manteca. 2003. *Environmental Impact Report For the City of Manteca General Plan 2023.* October 6, 2003.

ENGEO Incorporated. 2003. "Villa Ticino West Development, Manteca, California - Preliminary Geotechnical Reconnaissance." Tracy, California, November 10, 2003.

San Joaquin County. 1992. *General Plan 2010, Volume III: Technical Appendices.* Adopted July 29, 1992 as amended.

U.S. Department of Agriculture, Soil Conservation Service, *Soil Survey of San Joaquin County, California*, issued 1992.

4.6 Hydrology and Water Quality

This section describes water features within the project area, including surface streams and ground water aquifers. It discusses potential issues concerning the quality of on-site and area water resources, as well as storm drainage and flooding issues. Water supply and distribution systems proposed for the project area are discussed in Chapter 4.11, Utilities and Service Systems. Information for this section was obtained from review of public documents.

4.6.1 EXISTING SETTING

SURFACE WATERS

No major streams flow within the project site or in the Manteca area. The City is located on relatively higher ground between Lone Tree Creek to the north, the Stanislaus River to the south, and the San Joaquin River to the west. The San Joaquin River is the closest major stream to the project site, located approximately four miles to the west.

Photo 4.6-1 French Camp Canal, along western boundary of project site.

The South San Joaquin Irrigation District (SSJID) operates drainage facilities that pass through Manteca and carry a portion of the City's drainage. In some instances where subdivisions have developed near irrigation laterals, drainage pumping stations have been installed in lieu of trunk lines to drains. The project site contains one east-west channel located near its southern edge (see **Figure 3-4**). Drainage within this channel discharges into the French Camp Canal, an SSJID lateral located along the western boundary of the project site (**Photo 4.6-1**). Water from the SSJID, along with drainage pumped by the City, flows into French Camp Canal, which eventually discharges into French Camp Slough and the San Joaquin Delta.

GROUNDWATER

The City is located in the Eastern San Joaquin County Groundwater Basin, which is a subbasin of the San Joaquin Valley Groundwater Basin. Four aquifers have been identified beneath the Manteca area, with depths down to and in excess of 600 feet. Wells that supply the City range in depth from 190 feet to 400 feet (City of Manteca, 2002a). 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 that allow the infiltration of water along streams, alluvial fans and foothill areas. While the Manteca area has a variety of soil types that allow percolation of water into the ground, there are no notable groundwater recharge areas with the lack of streams and alluvial fans (City of Manteca, 2003).

Groundwater levels are relatively high in the Manteca area, buoyed by the proximity of the Delta channels to the west. The depth to groundwater in the Manteca area has been reported to range

from 7 to 18 feet below the ground surface (City of Manteca, 1990). Groundwater levels vary according to seasonal conditions and climatic variations. The City depends on groundwater for its water supply, currently provided by 16 wells. Section 4.11, Utilities and Service Systems, describes the water supply system for Manteca in more detail.

FLOODPLAINS

Areas prone to flooding are delineated on Flood Insurance Rate Maps (FIRMs) prepared by the Federal Emergency Management Agency (FEMA). Typically, the FIRM delineates the area that is prone to flooding during a storm event that occurs on average once every 100 years. This area is known as the 100-year floodplain. Many FIRMs also show areas subject to flooding during a storm event that occurs on average once every 500 years – the 500-year floodplain.

Most of the City of Manteca has not been mapped for floodplains by FEMA. However, the project site is part of FIRM Community Panel Number 0602990595 D, San Joaquin County, California (revised April 2, 2002). The project site is not identified as being in a 100-year floodplain, but it is designated as Zone B. Zone B is defined as areas between the 100-year flood zone and the 500-year flood zone, areas protected by levees from the base flood (100-year flood), or certain areas subject to a 100-year flood with an average depth of less than one foot or where contributing drainage area is less than one square mile.

STORMWATER DRAINAGE

The stormwater drainage system serving the City consists of a series of drain lines, retention basins and pump stations that drain into the SSJID's irrigation system. As previously described, the SSJID system transports the runoff in a westerly direction into French Camp Canal, which eventually discharges into French Camp Slough and the San Joaquin River. Currently, the City has an agreement with SSJID to discharge drain water into five drains, six laterals and their branches. The agreement limits the discharge to any one lateral to 25 cubic feet per second (cfs). The project site is located in Drain Area 5 West, which encompasses 720 acres and is bounded by Louise Avenue, Yosemite Avenue, Union Road and the French Camp Canal. The City's 1990 *Storm Drainage Master Plan* proposed improvements that would accommodate 11,185 acres of City drainage area and increase the total discharge to the French Camp Canal to 406 cfs.

WATER QUALITY

Surface water quality at first does not appear to be as significant an issue in Manteca as elsewhere, due to the fact that the City is entirely dependent on groundwater for its water supplies and there are no streams in the area. However, the SSJID is scheduled to complete its South County Surface Water Project in 2005. This project would provide surface water as the base water supply for the City, with existing City wells to become a supplemental and peak demand water source. This plus the need of good quality water for economic activities and wildlife habitats in and around the City makes surface water quality an important matter. There are land uses and activities that the City must consider in protecting surface water quality. These include construction activities, agricultural uses including a dairy, urban runoff and the wastewater treatment plant. The Manteca General Plan EIR discussed potential impacts on surface water quality and proposed mitigation measures to reduce these impacts.

Groundwater quality in Manteca has generally been good. Tests conducted on City wells in 2001 indicate that the water meets or exceeds the drinking water quality standards of the California Department of Health Services. Samples from one well indicated an elevated level of manganese, which does not represent a health threat but would affect the aesthetic quality of the water. This well is already being treated and additional treatment may be considered in the future if the issue persists. Two wells had nitrate levels that exceeded standards. However, additional testing indicated anomalies in well sampling and operation that may have produced the elevated nitrate levels (City of Manteca, 2002b). As indicated in Section 4.4, Hazards and Hazardous Materials, groundwater contamination located at Frank's One Stop gasoline station on 2072 Yosemite Avenue, has been detected on the site but is not considered to pose a hazard to the project due to its connection to the City's potable water system.

4.6.2 REGULATORY FRAMEWORK

CLEAN WATER ACT, SECTION 404

The Clean Water Act (CWA), administered through the Regulatory Program of the U.S. Army Corps of Engineers (Corps) regulates the water quality of all discharges into waters of the United States including wetlands and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water-quality certification requirements for "any applicant applying for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." The CWA in part authorizes the Corps to:

- Set requirements and standards pertaining to such discharges: subparagraph (e);
- Issue permits "for the discharge of dredged or fill material into the navigable waters at specified disposal sites": subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas": subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual State or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such State or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain Federal or State projects from regulation under this Section: subparagraph (r); and,
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).

CLEAN WATER ACT, SECTION 303(D)

Section 303(d) of the Clean Water Act 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, primarily municipalities and industries. Section 303(d) requires states to develop a Total Maximum Daily Load (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 State Water Resources Control Board (SWRCB) is responsible for compiling the Section 303(d) list for California. The most recently approved list (1988) includes the San Joaquin River. The TMDL end dates for the pollutant constituents for the river range from December 1999 to December 2011.

NATIONAL SAFE DRINKING WATER ACT

As mandated by the Safe Drinking Water Act (SDWA, Public Law 93-523) passed in 1974, the U.S. Environmental Protection Agency (EPA) regulates contaminants of concern to domestic water supply. Contaminants of concern relevant to domestic water supply are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. EPA regulates these types of contaminants through the development of national primary and secondary Maximum Contaminant Levels (MCLs) for finished water. MCLs and the process for setting these standards were to be reviewed triennially. Amendments to the SDWA in 1986 and 1996 revised the schedules for EPA to develop certain drinking water MCLs and extended the review period to a 6-year cycle.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM

During the re-authorization of the Clean Water Act, Sections 402(P) through 405 were added to the Water Quality Act of 1987, providing for a program to eliminate pollution from non-point municipal and industrial sources. Land development and construction activities of five or more acres are also included under this legislation. The addition of stormwater discharges to the National Pollution Discharge Elimination System (NPDES), the primary federal water quality permit system administrated by the EPA, was completed on October 31, 1990, when the final regulations were signed by EPA. On November 16, 1990, the final rules and regulations for the NPDES Permit Application for Storm Water Discharges were published in the Federal Register [40 Code of Federal Regulations (CFR) 122-124].

The State Water Resources Control Board (SWRCB) has the authority to issue NPDES permits, but it generally delegates this responsibility to the Regional Water Quality Control Board (RWQCB). Site development within the Project Area would fall under the general construction activity stormwater discharge permit process. The general construction permit authorizes the discharge of stormwater and prohibits the discharge of materials other than stormwater and all discharges which contain a hazardous substance in excess of reportable quantities established in 40 CFR 117.3 or 40 CFR 302.4, unless a separate NPDES permit has been issued to regulate those discharges.

A general construction permit would require discharges associated with construction activity to:

- eliminate or reduce non-stormwater discharges to stormwater systems and other waters of the nation;
- develop and implement a stormwater pollution prevention plan (SWPPP); and
- perform inspections of stormwater control structures and pollution prevention measures.

In addition, general construction permits require adherence to Best Management Practices (BMPs) for the control of erosion and other potential water quality pollutants associated with construction activity. These BMPs consist of the following:

- "Site Planning Considerations" such as preservation of existing vegetation.
- "Vegetation Stabilization" through methods such as seeding and planting.
- "Physical Stabilization" through use of dust control and stabilization measures.
- "Diversion of Runoff" by utilizing earth dikes and temporary drains and swales.
- "Velocity Reduction" through measures such as slope roughening/terracing.
- "Sediment Trapping/Filtering" through use of silt fences, straw bale and sand bag filters, and sediment traps and basins.

On November 1, 1999, the EPA issued rules regarding the implementation of Phase II of the NPDES regulations. Phase II of the program includes more than 5,000 local governments previously not regulated by federal stormwater rules. These governments are required to implement NPDES-permitted stormwater management programs by February 2002. Stormwater Phase II regulations require cities, counties, regional authorities and other units of local government with municipal separate storm sewer systems located in urbanized areas to design, finance and implement a comprehensive stormwater quality management program. Urbanized areas are defined by the U.S. Census Bureau as containing a cumulative population of 50,000 or more and a minimum average population density of 1,000 people per square mile. The City is subject to the Phase II program.

PORTER-COLOGNE ACT

The Porter-Cologne Water Quality Control Act is California's statutory authority for the protection of water quality (California Water Code § 13000 et seq.). Under the Act, the state must adopt water quality policies, plans, and objectives that will provide protection to the state's waters for the use and enjoyment of the people of California. The Act sets forth the obligations of the Boards pertaining to the adoption of water quality control plans (Basin Plans) and establishment of water quality objectives, and authorizes designated agencies to issue and enforce permits containing waste discharge requirements. Basin Plans are the regional water quality control plans required by both the Clean Water Act and the Porter-Cologne Act in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California.

In California, the State Water Resources Control Board (SWRCB) has broad authority over water quality control issues for the State. The SWRCB is responsible for statewide water quality policy development and exercises the powers delegated to the state by the federal government under the

Clean Water Act. Regional authority for planning, permitting, and enforcement is delegated to the nine Regional Water Quality Control Boards (RWQCBs). The Regional Boards are required to formulate and adopt water quality control plans for all areas within the region. Regional Boards are required to establish water quality objectives in the water quality control plans.

Other state agencies with jurisdiction or involvement in water quality regulation include the California Department of Health Services (drinking water regulations), the Department of Pesticide Regulation, the Department of Fish and Game, and the Office of Environmental Health and Hazard Assessment.

REGIONAL WATER QUALITY CONTROL BOARD – CENTRAL VALLEY REGION

The project area is within the jurisdictional boundaries of the Central Valley Regional Water Quality Control Board (CVRWQCB). One of nine regional boards in the state, the CVRWQCB develops and enforces water quality objectives and implementation plans that safeguard the quality of water resources in its region. Its duties include developing "basin plans" for its hydrologic area, issuing waste discharge requirements, taking enforcement action against violators, and monitoring water quality. The CVRWQCB is responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters in their region. Relevant to the subject project, the CVRWQCB is responsible for protecting surface and ground waters from both point and non-point sources of pollution. In 1994, the CVRWQCB adopted the *Water Quality Control Plan – Central Valley Region Sacramento and San Joaquin River Basins* (the Basin Plan), which covers the project site.

CITY OF MANTECA GENERAL PLAN GOALS AND POLICIES

The General Plan contains goals and policies in the Resource Conservation and the Safety Elements that are related to water quality and surface hydrology issues. **Table 4.6-1** summarizes the evaluation of project consistency with the goals and policies pertinent to this chapter.

TABLE 4.6-1
PROJECT CONSISTENCY WITH THE GENERAL PLAN RESOURCE CONSERVATION AND SAFETY ELEMENTS

General Plan Goals and Policies	Consistency with General Plan	Analysis
Resource Conservation Element		
Policy RC-P-3. The City shall protect the quantity of Manteca's groundwater.	Yes, with mitigation	Mitigation measures described in this section would reduce potential impacts of the project on groundwater quality.
Goal RC-7. To protect water quality in the San Joaquin River and in the area's groundwater basin.	Yes, with mitigation	Mitigation measures described in this section would reduce potential impacts of the project on groundwater quality.
Policy RC-P-10. Minimize sedimentation and loss of topsoil from soil erosion.	Yes, with mitigation	Mitigation measures described in this section and in Section 4.5, Geology and Soils, would reduce potential erosion and sedimentation impacts.
Policy RC-P-11. Minimize pollution of waterways and other surface water bodies from urban runoff.	Yes, with mitigation	Mitigation measures described in this section would reduce potential impacts of the project on surface water quality.
Policy RC-P-12. Protect the quality of	Yes, with	Mitigation measures described in this section

TABLE 4.6-1
PROJECT CONSISTENCY WITH THE GENERAL PLAN RESOURCE CONSERVATION AND SAFETY ELEMENTS

General Plan Goals and Policies	Consistency with General Plan	Analysis
Manteca's groundwater.	mitigation	would reduce potential impacts of the project on groundwater quality.
Safety Element		
Goal S-3. Prevent loss of lives, injury, and property damage due to flooding.	Yes	The project is located in an area not subject to flooding.
Goals S-4. Pursue flood control solutions that minimize environmental impacts.	Yes	The project is located in an area not subject to flooding. Existing levees and elevated rail beds would provide adequate protection against the most likely flood scenarios.
Policy S-P-7. Regulate all uses and development in areas subject to potential flooding through zoning and other land use regulations.	Yes	The project is located in an area not subject to flooding.
Policy S-P-9. Combine flood control, recreation, water quality, and open space functions where feasible.	Yes	The project proposes a detention basin that would also function as a park. It also proposes open space areas that would function as swales.
Policy S-P-11. Ensure that the impacts of flooding are adequately analyzed when considering areas for future urban expansion.	Yes	The project is located in an area not subject to flooding.
Policy S-P-12. New residential development, including mobilehomes, shall be constructed so that the lowest floor level is at least one foot about the 100-year flood level.	Not applicable	The project is located in an area not subject to flooding.
Policy S-P-13. Non-residential development shall be anchored and flood-proofed to prevent damage from the 100-year flood or, alternatively, elevated to at least one foot about the 100-year flood level.	Not applicable	The project is located in an area not subject to flooding.

4.6.3 IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE STANDARDS

A hydrologic or water quality impact is considered significant if implementation of the project would result in any of the following:

- Conflicts with applicable Manteca Municipal Code standards, CVRWQCB requirements, and other responsible agency requirements with jurisdiction over the project site.

- Detrimental changes in absorption rates, drainage patterns, or the rate and amount of surface runoff.
- Exposure of people or property to water-related hazards such as flooding.
- Discharge into surface waters or other alterations of surface water quality (e.g., temperature, dissolved oxygen, or turbidity).
- Changes in the amount of surface water in any water body.
- Changes in currents, or the course of direction of water movements.
- Change in the quantity of groundwater, either through direct additions of withdrawals, or through interception of an aquifer by cuts or excavations, or through substantial loss of groundwater recharge capability.
- Altered direction or rate of flow of groundwater.
- Impacts to groundwater quality.
- Substantial reduction in the amount of groundwater otherwise available for public water supplies.
- Impacts to the watershed of important surface water resources, including but not limited to the San Joaquin River and its tributaries.

METHODOLOGY

PMC staff conducted a review of site-specific and regional documentation for background information and to evaluate the potential impacts on ground water, streams and surface runoff. Documents reviewed included the *2020 Water Master Plan,* the *2000 Urban Water Management Plan,* and the *Storm Drainage Master Plan,* all by the City of Manteca. Background information and suggested mitigation measures were provided from the City of Manteca General Plan and associated EIR, and the *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins,* prepared by the Central Valley RWQCB.

PROJECT IMPACTS AND MITIGATION MEASURES

Surface Runoff

Impact 4.6.1 **Development of the project site would increase surface runoff, which could exceed capacity of drainage collection facilities and cause flooding. [PSM]**

The project proposes the construction of single-family residences, a commercial center and a multifamily complex. Streets, parking lots and other facilities would be installed. This development would place a substantial amount of impervious surfaces on the project site, which currently has few such surfaces. Since precipitation would not be able to percolate into the ground with development of the project as much as it currently does, the result would be an increased amount of surface runoff. Currently, surface runoff on the project site enters into two drainage

channels, both of which are managed by SSJID. While SSJID allows for some drainage from the City to enter its facilities, the impact of the project on the capacity of these facilities is unknown. It is possible that additional runoff could contribute to a flooding situation in areas downstream from the project site. This impact is considered **potentially significant** and subject to mitigation.

The project proposes the installation of a storm drainage system to accommodate the anticipated runoff generated by project development. A key component of the storm drainage system is a detention basin that would also serve as a park. This basin would encompass approximately 8.9 acres in the northwestern corner of the project site. However, other details regarding the storm drainage system are not available. The City's *Public Facilities Implementation Plan Report* states that the target service standard for drainage is to provide 10-year storm drainage protection for all development and to provide 100-year storm drainage protection for all structures. It is not known if the project's drainage system would meet this standard. Therefore, impacts on the proposed storm drainage system are considered **potentially significant** and subject to mitigation.

Mitigation Measures

The Safety Element of the Manteca General Plan contains implementation measures that address issues of impervious surfaces and flooding potential. These include discouraging large paved areas unless provided with engineered drainage facilities, encouraging the use of paved materials that allow some percolation, and requiring new development to combine flood control and recreation functions.

In addition, the following mitigation measure shall be implemented:

MM 4.6.1 Prior to final site plan approval, the project applicant shall submit a final storm drainage system plan to both the City Department of Public Works and SSJID for their review and approval. The plan shall include an estimate of the amount of surface runoff that would be generated after project buildout, and a demonstration of the ability of the project drainage system to accommodate anticipated runoff. Any changes necessary to comply with the requirements and standards of both agencies shall be incorporated in the final plan.

Timing/Implementation: Prior to final site plan approval.
Enforcement/Monitoring: City of Manteca Department of Public Works, South San Joaquin Irrigation District.

Implementation of the mitigation measures would ensure that the proposed storm drainage system would be in compliance with City and SSJID requirements designed to prevent flooding, and would ensure that existing storm drainage facilities would have adequate capacity to accommodate runoff from the developed project site. Impacts after mitigation would be **less than significant**.

Surface Water Quality

Impact 4.6.2 **Surface runoff from the project may contain contaminants that would enter surface waters. [PSM]**

Contaminants in runoff from developed areas are likely to consist primarily of motor vehicle fluids such as oil and radiator coolant, particularly from parking lots. Also typically found in urban runoff are trace metals such as copper, lead, zinc, cadmium, chromium, arsenic and nickel. Landscaping and maintenance of residential lawns and gardens may contribute fertilizers, pesticides and herbicides. Other potential contaminants may include household chemicals and sediments. Pollutant levels are typically highest during late summer and fall. At that time, pollutants bound to particulates in sediments and to paved areas are released during the first large rainfall event of the season. Since pollutants are typically concentrated, the potential for toxic events is more likely during first flush events, because the dilution factor is usually low.

These contaminants can directly or indirectly affect aquatic life. High concentration of toxins in runoff can be lethal. Lower, chronic levels may enter the food chain, affecting the long-term breeding success of populations by lowering reproduction potential. Aquatic and wildlife habitat can also be adversely affected by the accumulation of contaminants. Runoff from the project site is eventually discharged in the Sacramento River, in an area frequented by migratory birds, including ducks and geese. Fish species, including salmon, could also be affected. Thus, contaminated runoff is a **potentially significant impact and subject to mitigation.**

Mitigation Measures

Accumulated pollutants and sediments become suspended in urban runoff and are conveyed to downstream locations until a reduction in flow velocity produces settlement, or vegetation or other roughness elements provide filtering and interception. Extended detention allows smaller particles to agglomerate into larger ones, and it permits some of the dissolved and liquid-state pollutants to adsorb suspended particles, thus removing a larger proportion of them through sedimentation. The project proposes the use of a detention basin as part of the storm drainage system for the project site. These basins are an effective Best Management Practice for reducing the amount of pollutant constituents in urban runoff, because they would provide water quality treatment and would reduce pollutant concentrations by intercepting pollutants, lowering flow velocities and allowing settling of sediments.

Since the project would result in the disturbance of at least one acre of land, it would be subject to the NPDES permit process, which would require the implementation of measures controlling sediments and other discharges. As part of the NPDES permit, the project applicant would be required to develop and implement a Storm Water Pollution Prevention Plan (SWPPP) that is approved by the RWQCB. The RWQCB would require the submittal of grading/drainage and erosion control plans as part of the SWPPP. In addition, the City as a whole is subject to Phase II of NPDES, which requires smaller municipal storm sewer systems to develop Stormwater Management Plans containing measures to reduce pollutants in discharges.

In addition, the following mitigation measure shall be implemented.

MM 4.6.2 For projects within the project site requiring grading or other earth moving activities, a Stormwater Pollution Prevention Plan (SWPPP) shall be submitted that contains measures to control erosion and sedimentation. The SWPPP shall, at a minimum, conform to the standards of the *California Storm Water Best Management Practices Handbook.* Erosion control measures may include, but are not limited to, the following:

- Immediately revegetate or otherwise protect all disturbed areas from both wind and water erosion upon the completion of grading activities.
- Use water bars, temporary swales and culverts, mulch and jute netting, hydroseeding, silt fences, sediments and/or other measures where necessary to prevent surface water from eroding graded areas and to retain sediment.
- Water soils susceptible to wind erosion at least twice per day during construction.
- Whenever possible, grading or other earth moving activities shall take place during the dry weather season, generally from April 15 to October 15 in a calendar year. If grading is to be conducted outside of the dry weather season, erosion control measures approved by the City Department of Public Works shall be implemented prior to October 15.

As part of the SWPPP, the project applicant shall outline a program for the ongoing maintenance of any detention basins and storm drain inlets that are part of the storm drainage system. The program shall describe the removal and disposal of sediments, which may contain pollutants from urban runoff, that accumulate within the basins.

Timing/Implementation: Prior to issuance of a grading permit.
Enforcement/Monitoring: Regional Water Quality Control Board.

Implementation of the mitigation measure would further minimize the potential introduction of sediments and other contaminants into the local surface waters. Impacts after mitigation would be **less than significant**.

Construction Activities

Impact 4.6.3 **Construction activities associated with the project could lead to an increased amount of sediment reaching surface waterways. [SM]**

As discussed in Section 4.5, Geology and Soils, improper grading and construction activities that remove vegetative cover from the project site can expose soils to wind erosion and water erosion. Soils carried off by surface runoff would increase the amount of sedimentation in local waterways into which the runoff would be collected, thereby degrading water quality in those waterways as well as potentially reducing channel capacity. This impact is considered **significant**.

As noted previously, the project would be required to obtain a general construction stormwater permit from RWQCB, as part of the NPDES process. Projects that involve construction activities that would disturb at least one acre are required to obtain this permit, which seeks to control erosion and sedimentation generated by construction sites. In addition, implementation of **MM 4.5.1** and **4.6.2** would further control potential sedimentation problems. These measures would reduce impacts to a level that would be **less than significant**.

Groundwater Recharge

Impact 4.6.4 **The project would reduce the area available for groundwater recharge. [LS]**

As previously described, the project would introduce impervious surfaces into an area that currently has none. Along with increasing surface runoff, the project would reduce the amount of precipitation that percolates into the ground. Percolation recharges local groundwater aquifers. However, as noted earlier, there are no notable groundwater recharge areas within the City, due to the lack of streams and alluvial fans. The project site would contain some areas that would allow percolation, such as park space and landscaped areas. Also, as noted in the discussion under **Impact 4.6.1**, the Safety Element includes an implementation measure that encourages the use of paved materials that allow some percolation. Therefore, impacts on groundwater recharge are considered **less than significant.**

Groundwater Quality

Impact 4.6.5 **The project may contribute to identified groundwater contamination problems in the vicinity. [PSM]**

As discussed in Section 4.4, Hazardous Materials, the groundwater beneath the project site is potentially impacted with chemicals associated with documented releases from a Cortese list site located to the southeast. 1,2-dichloropropane was detected in a well located along Airport Way in concentrations over the Department of Health Services maximum contamination level for drinking water for this substance. Water from other wells on the project site could be potentially contaminated, either now or in the future.

As discussed under **Impact 4.6.2**, the project may contribute contaminants to runoff from the project site. Some portions of the project site would allow percolation, which would be a potential vector for some contaminants. The contaminants would most likely be chemicals used for the maintenance of landscapes and lawns, such as pesticides, herbicides and fertilizers. However, the amount of these substances from residential lawns reaching groundwater would not be large, since the soil would act as a filter. The amount of these substances to be used by the park and open space areas could be greater, and therefore could have a **potentially significant** impact on local groundwater quality **and is subject to mitigation**. Groundwater quality could also be affected by construction activities, which would likely include dewatering operations due to the shallow groundwater table (refer to Section 4.5, Geology and Soils).

Mitigation Measures

NPDES permit requirements and conditions, along with **MM 4.5.2b** described in Section 4.5, would reduce potential construction impacts on groundwater quality. In addition, the following mitigation measures shall be implemented.

MM 4.6.5a Fertilizers used in park and open space areas, excluding residential lawns and gardens, shall be of the slow-release form, or the proper chemical release for the soil textural class and infiltration rate, or a more soluble type applied as a solution. Fertilization rates shall be applied so that nutrients will not leach below the root zone.

Timing/Implementation: Upon installation of park and open space areas. Enforcement/Monitoring: San Joaquin County Environmental Health Department.

MM 4.6.5b Herbicides and pesticides used in park and open space areas, excluding residential lawns and gardens, may only be applied with selective equipment such as recirculating spray systems, shielded applicators or wiper applicators. Application rates shall not exceed specific rates of application and instructions for control of the specific problem weed as recommended by the manufacturer.

Timing/Implementation: Upon installation of park and open space areas. Enforcement/Monitoring: City of Manteca Environmental Health Department.

MM 4.6.5c Irrigation rates for park and open space areas, excluding residential lawns and gardens, shall not exceed 90 percent of the infiltration rate for each soil type and turf management combination. Irrigation shall be timed to correspond with fertilizer and herbicide application as recommended by the chemical manufacturers.

Timing/Implementation: Upon installation of park and open space areas. Enforcement/Monitoring: San Joaquin County Environmental Health Department.

Implementation of the mitigation measures would reduce the amount of chemical substances used for maintenance of park and open space areas that enters groundwater, as well as surface waters. Impacts after mitigation would be **less than significant.**

Groundwater Contamination

Impact 4.6.6 **Development of the project site may expose people and property to risk associated with groundwater contamination. [LS]**

According to the Phase I Assessment, the groundwater beneath the project site is potentially impacted with chemicals associated with documented releases from Frank's One Stop, located southeast of the project site. Based upon the topography of the project site and the surrounding area, the groundwater flow was anticipated to be in a north/northwesterly direction, which is the approximate direction of the project site from Frank's One Stop. 1,2-dichloropropane was detected in a well located at 495 Airport Way in concentrations over the Department of Health Services maximum contamination level for drinking water for this substance. Water from other wells on the project site could be potentially contaminated, either now or in the future.

The project currently proposes to connect to the City's potable water system, which would supply potable water without requiring the use of wells on the project site. However, should the project be required to establish a new well on the site for potable or non-potable water supply, the following mitigation measure shall be implemented.

MM 4.6.6 The applicant, or responsible party, shall conduct a ground water testing program to identify the type, extent and location of the potential contamination on the site. Such testing shall be conducted by a registered engineer or hydrologist qualified to perform such work and shall establish the parameters of any on-site groundwater contamination and shall establish protocols for the location, depth and type of well proposed for the site and shall establish treatment protocols, as necessary, to minimize the potential for the intrusion of contaminated groundwater into the new well.

Timing/Implementation: Prior to the establishment of any new wells on the project site.
Enforcement/Monitoring: City of Manteca Community Development and Public Works Departments and the San Joaquin County Environmental Health Department.

Implementation of the mitigation measure resulting from the decision to construct a new water well on the site would result in the identification of the extent and location of groundwater contamination on the site and would establishment of location, depth and treatment protocols to eliminate the potential for well contamination. Impacts after mitigation would be **less than significant.**

Flood Hazards

Impact 4.6.7 **The project site may be potentially subject to a flooding hazard that would occur between a 100-year storm event and a 500-year storm event. [LS]**

As described previously, the project site is located in an area that is designated Zone B on the FIRM for the project vicinity. One possible reason for the designation is that the project site is located in an area between the 100-year flood zone and the 500-year flood zone. The most likely source of flooding in the vicinity is the San Joaquin River and its tributaries, notably the Walthall Slough located approximately three miles southwest of the project site. Given the distance of these waterways from the project site, flooding would rarely occur. Moreover, a levee running from Williamson Road east to Airport Way provides flood protection for land north and east of Walthall Slough. The Union Pacific Railroad tracks west of the project site are on a raised bed, which acts as a levee and would provide protection from potential floods to the west. Impacts related to flood hazards are considered **less than significant.**

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Impact 4.6.8 **The project would contribute to a cumulative increase in surface runoff generated by development in the Manteca area. [LS]**

The project would contribute to a general increase in surface runoff and storm drainage caused by more urbanized development in the Manteca area. However, **MM 4.6.1**, along with measures in the Safety Element described under **Impact 4.6.1**, would reduce the contribution of the project to this cumulative increase. Also, the City of Manteca's *Master Storm Drainage Plan* and *Public Facilities Implementation Plan Report* anticipate increases in storm drainage. Measures in these documents have been developed to accommodate the increased volume. Therefore, cumulative impacts of the project on storm drainage are considered **less than significant.**

Impact 4.6.9 **The project may contribute to a cumulative degradation of surface and groundwater quality in the Manteca area. [LS]**

As described in **Impact 4.6.2** and **Impact 4.6.5**, the project may contribute to some degradation in surface water and groundwater quality, particularly in combination with similar development in the Manteca-Lathrop area. However, mitigation measures described in this section would reduce the project's contribution to adverse impacts on water quality, and may eliminate some adverse impacts. Cumulative impacts are considered **less than significant**.

REFERENCES

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City of Manteca. 2002a. *City of Manteca 2000 Urban Water Management Plan – 2002 Update.*

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City of Manteca. 2003. *Environmental Impact Report For the City of Manteca General Plan 2023.* October 6, 2003.

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4.7 Land Use

This section of the EIR describes the existing land uses of the project site, characterizes surrounding uses, and discusses the proposed project in the context of the General Plan and other adopted plans and policies. The analysis focuses on land use compatibility, General Plan consistency, and the implications of the project on surrounding land uses.

4.7.1 EXISTING SETTING

EXISTING LAND USE

Regional Setting

The project site is located on the western edge of the City of Manteca, adjacent to the City of Lathrop. The City of Manteca is located in the northern portion of the San Joaquin Valley approximately 76 miles east of San Francisco and 11 miles south of Stockton. The City of Manteca is a rapidly growing community with historic ties to agriculture. The general project area and the community as a whole are undergoing a transition from agricultural uses to urban development.

Project Site

As described in Section 3.0, Project Description and as shown on **Figure 4.7.1**, the project site is located on approximately 237 acres in the City of Manteca. The project site is currently in active production for agricultural purposes and contains a limited number of existing structures. Manmade features on the project site consist of an open irrigation drainage ditch traversing the southern portion of the project site, overhead power lines, two residences, various agricultural storage buildings and three large water well pumping stations. The existing residences on the site take access from Airport Way. A number of unimproved dirt access roads traverse the site.

The predominant character of the site is farmland surrounded by existing and proposed urban development. Historically, the site has been utilized for the production of alfalfa and field crops. The French Camp Slough Outlet Channel and the Union Pacific Railroad mainline parallel the western boundary of the project site. Louise Avenue borders the site to the north, Airport Way borders the site on the east and an area containing a mixture of agricultural and rural residential land uses border the site on the south. In addition, the South San Joaquin Irrigation District Drain #5 runs in an east-to-west orientation at the southern end of the project site. Swanson Road is located south of the project site and will provide a southerly connection for the project.

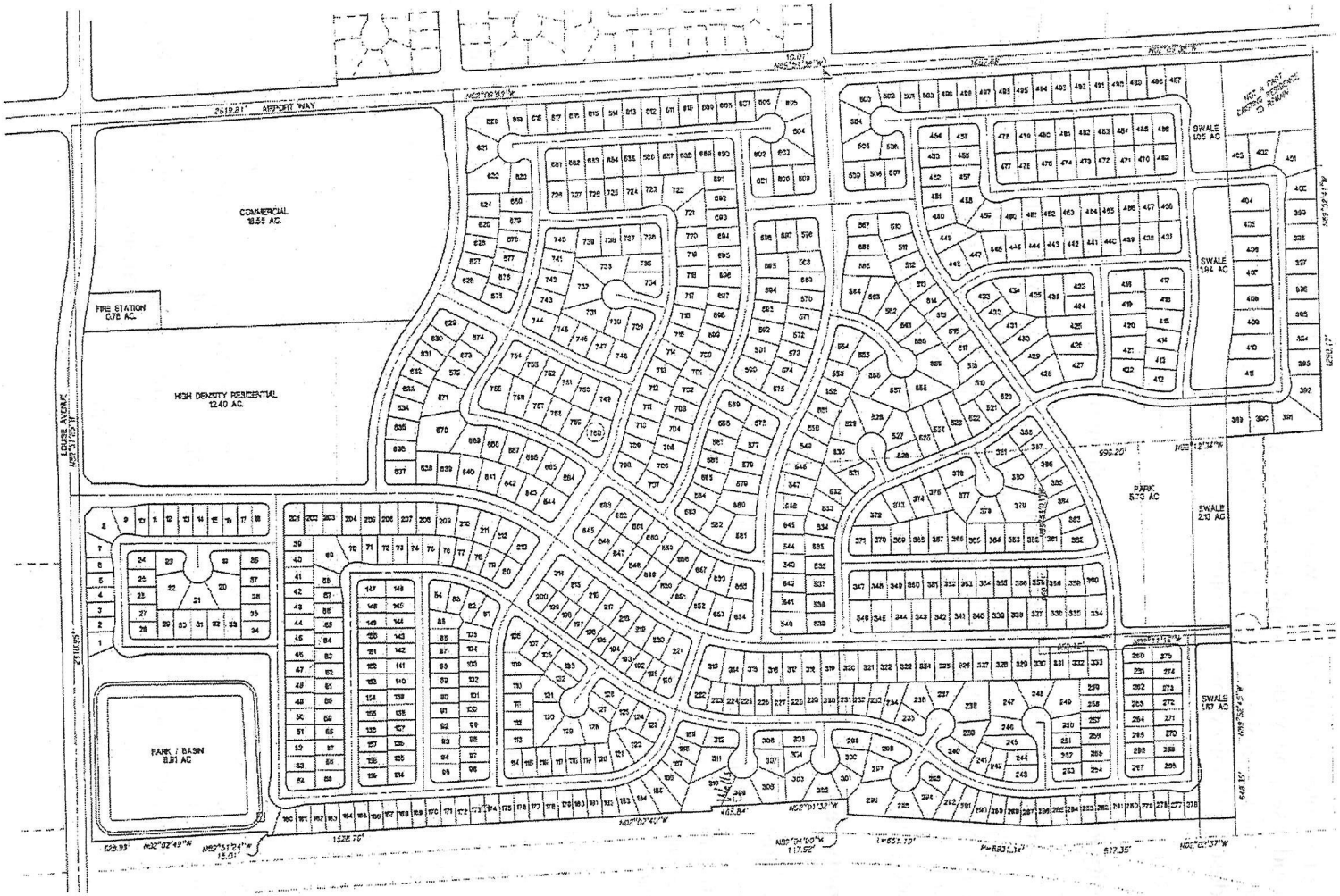
The project site was part of an annexation action, the Rossi Annexation, approved by the City of Manteca and the San Joaquin County Local Area Formation Commission (LAFCO) in 1989. The Rossi Annexation consisted of approximately 359.05 acres of land owned by Andrew Rossi and Mary Askland and an additional parcel of approximately 9.99 acres owned by the Espinoza Family. The total annexation area was approximately 369.04 acres. The Villa Ticino East project, located east of the site, is currently being developed on a portion of the land annexed as part of the Rossi Annexation.

The site is currently designed with a combination of land use designations to include the LDR, Low Density Residential (2.1 to 8 dwelling units per acre); HDR, High Density Residential (15.1 to 25 dwelling units per acre); NC, Neighborhood Commercial and P, Park land use designations on the

City of Manteca General Plan. That portion of the site designated as NC, Neighborhood Commercial on the land use plan is located at the southwest corner of Louise Avenue and Airport Way. The portion of the site designated for HDR, High Density Residential development is located immediately west of the area designated as Neighborhood Commercial and south of Louise Avenue. The site is currently zoned with the R-1, Single-family Residential zone district.

Adjacent Land Uses

Figure 4.7.2 depicts the land uses surrounding the project site. North of the site, adjacent to Louise Avenue, is the proposed Assieh Industrial Park site, for which an EIR is currently being prepared, and the administrative offices of the Manteca Unified School District and school farm. The Villa Ticino East single-family residential development, which is nearing completion, is located east of the project site. The Union Pacific Railroad main line lies along the western boundary of the proposed project site, as does a main drainage ditch of the South San Joaquin Irrigation District, French Camp Slough. The property across the railroad tracks to the west of the project site, within the City of Lathrop, is zoned for heavy industrial uses, but is currently vacant. Further to the west is an industrial warehouse also within the city limits of Lathrop. The properties to the south are generally in production for agriculture, with the exception of a scattering of residences on large lots. The properties to the south of the project site are zoned for light industrial, agricultural, and large lot residential uses.



SOURCE: MCR ENGINEERING 6/27/2003

NOT TO SCALE: FOR ILLUSTRATIVE PURPOSES ONLY

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FIGURE 4-7.1
PROPOSED DEVELOPMENT PLAN

PMC
PACIFIC MUNICIPAL CONSULTANTS

4.7.2 REGULATORY FRAMEWORK

CITY OF MANTECA GENERAL PLAN

The City of Manteca General Plan was adopted on October of 2003, and serves as the overall guiding land use policy document for the City. **Figure 4.7.2**, below, shows the General Plan designations for the project site and the surrounding properties. The General Plan designated land uses are described below for the project site.

PROJECT SITE

Low Density Residential (LDR) (2.1 to 8.0 dwelling units per gross acre)

The Low Density Residential land use will establish a mix of dwelling unit types and character determined by the individual site and market conditions. The density range allows substantial flexibility in selecting dwelling unit types and parcel configurations to suit particular site conditions and housing needs. The type of dwelling units anticipated in this density range includes small lots and clustered lots as well as conventional large lot detached residences.

High Density Residential (HDR) (15.1 to 25 dwelling units per acre)

The high-density residential use includes multi-family apartment style housing. The multi-family dwelling sites are typically located with direct access to arterial streets. The sites have access to the pedestrian and bikeway network along the street corridor and are located along the conceptual route of a public transportation shuttle route. Most sites are near a neighborhood park and a neighborhood commercial center or larger commercial facility.

Neighborhood Commercial (NC)

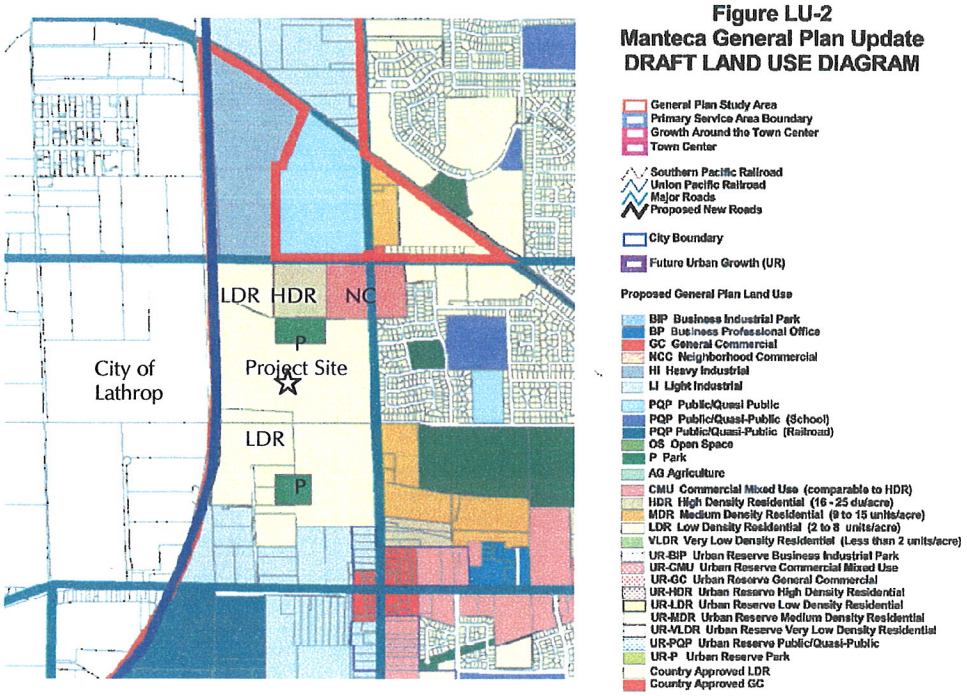
Floor Area Ratio: 2.0 in the CBD and .6 outside the CBD. This designation provides for locally oriented retail and service uses, offices, restaurants, and service stations, public and quasi-public uses and similar and compatible uses. The mix of uses anticipated in these centers includes supermarket/drug store configuration including associated smaller retail stores and services. Pad sites will provide restaurant and service station opportunities.

Park (P)

This designation provides for neighborhood, community and regional parks, golf courses, and other outdoor recreational facilities within urban development. Specific uses include public recreation sites, including ball fields, tot lots and play apparatus, adult softball and soccer playing fields, swimming pools, community center buildings, meeting facilities, libraries, art centers, after school care facilities, art in public places, facilities for night-time recreation, trails benches, interpretive markers, picnic areas, barbecue facilities, landscaping, irrigation, city wells, trees and natural habitat areas.

REGIONAL LAND USE

Figure 4.7.2 City of Manteca General Plan Land Use Designations



CITY OF MANTECA ZONING ORDINANCE

The Manteca City Council adopted the City of Manteca Zoning Ordinance, Title 17 of the Manteca City Code, in July of 1992. The Zoning Ordinance regulates the use of land, buildings and structures, and establishes minimum regulations and standards for the development of land within the City of Manteca. The City of Manteca Zoning Ordinance zones the project site as R-1, Single-family Residential. Permitted principal uses within the R-1, Single-family Residential zone district include single-family residential dwelling units and accessory structures. The proposed project is seeking to rezone a portion of the project site with R-4, Multiple Family Residential / Institutional zone district and NC Neighborhood Commercial zone district to facilitate the proposed project.

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CITY OF MANTECA RIGHT-TO-FARM ORDINANCE

Chapter 8.24 of Title 8, Health and Safety of the Manteca City Code, establishes the City of Manteca Right to Farm Ordinance. The City Council of the City of Manteca adopted Ordinance 871 in 1990 with the following purpose statement:

> "It is the policy of this city to preserve, protect and encourage the use of viable agricultural lands for the production of food and other agricultural products. When nonagricultural land-uses extend into or approach agricultural areas, conflicts often arise between such land-uses and agricultural operations. Such conflicts often result in the involuntary curtailment or cessation of agricultural operations, and discourage investment in such operations. This chapter is intended to reduce the occurrence of conflicts between nonagricultural and agricultural land uses within the city. (Ord. 871 §1(part), 1990)"

The Ordinance is implemented through the requirement that a Real Estate Transfer Disclosure Statement to be delivered by the seller of real property to the buyer of real property prior to the transfer of title. The Disclosure Statement includes wording notifying the buyer that they are purchasing property in an area in which agricultural operations are conducted and that there may exists conditions to include noise, dust, plowing, spraying, burning, harvesting, etc. that may be discomforting or considered to be an inconvenience due to the location of the property.

The project site is located in an area where agricultural operations currently exist and where future residents may be subject to agricultural related impacts. The Villa Ticino project site is subject to the requirements of the City of Manteca Right to Farm Ordinance.

CITY OF MANTECA GROWTH MANAGEMENT PROGRAM

The City Council of the City of Manteca adopted the city's first Growth Management Ordinance (GMO) in 1988. That program established an annual residential growth cap based upon the Phase I capacity of the City's Waste Water Quality Control Facility. The Growth Management Ordinance was subsequently amended to apply to the Phase II capacity of the facility and has again been amended to address the facilities Phase III capacity. Ordinance Number 1251, adopted on January 20, 2004, updates the existing City of Manteca Growth Management Ordinance to address the recently completed Phase III improvements to the City's Waste Water Quality Control Facility. The recent update of the GMO does not modify any of the components of the City's original Growth Management Plan and maintains the annual residential growth cap of 3.9% of the existing housing stock.

Ordinance 1251 establishes a Point Rating System against which proposed projects are rated and sewer connection permits are granted. The Point Rating System provides for GMO exemptions for infill housing projects, affordable housing projects, age-restricted senior housing projects and projects being processed with an accompanying Development Agreement. The Point Rating System rates a project based upon a series of factors to include size of project, provision of affordable housing units, public facilities contributions, public facilities land dedication or improvement, project design amenities, master planning and mixed use projects. Projects are reviewed and awarded points by a city committee and the yearly allocation of waste water connections are distributed to the various projects based upon the results of the competitive Point Rating System.

The City's GMO establishes that Residential projects shall receive 65% of the Phase III sewer treatment capacity with commercial and industrial uses receiving 25% of the capacity, schools receiving 5% of the capacity and 5% of the capacity held in reserve. The proposed project will be rated and points awarded following the approval of the project tentative map and an allocation of building permits will be awarded to the project.

CITY OF MANTECA GENERAL PLAN GOALS AND POLICIES

Relevant City of Manteca General Plan goals and policies related to the proposed project are identified below. General Plan goals and policies for this and other elements related to other EIR issue areas are discussed in the relevant EIR environmental analysis sections. **Table 4.7-1** summarizes the project's consistency with the General Plan Land Use Element

TABLE 4.7-1
PROJECT CONSISTENCY WITH THE GENERAL PLAN LAND USE AND COMMUNITY DESIGN ELEMENTS

General Plan Goals and Policies	Consistency with General Plan	Analysis
Land Use Element		
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.	Yes	The project proposes development that is consistent with the General Plan designation on the site. The project is located within an area of the City that is served by municipal infrastructure and is surrounded by developed and developing urban uses.
Policy LU-P-1. Growth shall mitigate its own impacts and shall provide a positive benefit to the City of Manteca.	Yes	The Villa Ticino West project is a mixed-use project consisting of low- and high-density residential uses, a planned commercial area and municipal facility sites (fire and park). The project will be required to extend all required utility services to the site and will assist in the development of Louise and Airport Ways and their intersection thereby helping to mitigate existing area traffic issues.
Policy LU-P-2. Growth must contribute to a strong diversified economic base and an effective balance between employment and housing opportunities for all income levels.	Yes	The project is located adjacent to the proposed Assieh Industrial Park and will provide single and multiple family residential house opportunities. Additionally, the project proposes an 18+/- acre commercial site at the corner of Louise and Airport Ways.
Policy LU-P-3. The City shall encourage a pattern of development that promotes the efficient and timely development of public services and facilities.	Yes	The project site is the last large undeveloped parcel of land in the area. The site is surrounded by existing and proposed development and has access to municipal infrastructure.
Policy LU-P-4. The City shall encourage a development pattern that is contiguous with the boundary of the City.	Yes	The project is located entirely within the City of Manteca city limits and is surrounded by developed and developing sites.
Policy LU-P-8. The City will review proposals for residential, commercial, or industrial development in unincorporated areas within the General Plan Study Area.	Yes	Not Applicable

TABLE 4.7-1
PROJECT CONSISTENCY WITH THE GENERAL PLAN LAND USE AND COMMUNITY DESIGN ELEMENTS

General Plan Goals and Policies	Consistency with General Plan	Analysis
Urban development should occur within the City boundary.		
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.	Yes	The proposed Villa Ticino West project is subject to the City of Manteca Growth Management Ordinance and will be required to compete for an annual allocation of development entitlements. The project does not currently include a product type or qualify for a GMO exemption and a development agreement has not been submitted in conjunction with the proposed project.
Policy LU-P-12. The City will encourage the use of specific plans as needed to ensure orderly, well-planned growth.	N/A	The project area is not within an area covered by a Specific Plan or within an area where a Specific Plan is required. Due to the size of the proposed project and the limited amount of remaining undeveloped lands within the vicinity of the project, the proposed tentative map provides a plan for the development of the site in conformance with the General Plan and establishes the context for the future development of surrounding properties.
Goal LU-2. To provide adequate land in a range of densities to meet the housing needs of all income groups expected to reside in Manteca, and to regulate residential growth consistent with the capacities of City facilities and services and the ability of the community to assimilate new development.	Yes	The project proposes the development of a range of housing types to include both low density single-family residential as well as higher density attached residential housing products. The site is located in an urbanizing area of the City having existing municipal infrastructure elements adjacent to or in close proximity to the site.
Policy LU-P-14. The City shall promote the development of a variety of housing types and prices to meet the needs of all households, including very low-, low-, and moderate-income households.	Yes	The project proposes the development of a range of housing types to include both low density single-family residential as well as higher density attached residential housing products. While it is unknown what the ultimate price of the various types of housing in the project will be, it is anticipated based upon the proposed mixture of lot sizes and dwelling unit type, that there will be a range of housing products that would serve a range of market segments.
Policy LU-P-15. Higher density housing shall be located in areas served by the full range of urban services, preferably along collector and arterial streets, and within	Yes	The project proposes to approximately 12.5 acres of land adjacent to Louise Avenue, a designated Arterial Street, for higher density housing. The proposed high density housing

TABLE 4.7-1
PROJECT CONSISTENCY WITH THE GENERAL PLAN LAND USE AND COMMUNITY DESIGN ELEMENTS

General Plan Goals and Policies	Consistency with General Plan	Analysis
walking distance of shopping areas.		site is located adjacent to a proposed 18.5 acre commercial site and a proposed fire station location.
Policy LU-P-16. The City shall promote the preservation and integrity of existing stable residential neighborhoods.	Yes	The Villa Ticino West project site is currently undeveloped. As a result, no existing stable residential neighborhoods will be disturbed on-site. Off-site impacts from the project on existing stable neighborhoods would be minimal as the areas surrounding the site a developing residential areas that would be strengthened by the proximity to a similar land use or are designated for non-residential land uses.
Policy LU-P-17. The City shall encourage neighborhood revitalization and improvement including replacement, renovation or conversion to alternative use of buildings in serious disrepair.	Yes	The Villa Ticino West project site is currently occupied by two existing single-family residential structures. It is anticipated that the Rossi home will remain on the site and the second structure, currently vacant, will be removed to accommodate the development of the project.
Goal LU-3. Provide adequate land for development of commercial uses that provide goods and services to Manteca residents and Manteca's market area.	Yes	The project proposes the development of an 18.5 +/- acre commercial center at the corner of Louise and Airport Ways. The site will be located adjacent to two Arterial streets with significant traffic volumes. The proposed site is large enough to support a typical neighborhood commercial center with uses to include a grocery store and various retail and service establishments.
Policy LU-P-19. The City shall promote and assist the maintenance and expansion of Manteca's commercial sector to meet the needs of both Manteca residents and those living within Manteca's market area.	Yes	The City of Manteca General Plan has designated the corner of Louise and Airport Ways with the Neighborhood Commercial land use designation to facilitate the development of commercial use on the site.
Policy LU-P-20. The City shall promote the establishment, maintenance, and expansion of businesses in Manteca that generate high retail sales taxes as important contributors to the local economy.	Yes	While the specific design, tenant mix and uses of the proposed commercial center are unknown at this time; the site is of sufficient size to accommodate business that could generate high retail sales tax volumes.
Policy LU-P-22. New commercial development serving citywide and regional shopping needs shall be located along major arterial streets.	Yes	The project proposes the development of an 18.5 +/- acre commercial center at the corner of Louise and Airport Ways. The site will be located adjacent to two Arterial streets with significant traffic volumes.
Policy LU-P-23. New visitor-serving commercial development shall be located in areas with easy access to freeway interchanges.	Yes	Due to the location of the proposed commercial site away from any major regional serving facilities or destination points, it is unlikely that visitor-serving

TABLE 4.7-1
PROJECT CONSISTENCY WITH THE GENERAL PLAN LAND USE AND COMMUNITY DESIGN ELEMENTS

General Plan Goals and Policies	Consistency with General Plan	Analysis
		commercial will be located on the site.
Policy LU-P-24. New commercial development shall be designed to avoid the appearance of strip development.	Yes	The proposed commercial site is square in shape with frontage on both Airport and Louise Avenues. While the specific design of commercial site is unknown at this time, the non-linear nature of the proposed commercial site and the sites frontage on two Arterial streets strongly minimize the potential for a strip commercial center on the site.
Goal LU-4. Provide for land uses that expand employment, education, recreation, and cultural opportunities for residents and enhance Manteca as the commercial and service center for southern San Joaquin County.	Yes	The proposed project would include two park / basin facilities that will include recreational amenities to serve community and area residents.
Goal LU-5. To provide adequate land for development of public and quasi-public uses to support existing and new residential, commercial, and industrial land uses.	Yes	The project site includes two park / basin facilities that will include recreational amenities to serve community and area residents and may contain a fire station facility located adjacent to Louise Avenue.
Policy LU-P-39. In determining appropriate locations for public and quasi-public uses, the City shall consider, among other things, proximity to major streets, the cost to develop access to public facilities, and the safety of pedestrians and motorists.	Yes	The proposed project includes a .75 +/- acre site for the potential future development to a fire station. The proposed site would be located adjacent to Louise Avenue, an Arterial designated street.
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.	Yes	In addition to the proposed location of a municipal fire station on the site, the project meets the City requirement of 5 acres of developed parkland per 1,000 residents. The projected population of the project (2.98pphh * 980units = 2,920 persons) would generate a need for approximately 14.6 acres of parkland. As currently proposed, the site would include slightly over 14.6 acres of parkland.
Goal LU-6. Provide open space as a framework for the city, and meet the active and passive recreational needs of the community.	Yes	In addition to the park facilities outlined in the response to Policy LU-P-40 above, the project has proposed to improve an existing drainage swale on site to include a multiple use path connecting an internal project park with Airport Way and French Camp Slough.
Policy LU-P-48. Storm drainage systems within new development areas should include open drainage corridors, where feasible, that would provide bike and pedestrian paths, and visual open space within neighborhoods. The pedestrian	Yes	As discussed in the response to Goal LU-6 above, the project has proposed to improve an existing drainage swale on site to include a multiple use path connecting an internal project park with Airport Way and the French Camp Slough. The proposed park site

TABLE 4.7-1
PROJECT CONSISTENCY WITH THE GENERAL PLAN LAND USE AND COMMUNITY DESIGN ELEMENTS

General Plan Goals and Policies	Consistency with General Plan	Analysis
connection should link parks and open space to residential neighborhoods.		adjacent to Louise Avenue would also be utilized for storm drainage purposes and would be accessible from internal project streets and sidewalks.
Community Design Element		
Goal CD-3. Establish distinct, attractive identities for neighborhoods, gateways, and commercial areas.	Yes	The project proposes to mark entrances to neighborhoods within the project site by entryways containing landscaped medians. The project will also include signage identifying the project.
Goal CD-7. Develop attractive and memorable entries to Manteca.	Yes	The project proposes to locate a park / basin facility south of Louise Avenue and adjacent to the western City boundary. Placement of a landscaped basin with both passive and active recreational amenities will present an attractive entry to the City from Louise Avenue.
Policy CD-P-21. Provide parks and schools as distinct centers for neighborhoods.	Yes	The project proposes to locate two park facilities within the project. The two park facilities would be located at opposite ends of the project thereby providing all future residents convenient access to one of the two facilities.
Policy CD-P-22. Provide features that distinguish one neighborhood from another, such as natural features, entry gateways, street lighting, or signage.	Yes	The project proposes to mark entrances to neighborhoods within the project site by entryways containing landscaped medians. The project will also include signage identifying the project.
Policy CD-P-23. Provide pedestrian systems that connect the center of adjacent neighborhoods.	Yes	The project will provide sidewalks adjacent to all project streets and proposes the placement of a multiuse path within the drainage swale located in the southern portion of the site. The proposed path will connect Airport Way with French Camp Slough through the project.
Policy CD-P-26. Residential neighborhoods shall be designed to provide access from the neighborhood streets to open space corridors.	Yes	The project will provide sidewalks adjacent to project roadways that will lead to internal open space features.
Policy CD-P-30. Neighborhoods in new growth areas shall incorporate the following characteristics: • The edges of the neighborhood shall be identifiable by use of landscaped areas along major streets or natural features, such as permanent open space. Primary arterial streets may be used to define the	Yes, with mitigation	The project would comply with this policy in the following ways: • The boundaries of the project would be defined by Louise Avenue and Airport Way. The internal project street system, as proposed, would discourage high

TABLE 4.7-1
PROJECT CONSISTENCY WITH THE GENERAL PLAN LAND USE AND COMMUNITY DESIGN ELEMENTS

General Plan Goals and Policies	Consistency with General Plan	Analysis
boundaries of neighborhoods. The street system shall be designed to discourage high volume and high speed traffic through the neighborhood. • Neighborhoods shall be not more than one mile in length or width. • Each neighborhood shall include a distinct center, such as an elementary school, neighborhood park(s), and/or a mixed-use commercial area within a reasonable walking distance of the homes, approximately one-half mile. • Each neighborhood shall include an extensive pedestrian and bikeway system comprised of sidewalks and bike lanes along streets and dedicated trails.		volume and high-speed traffic through the use of discontinuous and curvilinear design. Mitigation in this EIR would allow for review of landscaping within the project site. • The residential neighborhood would be less than one mile in length and width. • The project would include a commercial center with an adjoining high-density residential area. It also would include two park areas. • The project would include sidewalks along all streets within the project. Pedestrian paths are incorporated into project open space and retention areas. Bicycle routes would be established in accordance with adopted City standards and plans.
Policy CD-P-31. The pedestrian and bikeway system shall be linked to other pedestrian and bikeways in adjacent neighborhoods and, ultimately, to the Citywide Pedestrian and Bikeway Trail System to provide a continuous interconnected system.	Yes	The project would include sidewalks along all streets within the project. Pedestrian paths are incorporated into project open space and retention areas. Bicycle routes would be established in accordance with adopted City standards and plans. Due to the fact that the site is surrounded on three sides by physical impediments (major streets and railroad tracks), primary connections to adjacent uses are anticipated to occur at signalized intersections to maximize pedestrian and bicycle safety.
Goal CD-10. Establish a pedestrian and bicycle friendly environment in neighborhoods and commercial and office land uses.	Yes	The project would include sidewalks along all streets within the project. Pedestrian paths are incorporated into project open space and retention areas. Bicycle routes would be established in accordance with adopted City standards and plans.
Policy CD-P-37. Commercial centers should provide for convenient, attractive pedestrian access from street fronts and from adjacent commercial, office, and residential land uses.	N/A	The proposed project, the Villa Ticino West tentative subdivision map, does not involve the review of a site plan for the proposed commercial center. As a result, the detailed review of the commercial center is not possible at this time. However, future projects shall be required comply with all City of Manteca design requirements for commercial centers.
Policy CD-P-38. Commercial centers should	N/A	The proposed project, the Villa Ticino West

TABLE 4.7-1
PROJECT CONSISTENCY WITH THE GENERAL PLAN LAND USE AND COMMUNITY DESIGN ELEMENTS

General Plan Goals and Policies	Consistency with General Plan	Analysis
provide for convenient, attractive pedestrian access within the center with dedicated pedestrian ways between all buildings and pedestrian spaces such as plazas, courtyards, and terraces at natural gathering areas within the site.		tentative subdivision map, does not involve the review of a site plan for the proposed commercial center. As a result, the detailed review of the commercial center is not possible at this time. However, future projects shall be required comply with all City of Manteca design requirements for commercial centers.
Policy CD-P-44. Provide minimal street lighting to meet safety standards and provide direction.	Yes	The project will be required to comply with City of Manteca street light standards and will be required to install street lighting within the project as required by the City.
Policy CD-P-45. Provide directional shielding for street and parking lot lighting.	Yes, with mitigation	**MM 4.1.4a** in Chapter 4.1 requires the use of directional shielding for project lighting to minimize light intrusion of adjacent properties and land uses.
Policy CD-P-46. Provide automatic shutoff or motion sensors for lighting features in newly developed areas.	Yes	The project will be required to comply with City of Manteca street light standards and will be required to install automatic shutoff features on project lighting.

4.7.3 IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE STANDARDS

Specific thresholds of significance have been developed for this project using the 1999 update to the CEQA Guidelines, consultation with City staff, and other factors that may be specific to the local environment. Based upon these thresholds, the project may have a significant impact on existing land uses if it will:

1) Physically divide an established community or result in an illogical growth pattern.

2) Be incompatible with existing land uses in the vicinity.

3) Conflict with adjacent land uses (surface or subsurface), or create compatibility issues based on direct physical environmental factors.

4) Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating environmental effects.

5) Conflict with any applicable environmental plans or policies adopted by responsible agencies with jurisdiction over the project.

6) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program) to non-agricultural use.

METHODOLOGY

Evaluation of potential land use impacts of the proposed Villa Ticino West project was based on review of planning documents pertaining to the project area, including the City of Manteca 2023 General Plan; the City of Manteca Zoning Ordinance; consultation with appropriate agencies; and field review of the project site and surroundings.

Specific impacts and project consistency issues associated with biological resources, visual resources, noise, traffic, public services/utilities, hydrology, and/or geology are addressed in each technical section and the reader is referred to other EIR sections for detailed analysis of other relevant environmental effects as a result of project development.

PROJECT IMPACTS AND MITIGATION MEASURES

Introduction of Urban Development

Impact 4.7.1 Development of the project would introduce urban/suburban level development onto an undeveloped site. [LS]

The Villa Ticino West project proposes the construction of a predominantly residential development containing approximately 1070 dwelling units (760 single-family and 310 multiple family); 18.5 acres of commercial, 14.6 acres of parks/basins, a .75-acre fire station site and approximately 6.8 acres of storm drainage conveyance swale. Residential units would be composed of a mixture of single-family and multifamily dwelling units. The overall residential density of the project would be within the density range permitted by the City of Manteca General Plan.

The proposed development would occur in an area that is currently undeveloped and used for agricultural purposes. The surrounding area is a mixture of developing residential, industrial, public / quasi-public and large lot agricultural land uses.

The City of Manteca General Plan, adopted by the Manteca City Council in October 2003, has designated the majority of the project site as being suitable for Low Density Residential (LDR) development. The General Plan designates a Neighborhood Commercial (NC) center on the site at the corner of Airport Way and Louise Avenue and an area of High Density Residential land use adjacent to the commercial site and south of Louise Avenue. The residential density proposed by the project of 4.13 dwelling units per residential acre is consistent with the density standards for the LDR designation as outlined within the General Plan. In addition, the proposed commercial center and multiple family residential areas conform to the designations of the General Plan.

Based upon the discussion above and the evaluation of the project provided in **Table 4.7-1**, the project conforms to the land use designations and permitted density range of the City of Manteca General Plan. As a result, impacts resulting from the development of the proposed project are considered **less than significant.**

Consistency with Applicable Plans and Policies

Impact 4.7.2 **Development of the Villa Ticino West project would be consistent with applicable plans and policies. [LS]**

City of Manteca 2023 General Plan

The City of Manteca 2023 General Plan designates the project site with a combination of the LDR, Low Density Residential; HDR, High Density Residential; NC, Neighborhood Commercial; and P, Park land use designations. The development application being considered and evaluated has replicated the intended uses, densities and generalized locations of the land uses as identified within the General Plan. From a land use perspective, the proposal is consistent with, and has been considered within, the 2023 General Plan Land Use Diagram.

The City's 2023 General Plan also contains a number of updated goals, policies and implementation measures against which all land use proposals are evaluated. A project must be found to be substantially consistent with the General Plan in order to be approved by the lead agency, and such a consistency analysis (together with findings) is commonly a component of the staff report prepared for project consideration. For the purposes of the EIR, the project has been reviewed for consistency against the goals and policies of the General Plan (see **Table 4.7-1**).

Based upon the analysis presented in **Table 4.7-1** and review of the application against other City and County land use policies identified within the Existing Setting, the project is generally consistent with the recently adopted 2023 General Plan. Impacts are therefore considered to be **less than significant.**

Agricultural Land Conversion

Impact 4.7.3 **The project would convert land classified as Prime Farmland and Farmland of Statewide Importance to urban uses, contributing to the cumulative loss of such farmland in San Joaquin County and the Central Valley region. [SU]**

The *San Joaquin County 2000 Important Farmland Map* shows that the soils within the project site are classified as Prime Farmland along its eastern boundary and Farmland of Statewide Importance throughout most of the central and western potions of the site. These soils are conducive to productive agricultural operations, which is evidenced by its current use for alfalfa and pasture crops. Implementation of the project would result in the conversion of approximately 127 acres of land classified as Prime Farmland and Farmland of Statewide Importance to an urban use.

However, the project site lies between the expanding urban boundaries of both the City and the adjacent City of Lathrop and has become increasingly surrounded by residential and industrial development. The City of Manteca has designated the project site as being suitable for development of residential units with uses and densities as established in the General Plan and the site is currently zoned with the R-1 zoning designation.

According to the Manteca General Plan EIR, buildout as identified in the General Plan would convert farmland to urban uses over the 20-year planning period covered by the General Plan. This impact was identified as significant and unavoidable in the EIR prepared for the General Plan

update. The impact of urban development on agricultural land has been envisioned and recognized by the County through the adoption of a Statement of Overriding Consideration. Nevertheless, the project would contribute to the cumulative loss of Prime Farmland and Farmland of Statewide Importance. This impact is **significant and unavoidable.** There are no feasible measures that would mitigate this impact to a level that is less than significant. The City Council of the City of Manteca adopted a Finding of Overriding Consideration regarding the conversion of farmland as part of the adoption of the Environmental Impact Report prepared in support of the City of Manteca General Plan 2023.

Construction Activities

Impact 4.7.4 **Construction of the proposed project and associated infrastructure could produce short-term adverse effects on existing rural residential uses [PSM].**

Due to the size of the proposed project, it is expected that the project will be developed in numerous phases extending over a period of time. Activities associated with project construction could impose adverse impacts on adjacent rural residential dwellings. Such impacts could include increased dust, noise, and traffic, in construction areas close to areas of existing residential development. Therefore, this impact is considered **potentially significant** and subject to mitigation.

Direct impacts related to dust, noise and traffic are discussed in the appropriate technical sections of this EIR, along with mitigation measures for these impacts. In addition to the measures included in the various other sections of this document, the following mitigation measures are recommended:

MM 4.7.4a Construction staging areas shall be located as far as reasonably possible from existing residential uses located in proximity to the eastern project boundary. Construction staging areas shall be identified on project site improvement plans and shall be included as part of the submittal package for subsequent site plans/final maps for each phase of the project.

Timing/Implementation: Identified on site improvement plans and included as part of the submittal package for subsequent site plans.
Enforcement/Monitoring: City of Manteca Public Works and Planning Departments.

MM 4.7.4b Construction and development related equipment shall be staged on the project site at the end of each workday rather than removing and returning them to the site.

Timing/Implementation: Concurrent with and during project construction activities.
Enforcement/Monitoring: City of Manteca Public Works Department.

The successful implementation of the mitigation measures outlined above and in Chapter 4.2, Air Quality, would reduce the temporary effects of construction activities to a **less than significant** level.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Population Growth

Impact 4.7.5 **Implementation of the project would contribute to a cumulative increase in the City's population. [SU]**

The project would add an estimated 3,163 residents to the current City population (see Section 4.11, Utilities and Service Systems). The additional population generated by the project, along with the population projected for the City under General Plan buildout, would have significant environmental impacts in the Manteca area. The Manteca General Plan EIR evaluated the potential impacts of increased population. It concluded that, while monitoring and regulating growth to a responsible level would maintain the integrity of the community, there are no specific mitigation measures that would reduce or eliminate the impacts of increased population on Manteca and the surrounding area. Therefore, the cumulative impacts of the project associated with population growth are considered **significant and unavoidable**.

Agricultural Land Conversion

Impact 4.7.6 **The project would convert land classified as Prime Farmland and Farmland of Statewide Importance to urban uses, contributing to the cumulative loss of such farmland in San Joaquin County and the Central Valley region. [SU]**

The project site is located on a piece of land located on Manteca's western city limits that is currently used for agricultural production. Development on this site is expected to provide housing that otherwise could have been constructed adjacent to large contiguous agricultural parcels located on the south and east side of Manteca's urban boundary, putting development pressure on these parcels. Previous land use decisions made by the City have established a pattern of development that has resulted in the project site being largely surrounded by urban uses. In addition to the proposed project, other developments throughout San Joaquin County and the larger Central Valley are contributing to the cumulative loss of agricultural land resources. As shown in **Table 4.12-1** in Chapter 4.12, Agricultural Resources, San Joaquin County has lost approximately 18,500 acres of Prime Farmland and Farmland of Statewide Importance from 1992 to 2000. While much of this loss was made up with the addition of Unique Farmland and Farmland of Local Importance, these farmlands require a greater investment of inputs such as labor, equipment and materials (e.g., water, fertilizer) than would Prime Farmland and Farmland of Statewide Importance.

The City of Manteca's General Plan guides the development of the community through the year 2023. The current General Plan document addresses development issues on 25,975 acres outside Manteca's municipal boundaries. According to the Manteca General Plan EIR, buildout as identified in the General Plan would convert farmland to urban uses over the 20-year planning period covered by the General Plan. This impact was identified as significant and unavoidable in the EIR prepared for the General Plan update. The impact of urban development on agricultural land has been envisioned and recognized by the County thought the adoption of a Statement of Overriding Consideration. Nevertheless, the project would contribute to the cumulative loss of Prime Farmland and Farmland of Statewide Importance. This impact is **significant and unavoidable**. There are no feasible measures that would mitigate this impact to a level that is less

than significant. The City Council of the City of Manteca adopted a Finding of Overriding Consideration regarding the conversion of farmland as part of the adoption of the Environmental Impact Report prepared in support of the City of Manteca General Plan 2023.

Agricultural Conversion – Project Vicinity

Impact 4.7.7 **The project may lead to increased pressure to convert lands currently used for agricultural production in the vicinity to urban uses. [SU]**

An orchard is located northeast of the project site, at the intersection of Airport Way and Louise Avenue. Also, a small amount of land south of the project site is being used to grow corn. The construction of the project may lead to increased pressure to convert these lands from agricultural to urban uses, due to the potential increased value of these lands for development and the further fragmentation of the agricultural area. However, the Manteca General Plan has designated these lands for urban development, so conversion of these lands is anticipated in the future. Impacts, therefore, are considered to be **significant and unavoidable**. There are no feasible measures that would mitigate this impact to a level that is less than significant. The City Council of the City of Manteca adopted a Finding of Overriding Consideration regarding the conversion of farmland as part of the adoption of the Environmental Impact Report prepared in support of the City of Manteca General Plan 2023.

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