



RECIRCULATED DRAFT

ENVIRONMENTAL IMPACT REPORT – VOLUME II

FOR THE

MANTECA GENERAL PLAN UPDATE
(SCH: 2020019010)

NOVEMBER 2022

VOLUME I: COVER THROUGH SECTION 3.5

VOLUME II: SECTION 3.6 THROUGH CHAPTER 4.0

VOLUME III: CHAPTER 5.0 THROUGH CHAPTER 7.0

VOLUME IV: APPENDICES

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D e N o v o P l a n n i n g G r o u p

A Land Use Planning, Design, and Environmental Firm



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This section provides a background discussion of the seismic and geologic hazards found in the City and the regional vicinity. This section is organized with an environmental setting, regulatory setting, and impact analysis.

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: Central Valley Regional Water Quality Control Board (January 16, 2020) and the Terra Land Group (February 3, 2020). Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

3.6.1 ENVIRONMENTAL SETTING

GEOMORPHIC PROVINCE

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

REGIONAL GEOLOGY

The Planning Area lies in the San Joaquin Valley in central California. The San Joaquin Valley is located in the central portion of the Great Valley Geomorphic Province. The Great Valley, also known as the Central Valley, is a topographically flat, northwest-trending, structural trough (or basin) about 50 miles wide and 450 miles long. It is bordered by the Tehachapi Mountains on the south, the Klamath Mountains on the north, the Sierra Nevada on the east, and the Coast Ranges on the west.

The San Joaquin Valley is filled with thick sedimentary rock sequences that were deposited as much as 130 million years ago. Large alluvial fans have developed on each side of the Valley. The larger and more gently sloping fans are on the east side of the San Joaquin Valley and overlie metamorphic and igneous basement rocks. These basement rocks are exposed in the Sierra Nevada foothills and consist of meta-sedimentary, volcanic, and granitic rocks.

The Planning Area is relatively flat with natural gentle slope from east to west. The Planning Area's topography ranges in elevation from approximately 50 to 20 feet above sea level. Figure 3.6-1 shows the USGS Lathrop and Manteca Quadrangle Topographic view.

SEISMIC HAZARDS

Seismic hazards include both rupture (surface and subsurface) along active faults and ground shaking, which can occur over wider areas. Ground shaking, produced by various tectonic phenomena, is the principal source of seismic hazards in areas devoid of active faults. All areas of the state are subject to some level of seismic ground shaking.

3.6 GEOLOGY AND SOILS

Several scales may be used to measure the strength or magnitude of an earthquake. Magnitude scales (ML) measure the energy released by earthquakes. The Richter scale, which represents magnitude at the earthquake epicenter, is an example of an ML. As the Richter scale is logarithmic, each whole number represents a 10-fold increase in magnitude over the preceding number. Table 3.6-1 represents effects that would be commonly associated with Richter Magnitudes.

TABLE 3.6-1: RICHTER MAGNITUDES AND EFFECTS

MAGNITUDE	EFFECTS
< 3.5	Typically not felt
3.5 – 5.4	Often felt but damage is rare
5.5 – < 6	Damage is slight for well-built buildings
6.1 – 6.9	Destructive potential over ±60 miles of occupied area
7.0 – 7.9	“Major Earthquake” with the ability to cause damage over larger areas
≥ 8	“Great Earthquake” can cause damage over several hundred miles

SOURCE: USGS, EARTHQUAKE PROGRAM.

According to the California Geological Survey’s Probabilistic Seismic Hazard Assessment Program, San Joaquin County is considered to be within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 10 to 20 percent within a 50-year period.

This level of ground shaking correlates to a Modified Mercalli intensity of V to VII, light to strong. Table 3.6-2 below presents Modified Mercalli intensity effects at each level.

TABLE 3.6-2: MODIFIED MERCALLI INTENSITIES AND EFFECTS

MM	EFFECTS
I	Movement is imperceptible
II	Movement may be perceived (by those at rest or in tall buildings)
III	Many feel movement indoors; may not be perceptible outdoors
IV	Most feel movement indoors; Windows, doors, and dishes will rattle
V	Nearly everyone will feel movement; sleeping people may be awakened
VI	Difficulty walking; Many items fall from shelves, pictures fall from walls
VII	Difficulty standing; Vehicle shaking felt by drivers; Some furniture breaks
VIII	Difficulty steering vehicles; Houses may shift on foundations
IX	Well-built buildings suffer considerable damage; ground may crack
X	Most buildings and foundations and some bridges destroyed
XI	Most buildings collapse; Some bridges destroyed; Large cracks in ground
XII	Large scale destruction; Objects can be thrown into the air

SOURCE: USGS GENERAL INTEREST PUBLICATION 1989-288-913.

The Significant United States Earthquake data published by the USGS in the National Atlas identifies earthquakes that caused deaths, property damage, and geologic effects or were felt by populations near the epicenter. No significant earthquakes are identified within the Planning Area; however, significant earthquakes are documented in the region. Table 3.6-3 presents the significant earthquakes in the region.

TABLE 3.6-3: SIGNIFICANT EARTHQUAKES IN THE REGION

<i>MAGNITUDE</i>	<i>INTENSITY</i>	<i>LOCATION</i>	<i>YEAR</i>
7.1	N/A	Ridgecrest	2019
6.5	N/A	Ferndale Offshore	2016
6.0	VIII	South Napa	2014
5.6	VI	San Jose	2007
5.0	VII	Napa	2000
6.9	IX	Loma Prieta (San Andreas)	1989
5.4	N/A	Santa Cruz County	1989
6.2	N/A	Morgan Hill	1984
5.8	VII	Livermore	1980
5.7	N/A	Coyote Lake	1979
5.7	N/A	Santa Rosa	1969
5.3	N/A	Daly City	1957
5.4	N/A	Concord	1954
6.5	N/A	Calaveras fault	1911
7.9	IX	San Francisco	1906
6.8	N/A	Mendocino	1898
6.2	N/A	Mare Island	1898
6.3	N/A	Calaveras fault	1893
6.2	VIII	Winters	1892
6.4	N/A	Vacaville	1892
6.8	VII	Hayward	1868
6.5	VIII	Santa Cruz Mountains	1865
6.8	N/A	San Francisco Peninsula	1838

SOURCE: UNITED STATE GEOLOGICAL SURVEY, 2020.

The 2015 Uniform California Earthquake Rupture Forecast, Version 3, or UCERF3, is the latest official earthquake rupture forecast (ERF) for the state of California. It provides estimates of the likelihood and severity of potentially damaging earthquake ruptures in the long- and near-term. Combining this with ground motion models produces estimates of the severity of ground shaking that can be expected during a given period (seismic hazard), and of the threat to the built environment (seismic risk). This information is used to inform engineering design and building codes, plan for disaster, and evaluate whether earthquake insurance premiums are sufficient for the prospective losses.

The potential for seismic ground shaking in California is expected. As a result of the foreseeable seismicity in California, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the California Building Code. These seismic design provisions require enhanced structural integrity based on several risk parameters.

FAULTS

Faults are classified as Historic, Holocene, Late Quaternary, Quaternary, and Pre-Quaternary according to the age of most recent movement. These classifications are described as follows:

- **Historic:** faults on which surface displacement has occurred within the past 200 years;
- **Holocene:** shows evidence of fault displacement within the past 11,000 years, but without historic record;
- **Late Quaternary:** shows evidence of fault displacement within the past 700,000 years, but may be younger due to a lack of overlying deposits that enable more accurate age estimates;
- **Quaternary:** shows evidence of displacement sometime during the past 1.6 million years;
- **Pre-Quaternary:** without recognized displacement during the past 1.6 million years.

Faults are further distinguished as active, potentially active, or inactive:

- **Active:** An active fault is a Historic or Holocene fault that has had surface displacement within the last 11,000 years;
- **Potentially Active:** A potentially active fault is a pre-Holocene Quaternary fault that has evidence of surface displacement between about 1.6 million and 11,000 years ago; and
- **Inactive:** An inactive fault is a pre-Quaternary fault that does not have evidence of surface displacement within the past 1.6 million years. The probability of fault rupture is considered low; however, this classification does not mean that inactive faults cannot, or will not, rupture.

The U.S. Geological Survey identifies potential seismic sources within 5 miles of the Planning Area. The closest known faults classified as active by the U.S. Geological Survey include an unnamed fault east of the City of Tracy, located approximately 5 miles to the west of Manteca, and the San Joaquin fault, located approximately 15 miles to the southwest of Manteca. The Midway fault is located approximately 20 miles to the west. Other faults that could potentially affect the Manteca include the Corral Hollow-Carnegie fault, the Greenville fault, the Antioch fault, and the Los Positas fault. Figure 3.6-2 provides a map of known area faults.

Fault Rupture

A fault rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e., earthquake) or slow (i.e., fault creep). The Alquist-Priolo Fault Zoning Act requires active earthquake fault zones to be mapped and it provides special development considerations within these zones. Manteca does not have surface expression of active faults and fault rupture is not anticipated. Figure 3.6-2 shown regional faults in relation to Manteca.

SEISMIC HAZARD ZONES

Alquist-Priolo Fault Zones

An active earthquake fault, per California's Alquist-Priolo Act, is one that has ruptured within the Holocene Epoch (≈11,000 years). Based on this criterion, the California Geological Survey identifies Earthquake Fault Zones. These Earthquake Fault Zones are identified in Special Publication 42 (SP42), which is updated as new fault data become available. The SP42 lists all counties and cities within California that are affected by designated Earthquake Fault Zones. The Fault Zones are delineated on maps within SP42 (Earthquake Fault Zone Maps).

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. The California Geologic Survey (CGS) evaluates faults with available geologic and seismologic data and determines if a fault should be zoned as active, potentially active, or inactive. If CGS determines a fault to be active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazard Act. Alquist-Priolo Special Study Zones are usually one-quarter mile or less in width and require site-specific evaluation of fault location and require a structure setback if the fault is found traversing a project site. The Planning Area is not within an Alquist-Priolo Special Study Zone. The nearest Alquist-Priolo fault zone, the Greenville fault zone, is located approximately 25 miles southwest of Manteca.

LIQUEFACTION

Liquefaction, which is primarily associated with loose, saturated materials, is most common in areas of sand and silt or on reclaimed lands. Cohesion between the loose materials that comprise the soil may be jeopardized during seismic events and the ground will take on liquid properties. Thus, specific soil characteristics and seismic shaking must exist for liquefaction to be possible. Liquefaction susceptibility based on soil types, deposit, and age is presented below.

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet. Soil data from the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2020) suggests that the potential for liquefaction ranges from low to high within the Planning Area given that many soils are high in sand and the water table is moderately high.

EARTHQUAKE-INDUCED LANDSLIDES

Earthquake-Induced Landslide Zones Areas are areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required. The California Geological Survey Landslides Maps have not mapped any landslide areas in the Planning Area or its vicinity. The City is relatively flat and, as such, the probability of earthquake-induced landslides in the Planning Area is low.

OTHER GEOLOGIC HAZARDS

Soils

A Custom Soil Survey was completed for the Planning Area using the NRCS Web Soil Survey program. The NRCS Soils Map is provided in Figure 3.6-3. Table 3.6-4 below identifies the type and range of soils found in the Planning Area.

TABLE 3.6-4: PLANNING AREA SOILS

<i>UNIT SYMBOL</i>	<i>NAME</i>	<i>ACRES</i>	<i>PERCENT OF PLANNING AREA</i>
108	Arents, saline-sodic, 0 to 2 percent slopes	395.47	1.44%
109	Bisgani loamy coarse sand, partially drained, 0 to 2 percent slopes	514.98	1.87%
130	Columbia fine sandy loam, drained, 0 to 2 percent slopes	390.33	1.42%
131	Columbia fine sandy loam, partially drained, 0 to 2 percent slopes, occasionally flooded	14.69	0.05%
141	Delhi fine sand, 0 to 5 percent slopes	1,126.51	4.10%
142	Delhi loamy sand, 0 to 2 percent slopes, MLRA 17	3,945.57	14.34%
143	Delhi-Urban land complex, 0 to 2 percent slopes	3,626.60	13.18%
144	Dello sand, partially drained, 0 to 2 percent slopes, occasionally flooded	279.21	1.01%
145	Dello loamy sand, drained, 0 to 2 percent slopes	59.89	0.22%
150	Dumps	35.86	0.13%
152	Egbert mucky clay loam, partially drained, 0 to 2 percent slopes	23.77	0.09%
153	Egbert silty clay loam, partially drained, 0 to 2 percent slopes	84.97	0.31%
160	Galt clay, 0 to 1 percent slopes, MLRA 17	87.89	0.32%
166	Grangeville fine sandy loam, partially drained, 0 to 2 percent slopes	85.33	0.31%
169	Guard clay loam, drained, 0 to 2 percent slopes	100.71	0.37%
175	Honcut sandy loam, 0 to 2 percent slopes	639.93	2.33%
196	Manteca fine sandy loam, 0 to 2 percent slopes	117.91	0.43%
197	Merritt silty clay loam, partially drained, 0 to 2 percent slopes	364.60	1.33%
254	Timor loamy sand, 0 to 2 percent slopes	2,028.27	7.37%
255	Tinnin loamy coarse sand, 0 to 2 percent slopes	7,725.56	28.08%
260	Urban land	125.52	0.46%
265	Veritas sandy loam, partially drained, 0 to 2 percent slopes	5,609.16	20.39%
266	Veritas fine sandy loam, 0 to 2 percent slopes	32.31	0.12%
284	Water	93.32	0.34%
--	Totals	27,508.37	100.00%

SOURCE: NRCS CUSTOM SOIL SURVEY 2022.

As shown in Table 3.6-4, the majority of soils within the Planning Area consist of course and fine sands and sandy loams. Below is a brief description of prominent soils within the Planning Area.

Delhi soil series (fine sands and loamy sands). This series consists of very deep, somewhat excessively drained soils. They formed in wind modified material weathered from granitic rock sources. Delhi soils are on floodplains, alluvial fans and terraces. Slopes are 0 to 5 percent in the Planning Area. They have negligible to slow runoff and rapid permeability. Common uses for this series include: growing grapes, peaches, truck crops, alfalfa and for home sites. Principal native plants are buckwheat and a few shrubs and trees. Typical vegetation is annual grasses and forbs.

Timor loamy sand. This series consists of deep, moderately well drained soils. They formed in granitic alluvium. Timor soils are on low fan terraces or alluvial fans. Slopes is 0 to 2 percent. They have slow runoff and rapid permeability. Common uses for this series include: irrigated cropland growing primarily almonds, alfalfa, onions, tomatoes, small grains, grapes and pasture. Vegetation consists of red brome, filaree, soft chess, wildoats, riggut brome and scattered California White Oaks.

Tinnin loamy coarse sand. This series consists of well drained soils on low fan terraces and alluvial fans. These soils are very deep, and form in alluvium derived from granitic rock sources. Slopes range from 0 to 2 percent. This series is characterized as well draining, slow runoff, and rapid permeability. Common uses for this series are irrigated cropland growing primarily almonds, alfalfa, onions, tomatoes, small grains, grapes and pasture. Vegetation consists of red brome, filaree, soft chess, wildoats, riggut brome and scattered valley oaks.

Veritas fine sandy loam. This series consists of deep to duripan, moderately well drained soils. They formed in alluvium derived from mixed rock sources. Veritas soils are on low fan terraces. They have slow runoff and moderately rapid permeability. Common uses for this series include irrigated cropland. Alfalfa, barley and corn are the principal crops. Vegetation is annual grasses, forbs and scattered valley oaks.

Erosion

The NRCS delineates soil units and compiles soils data as part of the National Cooperative Soil Survey. The following description of erosion factors is provided by the NRCS Physical Properties Descriptions:

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Erosion factor Kw indicates the erodibility of the whole soil, whereas Kf indicates the erodibility of the fine soils. The estimates are modified by the presence of rock fragments.

The *Custom Soils Report* identified the erosion potential for the soils in the Planning Area. This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. Soil property data for each map unit component includes the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the surface horizon.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Within the Planning Area, the erosion factor Kf varies from 0.02 to 0.37, which is considered a low to moderate potential for erosion. The NRCS does not provide erosion factors for the urban land soils, however, the erosion potential for the urban land soils in the City is considered to be low. Furthermore, given the drainage characteristics of the majority of the soils and the nearly level topography of the Planning Area, water erosion hazard is considered low. The wind erosion potential ranges from moderate-to-high during the spring, summer, and fall, however this potential for wind erosion diminish during the winter.

Expansive Soils

The NRCS delineates soil units and compiles soils data as part of the National Cooperative Soil Survey. The following description of linear extensibility (also known as shrink-swell potential or expansive potential) is provided by the NRCS Physical Properties Descriptions:

“Linear extensibility” refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried and expand and soften when wet. If structures are underlain by expansive soils, it is important that foundation systems be capable of tolerating or resisting any potentially damaging soil movements. In addition, it is important to limit moisture changes in the surficial soils by using positive drainage away from buildings as well as limiting landscaping watering.

According to the NRCS Web Soil Survey, the soils in the Planning Area soils vary from a low shrink-swell potential to a high shrink-swell potential. The majority of the Planning Area soils have a low potential, and small portions of the western Planning Area have a moderate to high potential. Figure 3.6-4 provides a map of the shrink-swell potential of the soils within the Planning Area and general vicinity.

Lateral Spreading

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is directly associated with areas of liquefaction. The potential for liquefaction is moderate to high in many areas of the city, however

because the Planning Area is essentially flat, lateral spreading of soils has not been observed within the Planning Area.

Landslide

The California Geological Survey classifies landslides with a two-part designation based on Varnes (1978) and Cruden and Varnes (1996). The designation captures both the type of material that failed and the type of movement that the failed material exhibited. Material types are broadly categorized as either rock or soil, or a combination of the two for complex movements. Landslide movements are categorized as falls, topples, spreads, slides, or flows.

Landslide potential is influenced by physical factors, such as slope, soil, vegetation, and precipitation. Landslides require a slope, and can occur naturally from seismic activity, excessive saturation, and wildfires, or from human-made conditions such as construction disturbance, vegetation removal, wildfires, etc.

The Planning Area is essentially flat; therefore, the potential for a landslide is low.

Subsidence

Subsidence is the settlement of soils of very low density generally from either oxidation of organic material, or desiccation and shrinkage, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. Drainage sufficient to create subsidence is uncommon within the City of Manteca. Subsidence has not been identified as an issue in the Planning Area.

Collapsible Soils

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Soils prone to collapse are commonly associated with manmade fill, windlaid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. During an earthquake, even slight settlement of fill materials can lead to a differentially settled structure and significant repair costs. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors. Collapsible soils have not been identified in the Planning Area as an issue. However, in areas subject to potential liquefaction, the potential for liquefaction induced settlement is present.

Naturally Occurring Asbestos

The term “asbestos” is used to describe a variety of fibrous minerals that, when airborne, can result in serious human health effects. Naturally occurring asbestos is commonly associated with ultramafic rocks and serpentinite. Ultramafic rocks, such as dunite, peridotite, and pyroxenite are igneous rocks comprised largely of iron-magnesium minerals. As they are intrusive in nature, these

rocks often undergo metamorphosis, prior to their being exposed on the Earth's surface. The metamorphic rock serpentinite is a common product of the alteration process. Naturally occurring asbestos is not identified within San Joaquin County, although it is all located to the east and west of the Planning Area in mountainous areas in Contra Costa and Calaveras Counties. There is no naturally occurring asbestos mapped within Manteca.

PALEONTOLOGICAL RESOURCES

Among the natural resources deserving conservation and preservation, and existing within the Planning Area, are the often-unseen records of past life buried in the sediments and rocks below the pavement, buildings, soils, and vegetation which now cover most of the area. These records – fossils and their geologic context – undoubtedly exist in large quantities below the surface in many areas in and near the City of Manteca, and span millions of years in age of origin. Fossils constitute a non-renewable resource: Once lost or destroyed, the exact information they contained can never be reproduced.

Paleontology is the science that attempts to unravel the meaning of these fossils in terms of the organisms they represent, the ages and geographic distribution of those organisms, how they interacted in ancient ecosystems and responded to past climatic changes, and the changes through time of all of these aspects.

The sensitivity of a given area or body of sediment with respect to paleontological resources is a function of both the potential for the existence of fossils and the predicted significance of any fossils which may be found there. The primary consideration in the determination of paleontological sensitivity of a given area, body of sediment, or rock formation is its potential to include fossils. Information that can contribute to assessment of this potential includes: 1) direct observation of fossils within the project area; 2) the existence of known fossil localities or documented absence of fossils in the same geologic unit (e.g., "Formation" or one of its subunits); 3) descriptive nature of sedimentary deposits (such as size of included particles or clasts, color, and bedding type) in the area of interest compared with those of similar deposits known elsewhere to favor or disfavor inclusion of fossils; and 4) interpretation of sediment details and known geologic history of the sedimentary body of interest in terms of the ancient environments in which they were deposited, followed by assessment of the favorability of those environments for the preservation of fossils.

The most general paleontological information can be obtained from geologic maps, but geologic cross sections (slices of the layer cake to view the third dimension) must be reviewed for each area in question. These usually accompany geologic maps or technical reports. Once it can be determined which formations may be present in the subsurface, the question of paleontological resources must be addressed. Even though a formation is known to contain fossils, they are not usually distributed uniformly throughout the many square miles the formation may cover. If the fossils were part of a bay environment when they died, perhaps a scattered layer of shells will be preserved over large areas. If on the other hand, a whale died in this bay, you might expect to find fossil whalebone only in one small area of less than a few hundred square feet. Other resources to be considered in the determination of paleontological potential are regional geologic reports, site records on file with paleontological repositories and site-specific field surveys.

Paleontologists consider all vertebrate fossils to be of significance. Fossils of other types are considered significant if they represent a new record, new species, an oldest occurring species, the most complete specimen of its kind, a rare species worldwide, or a species helpful in the dating of formations. However, even a previously designated low potential site may yield significant fossils.

Regional Paleontological Setting

SAN JOAQUIN VALLEY

The following summary of the geological evolution of San Joaquin County and the potential for paleontological resources is based on the San Joaquin County General Plan Draft EIR. During the Mesozoic Era (208–65 million years ago), the Sierra Nevada formed, but the region that would become the San Joaquin Valley lay several thousand feet below the surface of the Pacific Ocean. During the Late Cretaceous Period (75–65 million years ago [mya]), flowering plants, early dinosaurs, and the first birds and mammals appeared. The basic form of the Great Central Valley took shape during the Cenozoic period, first as islands, then as mountains. During the late Cenozoic Era (65–2 mya), the Sierra Nevada eroded to mere hills compared to their earlier appearance, the Coast Ranges rose, and the San Joaquin Valley began to form.

During the Paleocene Epoch (65–53 mya), dinosaurs became extinct and mammals gradually evolved as the dominant group of animal life. During the Eocene Epoch (53–39 mya), the western edges of the San Joaquin Valley rose above sea level. Sedimentation and tectonic uplift of geological formations continued until two million years ago. In the subsequent Oligocene Epoch (39–23 mya), sedimentation continued, and during the Miocene Epoch (23–5 mya) the Diablo Range was uplifted. The Pliocene Epoch (5–2 mya) was a time of tremendous uplift, and great quantities of sediment eroded from the nearby mountain ranges accumulated in the valley, eventually forming a deposit thousands of feet thick. In the Pleistocene Epoch (2 million to 10,000 years ago), the Sierra Nevada range was increasingly elevated and glaciated, resulting in the formation of spectacular features such as Yosemite Valley. During the Holocene Epoch (10,000 years ago to the present), the San Joaquin Valley was above sea level and achieved its present appearance, 466 miles long and 19 to 50 miles wide, enclosed by the Siskiyou, Sierra Nevada, Tehachapi, and Coast Ranges on the north, east, south, and west, respectively. The valley contained fresh water lakes and rivers attractive to herds of prehistoric grazing animals, including Columbian Mammoth, camel, bison, small faced bear, and native horse. The fossil remains of these creatures have been found in San Joaquin County and adjacent areas. The vast majority of paleontological specimens from San Joaquin County have been found in rock formations in the foothills of the Diablo Mountain Range. However, remains of extinct animals such as mammoth, could be found virtually anywhere in the county, especially along watercourses such as the San Joaquin River and its tributaries.

PLANNING AREA

The Geologic Map of California, prepared by the California Department of Conservation California Geological Survey, identifies the generalized rock types in the Planning Area is Quaternary Alluvium “Q” which is younger alluvium that consists of marine and nonmarine (continental) sedimentary rocks from the Pleistocene through Holocene Epochs that are composed of alluvium, lake, playa, and terrace deposits, both unconsolidated and semi-consolidated. This type is mostly nonmarine deposits but does include marine deposits near the coast.

According to a records search of the University of California Museum of Paleontology (UCMP) Collections Date, eighty fossils have been found and recorded within San Joaquin County. Over half of them are dated to the tertiary period, with quaternary being the second most frequent period. These are the first and second periods of the Cenozoic Era respectively, during which modern flora, apes, large mammals, and eventually humans developed. The majority of fossils found within the Manteca area have been vertebrate in nature. These fossils include mammoth/mastodon, horse, pocket gopher, and other unspecified rodents, and unidentified artiodactyl (hoofed mammal) bone.

3.6.2 REGULATORY SETTING

FEDERAL

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act of 1977 (42 USC, 7701 et seq.) requires the establishment and maintenance of an earthquake hazards reduction program by the Federal government.

Executive Order 12699

Signed in January 1990, this executive order of the President implements provisions of the Earthquake Hazards Reduction Act for “federal, federally assisted or federally regulated new building construction” and requires the development and implementation of seismic safety programs by Federal agencies.

International Building Code (IBC)

The purpose of the International Building Code (IBC) is to provide minimum standards to preserve the public peace, health, and safety by regulating the design, construction, quality of materials, certain equipment, location, grading, use, occupancy, and maintenance of all buildings and structures. IBC standards address foundation design, shear wall strength, and other structurally related conditions.

STATE

California Building Standards Code

Title 24 of the California Code of Regulations, known as the California Building Standards Code (CBSC) or simply "Title 24," contains the regulations that govern the construction of buildings in California. The CBSC includes 12 parts: California Building Standards Administrative Code, California Building Code, California Residential Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Historical Building Code, California Fire Code, California Existing Building Code, California Green Building Standards Code (CAL Green Code), and the California Reference Standards Code. Through the CBSC, the State provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control.

California Health and Safety Code

Section 19100 et seq. of the California Health and Safety Code establishes the State's regulations for earthquake protection. This section of the code requires structural designs to be capable of resisting likely stresses produced by phenomena such as strong winds and earthquakes.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 sets forth the policies and criteria of the State Mining and Geology Board, which governs the exercise of governments' responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones, as delineated on maps officially issued by the State Geologist. Working definitions include:

- Fault – a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side;
- Fault Zone – a zone of related faults, which commonly are braided and sub parallel, but may be branching and divergent. A fault zone has a significant width (with respect to the scale at which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles;
- Sufficiently Active Fault – a fault that has evidence of Holocene surface displacement along one or more of its segments or branches (last 11,000 years); and
- Well-Defined Fault – a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The geologist should be able to locate the fault in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

“Sufficiently Active” and “Well Defined” are the two criteria used by the State to determine if a fault should be zoned under the Alquist-Priolo Act.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. Under the Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act (which addresses only surface fault-rupture hazards) and are outlined below:

The State Geologist is required to delineate the various “seismic hazard zones.”

- Cities and counties, or other local permitting authority, must regulate certain development “projects” within the zones. They must withhold the development permits for a site within a zone until the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.

- The State Mining and Geology Board provides additional regulations, policies, and criteria to guide cities and counties in their implementation of the law. The Board also provides guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.
- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

Caltrans Seismic Design Criteria

The California Department of Transportation (Caltrans) has Seismic Design Criteria (SDC), which is an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. The SDC has been developed with input from the Caltrans Offices of Structure Design, Earthquake Engineering and Design Support, and Materials and Foundations. Memo 20-1 Seismic Design Methodology (Caltrans 1999) outlines the bridge category and classification, seismic performance criteria, seismic design philosophy and approach, seismic demands and capacities on structural components, and seismic design practices that collectively make up Caltrans' seismic design.

Division of Mines and Geology

The California Division of Mines and Geology (DMG) operates within the Department of Conservation. The DMG is responsible for assisting in the utilization of mineral deposits and the identification of geological hazards.

State Geological Survey

Similar to the DMG, the California Geological Survey is responsible for assisting in the identification and proper utilization of mineral deposits, as well as the identification of fault locations and other geological hazards.

LOCAL

City of Manteca Municipal Code

Chapter 15.04 of the Manteca Municipal Code adopts the 2019 CBSC, with amendments to address administrative provisions, additional requirements to address connection of existing slabs to new construction, as the building code of the City.

The City of Manteca Municipal Code includes Chapter 17.48 that requires a soil management report in order to reduce runoff and encourage healthy plant growth as part of the Landscape Documentation Package.

3.6.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on geology and soils if it will:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42;
 - Strong seismic ground shaking;
 - Seismic-related ground failure, including liquefaction; or
 - Landslides.
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water; or
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: General Plan implementation would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides (Less than Significant)

There are no known active or potentially active faults, or Alquist-Priolo Earthquake Fault Zones, located within the Planning Area. However, there are numerous faults located in the region. Figure 3.6-2 illustrates the location of these faults. These include an unnamed fault east of the City of Tracy, the San Joaquin fault, the Midway fault, the Corral Hollow-Carnegie fault, the Greenville fault, the Antioch fault, and the Los Positas fault. Rupture of any of these faults, or of an unknown fault in the region, could cause seismic ground shaking. As a result, future development in the City of Manteca may expose people or structures to potential adverse effects associated with a seismic event, including strong ground shaking and seismic-related ground failure.

While there are no known active faults located within the Planning Area, the area could experience considerable ground shaking generated by faults outside Manteca. For example, Manteca could experience an intensity of MM V to VII generated by seismic events. The effect of this intensity level could have structural damage. Additionally, as noted previously, the California Geological Survey Landslides Maps have not mapped any landslide areas in the Planning Area or its vicinity.. Soil data from the NRCS Web Soil Survey (NRCS 2020) suggests that the potential for liquefaction ranges from low to high within the Planning Area given that many soils are high in sand and the water table is moderately high.

All projects would be required to comply with the provisions of the CBSC, which requires development projects to: perform geotechnical investigations in accordance with State law, engineer improvements to address potential seismic and ground failure issues and use earthquake-resistant construction techniques to address potential earthquake loads when constructing buildings and improvements. As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other regulations. Subsequent development and infrastructure would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. In addition to the requirements associated with the CBSC and the Municipal Code, the General Plan includes policies and actions to address potential impacts associated with seismic activity.

The General Plan policies and actions (listed below) require review of development proposals to ensure compliance with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces such as earthquakes and wind. Policy S-2.7 requires new critical infrastructure and facilities that may be built in the City to incorporate site specific seismic structural design as required by applicable building codes. All development and construction proposals must be reviewed by the City to ensure conformance with applicable building standards. Development on soils sensitive to seismic activity is only allowed after adequate site analysis, including appropriate siting, design of structure, and foundation integrity. Policy S-2.3 requires assessment and mitigation of hazards related to liquefaction, landslides, and flooding for new development projects or City improvement projects that are identified by the City as susceptible to these hazards. All future projects are subject to CEQA review to address seismic safety issues and provide adequate mitigation for existing and potential hazards identified. Overall, impacts associated with a seismic event, including rupture of an earthquake fault, seismic ground shaking, liquefaction, and landslides would be ***less than significant***.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

S-2.1: Enforce adopted regulations to identify and address potential hazards relating to seismic, geologic, and soils conditions.

S-2.2: Regulate development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, and expansive soils.

S-2.3: Require new development to mitigate the potential impacts of geologic and seismic hazards, including uncompacted fill, liquefaction, and subsidence, through the development review process.

S-2.4: Continue to require professional inspection of foundation, excavation, earthwork, and other geotechnical aspects of site development during construction on those sites specified in geotechnical studies as being prone to moderate or greater levels of seismic or geologic hazard.

S-2.5: Maintain an inventory of unreinforced masonry buildings and soft-story buildings. No change in use to a higher occupancy or more intensive use shall be approved in such structures until an engineering evaluation of the structure has been conducted and any structural deficiencies corrected.

S-2.6: Ensure that all public facilities, including buildings, water tanks, and reservoirs, are structurally sound and able to withstand seismic shaking and the effects of seismically-induced ground failure, consistent with the California Building Standards Codes and other applicable standards.

S-2.7: Require compliance with the State's building standards in the design and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous materials manufacturing and storage facilities, and large public assembly halls.

ACTIONS

S-2a: Continue to require preparation of geotechnical reports for proposed development projects, public projects, and all critical structures. The reports should include, but not be limited to: evaluation of and recommendations to mitigate the effects of fault displacement, ground shaking, uncompacted fill, expansive soils, liquefaction, subsidence, and settlement. Recommendations from the report shall be incorporated into the development project to address seismic and geologic risks identified in the report.

S-2b: Review development proposals to ensure compliance with the current State building standards.

S-2c: Review development proposals to ensure compliance with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces such as earthquakes and wind.

S-2d: Review and update the City's inventory of potentially hazardous buildings and require any development or change in occupancy proposals to address hazards, through measures such as strengthening buildings, changing the use of the buildings to an acceptable occupancy level, or demolishing or rehabilitating the building.

Impact 3.6-2: General Plan implementation would not result in substantial soil erosion or the loss of topsoil (Less than Significant)

The General Plan would allow development and improvement projects that would involve some land clearing, mass grading, and other ground-disturbing activities that could temporarily increase soil erosion rates during and shortly after project construction. Construction-related erosion could result in the loss of a substantial amount of nonrenewable topsoil and could adversely affect water quality in nearby surface waters.

3.6 GEOLOGY AND SOILS

As noted previously, soil erosion data for the City of Manteca was obtained from the NRCS. As identified by the NRCS web soil survey, the erosion factor K within the City of Manteca varies widely from 0.02 to 0.37. The NRCS does not provide erosion factors for the urban land soils in the City, however, the erosion potential for the urban land soils in the City is considered to be low.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other regulations. In addition to compliance with City standards and policies, the Regional Water Quality Control Board will require a project specific Storm Water Pollution Prevention Plan (SWPPP) to be prepared for each project that disturbs an area of one acre or larger. The SWPPPs will include project specific best management measures that are designed to control drainage and erosion. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The General Plan includes a range of policies and one action related to best management practices, NPDES requirements, and minimizing discharge of materials (including eroded soils) into the storm drain system. Overall, impacts associated with erosion and loss of topsoil would be ***less than significant***.

GENERAL PLAN POLICIES AND ACTION THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

RC-3.1: Encourage best practices to enhance soil quality and minimize soil erosion and loss of topsoil from land development activities, wind, and water flow.

S-2.2: Regulate development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, and expansive soils.

CF-8.1: Maintain and improve Manteca's storm drainage facilities.

CF-8.2: Require all development projects to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process and as required by the City's NPDES Municipal Regional Permit. Project applicants shall mitigate any drainage impacts as necessary and shall demonstrate that the project will not result in any increase in off-site runoff during rain and flood events.

CF-8.3: Continue to allow dual-use detention basins for parks, ball fields, and other uses where appropriate.

CF-8.4: Incorporate recreational trails and parkway vegetation design where open stormwater facilities are appropriate and ensure that vegetation does not reduce channel capacity.

CF-8.5: Maintain drainage channels in a naturalized condition where appropriate, incorporating recreational trails, parkway vegetation, and other amenities and ensuring that vegetation does not reduce channel capacity, and consistent with the Resource Conservation Element.

CF-8.6: Continue to work cooperatively with outside agencies such as the San Joaquin Area Flood Control Agency and South San Joaquin Irrigation District regarding storm drainage and flood control management issues.

CF-8.7: Ensure and prioritize adequate drainage facilities low income, disadvantaged, and older neighborhoods and senior communities.

ACTIONS

S-2a: Continue to require preparation of geotechnical reports for proposed development projects, public projects, and all critical structures. The reports should include, but not be limited to: evaluation of and recommendations to mitigate the effects of fault displacement, ground shaking, uncompacted fill, expansive soils, liquefaction, subsidence, and settlement. Recommendations from the report shall be incorporated into the development project to address seismic and geologic risks identified in the report.

CF-8a: Update the Storm Drainage Master Plan and Public Facilities Implementation Plan every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

CF-8b: Continue to complete gaps in the drainage system in areas of existing and future development.

CF-8c: Identify which storm water and drainage facilities are in need of repair and address these needs through the City's Capital Improvement Program.

CF-8d: Continue to review development projects to identify potential stormwater and drainage impacts and require development to include measures to ensure that off-site runoff is not increased as a during rain and flood events.

Impact 3.6-3: General Plan implementation would not result in development 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 (Less than Significant)

Development allowed under the General Plan could result in the exposure of people and structures to conditions that have the potential for adverse effects associated with ground instability or failure. Soils and geologic conditions in the Manteca Planning Area have the potential for landslides, lateral spreading, subsidence, liquefaction, or collapse. Each are discussed below:

LANDSLIDE

Figure 3.6-4 illustrates the landslide potential (for non-seismically induced potential) in the vicinity of the Planning Area. The Planning Area is essentially flat; therefore, the potential for landslides is low. However, the landslide potential increases in the southwestern corner of the City, which contains areas with increased elevation change.

LATERAL SPREADING

Lateral spreading generally is a phenomenon where blocks of intact, non-liquefied soil move down slope on a liquefied substrate of large areal extent. The potential for lateral spreading is present where open banks and unsupported cut slopes provide a free face (unsupported vertical slope face). Ground shaking, especially when inducing liquefaction, may cause lateral spreading toward unsupported slopes. The potential for liquefaction is moderate to high in many areas of the city, however because the Planning Area is essentially flat lateral spreading of soils has not been observed within the Planning Area.

SUBSIDENCE

Drainage sufficient to create subsidence is uncommon within the City of Manteca. Subsidence has not been identified as an issue in the Planning Area.

LIQUEFACTION

Figure 3.6-4 shows liquefaction seismic hazard zones mapped within the Planning Area, which delineates areas where liquefaction may occur during a strong earthquake. Areas along existing waterways, such as San Joaquin River, are defined as having the greatest potential for liquefaction.

COLLAPSE

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors. Collapsible soils have not been identified in the Planning Area as an issue. However, in areas subject to potential liquefaction, the potential for liquefaction induced settlement is present.

CONCLUSION

As future development and infrastructure projects are considered by the City of Manteca, each project will be evaluated for conformance with the CBSC, the General Plan, Zoning Ordinance, and other regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Future development and improvement projects would be required to have a specific geotechnical study prepared and incorporated into the improvement design, consistent with the requirements of the State and City codes. In addition to the requirements associated with the CBSC and the Municipal Code, the General Plan includes policies and actions to ensure that development projects address potential geologic hazards, at-risk buildings and infrastructure is evaluated for potential risks, and site-specific studies are completed for area subject to liquefaction. Overall, impacts associated with ground instability or failure would be ***less than significant***.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

S-2.1: Enforce adopted regulations to identify and address potential hazards relating to seismic, geologic, and soils conditions.

S-2.2: Regulate development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, and expansive soils.

S-2.3: Require new development to mitigate the potential impacts of geologic and seismic hazards, including uncompacted fill, liquefaction, and subsidence, through the development review process.

S-2.4: Continue to require professional inspection of foundation, excavation, earthwork, and other geotechnical aspects of site development during construction on those sites specified in geotechnical studies as being prone to moderate or greater levels of seismic or geologic hazard.

S-2.5: Maintain an inventory of unreinforced masonry buildings and soft-story buildings. No change in use to a higher occupancy or more intensive use shall be approved in such structures until an engineering evaluation of the structure has been conducted and any structural deficiencies corrected.

S-2.6: Ensure that all public facilities, including buildings, water tanks, and reservoirs, are structurally sound and able to withstand seismic shaking and the effects of seismically-induced ground failure, consistent with the California Building Standards Codes and other applicable standards.

S-2.7: Require compliance with the State's building standards in the design and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous materials manufacturing and storage facilities, and large public assembly halls.

ACTIONS

S-2a: Continue to require preparation of geotechnical reports for proposed development projects, public projects, and all critical structures. The reports should include, but not be limited to: evaluation of and recommendations to mitigate the effects of fault displacement, ground shaking, uncompacted fill, expansive soils, liquefaction, subsidence, and settlement. Recommendations from the report shall be incorporated into the development project to address seismic and geologic risks identified in the report.

S-2b: Review development proposals to ensure compliance with the current State building standards.

S-2c: Review development proposals to ensure compliance with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces such as earthquakes and wind.

S-2d: Review and update the City's inventory of potentially hazardous buildings and require any development or change in occupancy proposals to address hazards, through measures such as strengthening buildings, changing the use of the buildings to an acceptable occupancy level, or demolishing or rehabilitating the building.

Impact 3.6-4: General Plan implementation would not result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property (Less than Significant)

Expansive soil properties can cause substantial damage to building foundations, piles, pavements, underground utilities, and/or other improvements. Structural damage, such as warping and cracking of improvements, and rupture of underground utility lines, may occur if the expansive potential of soils is not considered during the design and construction of all improvements.

Linear extensibility is a method for measuring expansion potential. The expansion potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

The linear extensibility of the soils within Manteca ranges from low to very high. Figure 3.6-4 illustrates the shrink-swell potential of soils in the Planning Area. The majority of the Planning Area has soils with a low potential for expansion, including most of the developed land. The areas with moderate to high expansive soils represent only a small portion of the Planning Area, and would require special design considerations due to shrink-swell potentials.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The Resource Conservation Element of the General Plan establishes policies that are designed to protect from geologic hazards, including expansive soils. Consistency with the General Plan policies will require identification of geologic hazards and risk inventory of existing at-risk buildings and infrastructure. As required by the CBSC, a site-specific geotechnical investigation will identify the potential for damage related to expansive soils and non-uniformly compacted fill and engineered fill. If a risk is identified, design criteria and specification options may include removal of the problematic soils, and replacement, as needed, with properly conditioned and compacted fill material that is designed to withstand the forces exerted during the expected shrink-swell cycles and settlements.

Design criteria and specifications set forth in the design-level geotechnical investigation will ensure impacts from problematic soils are minimized. There are no additional significant adverse environmental impacts, apart from those disclosed in the relevant chapters of this Draft EIR, that are anticipated to occur associated with expansive soils. Therefore, this impact is considered ***less than significant***.

GENERAL PLAN POLICY AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICY

S-2.1: Enforce adopted regulations to identify and address potential hazards relating to seismic, geologic, and soils conditions.

S-2.2: Regulate development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, and expansive soils.

S-2.3: Require new development to mitigate the potential impacts of geologic and seismic hazards, including uncompacted fill, liquefaction, and subsidence, through the development review process.

S-2.4: Continue to require professional inspection of foundation, excavation, earthwork, and other geotechnical aspects of site development during construction on those sites specified in geotechnical studies as being prone to moderate or greater levels of seismic or geologic hazard.

ACTIONS

RC-3a: Require development projects to comply with the California Building Standards Code requirements for specific site development and construction standards for specific soil types.

S-2a: Continue to require preparation of geotechnical reports for proposed development projects, public projects, and all critical structures. The reports should include, but not be limited to: evaluation of and recommendations to mitigate the effects of fault displacement, ground shaking, uncompacted fill, expansive soils, liquefaction, subsidence, and settlement. Recommendations from the report shall be incorporated into the development project to address seismic and geologic risks identified in the report.

S-2b: Review development proposals to ensure compliance with the current State building standards.

Impact 3.6-5: General Plan implementation does not have the potential to have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water (Less than Significant)

Wastewater service is provided by the City of Manteca via their network of collection infrastructure and the Wastewater Quality Control Facility (WQCF), which treats municipal sanitary sewage from the City of Manteca, portions of Lathrop, and Raymus Village, just northeast of Manteca.

The WQCF is located southwest of downtown Manteca on 22 acres owned by the City. The WQCF treats municipal wastewater from the City of Manteca and the City of Lathrop, and seasonally accepts industrial food processing waste effluent from Eckert Cold Storage (Nolte, 2007). Per contractual agreement, 8.42 million gallons per day (mgd) of plant capacity is allocated to the City of Manteca and 1.45 mgd is allocated to the City of Lathrop (EDAW, 2007). The WQCF treats an average dry weather flow (ADWF) of about 6 mgd and has an average dry weather design capacity of 9.87 mgd. The facility's current NPDES permit is currently shared between the City and Dutra

3.6 GEOLOGY AND SOILS

Farms, Inc. and is effective until May 2020 (CA RWQCB, 2015). The anticipated buildout ADWF within areas served by the WQCF is 27 mgd (EDAW, 2007).

The WQCF is an activated sludge tertiary treatment plant. The facility includes an influent pump station, and primary, secondary and tertiary treatment facilities. Primary treatment at the WQCF consists of aerated grit removal and primary sedimentation. Secondary treatment at the facility consists of nitrification and denitrification in activated sludge aeration basins and subsequent secondary sedimentation. Undisinfected secondary effluent is either stored for agricultural use in a 15-million-gallon pond or blended with food processing waste and applied directly on the agricultural fields owned by the City (190 acres) and Dutra Farms, Inc. (70 acres) (CA RWQCB, 2015).

Secondary effluent not used for crop demands undergoes tertiary treatment, including rapid mixing, flocculation, cloth media filtration, and ultraviolet light (UV) disinfection. Treated tertiary effluent is either pumped to a truck fill station for construction vehicles to receive recycled water for construction purposes or discharged year-round through a 36-inch diameter pipe into the San Joaquin River (CA RWQCB, 2015). As the practice of discharging to fields is gradually phased out due to land development, effluent will increasingly be diverted to the River (City of Manteca, 2016).

The City is planning to expand the facility from the currently permitted 9.87 mgd to 27 mgd by buildout. The various WQCF facilities are designed to be expanded in phases, based on future growth. Proposed treatment improvements identified in the 2007 WQCF Master Plan include expansion of the primary, secondary, and tertiary treatment facilities, expansion of the solids handling systems and expansion of the co-generation system to generate electricity from methane produced during the treatment process (EDAW, 2007).

The WQCF is currently undergoing expansions to the solids handling streams to provide increased capacity to meet permitted requirements and new State regulations. Improvements include new facilities for receiving Fats, Oils, and Greases (FOGs), and receiving food waste separated from the solid waste streams. The separation of these materials is required by State regulations and is anticipated to provide additional energy generation in the form of biogas from the WQCF (City of Manteca, 2016).

The 2007 WQCF Master Plan reported wastewater flow projections for the City of Manteca of 19.5 mgd by 2023 and 23 mgd by buildout (Nolte Associates, 2007). Projections were based on wastewater generation factors developed from historical studies and developed based on different household densities for different residential land use categories. Assuming a similar level of development as anticipated in the 2007 WQCF Master Plan, future wastewater projections are anticipated to be lower than those estimated in the 2007 WQCF Master Plan because of existing and pending water use efficiency regulations that will reduce indoor water use and wastewater flows.

All new wastewater generated from General Plan land uses will be collected and transmitted to the WQCF for treatment. There will be no septic tanks or alternative waste water disposal systems utilized for new development planned under the General Plan. Therefore, this impact is considered ***less than significant*** and no mitigation is required.

Impact 3.6-6: General Plan implementation would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (Less than Significant)

DEFINITION OF SIGNIFICANCE FOR PALEONTOLOGICAL RESOURCES

Only qualified, trained paleontologists with specific expertise in the type of fossils being evaluated can determine the scientific significance of paleontological resources. Fossils are considered to be significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life;
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.
6. All identifiable vertebrate fossils are considered significant due to the rarity of their preservation.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and invertebrate animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important.

PALEONTOLOGICAL SENSITIVITY FOR PLANNING AREA

The sensitivity of a given area or body of sediment with respect to paleontological resources is a function of both the potential for the existence of fossils and the predicted significance of any fossils which may be found there. The primary consideration in the determination of paleontological sensitivity of a given area, body of sediment, or rock formation is its potential to include fossils. Information that can contribute to assessment of this potential includes: 1) direct observation of fossils within the project area; 2) the existence of known fossil localities or documented absence of fossils in the same geologic unit (e.g., "Formation" or one of its subunits); 3) descriptive nature of sedimentary deposits (such as size of included particles or clasts, color, and bedding type) in the area of interest compared with those of similar deposits known elsewhere to favor or disfavor inclusion of fossils; and 4) interpretation of sediment details and known geologic history of the

sedimentary body of interest in terms of the ancient environments in which they were deposited, followed by assessment of the favorability of those environments for the preservation of fossils.

Paleontologists consider all vertebrate fossils to be of significance. Fossils of other types are considered significant if they represent a new record, new species, an oldest occurring species, the most complete specimen of its kind, a rare species worldwide, or a species helpful in the dating of formations. However, even a previously designated low potential site may yield significant fossils. While no formations in the Planning Area are assigned a very high sensitivity, the Planning Area is in a region where fossils and paleontological resources have been identified.

CONCLUSION

It is possible that undiscovered paleontological resources could be encountered during ground-disturbing activities. Damage to or destruction of a paleontological resource would be considered a potentially significant impact under local, state, or federal criteria. Implementation of the proposed General Plan actions would ensure steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction. Therefore, this impact would be ***less than significant***.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

RC-10.3: Do not approve any public or private project that may adversely affect an archaeological site without consulting the California Archaeological Inventory at Stanislaus State University, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts according to the recommendation of a qualified archaeologist. City implementation of this policy shall be guided by CEQA and the National Historic Preservation Act.

ACTIONS

RC-10a: Require a records search for any proposed development project, to determine whether the site contains known archaeological, historic, cultural, or paleontological resources and/or to determine the potential for discovery of additional cultural or paleontological resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.

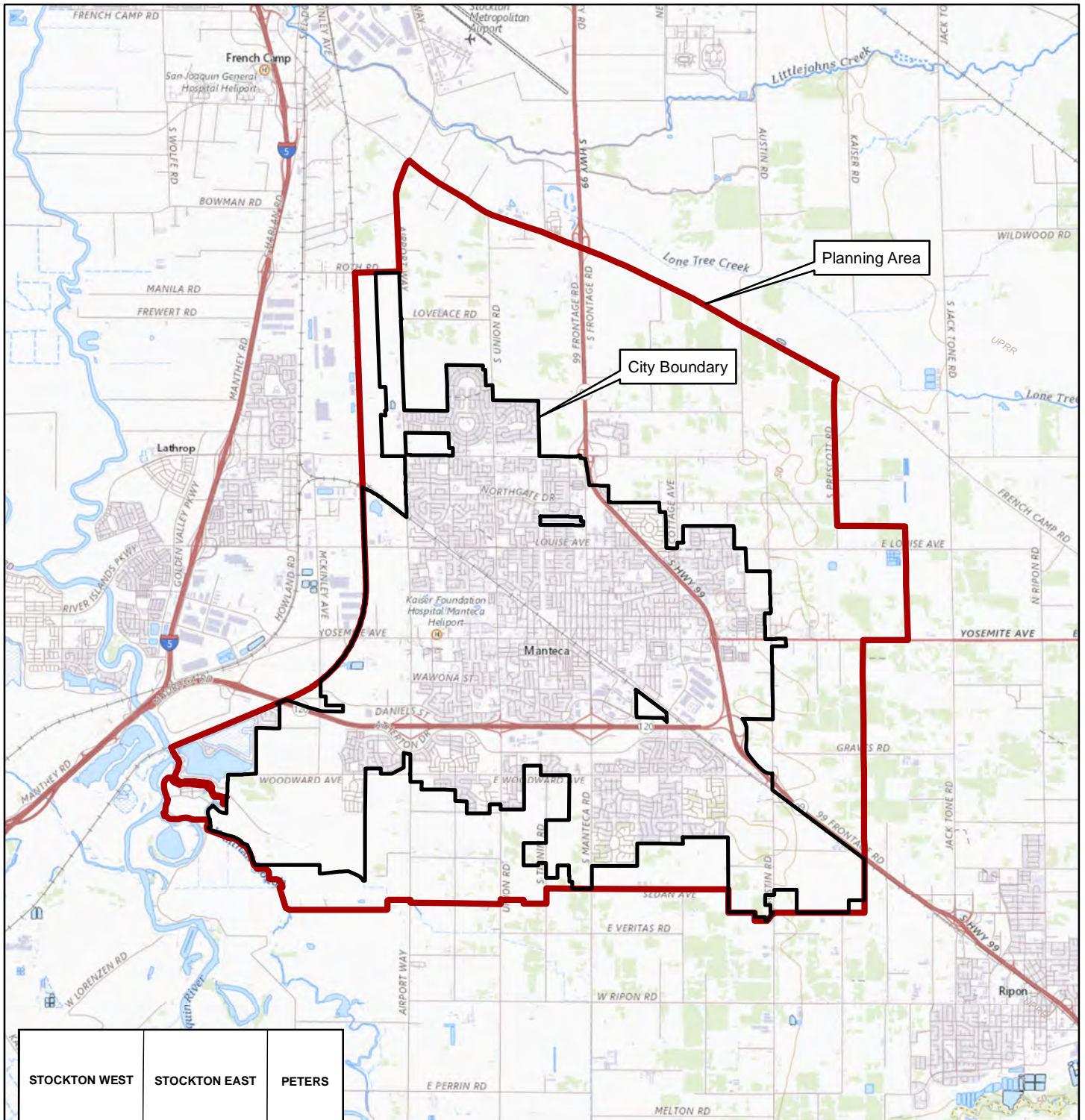
RC-10b: Require a cultural and archaeological survey prior to approval of any project which would require excavation in an area that is sensitive for cultural or archaeological resources and require a paleontological survey in an area that is sensitive for paleontological resources. If significant cultural, archaeological, or paleontological resources, including historic and prehistoric resources, are identified, appropriate measures shall be implemented, such as documentation and conservation, to reduce adverse impacts to the resource.

RC-10c: Incorporate significant archaeological sites, where feasible, into open space areas.

RC-10j: Require all new development, infrastructure, and other ground-disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

- If construction or grading activities result in the discovery of significant historic or prehistoric archaeological artifacts or unique paleontological resources, all work within 100 feet of the discovery shall cease, the Community Development Director shall be notified, the resources shall be examined by a qualified archaeologist, paleontologist, or historian for appropriate protection and preservation measures; and work may only resume when appropriate protections are in place and have been approved by the Community Development Director; and*
- If human remains are discovered during any ground disturbing activity, work shall stop until the Community Development Director and the San Joaquin County Coroner have been contacted; if the human remains are determined to be of Native American origin, the Native American Heritage Commission and the most likely descendants have been consulted; and work may only resume when appropriate measures have been taken and approved by the Community Development Director.*

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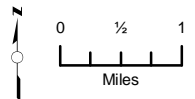
Planning Area

City Boundary

STOCKTON WEST	STOCKTON EAST	PETERS
LATHROP	MANTECA	AVENA
VERNALIS	RIPON	SALIDA

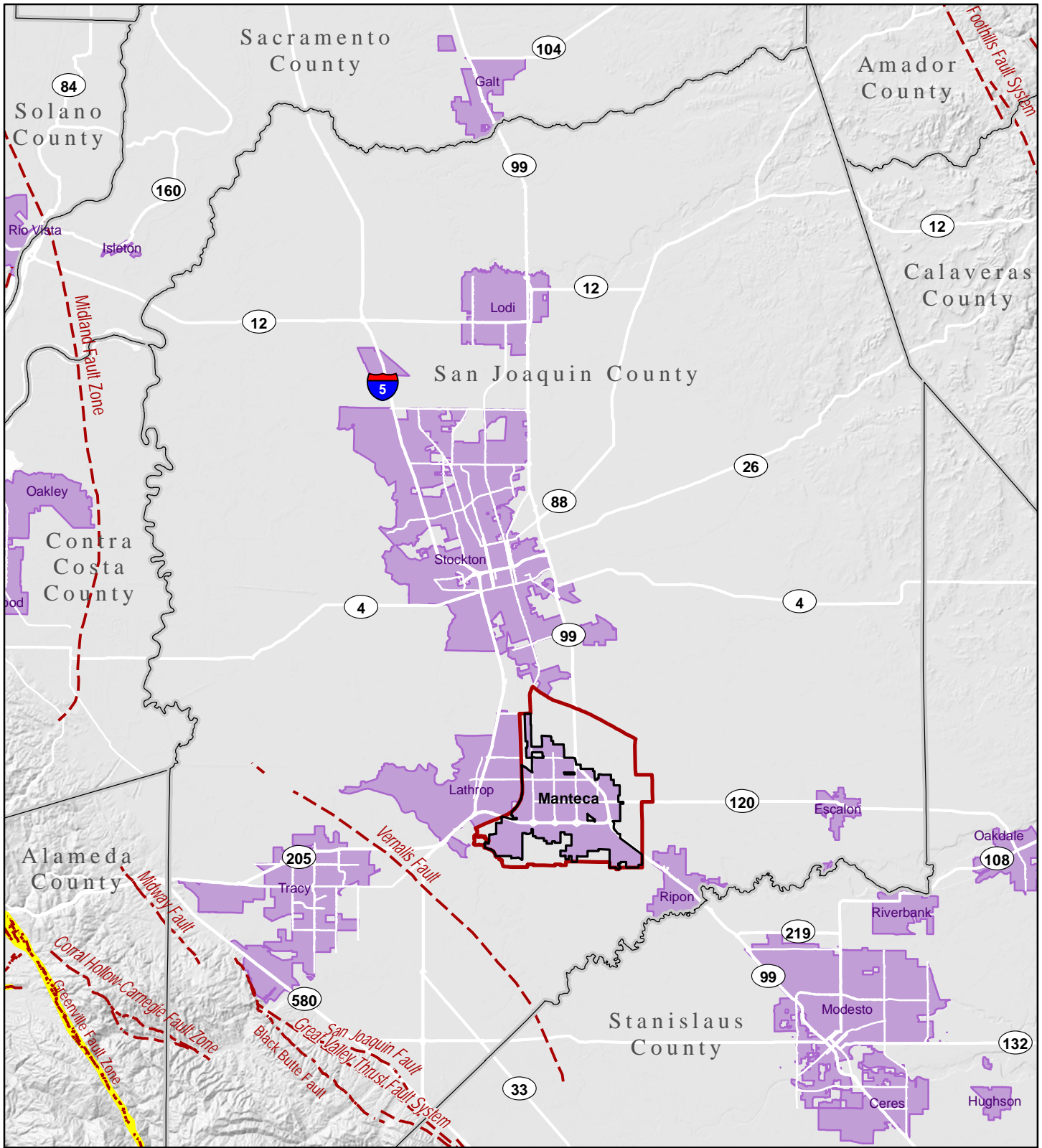
CITY OF MANTECA GENERAL PLAN

Figure 3.6-1. USGS Topographic Map



Sources: City of Manteca; San Joaquin County; ArcGIS Online USGS Topo Map (The National Map) Map Service. Map date: February 3, 2022.

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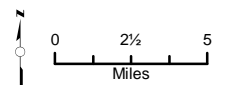
Legend

- Quaternary Fault
- Alquist Priolo Fault Zone
- City of Manteca
- Manteca Planning Area
- Incorporated Area
- County Boundary

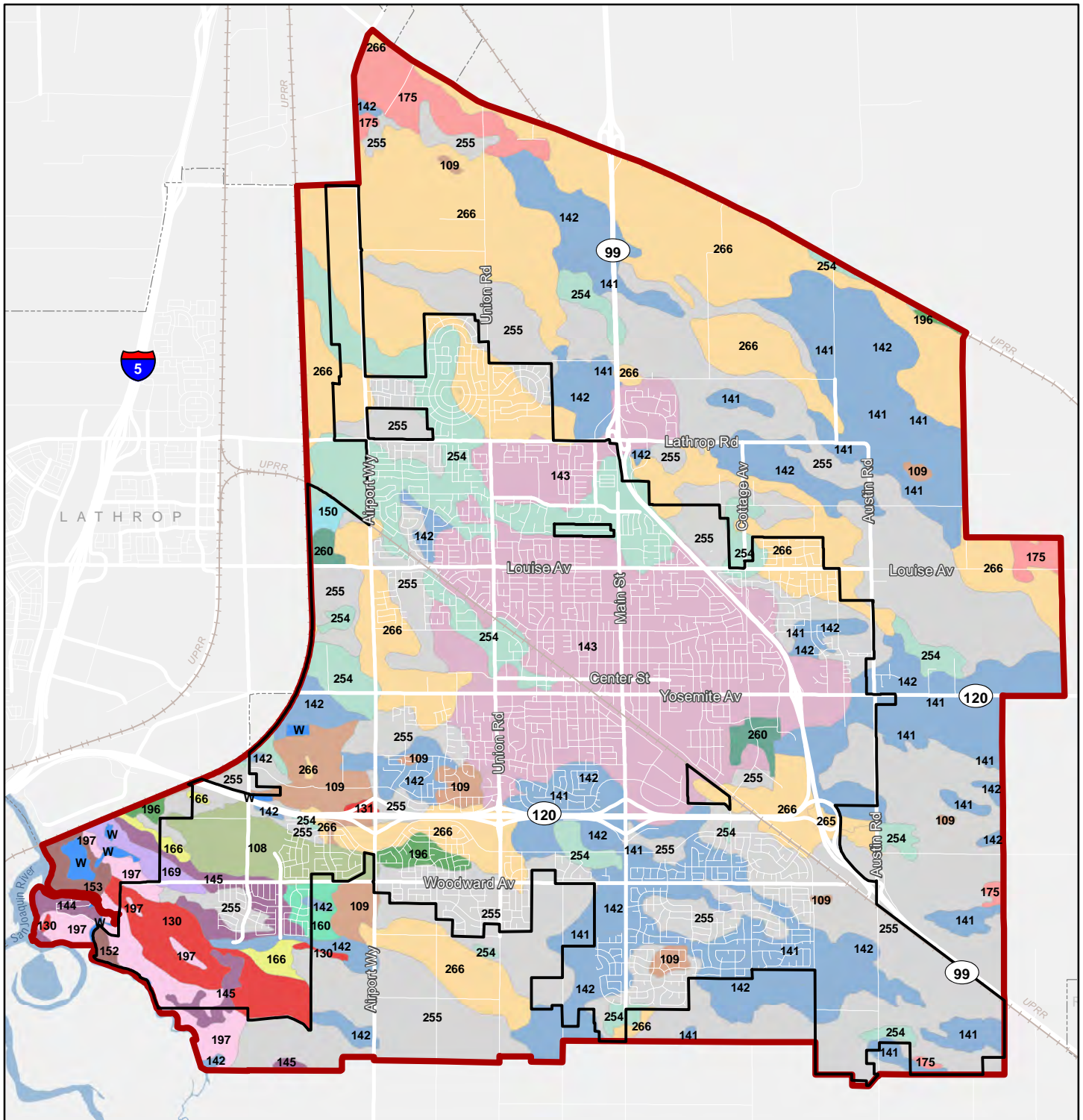
Source: San Joaquin County GIS; USGS; California State GeoPortal. Map date: February 3, 2022.

CITY OF MANTECA GENERAL PLAN

Figure 3.6-2. Earthquake Faults and Alquist-Priolo Zones



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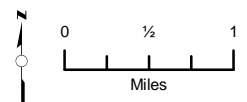


CITY OF MANTECA GENERAL PLAN

Figure 3.6-3. Soils Map

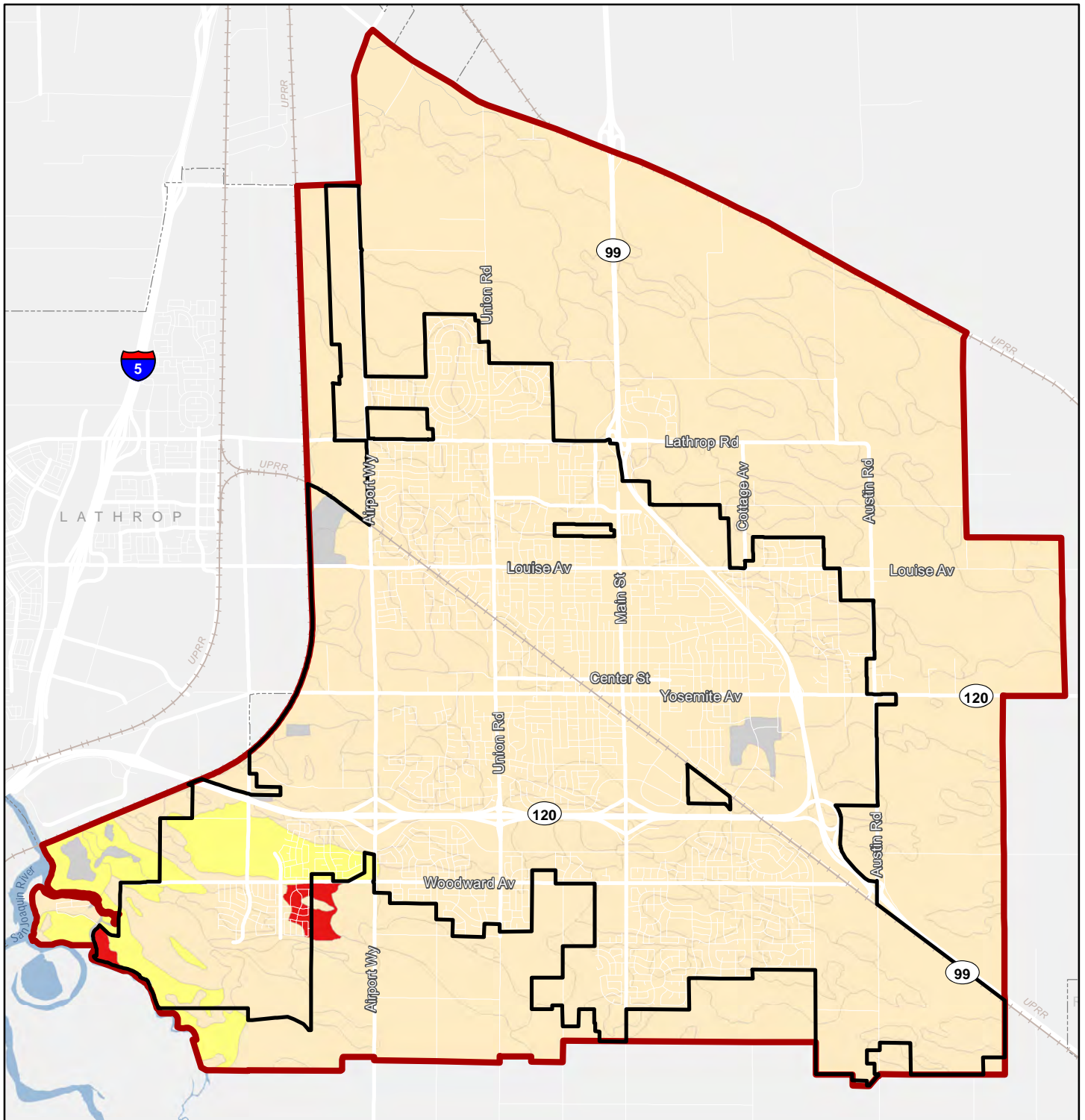
Legend

- | | | |
|------------------------------------|----------------------------------|------------------------------|
| City of Manteca | 144/145: Dello sands | 196: Manteca fine sandy loam |
| Manteca Planning | 150: Dumps | 197: Merritt silty clay loam |
| 108: Arents | 152/153: Egbert clay loams | 254: Timor loamy sand |
| 109: Bisgani loamy coarse sand | 160: Galt clay | 255: Timor loamy coarse sand |
| 130/131: Columbia fine sandy loams | 166: Grangeville fine sandy loam | 260: Urban land |
| 141/142: Delhi sands | 169: Guard clay loam | 265/266: Veritas sandy loams |
| 143: Delhi-Urban land complex | 175: Honcut sandy loam | W: Water |



Sources: City of Manteca; San Joaquin County; NRCS Web Soil Survey, San Joaquin County, California (CA077), Spatial Version 6, 9-16-2019, Tabular Version 14, 9-9-2021. Map date: February 1, 2022.

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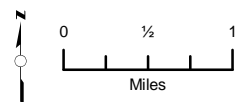


Legend

- City of Manteca
- Manteca Planning
- Low Potential
- Moderate Potential
- High Potential
- Not Rated

CITY OF MANTECA GENERAL PLAN

Figure 3.6-4. Shrink-Swell Potential of Soils



Sources: City of Manteca; San Joaquin County; NRCS Web Soil Survey, San Joaquin County, California (CA077), Spatial Version 6, 9-16-2019, Tabular Version 14, 9-9-2021. Map date: February 2, 2022.

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This section provides a background discussion of the seismic and geologic hazards found in the City and the regional vicinity. This section is organized with an environmental setting, regulatory setting, and impact analysis.

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: Central Valley Regional Water Quality Control Board (January 16, 2020) and the Terra Land Group (February 3, 2020). Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

3.6.1 ENVIRONMENTAL SETTING

GEOMORPHIC PROVINCE

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

REGIONAL GEOLOGY

The Planning Area lies in the San Joaquin Valley in central California. The San Joaquin Valley is located in the central portion of the Great Valley Geomorphic Province. The Great Valley, also known as the Central Valley, is a topographically flat, northwest-trending, structural trough (or basin) about 50 miles wide and 450 miles long. It is bordered by the Tehachapi Mountains on the south, the Klamath Mountains on the north, the Sierra Nevada on the east, and the Coast Ranges on the west.

The San Joaquin Valley is filled with thick sedimentary rock sequences that were deposited as much as 130 million years ago. Large alluvial fans have developed on each side of the Valley. The larger and more gently sloping fans are on the east side of the San Joaquin Valley and overlie metamorphic and igneous basement rocks. These basement rocks are exposed in the Sierra Nevada foothills and consist of meta-sedimentary, volcanic, and granitic rocks.

The Planning Area is relatively flat with natural gentle slope from east to west. The Planning Area's topography ranges in elevation from approximately 50 to 20 feet above sea level. Figure 3.6-1 shows the USGS Lathrop and Manteca Quadrangle Topographic view.

SEISMIC HAZARDS

Seismic hazards include both rupture (surface and subsurface) along active faults and ground shaking, which can occur over wider areas. Ground shaking, produced by various tectonic phenomena, is the principal source of seismic hazards in areas devoid of active faults. All areas of the state are subject to some level of seismic ground shaking.

3.6 GEOLOGY AND SOILS

Several scales may be used to measure the strength or magnitude of an earthquake. Magnitude scales (ML) measure the energy released by earthquakes. The Richter scale, which represents magnitude at the earthquake epicenter, is an example of an ML. As the Richter scale is logarithmic, each whole number represents a 10-fold increase in magnitude over the preceding number. Table 3.6-1 represents effects that would be commonly associated with Richter Magnitudes.

TABLE 3.6-1: RICHTER MAGNITUDES AND EFFECTS

MAGNITUDE	EFFECTS
< 3.5	Typically not felt
3.5 – 5.4	Often felt but damage is rare
5.5 – < 6	Damage is slight for well-built buildings
6.1 – 6.9	Destructive potential over ±60 miles of occupied area
7.0 – 7.9	“Major Earthquake” with the ability to cause damage over larger areas
≥ 8	“Great Earthquake” can cause damage over several hundred miles

SOURCE: USGS, EARTHQUAKE PROGRAM.

According to the California Geological Survey’s Probabilistic Seismic Hazard Assessment Program, San Joaquin County is considered to be within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 10 to 20 percent within a 50-year period.

This level of ground shaking correlates to a Modified Mercalli intensity of V to VII, light to strong. Table 3.6-2 below presents Modified Mercalli intensity effects at each level.

TABLE 3.6-2: MODIFIED MERCALLI INTENSITIES AND EFFECTS

MM	EFFECTS
I	Movement is imperceptible
II	Movement may be perceived (by those at rest or in tall buildings)
III	Many feel movement indoors; may not be perceptible outdoors
IV	Most feel movement indoors; Windows, doors, and dishes will rattle
V	Nearly everyone will feel movement; sleeping people may be awakened
VI	Difficulty walking; Many items fall from shelves, pictures fall from walls
VII	Difficulty standing; Vehicle shaking felt by drivers; Some furniture breaks
VIII	Difficulty steering vehicles; Houses may shift on foundations
IX	Well-built buildings suffer considerable damage; ground may crack
X	Most buildings and foundations and some bridges destroyed
XI	Most buildings collapse; Some bridges destroyed; Large cracks in ground
XII	Large scale destruction; Objects can be thrown into the air

SOURCE: USGS GENERAL INTEREST PUBLICATION 1989-288-913.

The Significant United States Earthquake data published by the USGS in the National Atlas identifies earthquakes that caused deaths, property damage, and geologic effects or were felt by populations near the epicenter. No significant earthquakes are identified within the Planning Area; however, significant earthquakes are documented in the region. Table 3.6-3 presents the significant earthquakes in the region.

TABLE 3.6-3: SIGNIFICANT EARTHQUAKES IN THE REGION

MAGNITUDE	INTENSITY	LOCATION	YEAR
7.1	N/A	Ridgecrest	2019
6.5	N/A	Ferndale Offshore	2016
6.0	VIII	South Napa	2014
5.6	VI	San Jose	2007
5.0	VII	Napa	2000
6.9	IX	Loma Prieta (San Andreas)	1989
5.4	N/A	Santa Cruz County	1989
6.2	N/A	Morgan Hill	1984
5.8	VII	Livermore	1980
5.7	N/A	Coyote Lake	1979
5.7	N/A	Santa Rosa	1969
5.3	N/A	Daly City	1957
5.4	N/A	Concord	1954
6.5	N/A	Calaveras fault	1911
7.9	IX	San Francisco	1906
6.8	N/A	Mendocino	1898
6.2	N/A	Mare Island	1898
6.3	N/A	Calaveras fault	1893
6.2	VIII	Winters	1892
6.4	N/A	Vacaville	1892
6.8	VII	Hayward	1868
6.5	VIII	Santa Cruz Mountains	1865
6.8	N/A	San Francisco Peninsula	1838

SOURCE: UNITED STATE GEOLOGICAL SURVEY, 2020.

The 2015 Uniform California Earthquake Rupture Forecast, Version 3, or UCERF3, is the latest official earthquake rupture forecast (ERF) for the state of California. It provides estimates of the likelihood and severity of potentially damaging earthquake ruptures in the long- and near-term. Combining this with ground motion models produces estimates of the severity of ground shaking that can be expected during a given period (seismic hazard), and of the threat to the built environment (seismic risk). This information is used to inform engineering design and building codes, plan for disaster, and evaluate whether earthquake insurance premiums are sufficient for the prospective losses.

The potential for seismic ground shaking in California is expected. As a result of the foreseeable seismicity in California, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the California Building Code. These seismic design provisions require enhanced structural integrity based on several risk parameters.

FAULTS

Faults are classified as Historic, Holocene, Late Quaternary, Quaternary, and Pre-Quaternary according to the age of most recent movement. These classifications are described as follows:

- **Historic:** faults on which surface displacement has occurred within the past 200 years;
- **Holocene:** shows evidence of fault displacement within the past 11,000 years, but without historic record;
- **Late Quaternary:** shows evidence of fault displacement within the past 700,000 years, but may be younger due to a lack of overlying deposits that enable more accurate age estimates;
- **Quaternary:** shows evidence of displacement sometime during the past 1.6 million years;
- **Pre-Quaternary:** without recognized displacement during the past 1.6 million years.

Faults are further distinguished as active, potentially active, or inactive:

- **Active:** An active fault is a Historic or Holocene fault that has had surface displacement within the last 11,000 years;
- **Potentially Active:** A potentially active fault is a pre-Holocene Quaternary fault that has evidence of surface displacement between about 1.6 million and 11,000 years ago; and
- **Inactive:** An inactive fault is a pre-Quaternary fault that does not have evidence of surface displacement within the past 1.6 million years. The probability of fault rupture is considered low; however, this classification does not mean that inactive faults cannot, or will not, rupture.

The U.S. Geological Survey identifies potential seismic sources within 5 miles of the Planning Area. The closest known faults classified as active by the U.S. Geological Survey include an unnamed fault east of the City of Tracy, located approximately 5 miles to the west of Manteca, and the San Joaquin fault, located approximately 15 miles to the southwest of Manteca. The Midway fault is located approximately 20 miles to the west. Other faults that could potentially affect the Manteca include the Corral Hollow-Carnegie fault, the Greenville fault, the Antioch fault, and the Los Positas fault. Figure 3.6-2 provides a map of known area faults.

Fault Rupture

A fault rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e., earthquake) or slow (i.e., fault creep). The Alquist-Priolo Fault Zoning Act requires active earthquake fault zones to be mapped and it provides special development considerations within these zones. Manteca does not have surface expression of active faults and fault rupture is not anticipated. Figure 3.6-2 shown regional faults in relation to Manteca.

SEISMIC HAZARD ZONES

Alquist-Priolo Fault Zones

An active earthquake fault, per California's Alquist-Priolo Act, is one that has ruptured within the Holocene Epoch (≈11,000 years). Based on this criterion, the California Geological Survey identifies Earthquake Fault Zones. These Earthquake Fault Zones are identified in Special Publication 42 (SP42), which is updated as new fault data become available. The SP42 lists all counties and cities within California that are affected by designated Earthquake Fault Zones. The Fault Zones are delineated on maps within SP42 (Earthquake Fault Zone Maps).

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. The California Geologic Survey (CGS) evaluates faults with available geologic and seismologic data and determines if a fault should be zoned as active, potentially active, or inactive. If CGS determines a fault to be active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazard Act. Alquist-Priolo Special Study Zones are usually one-quarter mile or less in width and require site-specific evaluation of fault location and require a structure setback if the fault is found traversing a project site. The Planning Area is not within an Alquist-Priolo Special Study Zone. The nearest Alquist-Priolo fault zone, the Greenville fault zone, is located approximately 25 miles southwest of Manteca.

LIQUEFACTION

Liquefaction, which is primarily associated with loose, saturated materials, is most common in areas of sand and silt or on reclaimed lands. Cohesion between the loose materials that comprise the soil may be jeopardized during seismic events and the ground will take on liquid properties. Thus, specific soil characteristics and seismic shaking must exist for liquefaction to be possible. Liquefaction susceptibility based on soil types, deposit, and age is presented below.

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet. Soil data from the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2020) suggests that the potential for liquefaction ranges from low to high within the Planning Area given that many soils are high in sand and the water table is moderately high.

EARTHQUAKE-INDUCED LANDSLIDES

Earthquake-Induced Landslide Zones Areas are areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required. The California Geological Survey Landslides Maps have not mapped any landslide areas in the Planning Area or its vicinity. The City is relatively flat and, as such, the probability of earthquake-induced landslides in the Planning Area is low.

OTHER GEOLOGIC HAZARDS

Soils

A Custom Soil Survey was completed for the Planning Area using the NRCS Web Soil Survey program. The NRCS Soils Map is provided in Figure 3.6-3. Table 3.6-4 below identifies the type and range of soils found in the Planning Area.

TABLE 3.6-4: PLANNING AREA SOILS

UNIT SYMBOL	NAME	ACRES	PERCENT OF PLANNING AREA
108	Arents, saline-sodic, 0 to 2 percent slopes	395.47	1.44%
109	Bisgani loamy coarse sand, partially drained, 0 to 2 percent slopes	514.98	1.87%
130	Columbia fine sandy loam, drained, 0 to 2 percent slopes	390.33	1.42%
131	Columbia fine sandy loam, partially drained, 0 to 2 percent slopes, occasionally flooded	14.69	0.05%
141	Delhi fine sand, 0 to 5 percent slopes	1,126.51	4.10%
142	Delhi loamy sand, 0 to 2 percent slopes, MLRA 17	3,945.57	14.34%
143	Delhi-Urban land complex, 0 to 2 percent slopes	3,626.60	13.18%
144	Dello sand, partially drained, 0 to 2 percent slopes, occasionally flooded	279.21	1.01%
145	Dello loamy sand, drained, 0 to 2 percent slopes	59.89	0.22%
150	Dumps	35.86	0.13%
152	Egbert mucky clay loam, partially drained, 0 to 2 percent slopes	23.77	0.09%
153	Egbert silty clay loam, partially drained, 0 to 2 percent slopes	84.97	0.31%
160	Galt clay, 0 to 1 percent slopes, MLRA 17	87.89	0.32%
166	Grangeville fine sandy loam, partially drained, 0 to 2 percent slopes	85.33	0.31%
169	Guard clay loam, drained, 0 to 2 percent slopes	100.71	0.37%
175	Honcut sandy loam, 0 to 2 percent slopes	639.93	2.33%
196	Manteca fine sandy loam, 0 to 2 percent slopes	117.91	0.43%
197	Merritt silty clay loam, partially drained, 0 to 2 percent slopes	364.60	1.33%
254	Timor loamy sand, 0 to 2 percent slopes	2,028.27	7.37%
255	Tinnin loamy coarse sand, 0 to 2 percent slopes	7,725.56	28.08%
260	Urban land	125.52	0.46%
265	Veritas sandy loam, partially drained, 0 to 2 percent slopes	5,609.16	20.39%
266	Veritas fine sandy loam, 0 to 2 percent slopes	32.31	0.12%
284	Water	93.32	0.34%
--	Totals	27,508.37	100.00%

SOURCE: NRCS CUSTOM SOIL SURVEY 2022.

As shown in Table 3.6-4, the majority of soils within the Planning Area consist of course and fine sands and sandy loams. Below is a brief description of prominent soils within the Planning Area.

Delhi soil series (fine sands and loamy sands). This series consists of very deep, somewhat excessively drained soils. They formed in wind modified material weathered from granitic rock sources. Delhi soils are on floodplains, alluvial fans and terraces. Slopes are 0 to 5 percent in the Planning Area. They have negligible to slow runoff and rapid permeability. Common uses for this series include: growing grapes, peaches, truck crops, alfalfa and for home sites. Principal native plants are buckwheat and a few shrubs and trees. Typical vegetation is annual grasses and forbs.

Timor loamy sand. This series consists of deep, moderately well drained soils. They formed in granitic alluvium. Timor soils are on low fan terraces or alluvial fans. Slopes is 0 to 2 percent. They have slow runoff and rapid permeability. Common uses for this series include: irrigated cropland growing primarily almonds, alfalfa, onions, tomatoes, small grains, grapes and pasture. Vegetation consists of red brome, filaree, soft chess, wildoats, riggut brome and scattered California White Oaks.

Tinnin loamy coarse sand. This series consists of well drained soils on low fan terraces and alluvial fans. These soils are very deep, and form in alluvium derived from granitic rock sources. Slopes range from 0 to 2 percent. This series is characterized as well draining, slow runoff, and rapid permeability. Common uses for this series are irrigated cropland growing primarily almonds, alfalfa, onions, tomatoes, small grains, grapes and pasture. Vegetation consists of red brome, filaree, soft chess, wildoats, riggut brome and scattered valley oaks.

Veritas fine sandy loam. This series consists of deep to duripan, moderately well drained soils. They formed in alluvium derived from mixed rock sources. Veritas soils are on low fan terraces. They have slow runoff and moderately rapid permeability. Common uses for this series include irrigated cropland. Alfalfa, barley and corn are the principal crops. Vegetation is annual grasses, forbs and scattered valley oaks.

Erosion

The NRCS delineates soil units and compiles soils data as part of the National Cooperative Soil Survey. The following description of erosion factors is provided by the NRCS Physical Properties Descriptions:

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Erosion factor Kw indicates the erodibility of the whole soil, whereas Kf indicates the erodibility of the fine soils. The estimates are modified by the presence of rock fragments.

The *Custom Soils Report* identified the erosion potential for the soils in the Planning Area. This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. Soil property data for each map unit component includes the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the surface horizon.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Within the Planning Area, the erosion factor Kf varies from 0.02 to 0.37, which is considered a low to moderate potential for erosion. The NRCS does not provide erosion factors for the urban land soils, however, the erosion potential for the urban land soils in the City is considered to be low. Furthermore, given the drainage characteristics of the majority of the soils and the nearly level topography of the Planning Area, water erosion hazard is considered low. The wind erosion potential ranges from moderate-to-high during the spring, summer, and fall, however this potential for wind erosion diminish during the winter.

Expansive Soils

The NRCS delineates soil units and compiles soils data as part of the National Cooperative Soil Survey. The following description of linear extensibility (also known as shrink-swell potential or expansive potential) is provided by the NRCS Physical Properties Descriptions:

“Linear extensibility” refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried and expand and soften when wet. If structures are underlain by expansive soils, it is important that foundation systems be capable of tolerating or resisting any potentially damaging soil movements. In addition, it is important to limit moisture changes in the surficial soils by using positive drainage away from buildings as well as limiting landscaping watering.

According to the NRCS Web Soil Survey, the soils in the Planning Area soils vary from a low shrink-swell potential to a high shrink-swell potential. The majority of the Planning Area soils have a low potential, and small portions of the western Planning Area have a moderate to high potential. Figure 3.6-4 provides a map of the shrink-swell potential of the soils within the Planning Area and general vicinity.

Lateral Spreading

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is directly associated with areas of liquefaction. The potential for liquefaction is moderate to high in many areas of the city, however

because the Planning Area is essentially flat, lateral spreading of soils has not been observed within the Planning Area.

Landslide

The California Geological Survey classifies landslides with a two-part designation based on Varnes (1978) and Cruden and Varnes (1996). The designation captures both the type of material that failed and the type of movement that the failed material exhibited. Material types are broadly categorized as either rock or soil, or a combination of the two for complex movements. Landslide movements are categorized as falls, topples, spreads, slides, or flows.

Landslide potential is influenced by physical factors, such as slope, soil, vegetation, and precipitation. Landslides require a slope, and can occur naturally from seismic activity, excessive saturation, and wildfires, or from human-made conditions such as construction disturbance, vegetation removal, wildfires, etc.

The Planning Area is essentially flat; therefore, the potential for a landslide is low.

Subsidence

Subsidence is the settlement of soils of very low density generally from either oxidation of organic material, or desiccation and shrinkage, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. Drainage sufficient to create subsidence is uncommon within the City of Manteca. Subsidence has not been identified as an issue in the Planning Area.

Collapsible Soils

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Soils prone to collapse are commonly associated with manmade fill, windlaid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. During an earthquake, even slight settlement of fill materials can lead to a differentially settled structure and significant repair costs. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors. Collapsible soils have not been identified in the Planning Area as an issue. However, in areas subject to potential liquefaction, the potential for liquefaction induced settlement is present.

Naturally Occurring Asbestos

The term “asbestos” is used to describe a variety of fibrous minerals that, when airborne, can result in serious human health effects. Naturally occurring asbestos is commonly associated with ultramafic rocks and serpentinite. Ultramafic rocks, such as dunite, peridotite, and pyroxenite are igneous rocks comprised largely of iron-magnesium minerals. As they are intrusive in nature, these

rocks often undergo metamorphosis, prior to their being exposed on the Earth's surface. The metamorphic rock serpentinite is a common product of the alteration process. Naturally occurring asbestos is not identified within San Joaquin County, although it is all located to the east and west of the Planning Area in mountainous areas in Contra Costa and Calaveras Counties. There is no naturally occurring asbestos mapped within Manteca.

PALEONTOLOGICAL RESOURCES

Among the natural resources deserving conservation and preservation, and existing within the Planning Area, are the often-unseen records of past life buried in the sediments and rocks below the pavement, buildings, soils, and vegetation which now cover most of the area. These records – fossils and their geologic context – undoubtedly exist in large quantities below the surface in many areas in and near the City of Manteca, and span millions of years in age of origin. Fossils constitute a non-renewable resource: Once lost or destroyed, the exact information they contained can never be reproduced.

Paleontology is the science that attempts to unravel the meaning of these fossils in terms of the organisms they represent, the ages and geographic distribution of those organisms, how they interacted in ancient ecosystems and responded to past climatic changes, and the changes through time of all of these aspects.

The sensitivity of a given area or body of sediment with respect to paleontological resources is a function of both the potential for the existence of fossils and the predicted significance of any fossils which may be found there. The primary consideration in the determination of paleontological sensitivity of a given area, body of sediment, or rock formation is its potential to include fossils. Information that can contribute to assessment of this potential includes: 1) direct observation of fossils within the project area; 2) the existence of known fossil localities or documented absence of fossils in the same geologic unit (e.g., "Formation" or one of its subunits); 3) descriptive nature of sedimentary deposits (such as size of included particles or clasts, color, and bedding type) in the area of interest compared with those of similar deposits known elsewhere to favor or disfavor inclusion of fossils; and 4) interpretation of sediment details and known geologic history of the sedimentary body of interest in terms of the ancient environments in which they were deposited, followed by assessment of the favorability of those environments for the preservation of fossils.

The most general paleontological information can be obtained from geologic maps, but geologic cross sections (slices of the layer cake to view the third dimension) must be reviewed for each area in question. These usually accompany geologic maps or technical reports. Once it can be determined which formations may be present in the subsurface, the question of paleontological resources must be addressed. Even though a formation is known to contain fossils, they are not usually distributed uniformly throughout the many square miles the formation may cover. If the fossils were part of a bay environment when they died, perhaps a scattered layer of shells will be preserved over large areas. If on the other hand, a whale died in this bay, you might expect to find fossil whalebone only in one small area of less than a few hundred square feet. Other resources to be considered in the determination of paleontological potential are regional geologic reports, site records on file with paleontological repositories and site-specific field surveys.

Paleontologists consider all vertebrate fossils to be of significance. Fossils of other types are considered significant if they represent a new record, new species, an oldest occurring species, the most complete specimen of its kind, a rare species worldwide, or a species helpful in the dating of formations. However, even a previously designated low potential site may yield significant fossils.

Regional Paleontological Setting

SAN JOAQUIN VALLEY

The following summary of the geological evolution of San Joaquin County and the potential for paleontological resources is based on the San Joaquin County General Plan Draft EIR. During the Mesozoic Era (208–65 million years ago), the Sierra Nevada formed, but the region that would become the San Joaquin Valley lay several thousand feet below the surface of the Pacific Ocean. During the Late Cretaceous Period (75–65 million years ago [mya]), flowering plants, early dinosaurs, and the first birds and mammals appeared. The basic form of the Great Central Valley took shape during the Cenozoic period, first as islands, then as mountains. During the late Cenozoic Era (65–2 mya), the Sierra Nevada eroded to mere hills compared to their earlier appearance, the Coast Ranges rose, and the San Joaquin Valley began to form.

During the Paleocene Epoch (65–53 mya), dinosaurs became extinct and mammals gradually evolved as the dominant group of animal life. During the Eocene Epoch (53–39 mya), the western edges of the San Joaquin Valley rose above sea level. Sedimentation and tectonic uplift of geological formations continued until two million years ago. In the subsequent Oligocene Epoch (39–23 mya), sedimentation continued, and during the Miocene Epoch (23–5 mya) the Diablo Range was uplifted. The Pliocene Epoch (5–2 mya) was a time of tremendous uplift, and great quantities of sediment eroded from the nearby mountain ranges accumulated in the valley, eventually forming a deposit thousands of feet thick. In the Pleistocene Epoch (2 million to 10,000 years ago), the Sierra Nevada range was increasingly elevated and glaciated, resulting in the formation of spectacular features such as Yosemite Valley. During the Holocene Epoch (10,000 years ago to the present), the San Joaquin Valley was above sea level and achieved its present appearance, 466 miles long and 19 to 50 miles wide, enclosed by the Siskiyou, Sierra Nevada, Tehachapi, and Coast Ranges on the north, east, south, and west, respectively. The valley contained fresh water lakes and rivers attractive to herds of prehistoric grazing animals, including Columbian Mammoth, camel, bison, small faced bear, and native horse. The fossil remains of these creatures have been found in San Joaquin County and adjacent areas. The vast majority of paleontological specimens from San Joaquin County have been found in rock formations in the foothills of the Diablo Mountain Range. However, remains of extinct animals such as mammoth, could be found virtually anywhere in the county, especially along watercourses such as the San Joaquin River and its tributaries.

PLANNING AREA

The Geologic Map of California, prepared by the California Department of Conservation California Geological Survey, identifies the generalized rock types in the Planning Area is Quaternary Alluvium “Q” which is younger alluvium that consists of marine and nonmarine (continental) sedimentary rocks from the Pleistocene through Holocene Epochs that are composed of alluvium, lake, playa, and terrace deposits, both unconsolidated and semi-consolidated. This type is mostly nonmarine deposits but does include marine deposits near the coast.

According to a records search of the University of California Museum of Paleontology (UCMP) Collections Date, eighty fossils have been found and recorded within San Joaquin County. Over half of them are dated to the tertiary period, with quaternary being the second most frequent period. These are the first and second periods of the Cenozoic Era respectively, during which modern flora, apes, large mammals, and eventually humans developed. The majority of fossils found within the Manteca area have been vertebrate in nature. These fossils include mammoth/mastodon, horse, pocket gopher, and other unspecified rodents, and unidentified artiodactyl (hoofed mammal) bone.

3.6.2 REGULATORY SETTING

FEDERAL

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act of 1977 (42 USC, 7701 et seq.) requires the establishment and maintenance of an earthquake hazards reduction program by the Federal government.

Executive Order 12699

Signed in January 1990, this executive order of the President implements provisions of the Earthquake Hazards Reduction Act for “federal, federally assisted or federally regulated new building construction” and requires the development and implementation of seismic safety programs by Federal agencies.

International Building Code (IBC)

The purpose of the International Building Code (IBC) is to provide minimum standards to preserve the public peace, health, and safety by regulating the design, construction, quality of materials, certain equipment, location, grading, use, occupancy, and maintenance of all buildings and structures. IBC standards address foundation design, shear wall strength, and other structurally related conditions.

STATE

California Building Standards Code

Title 24 of the California Code of Regulations, known as the California Building Standards Code (CBSC) or simply "Title 24," contains the regulations that govern the construction of buildings in California. The CBSC includes 12 parts: California Building Standards Administrative Code, California Building Code, California Residential Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Historical Building Code, California Fire Code, California Existing Building Code, California Green Building Standards Code (CAL Green Code), and the California Reference Standards Code. Through the CBSC, the State provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control.

California Health and Safety Code

Section 19100 et seq. of the California Health and Safety Code establishes the State's regulations for earthquake protection. This section of the code requires structural designs to be capable of resisting likely stresses produced by phenomena such as strong winds and earthquakes.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 sets forth the policies and criteria of the State Mining and Geology Board, which governs the exercise of governments' responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones, as delineated on maps officially issued by the State Geologist. Working definitions include:

- Fault – a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side;
- Fault Zone – a zone of related faults, which commonly are braided and sub parallel, but may be branching and divergent. A fault zone has a significant width (with respect to the scale at which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles;
- Sufficiently Active Fault – a fault that has evidence of Holocene surface displacement along one or more of its segments or branches (last 11,000 years); and
- Well-Defined Fault – a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The geologist should be able to locate the fault in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

"Sufficiently Active" and "Well Defined" are the two criteria used by the State to determine if a fault should be zoned under the Alquist-Priolo Act.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. Under the Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act (which addresses only surface fault-rupture hazards) and are outlined below:

The State Geologist is required to delineate the various "seismic hazard zones."

- Cities and counties, or other local permitting authority, must regulate certain development "projects" within the zones. They must withhold the development permits for a site within a zone until the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.

- The State Mining and Geology Board provides additional regulations, policies, and criteria to guide cities and counties in their implementation of the law. The Board also provides guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.
- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

Caltrans Seismic Design Criteria

The California Department of Transportation (Caltrans) has Seismic Design Criteria (SDC), which is an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. The SDC has been developed with input from the Caltrans Offices of Structure Design, Earthquake Engineering and Design Support, and Materials and Foundations. Memo 20-1 Seismic Design Methodology (Caltrans 1999) outlines the bridge category and classification, seismic performance criteria, seismic design philosophy and approach, seismic demands and capacities on structural components, and seismic design practices that collectively make up Caltrans' seismic design.

Division of Mines and Geology

The California Division of Mines and Geology (DMG) operates within the Department of Conservation. The DMG is responsible for assisting in the utilization of mineral deposits and the identification of geological hazards.

State Geological Survey

Similar to the DMG, the California Geological Survey is responsible for assisting in the identification and proper utilization of mineral deposits, as well as the identification of fault locations and other geological hazards.

LOCAL

City of Manteca Municipal Code

Chapter 15.04 of the Manteca Municipal Code adopts the 2019 CBSC, with amendments to address administrative provisions, additional requirements to address connection of existing slabs to new construction, as the building code of the City.

The City of Manteca Municipal Code includes Chapter 17.48 that requires a soil management report in order to reduce runoff and encourage healthy plant growth as part of the Landscape Documentation Package.

3.6.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on geology and soils if it will:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42;
 - Strong seismic ground shaking;
 - Seismic-related ground failure, including liquefaction; or
 - Landslides.
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water; or
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: General Plan implementation would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides (Less than Significant)

There are no known active or potentially active faults, or Alquist-Priolo Earthquake Fault Zones, located within the Planning Area. However, there are numerous faults located in the region. Figure 3.6-2 illustrates the location of these faults. These include an unnamed fault east of the City of Tracy, the San Joaquin fault, the Midway fault, the Corral Hollow-Carnegie fault, the Greenville fault, the Antioch fault, and the Los Positas fault. Rupture of any of these faults, or of an unknown fault in the region, could cause seismic ground shaking. As a result, future development in the City of Manteca may expose people or structures to potential adverse effects associated with a seismic event, including strong ground shaking and seismic-related ground failure.

While there are no known active faults located within the Planning Area, the area could experience considerable ground shaking generated by faults outside Manteca. For example, Manteca could experience an intensity of MM V to VII generated by seismic events. The effect of this intensity level could have structural damage. Additionally, as noted previously, the California Geological Survey Landslides Maps have not mapped any landslide areas in the Planning Area or its vicinity.. Soil data from the NRCS Web Soil Survey (NRCS 2020) suggests that the potential for liquefaction ranges from low to high within the Planning Area given that many soils are high in sand and the water table is moderately high.

All projects would be required to comply with the provisions of the CBSC, which requires development projects to: perform geotechnical investigations in accordance with State law, engineer improvements to address potential seismic and ground failure issues and use earthquake-resistant construction techniques to address potential earthquake loads when constructing buildings and improvements. As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other regulations. Subsequent development and infrastructure would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. In addition to the requirements associated with the CBSC and the Municipal Code, the General Plan includes policies and actions to address potential impacts associated with seismic activity.

The General Plan policies and actions (listed below) require review of development proposals to ensure compliance with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces such as earthquakes and wind. Policy S-2.7 requires new critical infrastructure and facilities that may be built in the City to incorporate site specific seismic structural design as required by applicable building codes. All development and construction proposals must be reviewed by the City to ensure conformance with applicable building standards. Development on soils sensitive to seismic activity is only allowed after adequate site analysis, including appropriate siting, design of structure, and foundation integrity. Policy S-2.3 requires assessment and mitigation of hazards related to liquefaction, landslides, and flooding for new development projects or City improvement projects that are identified by the City as susceptible to these hazards. All future projects are subject to CEQA review to address seismic safety issues and provide adequate mitigation for existing and potential hazards identified. Overall, impacts associated with a seismic event, including rupture of an earthquake fault, seismic ground shaking, liquefaction, and landslides would be ***less than significant***.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

S-2.1: Enforce adopted regulations to identify and address potential hazards relating to seismic, geologic, and soils conditions.

S-2.2: Regulate development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, and expansive soils.

S-2.3: Require new development to mitigate the potential impacts of geologic and seismic hazards, including uncompacted fill, liquefaction, and subsidence, through the development review process.

S-2.4: Continue to require professional inspection of foundation, excavation, earthwork, and other geotechnical aspects of site development during construction on those sites specified in geotechnical studies as being prone to moderate or greater levels of seismic or geologic hazard.

S-2.5: Maintain an inventory of unreinforced masonry buildings and soft-story buildings. No change in use to a higher occupancy or more intensive use shall be approved in such structures until an engineering evaluation of the structure has been conducted and any structural deficiencies corrected.

S-2.6: Ensure that all public facilities, including buildings, water tanks, and reservoirs, are structurally sound and able to withstand seismic shaking and the effects of seismically-induced ground failure, consistent with the California Building Standards Codes and other applicable standards.

S-2.7: Require compliance with the State's building standards in the design and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous materials manufacturing and storage facilities, and large public assembly halls.

ACTIONS

S-2a: Continue to require preparation of geotechnical reports for proposed development projects, public projects, and all critical structures. The reports should include, but not be limited to: evaluation of and recommendations to mitigate the effects of fault displacement, ground shaking, uncompacted fill, expansive soils, liquefaction, subsidence, and settlement. Recommendations from the report shall be incorporated into the development project to address seismic and geologic risks identified in the report.

S-2b: Review development proposals to ensure compliance with the current State building standards.

S-2c: Review development proposals to ensure compliance with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces such as earthquakes and wind.

S-2d: Review and update the City's inventory of potentially hazardous buildings and require any development or change in occupancy proposals to address hazards, through measures such as strengthening buildings, changing the use of the buildings to an acceptable occupancy level, or demolishing or rehabilitating the building.

Impact 3.6-2: General Plan implementation would not result in substantial soil erosion or the loss of topsoil (Less than Significant)

The General Plan would allow development and improvement projects that would involve some land clearing, mass grading, and other ground-disturbing activities that could temporarily increase soil erosion rates during and shortly after project construction. Construction-related erosion could result in the loss of a substantial amount of nonrenewable topsoil and could adversely affect water quality in nearby surface waters.

As noted previously, soil erosion data for the City of Manteca was obtained from the NRCS. As identified by the NRCS web soil survey, the erosion factor K within the City of Manteca varies widely from 0.02 to 0.37. The NRCS does not provide erosion factors for the urban land soils in the City, however, the erosion potential for the urban land soils in the City is considered to be low.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other regulations. In addition to compliance with City standards and policies, the Regional Water Quality Control Board will require a project specific Storm Water Pollution Prevention Plan (SWPPP) to be prepared for each project that disturbs an area of one acre or larger. The SWPPPs will include project specific best management measures that are designed to control drainage and erosion. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The General Plan includes a range of policies and one action related to best management practices, NPDES requirements, and minimizing discharge of materials (including eroded soils) into the storm drain system. Overall, impacts associated with erosion and loss of topsoil would be ***less than significant***.

GENERAL PLAN POLICIES AND ACTION THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

RC-3.1: Encourage best practices to enhance soil quality and to minimize soil erosion and loss of topsoil from land development activities, wind, and water flow.

S-2.2: Regulate development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, and expansive soils.

CF-8.1: Maintain and improve Manteca's storm drainage facilities.

CF-8.2: Require all development projects to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process and as required by the City's NPDES Municipal Regional Permit. Project applicants shall mitigate any drainage impacts as necessary and shall demonstrate that the project will not result in any increase in off-site runoff during rain and flood events.

CF-8.3: Continue to allow dual-use detention basins for parks, ball fields, and other uses where appropriate.

CF-8.4: Incorporate recreational trails and parkway vegetation design where open stormwater facilities are appropriate and ensure that vegetation does not reduce channel capacity.

CF-8.5: Maintain drainage channels in a naturalized condition where appropriate, incorporating recreational trails, parkway vegetation, and other amenities and ensuring that vegetation does not reduce channel capacity, and consistent with the Resource Conservation Element.

CF-8.6: Continue to work cooperatively with outside agencies such as the San Joaquin Area Flood Control Agency and South San Joaquin Irrigation District regarding storm drainage and flood control management issues.

CF-8.7: Ensure and prioritize adequate drainage facilities low income, disadvantaged, and older neighborhoods and senior communities.

ACTIONS

S-2a: Continue to require preparation of geotechnical reports for proposed development projects, public projects, and all critical structures. The reports should include, but not be limited to: evaluation of and recommendations to mitigate the effects of fault displacement, ground shaking, uncompacted fill, expansive soils, liquefaction, subsidence, and settlement. Recommendations from the report shall be incorporated into the development project to address seismic and geologic risks identified in the report.

CF-8a: Update the Storm Drainage Master Plan and Public Facilities Implementation Plan every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

CF-8b: Continue to complete gaps in the drainage system in areas of existing and future development.

CF-8c: Identify which storm water and drainage facilities are in need of repair and address these needs through the City's Capital Improvement Program.

CF-8d: Continue to review development projects to identify potential stormwater and drainage impacts and require development to include measures to ensure that off-site runoff is not increased as a during rain and flood events.

Impact 3.6-3: General Plan implementation would not result in development 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 (Less than Significant)

Development allowed under the General Plan could result in the exposure of people and structures to conditions that have the potential for adverse effects associated with ground instability or failure. Soils and geologic conditions in the Manteca Planning Area have the potential for landslides, lateral spreading, subsidence, liquefaction, or collapse. Each are discussed below:

LANDSLIDE

Figure 3.6-4 illustrates the landslide potential (for non-seismically induced potential) in the vicinity of the Planning Area. The Planning Area is essentially flat; therefore, the potential for landslides is low. However, the landslide potential increases in the southwestern corner of the City, which contains areas with increased elevation change.

LATERAL SPREADING

Lateral spreading generally is a phenomenon where blocks of intact, non-liquefied soil move down slope on a liquefied substrate of large areal extent. The potential for lateral spreading is present where open banks and unsupported cut slopes provide a free face (unsupported vertical slope face). Ground shaking, especially when inducing liquefaction, may cause lateral spreading toward unsupported slopes. The potential for liquefaction is moderate to high in many areas of the city, however because the Planning Area is essentially flat lateral spreading of soils has not been observed within the Planning Area.

SUBSIDENCE

Drainage sufficient to create subsidence is uncommon within the City of Manteca. Subsidence has not been identified as an issue in the Planning Area.

LIQUEFACTION

Figure 3.6-4 shows liquefaction seismic hazard zones mapped within the Planning Area, which delineates areas where liquefaction may occur during a strong earthquake. Areas along existing waterways, such as San Joaquin River, are defined as having the greatest potential for liquefaction.

COLLAPSE

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors. Collapsible soils have not been identified in the Planning Area as an issue. However, in areas subject to potential liquefaction, the potential for liquefaction induced settlement is present.

CONCLUSION

As future development and infrastructure projects are considered by the City of Manteca, each project will be evaluated for conformance with the CBSC, the General Plan, Zoning Ordinance, and other regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Future development and improvement projects would be required to have a specific geotechnical study prepared and incorporated into the improvement design, consistent with the requirements of the State and City codes. In addition to the requirements associated with the CBSC and the Municipal Code, the General Plan includes policies and actions to ensure that development projects address potential geologic hazards, at-risk buildings and infrastructure is evaluated for potential risks, and site-specific studies are completed for area subject to liquefaction. Overall, impacts associated with ground instability or failure would be ***less than significant***.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

S-2.1: Enforce adopted regulations to identify and address potential hazards relating to seismic, geologic, and soils conditions.

S-2.2: Regulate development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, and expansive soils.

S-2.3: Require new development to mitigate the potential impacts of geologic and seismic hazards, including uncompacted fill, liquefaction, and subsidence, through the development review process.

S-2.4: Continue to require professional inspection of foundation, excavation, earthwork, and other geotechnical aspects of site development during construction on those sites specified in geotechnical studies as being prone to moderate or greater levels of seismic or geologic hazard.

S-2.5: Maintain an inventory of unreinforced masonry buildings and soft-story buildings. No change in use to a higher occupancy or more intensive use shall be approved in such structures until an engineering evaluation of the structure has been conducted and any structural deficiencies corrected.

S-2.6: Ensure that all public facilities, including buildings, water tanks, and reservoirs, are structurally sound and able to withstand seismic shaking and the effects of seismically-induced ground failure, consistent with the California Building Standards Codes and other applicable standards.

S-2.7: Require compliance with the State's building standards in the design and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous materials manufacturing and storage facilities, and large public assembly halls.

ACTIONS

S-2a: Continue to require preparation of geotechnical reports for proposed development projects, public projects, and all critical structures. The reports should include, but not be limited to: evaluation of and recommendations to mitigate the effects of fault displacement, ground shaking, uncompacted fill, expansive soils, liquefaction, subsidence, and settlement. Recommendations from the report shall be incorporated into the development project to address seismic and geologic risks identified in the report.

S-2b: Review development proposals to ensure compliance with the current State building standards.

S-2c: Review development proposals to ensure compliance with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces such as earthquakes and wind.

S-2d: Review and update the City's inventory of potentially hazardous buildings and require any development or change in occupancy proposals to address hazards, through measures such as strengthening buildings, changing the use of the buildings to an acceptable occupancy level, or demolishing or rehabilitating the building.

Impact 3.6-4: General Plan implementation would not result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property (Less than Significant)

Expansive soil properties can cause substantial damage to building foundations, piles, pavements, underground utilities, and/or other improvements. Structural damage, such as warping and cracking of improvements, and rupture of underground utility lines, may occur if the expansive potential of soils is not considered during the design and construction of all improvements.

Linear extensibility is a method for measuring expansion potential. The expansion potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

The linear extensibility of the soils within Manteca ranges from low to very high. Figure 3.6-4 illustrates the shrink-swell potential of soils in the Planning Area. The majority of the Planning Area has soils with a low potential for expansion, including most of the developed land. The areas with moderate to high expansive soils represent only a small portion of the Planning Area, and would require special design considerations due to shrink-swell potentials.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The Resource Conservation Element of the General Plan establishes policies that are designed to protect from geologic hazards, including expansive soils. Consistency with the General Plan policies will require identification of geologic hazards and risk inventory of existing at-risk buildings and infrastructure. As required by the CBSC, a site-specific geotechnical investigation will identify the potential for damage related to expansive soils and non-uniformly compacted fill and engineered fill. If a risk is identified, design criteria and specification options may include removal of the problematic soils, and replacement, as needed, with properly conditioned and compacted fill material that is designed to withstand the forces exerted during the expected shrink-swell cycles and settlements.

Design criteria and specifications set forth in the design-level geotechnical investigation will ensure impacts from problematic soils are minimized. There are no additional significant adverse environmental impacts, apart from those disclosed in the relevant chapters of this Draft EIR, that are anticipated to occur associated with expansive soils. Therefore, this impact is considered ***less than significant***.

GENERAL PLAN POLICY AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICY

S-2.1: Enforce adopted regulations to identify and address potential hazards relating to seismic, geologic, and soils conditions.

S-2.2: Regulate development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, and expansive soils.

S-2.3: Require new development to mitigate the potential impacts of geologic and seismic hazards, including uncompacted fill, liquefaction, and subsidence, through the development review process.

S-2.4: Continue to require professional inspection of foundation, excavation, earthwork, and other geotechnical aspects of site development during construction on those sites specified in geotechnical studies as being prone to moderate or greater levels of seismic or geologic hazard.

ACTIONS

RC-3a: Require development projects to comply with the California Building Standards Code requirements for specific site development and construction standards for specific soil types.

S-2a: Continue to require preparation of geotechnical reports for proposed development projects, public projects, and all critical structures. The reports should include, but not be limited to: evaluation of and recommendations to mitigate the effects of fault displacement, ground shaking, uncompacted fill, expansive soils, liquefaction, subsidence, and settlement. Recommendations from the report shall be incorporated into the development project to address seismic and geologic risks identified in the report.

S-2b: Review development proposals to ensure compliance with the current State building standards.

Impact 3.6-5: General Plan implementation does not have the potential to have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water (Less than Significant)

Wastewater service is provided by the City of Manteca via their network of collection infrastructure and the Wastewater Quality Control Facility (WQCF), which treats municipal sanitary sewage from the City of Manteca, portions of Lathrop, and Raymus Village, just northeast of Manteca.

The WQCF is located southwest of downtown Manteca on 22 acres owned by the City. The WQCF treats municipal wastewater from the City of Manteca and the City of Lathrop, and seasonally accepts industrial food processing waste effluent from Eckert Cold Storage (Nolte, 2007). Per contractual agreement, 8.42 million gallons per day (mgd) of plant capacity is allocated to the City of Manteca and 1.45 mgd is allocated to the City of Lathrop (EDAW, 2007). The WQCF treats an average dry weather flow (ADWF) of about 6 mgd and has an average dry weather design capacity of 9.87 mgd. The facility's current NPDES permit is currently shared between the City and Dutra

3.6 GEOLOGY AND SOILS

Farms, Inc. and is effective until May 2020 (CA RWQCB, 2015). The anticipated buildout ADWF within areas served by the WQCF is 27 mgd (EDAW, 2007).

The WQCF is an activated sludge tertiary treatment plant. The facility includes an influent pump station, and primary, secondary and tertiary treatment facilities. Primary treatment at the WQCF consists of aerated grit removal and primary sedimentation. Secondary treatment at the facility consists of nitrification and denitrification in activated sludge aeration basins and subsequent secondary sedimentation. Undisinfected secondary effluent is either stored for agricultural use in a 15-million-gallon pond or blended with food processing waste and applied directly on the agricultural fields owned by the City (190 acres) and Dutra Farms, Inc. (70 acres) (CA RWQCB, 2015).

Secondary effluent not used for crop demands undergoes tertiary treatment, including rapid mixing, flocculation, cloth media filtration, and ultraviolet light (UV) disinfection. Treated tertiary effluent is either pumped to a truck fill station for construction vehicles to receive recycled water for construction purposes or discharged year-round through a 36-inch diameter pipe into the San Joaquin River (CA RWQCB, 2015). As the practice of discharging to fields is gradually phased out due to land development, effluent will increasingly be diverted to the River (City of Manteca, 2016).

The City is planning to expand the facility from the currently permitted 9.87 mgd to 27 mgd by buildout. The various WQCF facilities are designed to be expanded in phases, based on future growth. Proposed treatment improvements identified in the 2007 WQCF Master Plan include expansion of the primary, secondary, and tertiary treatment facilities, expansion of the solids handling systems and expansion of the co-generation system to generate electricity from methane produced during the treatment process (EDAW, 2007).

The WQCF is currently undergoing expansions to the solids handling streams to provide increased capacity to meet permitted requirements and new State regulations. Improvements include new facilities for receiving Fats, Oils, and Greases (FOGs), and receiving food waste separated from the solid waste streams. The separation of these materials is required by State regulations and is anticipated to provide additional energy generation in the form of biogas from the WQCF (City of Manteca, 2016).

The 2007 WQCF Master Plan reported wastewater flow projections for the City of Manteca of 19.5 mgd by 2023 and 23 mgd by buildout (Nolte Associates, 2007). Projections were based on wastewater generation factors developed from historical studies and developed based on different household densities for different residential land use categories. Assuming a similar level of development as anticipated in the 2007 WQCF Master Plan, future wastewater projections are anticipated to be lower than those estimated in the 2007 WQCF Master Plan because of existing and pending water use efficiency regulations that will reduce indoor water use and wastewater flows.

All new wastewater generated from General Plan land uses will be collected and transmitted to the WQCF for treatment. There will be no septic tanks or alternative waste water disposal systems utilized for new development planned under the General Plan. Therefore, this impact is considered ***less than significant*** and no mitigation is required.

Impact 3.6-6: General Plan implementation would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (Less than Significant)

DEFINITION OF SIGNIFICANCE FOR PALEONTOLOGICAL RESOURCES

Only qualified, trained paleontologists with specific expertise in the type of fossils being evaluated can determine the scientific significance of paleontological resources. Fossils are considered to be significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life;
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.
6. All identifiable vertebrate fossils are considered significant due to the rarity of their preservation.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and invertebrate animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important.

PALEONTOLOGICAL SENSITIVITY FOR PLANNING AREA

The sensitivity of a given area or body of sediment with respect to paleontological resources is a function of both the potential for the existence of fossils and the predicted significance of any fossils which may be found there. The primary consideration in the determination of paleontological sensitivity of a given area, body of sediment, or rock formation is its potential to include fossils. Information that can contribute to assessment of this potential includes: 1) direct observation of fossils within the project area; 2) the existence of known fossil localities or documented absence of fossils in the same geologic unit (e.g., "Formation" or one of its subunits); 3) descriptive nature of sedimentary deposits (such as size of included particles or clasts, color, and bedding type) in the area of interest compared with those of similar deposits known elsewhere to favor or disfavor inclusion of fossils; and 4) interpretation of sediment details and known geologic history of the

sedimentary body of interest in terms of the ancient environments in which they were deposited, followed by assessment of the favorability of those environments for the preservation of fossils.

Paleontologists consider all vertebrate fossils to be of significance. Fossils of other types are considered significant if they represent a new record, new species, an oldest occurring species, the most complete specimen of its kind, a rare species worldwide, or a species helpful in the dating of formations. However, even a previously designated low potential site may yield significant fossils. While no formations in the Planning Area are assigned a very high sensitivity, the Planning Area is in a region where fossils and paleontological resources have been identified.

CONCLUSION

It is possible that undiscovered paleontological resources could be encountered during ground-disturbing activities. Damage to or destruction of a paleontological resource would be considered a potentially significant impact under local, state, or federal criteria. Implementation of the proposed General Plan actions would ensure steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction. Therefore, this impact would be ***less than significant***.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

RC-10.3: Do not approve any public or private project that may adversely affect an archaeological site without consulting the California Archaeological Inventory at Stanislaus State University, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts according to the recommendation of a qualified archaeologist. City implementation of this policy shall be guided by CEQA and the National Historic Preservation Act.

ACTIONS

RC-10a: Require a records search for any proposed development project, to determine whether the site contains known archaeological, historic, cultural, or paleontological resources and/or to determine the potential for discovery of additional cultural or paleontological resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.

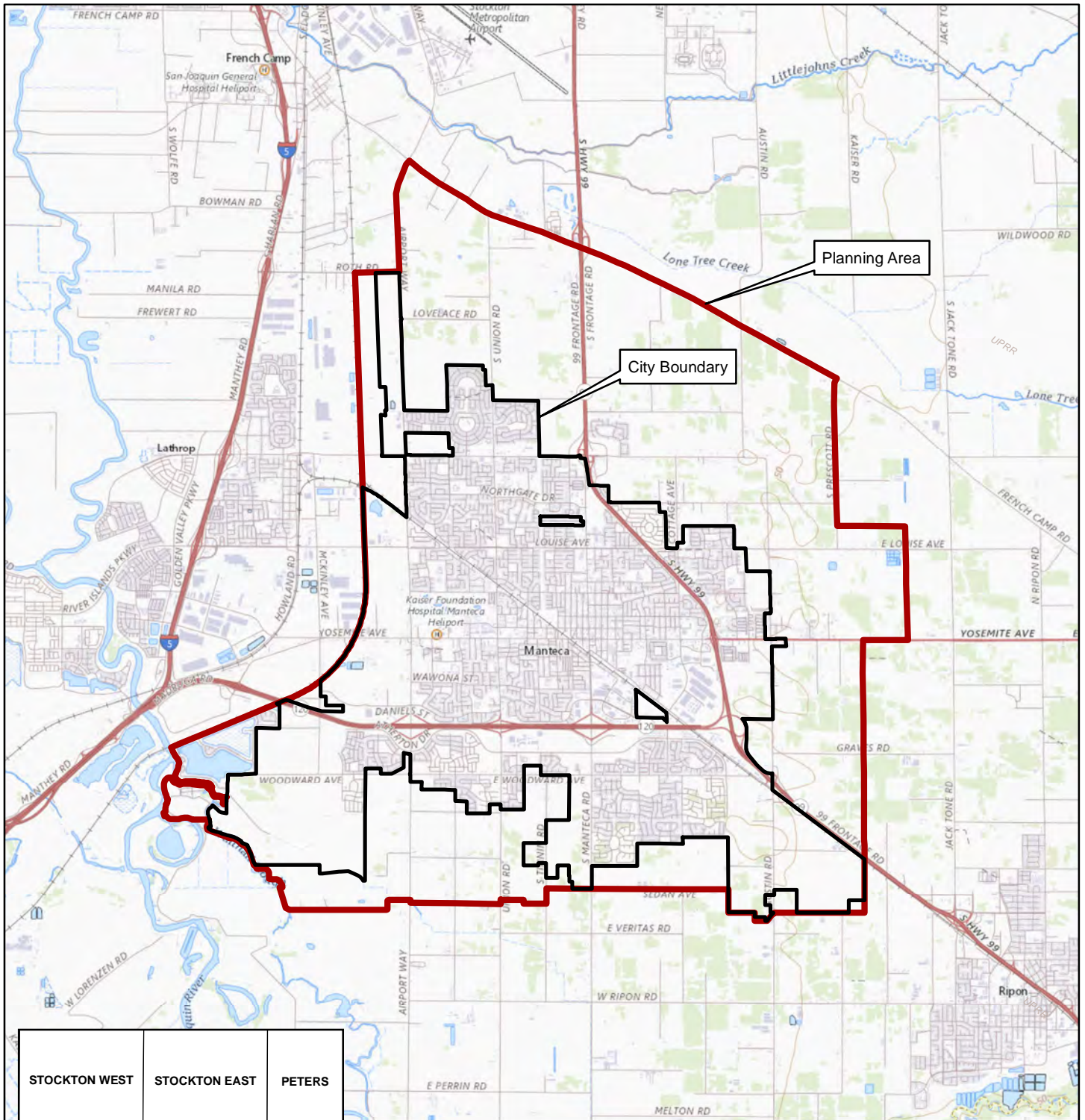
RC-10b: Require a cultural and archaeological survey prior to approval of any project which would require excavation in an area that is sensitive for cultural or archaeological resources and require a paleontological survey in an area that is sensitive for paleontological resources. If significant cultural, archaeological, or paleontological resources, including historic and prehistoric resources, are identified, appropriate measures shall be implemented, such as documentation and conservation, to reduce adverse impacts to the resource.

RC-10c: Incorporate significant archaeological sites, where feasible, into open space areas.

RC-10j: Require all new development, infrastructure, and other ground-disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

- If construction or grading activities result in the discovery of significant historic or prehistoric archaeological artifacts or unique paleontological resources, all work within 100 feet of the discovery shall cease, the Development Services Director shall be notified, the resources shall be examined by a qualified archaeologist, paleontologist, or historian for appropriate protection and preservation measures; and work may only resume when appropriate protections are in place and have been approved by the Development Services Director; and*
- If human remains are discovered during any ground disturbing activity, work shall stop until the Development Services Director and the San Joaquin County Coroner have been contacted; if the human remains are determined to be of Native American origin, the Native American Heritage Commission and the most likely descendants have been consulted; and work may only resume when appropriate measures have been taken and approved by the Development Services Director.*

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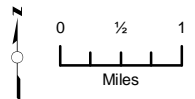
Planning Area

City Boundary

STOCKTON WEST	STOCKTON EAST	PETERS
LATHROP	 MANTECA	AVENA
VERNALIS	RIPON	SALIDA

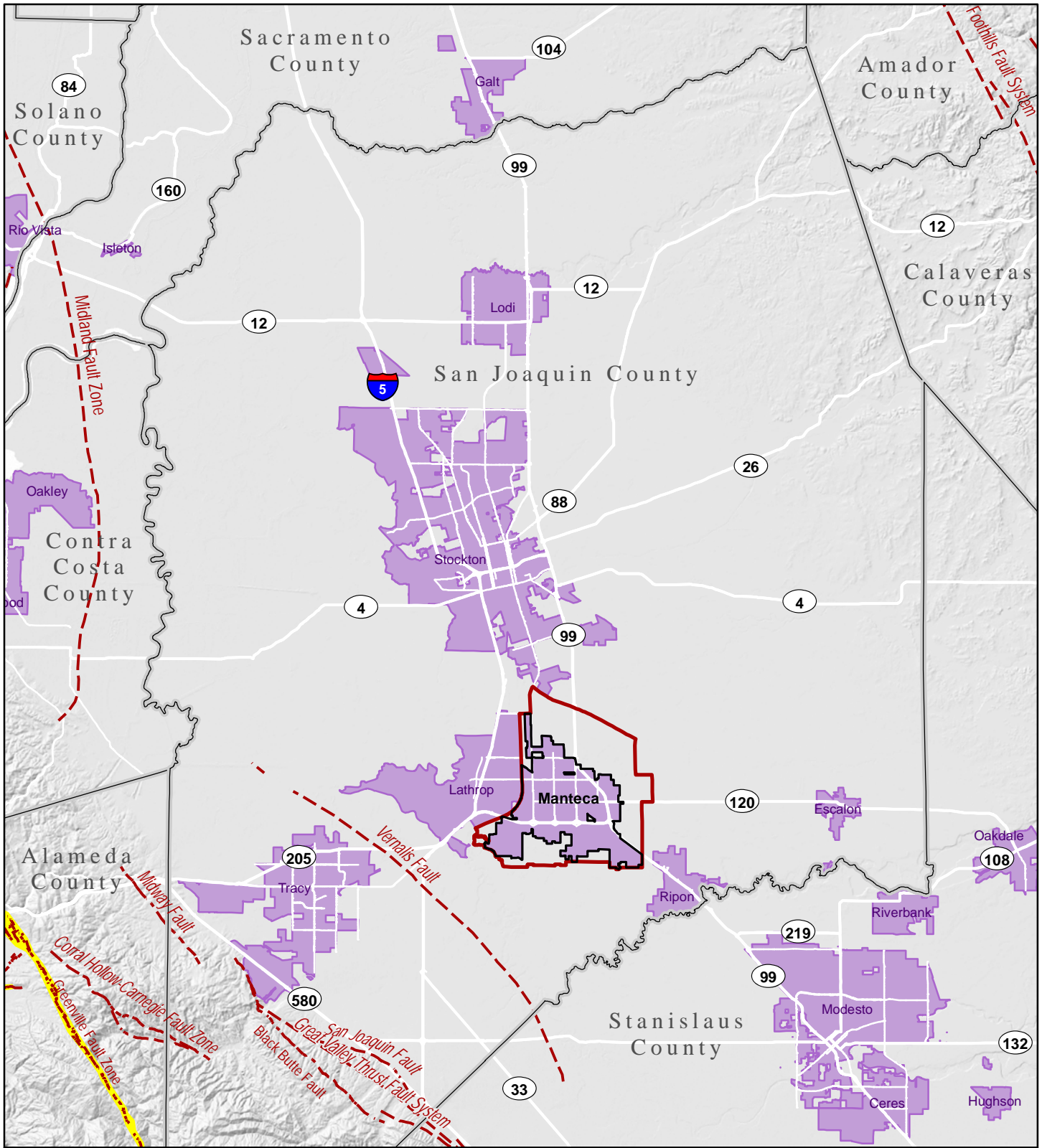
CITY OF MANTECA GENERAL PLAN

Figure 3.6-1. USGS Topographic Map



Sources: City of Manteca; San Joaquin County; ArcGIS Online USGS Topo Map (The National Map) Map Service. Map date: February 3, 2022.

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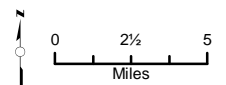
Legend

- Quaternary Fault
- Alquist Priolo Fault Zone
- City of Manteca
- Manteca Planning Area
- Incorporated Area
- County Boundary

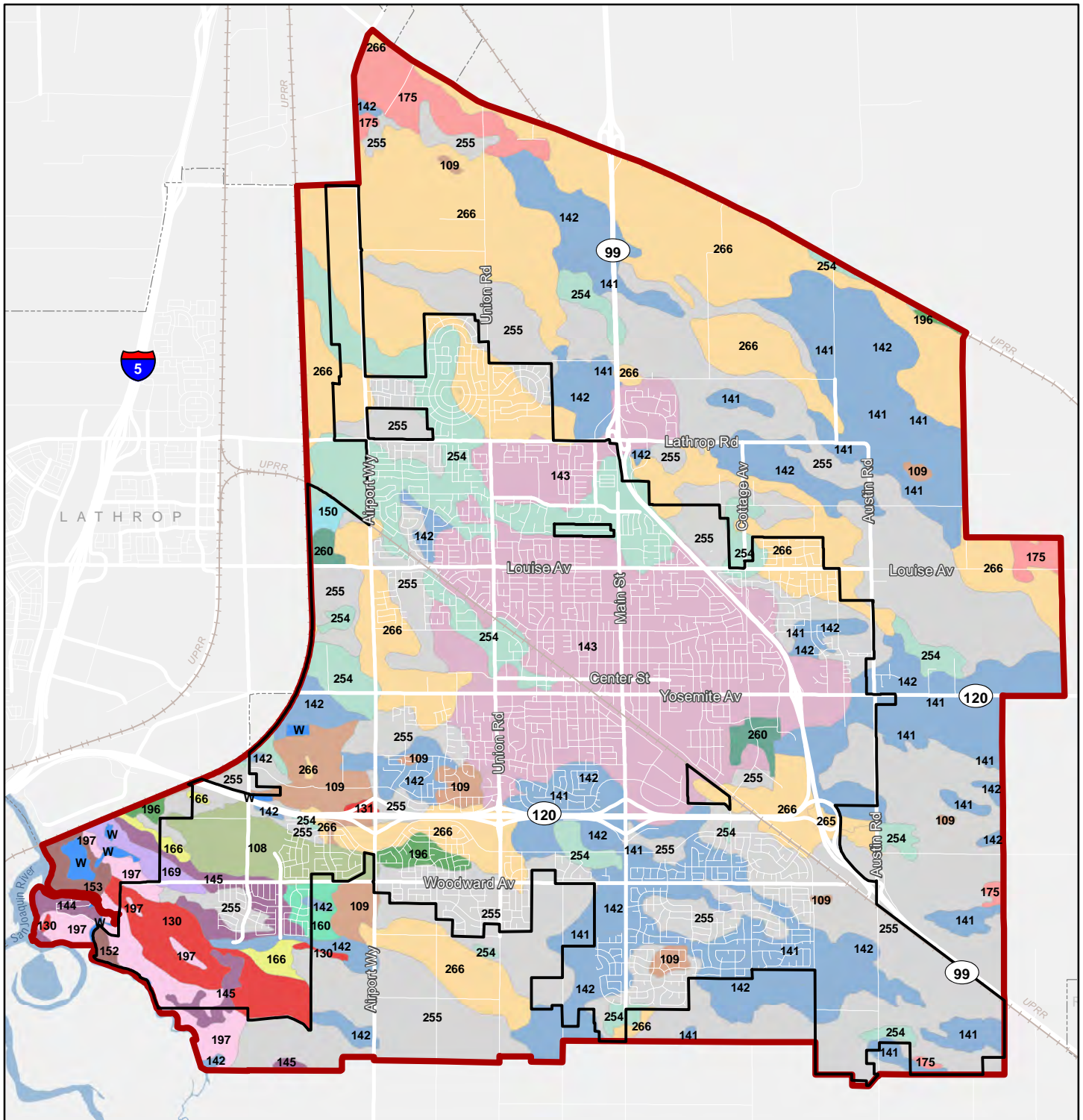
Source: San Joaquin County GIS; USGS; California State GeoPortal. Map date: February 3, 2022.

CITY OF MANTECA GENERAL PLAN

Figure 3.6-2. Earthquake Faults and Alquist-Priolo Zones



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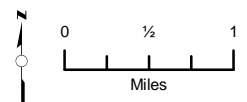


CITY OF MANTECA GENERAL PLAN

Figure 3.6-3. Soils Map

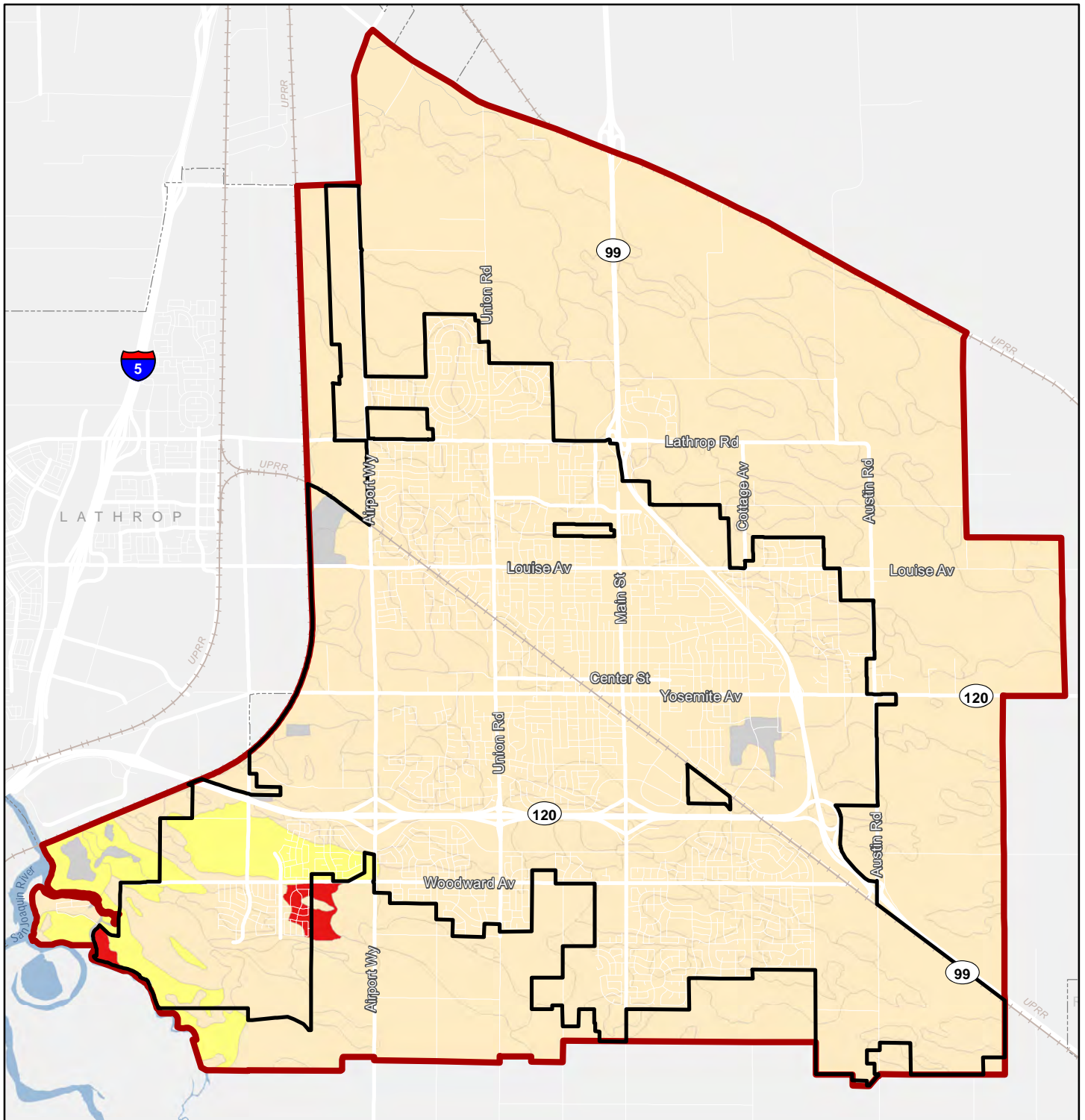
Legend

- | | | |
|------------------------------------|----------------------------------|------------------------------|
| City of Manteca | 144/145: Dello sands | 196: Manteca fine sandy loam |
| Manteca Planning | 150: Dumps | 197: Merritt silty clay loam |
| 108: Arents | 152/153: Egbert clay loams | 254: Timor loamy sand |
| 109: Bisgani loamy coarse sand | 160: Galt clay | 255: Timor loamy coarse sand |
| 130/131: Columbia fine sandy loams | 166: Grangeville fine sandy loam | 260: Urban land |
| 141/142: Delhi sands | 169: Guard clay loam | 265/266: Veritas sandy loams |
| 143: Delhi-Urban land complex | 175: Honcut sandy loam | W: Water |



Sources: City of Manteca; San Joaquin County; NRCS Web Soil Survey, San Joaquin County, California (CA077), Spatial Version 6, 9-16-2019, Tabular Version 14, 9-9-2021. Map date: February 1, 2022.

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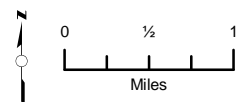


Legend

- City of Manteca
- Manteca Planning
- Low Potential
- Moderate Potential
- High Potential
- Not Rated

CITY OF MANTECA GENERAL PLAN

Figure 3.6-4. Shrink-Swell Potential of Soils



Sources: City of Manteca; San Joaquin County; NRCS Web Soil Survey, San Joaquin County, California (CA077), Spatial Version 6, 9-16-2019, Tabular Version 14, 9-9-2021. Map date: February 2, 2022.

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This section discusses regional greenhouse gas (GHG) emissions, climate change, and energy conservation impacts that could result from implementation of the General Plan. This section provides a background discussion of greenhouse gases and climate change linkages and effects of global climate change. This section also provides background discussion on energy use in Manteca. This section is organized with an existing setting, regulatory setting, approach/methodology, and impact analysis.

The analysis and discussion of the GHG, climate change, and energy conservation impacts in this section focuses on the General Plan's consistency with local, regional, statewide, and federal climate change and energy conservation planning efforts and discusses the context of these planning efforts as they relate to the proposed project. Disclosures of the estimated energy usage and greenhouse gas emissions due to implementation of the General Plan are provided.

Emissions of GHGs have the potential to adversely affect the environment in a cumulative context. The emissions from a single project will not cause global climate change; however, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. Therefore, the analysis of GHGs and climate change presented in this section is presented in terms of the proposed project's contribution to cumulative impacts and potential to result in cumulatively considerable impacts related to GHGs and climate change.

No comments were received during the NOP comment period regarding this environmental topic.

3.7.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring GHGs include water vapor (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and ozone (O₃). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs CO₂, CH₄, and N₂O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2011, concentrations of these three GHGs have increased globally by 40, 150, and 20 percent, respectively (IPCC, 2013).

GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO₂), methane (CH₄), ozone (O₃), water vapor, nitrous oxide (N₂O), and chlorofluorocarbons (CFCs).

3.7 GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial and electricity generation sectors (California Energy Commission, 2020).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced 440 million gross metric tons of carbon dioxide equivalents (MMT CO_2e) in 2016 (California Air Resources Board, 2018a).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2017, accounting for 41% of total GHG emissions in the state. This category was followed by the industrial sector (24%), the electricity generation sector (including both in-state and out-of-state sources) (15%), the agriculture sector (8%), the residential energy consumption sector (7%), and the commercial energy consumption sector (5%) (California Air Resources Board, 2020c).

EFFECTS OF GLOBAL CLIMATE CHANGE

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature as a result of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the State. The snowpack portion of the supply could potentially decline by 50% to 75% by the end of the 21st century (National Resources Defense Council, 2014). This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the State; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century and it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (California Environmental Protection Agency, 2010). If this occurs, resultant effects could include increased

coastal flooding, saltwater intrusion and disruption of wetlands. As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. Under the emissions scenarios of the Climate Scenarios report (California Environmental Protection Agency, 2010), the impacts of global warming in California are anticipated to include, but are not limited to, the following.

Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25% to 35% under the lower warming range and to 75% to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major State fresh water supply. Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25% of the water supply they need; decrease the potential for hydropower production within the State (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the snow dependent winter recreational season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing, snowboarding, and other snow dependent recreational activities.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snow pack by as much as 70%

to 90%. Under the lower warming scenario, snow pack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much snow pack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snow pack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

Agriculture

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts, and milk.

Crop growth and development will be affected, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Global warming is expected to alter the distribution and character of natural vegetation thereby resulting in a possible increased risk of large wildfires. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the State. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30% toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90%.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the State. For example, alpine and sub-alpine ecosystems are expected to decline by as much as 60%

to 80% by the end of the century as a result of increasing temperatures. The productivity of the State's forests is also expected to decrease as a result of global warming.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the State's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

ENERGY CONSUMPTION

Energy in California is consumed from a wide variety of sources. Fossil fuels (including gasoline and diesel fuel, natural gas, and energy used to generate electricity) are most widely used form of energy in the State. However, renewable sources of energy (such as solar and wind) are growing in proportion to California's overall energy mix. A large driver of renewable sources of energy in California is the State's current Renewable Portfolio Standard (RPS), which requires the State to derive at least 33% of electricity generated from renewable resources by 2020, 60 percent by 2030, and to achieve zero-carbon emissions by 2045 (as passed in September 2018, under AB 100).

Overall, in 2018, California's per capita energy usage was ranked fourth-lowest in the nation (U.S. EIA, 2020b). California's per capita rate of energy usage has remained relatively constant since the 1970's. Many State regulations since the 1970's, including new building energy efficiency standards, vehicle fleet efficiency measures, as well as growing public awareness, have helped to keep per capita energy usage in the State in check.

The consumption of non-renewable energy (i.e. fossil fuels) associated with the operation of passenger, public transit, and commercial vehicles, results in GHG emissions that contribute to global climate change. Alternative fuels such as natural gas, ethanol, and electricity (unless derived from solar, wind, nuclear, or other energy sources that do not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

Electricity Consumption

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. In 2016, more than one-fourth of the electricity supply comes from facilities outside of the State. Much of the power delivered to California from states in the Pacific Northwest was generated by wind. States in the Southwest delivered power generated at coal-fired power plants, at natural gas-fired power plants, and from nuclear generating stations (U.S. EIA, 2020a). In 2016, approximately 50 percent of California's utility-scale net electricity generation was fueled by natural gas. In addition, about 25 percent of the State's utility-scale net electricity generation came from non-hydroelectric renewable technologies, such as solar, wind, geothermal, and biomass. Another 14 percent of the State's utility-scale net electricity generation came from hydroelectric generation, and nuclear energy powered an additional 11 percent. The amount of electricity generated from coal negligible (approximately 0.2 percent) (U.S.

EIA, 2020a). The percentage of renewable resources as a proportion of California's overall energy portfolio is increasing over time, as directed the State's Renewable Portfolio Standard (RPS).

According to the California Energy Commission (CEC), total statewide electricity consumption increased from 166,979 gigawatt-hours (GWh) in 1980 to 228,038 GWh in 1990, which is an estimated annual growth rate of 3.66 percent. The statewide electricity consumption in 1997 was 246,225 GWh, reflecting an annual growth rate of 1.14 percent between 1990 and 1997 (U.S. EIA, 2020b). Statewide consumption was 274,985 GWh in 2010, an annual growth rate of 0.9 percent between 1997 and 2010. In 2019, electricity consumption in San Joaquin County was 5,583 GWh (California Energy Commission, 2020).

Oil

The primary energy source for the United States is oil, which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily in the last several decades. As of 2016, world consumption of oil had reached 96 million barrels per day. The United States, with approximately five percent of the world's population, accounts for approximately 19 percent of world oil consumption, or approximately 18.6 million barrels per day (U.S. EIA, 2020c). The transportation sector relies heavily on oil. In California, petroleum-based fuels currently provide approximately 96 percent of the State's transportation energy needs.

Natural Gas/Propane

The State produces approximately 12 percent of its natural gas, while obtaining 22 percent from Canada and 65 percent from the Rockies and the Southwest (California Energy Commission, 2012). In 2006, California produced 325.6 billion cubic feet of natural gas (California Energy Commission, 2012). PG&E is the largest publicly-owned utility in California and provides natural gas for residential, industrial, and agency consumers within the San Joaquin County area, including the City of Manteca. In 2018, natural gas consumption in San Joaquin County was 259 million therms (California Energy Commission, 2020).

3.7.2 REGULATORY SETTING

FEDERAL

Clean Air Act

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

The EPA is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS

were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

On April 2, 2007, in the court case of *Massachusetts et al. vs. the USEPA et al.* (549 U.S. 497), the U.S. Supreme Court found that GHGs are air pollutants covered by the federal Clean Air Act (42 USC Sections 7401-7671q). The Supreme Court held that the Administrator of the United States Environmental Protection Agency must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the Administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the Administrator signed two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite for implementing GHG emission standards for vehicles. In collaboration with the National Highway Traffic Safety Administration (NHTSA) and CARB, the USEPA developed emission standards for light-duty vehicles (2012-2025 model years), and heavy-duty vehicles (2014-2027 model years).

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Since 1990, the fuel economy standard for new passenger cars has been 27.5 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the EPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and

highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, State, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for a clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Federal Climate Change Policy

According to the EPA, "the United States government has established a comprehensive policy to address climate change" that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science." The EPA administers multiple programs that encourage voluntary GHG reductions, including "ENERGY STAR", "Climate Leaders", and Methane Voluntary Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

Mandatory Greenhouse Gas Reporting Rule

In 2009, EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO₂ per year. This publicly available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial GHGs along with vehicle and engine manufacturers will report at the corporate level. An estimated 85% of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

STATE

The California Legislature has enacted a series of statutes in recent years addressing the need to reduce GHG emissions all across the State. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing CARB to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the State; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by CARB; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives. The discussion below will address each of these key sets of statutes, as well as CARB “Scoping Plans” intended to achieve GHG reductions under the first set of statutes and recent building code requirements intended to reduce energy consumption.

Statutes Setting Statewide GHG Reduction Targets

ASSEMBLY BILL 32 (GLOBAL WARMING SOLUTIONS ACT)

In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006 (Health & Safety Code Section 38500 et seq.), also known as Assembly Bill (AB) 32 (Stats. 2006, ch. 488). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, AB 32 directs the California Air Resources Board (CARB) to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

SENATE BILL 32

SB 32 (Stats. 2016, ch. 249) added Section 38566 to the Health and Safety Code. It provides that “[i]n adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by [Division 25.5 of the Health and Safety Code], [CARB] shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030.” In other words, SB 32 requires California, by 2030, to reduce its statewide GHG emissions so that they are 40 percent below those that occurred in 1990.

Between AB 32 (2006) and SB 32 (2016), the Legislature has codified some of the ambitious GHG reduction targets included within certain high-profile Executive Orders issued by the last two Governors. The 2020 statewide GHG reduction target in AB 32 was consistent with the second of three statewide emissions reduction targets set forth in former Governor Arnold Schwarzenegger’s 2005 Executive Order known as S-3-05, which is expressly mentioned in AB 32. (See Health & Safety Code Section 38501, subd. (i).) That Executive Branch document included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several State agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and

to report on the progress made toward meeting the emission reduction targets established in the executive order.

In 2015, Governor Brown issued Executive Order, B-30-15, which created a “new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 is established in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050.” SB 32 codified this target.

In 2018, the Governor issued Executive Order B-55-18, which established a statewide goal to “achieve carbon neutrality as soon as possible, and no later than 2045, and maintain and achieve negative emissions thereafter.” The order directs the CARB to work with other State agencies to identify and recommend measures to achieve those goals.

Notably, the Legislature has not yet set a 2045 or 2050 target in the manner done for 2020 and 2030 through AB 32 and SB 32, though references to a 2050 target can be found in statutes outside the Health and Safety Code. Senate Bill 350 (SB 350) (Stats. 2015, ch. 547) added to the Public Utilities Code language that essentially puts into statute the 2050 GHG reduction target already identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain State agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code now states that “[t]he Legislature finds and declares [that] ... [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification.” Furthermore, Section 740.12(b) now states that the California Public Utilities Commission (PUC), in consultation with CARB and the California Energy Commission (CEC), must “direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, ... and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050.”

Statute Setting Target for the Use of Renewable Energy for the Generation of Electricity

CALIFORNIA RENEWABLES PORTFOLIO STANDARD

In 2002, the Legislature enacted Senate Bill 1078 (Stats. 2002, ch. 516), which established the Renewables Portfolio Standard program, requiring retail sellers of electricity, including electrical corporations, community choice aggregators, and electric service providers, to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources such as wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. (See Pub. Utilities Code, Section 399.11 et seq. [subsequently amended].) The legislation set a target by which 20 percent of the State’s electricity would be generated by renewable sources. (Pub. Utility Code, Section 399.11, subd. (a) [subsequently amended].) As described in the Legislative Counsel’s Digest, Senate Bill 1078 required “[e]ach electrical corporation ... to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources. If an electrical corporation fails to

procure sufficient eligible renewable energy resources in a given year to meet an annual target, the electrical corporation would be required to procure additional eligible renewable resources in subsequent years to compensate for the shortfall, if funds are made available as described. An electrical corporation with at least 20 percent of retail sales procured from eligible renewable energy resources in any year would not be required to increase its procurement in the following year.”

In 2006, the Legislature enacted Senate Bill 107 (Stats. 2006, ch. 464), which modified the Renewables Portfolio Standard to require that at least 20 percent of electricity retail sales be served by renewable energy resources by year 2010. (Pub. Utility Code, Section 399.11, subd (a) [subsequently amended].)

Senate Bill X1-2 (Stats. 2011, 1st Ex. Sess., ch. 1) set even more aggressive statutory targets for renewable electricity, culminating in the requirement that 33 percent of the State’s electricity come from renewables by 2020. This legislation applies to all electricity retailers in the State, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet renewable energy goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020. (See Pub. Utility Code, Section 399.11 et seq. [subsequently amended].)

SB 350, discussed above, increases the Renewable Portfolio Standard to require 50 percent of electricity generated to be from renewables by 2030. (Pub. Utility Code, Section 399.11, subd (a); see also Section 399.30, subd. (c)(2).) Of equal significance, Senate Bill 350 also embodies a policy encouraging a substantial increase in the use of electric vehicles. As noted earlier, Section 740.12(b) of the Public Utilities Code now states that the PUC, in consultation with CARB and the CEC, must “direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, ... and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050.”

Executive Order, B-16-12, issued in 2012, embodied a similar vision of a future in which zero-emission vehicles (ZEV) will play a big part in helping the State meet its GHG reduction targets. Executive Order B-16-12 directed State government to accelerate the market for in California through fleet replacement and electric vehicle infrastructure. The Executive Order set the following targets:

- By 2015, all major cities in California will have adequate infrastructure and be “ZEV ready”;
- By 2020, the State will have established adequate infrastructure to support 1 million ZEVs in California;
- By 2025, there will be 1.5 million ZEVs on the road in California; and
- By 2050, virtually all personal transportation in the State will be based on ZEVs, and GHG emissions from the transportation sector will be reduced by 80 percent below 1990 levels.

In 2018, Senate Bill 100 (Stats. 2018, ch. 312) revised the above-described deadlines and targets so that the State will have to achieve a 50% renewable resources target by December 31, 2026 (instead of by 2030) and achieve a 60% target by December 31, 2030. The legislation also establishes a State

policy that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all State agencies by December 31, 2045.

In summary, California has set a statutory goal of requiring that, by the 2030, 60 percent of the electricity generated in California should be from renewable sources, with increased generation capacity intended to sufficient to allow the mass conversion of the statewide vehicle fleet from petroleum-fueled vehicles to electrical vehicles and/or other ZEVs. By 2045, all electricity must come from renewable resources and other carbon-free resources. Former Governor Brown had an even more ambitious goal for the State of achieving carbon neutrality as soon as possible and by no later than 2045. The Legislature is thus looking to California drivers to buy electric cars, powered by green energy, to help the State meet its aggressive statutory goal, created by SB 32, of reducing statewide GHG emissions by 2030 to 40 percent below 1990 levels. Another key prong to this strategy is to make petroleum-based fuels less carbon-intensive. A number of statutes in recent years have addressed that strategy. These are discussed immediately below.

Statutes and CARB Regulations Addressing the Carbon Intensity of Petroleum-based Transportation Fuels

ASSEMBLY BILL 1493, PAVLEY CLEAN CARS STANDARDS

In 2002, the Legislature enacted Assembly Bill 1493 (“Pavley Bill”) (Stats. 2002, ch. 200), which directed the CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks beginning with model year 2009. (See Health and Safety Code Section 43018.5.) In September 2004, pursuant to this directive, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created what are commonly known as the “Pavley standards.” In September 2009, CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created what are commonly known as the “Pavley II standards.” (See California Code of Regulations, Title 13, Sections 1900, 1961, and 1961.1 et seq.)

In 2012, CARB adopted an Advanced Clean Cars (ACC) program aimed at reducing both smog-causing pollutants and GHG emissions for vehicles model years 2017-2025. This historic program, developed in coordination with the USEPA and NHTSA, combined the control of smog-causing (criteria) pollutants and GHG emissions into a single coordinated set of requirements for model years 2015 through 2025. The regulations focus on substantially increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years. (See California Code of Regulations, Title 13, Sections 1900, 1961, 1961.1, 1961.2, 1961.3, 1965, 1968.2, 1968.5, 1976, 1978, 2037, 2038, 2062, 2112, 2139, 2140, 2145, 2147, 2235, and 2317 et seq.)

It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, all while improving fuel efficiency and reducing motorists' costs.

Cap and Trade Program

In 2011, CARB adopted the final cap-and-trade program for California (See California Code of Regulations, Title 17, Sections 95801-96022.) The California cap-and-trade program creates a market-based system with an overall emissions limit for affected sectors. The program is intended to regulate more than 85 percent of California's emissions and staggers compliance requirements according to the following schedule: (1) electricity generation and large industrial sources (2012); (2) fuel combustion and transportation (2015).

According to 2012 CARB guidance, "[t]he Cap-and-Trade Program will reduce GHG emissions from major sources (covered entities) by setting a firm cap on statewide GHG emissions while employing market mechanisms to cost-effectively achieve the emission-reduction goals. The statewide cap for GHG emissions from major sources, which is measured in metric tons of carbon dioxide equivalent (MTCO_{2e}), will commence in 2013 and decline over time, achieving GHG emission reductions throughout the program's duration. Each covered entity will be required to surrender one permit to emit (the majority of which will be allowances, entities are also allowed to use a limited number of CARB offset credits) for each ton of GHG emissions they emit. Some covered entities will be allocated some allowances and will be able to buy additional allowances at auction, purchase allowances from others, or purchase offset credits."

The guidance goes on to say that "[s]tarting in 2012, major GHG-emitting sources, such as electricity generation (including imports), and large stationary sources (e.g., refineries, cement production facilities, oil and gas production facilities, glass manufacturing facilities, and food processing plants) that emit more than 25,000 MTCO_{2e} per year will have to comply with the Cap-and-Trade Program. The program expands in 2015 to include fuel distributors (natural gas and propane fuel providers and transportation fuel providers) to address emissions from transportation fuels, and from combustion of other fossil fuels not directly covered at large sources in the program's initial phase." In early April 2017, the Third District Court of Appeal upheld the lawfulness of the cap-and-trade program as a "fee" rather than a "tax." (See *California Chamber of Commerce et al. v. State Air Resources Board et al.* (2017) 10 Cal.App.5th 604.)

AB 398 (Stats. 2017, ch. 135) extended the life of the existing Cap and Trade Program through December 2030.

Statute Intended to Facilitate Land Use Planning Consistent with Statewide Climate Objectives

CALIFORNIA SENATE BILL 375 (SUSTAINABLE COMMUNITIES STRATEGY)

This 2008 legislation built on AB 32 by setting forth a mechanism for coordinating land use and transportation on a regional level for the purpose of reducing GHGs. The focus is to reduce miles traveled by passenger vehicles and light trucks. CARB is required to set GHG reduction targets for each metropolitan region for 2020 and 2035. Each of California's metropolitan planning

organizations then prepares a sustainable communities strategy that demonstrates how the region will meet its GHG reduction target through integrated land use, housing, and transportation planning. Once adopted by the metropolitan planning organizations, the sustainable communities strategy is to be incorporated into that region's federally enforceable regional transportation plan. If a metropolitan planning organization is unable to meet the targets through the sustainable communities strategy, then an alternative planning strategy must be developed which demonstrates how targets could be achieved, even if meeting the targets is deemed to be infeasible.

Climate Change Scoping Plans

AB 32 SCOPING PLAN

In 2008, CARB adopted the Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons (MMT) CO₂e, or approximately 22 percent from the State's projected 2020 emission level of 545 MMT of CO₂e under a business-as-usual scenario. This is a reduction of 47 MMT CO₂e, or almost 10 percent, from 2008 emissions. CARB's original 2020 projection was 596 MMT CO₂e, but this revised 2020 projection takes into account the economic downturn that occurred in 2008. The Scoping Plan also includes CARB recommended GHG reductions for each emissions sector of the State GHG inventory. CARB estimates the largest reductions in GHG emissions would be by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (26.1 MMT CO₂e);
- the Low Carbon Fuel Standard (15.0 MMT CO₂e);
- energy efficiency measures in buildings and appliances (11.9 MMT CO₂e); and
- renewable portfolio and electricity standards for electricity production (23.4 MMT CO₂e).

In 2011, CARB adopted a cap-and-trade regulation. The cap-and-trade program covers major sources of GHG emissions in the State such as refineries, power plants, industrial facilities, and transportation fuels. The cap-and-trade program includes an enforceable emissions cap that will decline over time. The State distributes allowances, which are tradable permits, equal to the emissions allowed under the cap. Sources under the cap are required to surrender allowances and offsets equal to their emissions at the end of each compliance period. Enforceable compliance obligations started in 2013. The program applies to facilities that comprise 85 percent of the State's GHG emissions.

With regard to land use planning, the Scoping Plan expects that reductions of approximately 3.0 MMT CO₂e will be achieved through implementation of Senate Bill (SB) 375, which is discussed further below.

2014 SCOPING PLAN UPDATE

CARB revised and reapproved the Scoping Plan, and prepared the First Update to the 2008 Scoping Plan in 2014 (2014 Scoping Plan). The 2014 Scoping Plan contains the main strategies California will implement to achieve a reduction of 80 MMT of CO₂e emissions, or approximately 16 percent, from the State's projected 2020 emission level of 507 MMT of CO₂e under the business-as-usual scenario defined in the 2014 Scoping Plan. The 2014 Scoping Plan also includes a breakdown of the amount

of GHG reductions CARB recommends for each emissions sector of the State's GHG inventory. Several strategies to reduce GHG emissions are included: the Low Carbon Fuel Standard, the Pavley Rule, the ACC program, the Renewable Portfolio Standard, and the Sustainable Communities Strategy.

2017 SB 32 SCOPING PLAN

With the passage of SB 32, the Legislature also passed companion legislation AB 197, which provides additional direction for developing the scoping plan. In response, CARB adopted an updated Scoping Plan in December 2017. The document reflects the 2030 target of reducing statewide GHG emissions by 40 percent below 1990 levels codified by SB 32. The GHG reduction strategies in the plan that CARB will implement to meet the target include:

- SB 350 - achieve 50 percent Renewables Portfolio Standard (RPS) by 2030 and doubling of energy efficiency savings by 2030;
- Low Carbon Fuel Standard - increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020);
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario) - maintaining existing GHG standards for light- and heavy-duty vehicles, put 4.2 million zero-emission vehicles on the roads, and increase zero-emission buses, delivery and other trucks.
- Sustainable Freight Action Plan - improve freight system efficiency, maximize use of near-zero emission vehicles and equipment powered by renewable energy, and deploy over 100,000 zero-emission trucks and equipment by 2030;
- Short-Lived Climate Pollutant Reduction Strategy - reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030 and reduce emissions of black carbon 50 percent below 2013 levels by 2030;
- SB 375 Sustainable Communities Strategies - increased stringency of 2035 targets;
- Post-2020 Cap-and-Trade Program - declining caps, continued linkage with Québec, and linkage to Ontario, Canada;
- 20 percent reduction in GHG emissions from the refinery sector; and
- By 2018, develop an Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Building Code Requirements Intended to Reduce GHG Emissions

CALIFORNIA ENERGY CODE

The California Energy Code (California Code of Regulations, Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Although these standards were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity and thus less consumption of fossil fuels, which emit GHGs. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The current 2019 Building Energy Efficiency Standards, commonly referred to as the "Title 24" standards, include changes from the previous standards that were adopted, to do the following:

3.7 GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

- Provide California with an adequate, reasonably priced, and environmentally sound supply of energy.
- Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its GHG emissions to 1990 levels by 2020.
- Pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.
- Act on the California Energy Commission's Integrated Energy Policy Report, which finds that standards are the most cost effective means to achieve energy efficiency, states an expectation that the Building Energy Efficiency Standards will continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Building Energy Efficiency Standards in reducing energy related to meeting California's water needs and in reducing GHG emissions.
- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of State building codes.
- Meet Executive Order S-20-04, the Green Building Initiative, to improve the energy efficiency of non-residential buildings through aggressive standards.

The most recent Title 24 standards are the 2019 Title 24 standards. The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards. The California Energy Commission updates the standards every three years.

Single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards. Once rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards. This will reduce greenhouse gas emissions by 700,000 metric tons over three years, equivalent to taking 115,000 fossil fuel cars off the road. Nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades.

CALIFORNIA GREEN BUILDING STANDARDS CODE

The purpose of the California Green Building Standards Code (California Code of Regulations Title 24, Part 11) is to improve public health and safety and to promote the general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: 1) planning and design; 2) energy efficiency; 3) water efficiency and conservation; 4) material conservation and resource efficiency; and 5) environmental quality. The California Green Building Standards, which became effective on January 1, 2011, instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial, low-rise residential uses, and State-owned buildings, as well as schools and hospitals. The mandatory standards require the following:

- 20 percent mandatory reduction in indoor water use relative to baseline levels;
- 50 percent construction/demolition waste must be diverted from landfills;

- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particle boards.

The voluntary standards require the following:

- **Tier I:** 15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof.
- **Tier II:** 30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, 30 percent cement reduction, and cool/solar reflective roof.

CEQA Direction

In 2008, the Office of Planning and Research (OPR), issued Guidance regarding assessing significance of GHGs in California Environmental Quality Act (CEQA) documents; that Guidance stated that the adoption of appropriate significance thresholds was a matter of discretion for the lead agency. The OPR Guidance states:

“[T]he global nature of climate change warrants investigation of a statewide threshold of significance for GHG emissions. To this end, OPR has asked the CARB technical staff to recommend a method for setting thresholds which will encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the state. Until such time as state guidance is available on thresholds of significance for GHG emissions, we recommend the following approach to your CEQA analysis.”

Determine Significance

- When assessing a project’s GHG emissions, lead agencies must describe the existing environmental conditions or setting, without the project, which normally constitutes the baseline physical conditions for determining whether a project’s impacts are significant.
- As with any environmental impact, lead agencies must determine what constitutes a significant impact. In the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a “significant impact,” individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice.
- The potential effects of a project may be individually limited but cumulatively considerable. Lead agencies should not dismiss a proposed project’s direct and/or indirect climate change impacts without careful

consideration, supported by substantial evidence. Documentation of available information and analysis should be provided for any project that may significantly contribute new GHG emissions, either individually or cumulatively, directly or indirectly (e.g., transportation impacts).

- Although climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment. CEQA authorizes reliance on previously approved plans and mitigation programs that have adequately analyzed and mitigated GHG emissions to a less than significant level as a means to avoid or substantially reduce the cumulative impact of a project.

The OPR Guidance did not require Executive Order S-3-05 to be used as a significance threshold under CEQA. Rather, OPR recognized that, until the CARB establishes a statewide standard, selecting an appropriate threshold was within the discretion of the lead agency.

In 2010, the California Natural Resources Agency added Section 15064.4 to the CEQA Guidelines, providing new legal requirements for how agencies should address GHG-related impacts in their CEQA documents. As amended in 2019, Section 15064.4 provides as follows:

(a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

- (1) Quantify greenhouse gas emissions resulting from a project; and/or
- (2) Rely on a qualitative analysis or performance-based standards.

(b) In determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. A lead agency should consider the following factors, among others, when determining the significance of impacts from greenhouse gas emissions on the environment:

- (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

(c) A lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

Section 15126.4, subdivision (c), provides guidance on how to formulate mitigation measures addressing GHG-related impacts:

Consistent with section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. Measures to mitigate the significant effects of greenhouse gas emissions may include, among others:

(1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;

(2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F;

(3) Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions;

(4) Measures that sequester greenhouse gases;

(5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.

California Supreme Court Decisions

THE “NEWHALL RANCH” CASE

On November 30, 2015, the California Supreme Court released its opinion on *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204 (hereafter referred to as the Newhall Ranch Case).

Because of the importance of the Supreme Court as the top body within the California Judiciary, and because of the relative lack of judicial guidance regarding how GHG issues should be addressed in CEQA documents, the opinion provides very important legal guidance to agencies charged with preparing EIRs.

The case involved a challenge to an EIR prepared by the California Department of Fish and Wildlife (CDFW) for the Newhall Ranch development project in Los Angeles County, which consists of approximately 20,000 dwelling units as well as commercial and business uses, schools, golf courses, parks and other community facilities in the City of Santa Clarita.

In relation to GHG analysis, the Newhall Ranch Case illustrates the difficulty of complying with statewide GHG reduction targets at the local level using CEQA to determine whether an individual project’s GHG emissions will create a significant environmental impact triggering an EIR, mitigation, and/or statement of overriding consideration. The EIR utilized compliance with AB 32’s GHG reduction goals as a threshold of significance and modelled its analysis on the CARB’s business-as-usual (BAU) emissions projections from the 2008 Scoping Plan. The EIR quantified the project’s annual emissions at buildout and projected emissions in 2020 under a BAU scenario, in which no additional regulatory actions were taken to reduce emissions. Since the Scoping Plan determined a reduction of 29 percent from BAU was needed to meet AB 32’s 2020 reduction goal, the EIR concluded that the project would have a less-than-significant impact because the project’s annual GHG emissions were projected to be 31 percent below its BAU estimate.

The Supreme Court concluded that the threshold of significance used by the EIR was permissible; however, the BAU analysis lacked substantial evidence to demonstrate that the required percentage reduction from BAU is the same for an individual project as for the entire State. The court expressed skepticism that a percentage reduction goal applicable to the State as a whole would apply without change to an individual development project, regardless of its size or location. Therefore, the Supreme Court determined that the EIR’s GHG analysis was not sufficient to support the conclusion that GHG impacts would be less than significant.

In addition, the Supreme Court provided the following guidance regarding potential alternative approaches to GHG impact assessment at the project level for lead agencies:

1. The lead agency determination of what level of GHG emission reduction from business-as-usual projection that a new land development at the proposed location would need to achieve to comply with statewide goals upon examination of data behind the Scoping Plan's business-as-usual emission projections. The lead agency must provide substantial evidence and account for the disconnect between the Scoping Plan, which dealt with the State as a whole, and an analysis of an individual project's land use emissions (the same issues with CEQA compliance addressed in this case);
2. The lead agency may use a project's compliance with performance based standards – such as high building energy efficiency – adopted to fulfill a statewide plan to reduce or mitigate GHG emissions to assess consistency with AB 32 to the extent that the project features comply with or exceed the regulation (See Guidelines Section 15064.4(a)(2), (b)(3); see also Guidelines Section 15064(h)(3)). A significance analysis would then need to account for the additional GHG emissions – such as transportation emissions – beyond the regulated activity. Transportation emissions are in part a function of the location, size, and density or intensity of a project, and thus can be affected by local governments' land use decision making. Additionally, the lead agency may use a programmatic effort including a general plan, long range development plan, or a separate plan to reduce GHG emissions (such as Climate Action Plan or a SB 375 metropolitan regional transportation impact Sustainable Communities Strategy) that accounts for specific geographical GHG emission reductions to streamline or tier project level CEQA analysis pursuant to Guidelines 15183.5(a)-(b) for land use and Public Resources Code Section 21155.2 and 21159.28 and Guidelines Section 15183.5(c) for transportation.
3. The lead agency may rely on existing numerical thresholds of significance for GHG emissions (such as the Bay Area Air Quality Management District's proposed threshold of significance of 1,100 MT CO₂E in annual emission for CEQA GHG emission analysis on new land use projects). The use of a numerical value provides what is "normally" considered significant but does not relieve a lead agency from independently determining the significance of the impact for the individual project (See Guidelines Section 15064.7).

THE SANDAG CASE

In *Cleveland National Forest Foundation v. San Diego Association of Governments* (2017) 3 Cal.5th 497 (*SANDAG*), the Supreme Court addressed the extent to which, if any, an EIR for a Regional Transportation Plan (RTP) with a Sustainable Communities Strategy (SCS) must address the proposed project's consistency with the 2050 target set forth in Executive Order S-03-05 (i.e., 80 percent below 1990 levels). The Court held that SANDAG did not abuse its discretion by failing to treat the 2050 GHG emissions target as a threshold of significance. The Court cautioned, however, that its decision applies narrowly to the facts of the case and that the analysis in the challenged EIR should not be used as an example for other lead agencies to follow going forward. Notably, the RTP itself covered a planning period that extended all the way to 2050.

The Court acknowledged the parties' agreement that "the Executive Order lacks the force of a legal mandate binding on SANDAG[.]" (*Id.* at p. 513.) This conclusion was consistent with the Court's

earlier decision in *Professional Engineers in California Government v. Schwarzenegger* (2010) 50 Cal.4th 989, 1015, which held the Governor had acted in excess of his executive authority in ordering the furloughing of State employees as a money-saving strategy. In that earlier case, which is not mentioned in the SANDAG decision, the Court held that the decision to furlough employees was legislative in character, and thus could only be ordered by the Legislature, and not the Governor, who, under the State constitution, may only exercise executive authority. In SANDAG, the Court thus impliedly recognized that Governors do not have authority to set statewide legislative policy, particularly for decades into the future. Even so, however, the Court noted, and did not question, the parties' agreement that "the Executive Order's 2050 emissions reduction target is grounded in sound science." (3 Cal.5th at p. 513.) Indeed, the Court emphasized that, although "the Executive Order 'is not an adopted GHG reduction plan' and that 'there is no legal requirement to use it as a threshold of significance,'" the 2050 goal nevertheless "expresses the pace and magnitude of reduction efforts that the scientific community believes necessary to stabilize the climate.

This scientific information has important value to policymakers and citizens in considering the emission impacts of a project like SANDAG's regional transportation plan." (*Id.* at p. 515.) Towards the end of the decision, the Court even referred to "the state's 2050 climate goals" as though the 2050 target from E.O. S-03-05 had some sort of standing under California law. (*Id.* at p. 519.) The Court seemed to reason that, because the Legislature had enacted both AB 32 and SB 32, which followed the downward GHG emissions trajectory recommended in the Executive Order, the Legislature, at some point, was also likely to adopt the 2050 target as well: "SB 32 ... reaffirms California's commitment to being on the forefront of the dramatic greenhouse gas emission reductions needed to stabilize the global climate." (*Id.* at p. 519.) Finally, the Court explained that "planning agencies like SANDAG must ensure that CEQA analysis stays in step with evolving scientific knowledge and state regulatory schemes." (*Ibid.*)

In sum, the Court recognized that the Executive Order did not carry the force of law, but nevertheless considered it to be part of "state climate policy" because the Legislature, in enacting both AB 32 and SB 32, seems to be following both the IPCC recommendations for reducing GHG emissions worldwide and evolving science. Nothing in the decision, however, suggests that all projects, regardless of their buildout period, must address the 2050 target or treat it as a significance threshold.

LOCAL

City of Manteca Climate Action Plan

The City of Manteca adopted its Climate Action Plan (CAP) in October 2013. The purpose of the CAP is to: 1) outline a course of action for the City government and the community of Manteca to reduce per capita greenhouse gas emissions by amounts required to show consistency with AB 32 goals for 2020 and adapt to effects of climate change, and 2) provide clear guidance to City staff regarding when and how to implement key provisions of the CAP, and 3) provide a streamlined mechanism for projects that are consistent with the CAP to demonstrate that they would not contribute significant greenhouse gas impacts.

The GHG Plan is considered a “Qualified Plan,” according to CEQA Guidelines Section 15183.5.2. The City’s GHG Inventory is evaluated for baselines years 2005 and 2010 and is projected for years 2020 and 2035. The baseline and Business-As-Usual (BAU) emissions GHG inventories for the City of Manteca is summarized in Table 3.7-1. Table 3.7-2 provides a summary of the City’s 2020 target, adjusted-BAU emissions, and the local reductions included within the CAP.

TABLE 3.7-1: CITY OF MANTECA BASELINE EMISSIONS INVENTORY AND BUSINESS-AS-USUAL (BAU) EMISSIONS INVENTORY PROJECTIONS (MT CO₂E)

EMISSIONS SECTOR	2005	2010	2020	2035
Transportation	214,075	210,901	275,507	368,297
Electricity – Residential	44,108	47,343	61,212	83,668
Electricity – Commercial	25,014	31,146	35,646	49,327
Natural Gas – Residential	45,527	50,466	65,249	89,186
Natural Gas – Commercial	9,856	11,818	13,526	18,717
Waste	42,305	30,454	21,586	29,505
Ozone Depleting Substance (ODS) substitutes	19,461	26,741	75,711	103,486
Total	400,346	408,869	548,437	742,186

NOTE: TOTALS MAY NOT ADD UP DUE TO ROUNDING.

SOURCE: MICHAEL BRANDMAN ASSOCIATES, 2013

TABLE 3.7-2: CITY OF MANTECA 2020 TARGET EMISSIONS INVENTORY (MT CO₂E)

INVENTORY	COMMUNITY EMISSIONS	PER CAPITA EMISSIONS (MT CO ₂ E/PERSON)
2020 BAU	548,437	6.27
2020 Adjusted	441,707	5.05
2020 Target	429,693	4.91
2020 Local Reductions Required	12,014	0.14
2020 Local Reductions Proposed	12,289	0.14
Target Achieved?	Yes	Yes

NOTE: TOTALS MAY NOT ADD UP DUE TO ROUNDING.

SOURCE: MICHAEL BRANDMAN ASSOCIATES, 2013

3.7.3 IMPACTS AND MITIGATION MEASURES

Thresholds of Significance

GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE

Climate change-related impacts are considered significant if implementation of the proposed Project would do any of the following:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence on climate change; therefore, the issue of climate change

3.7 GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

The SJVAPCD's has evaluated different approaches for estimating impacts and summarizing potential GHG emission reduction measures. The SJVAPCD staff has concluded that *"existing science is inadequate to support quantification of impacts that project specific GHG emissions have on global climatic change."* This is readily understood when one considers that global climatic change is the result of the sum total of GHG emissions, both man-made and natural that occurred in the past; that is occurring now; and will occur in the future. The effects of project specific GHG emissions are cumulative, and unless reduced or mitigated, their incremental contribution to global climatic change could be considered significant.

The *Final Draft Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD, 2015) provides an approach to assessing a Project's impacts on greenhouse gas emissions by evaluating the Project's emissions to the "reduction targets" established in ARB's AB 32 Scoping Plan. For instance, the SJVAPCD's guidance recommends that projects should demonstrate that *"project specific GHG emissions would be reduced or mitigated by at least 29%, compared to Business as Usual (BAU), including GHG emission reductions achieved since the 2002-2004 baseline period, consistent with GHG emission reduction targets established in ARB's AB 32 Scoping Plan. Projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG."*

Subsequent to the SJVAPCD's approval of the *Final Draft Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD 2015), the California Supreme Court issued an opinion that affects the conclusions that should/should not be drawn from a GHG emissions analysis that is based on consistency with the AB 32 Scoping Plan. More specifically, in *Center for Biological Diversity v. California Department of Fish and Wildlife*, the Court ruled that showing a "project-level reduction" that meets or exceeds the Scoping Plan's overall statewide GHG reduction goal is not necessarily sufficient to show that the project's GHG impacts will be adequately mitigated: *"the Scoping Plan nowhere related that statewide level of reduction effort to the percentage of reduction that would or should be required from individual projects..."* According to the Court, the lead agency cannot simply assume that the overall level of effort required to achieve the statewide goal for emissions reductions will suffice for a specific project.

Given this Court decision, reliance on a 29 percent GHG emissions reduction from projected BAU levels compared to the Project's estimated 2020 levels as recommended in the SJVAPCD's guidance documents will not be the basis for an impact conclusion in this EIR. Given that the SJVAPCD staff has concluded that *"existing science is inadequate to support quantification of impacts that project specific GHG emissions have on global climatic change,"* this EIR will instead rely on a qualitative approach for this analysis. Specifically, the analysis relies on an assessment of the proposed project for consistency with the City of Manteca CAP, which is specifically designed to reduce GHG emissions in accordance with the GHG emission reduction targets identified by the State of California in the

CARB Scoping Plan. Additionally, a qualitative analysis of the proposed project's consistency with other relevant planning documents and relevant laws is provided herein.

ENERGY CONSERVATION

The proposed project would result in a significant impact on energy use if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: General Plan implementation would not generate GHG emissions that could have a significant impact on the environment (Less than Significant)

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Implementation of the proposed project would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to future development would be primarily associated with increases of CO₂ and other GHG pollutants, such as methane (CH₄) and nitrous oxide (N₂O), from mobile sources and utility usage.

Development that occurs because of implementation of the proposed project would include activities that emit greenhouse gas emissions over the short and long term. A summary of short- and long-term emissions and the analysis for each are included below.

The major projected impacts of climate change in Manteca are expected to be more days of extreme heat over longer periods, as well as potential for flooding. According to the City's CAP, the major sources of GHGs in Manteca are on-road transportation (50%), residential energy (23%), and non-residential energy (9%). Short-term and long-term emissions typically associated with construction and operations of future development projects, which may occur because of implementation of the proposed project, are further described below.

SHORT-TERM EMISSIONS

Short-term greenhouse gas emissions would occur because of construction equipment used for the following: demolition, grading, paving, and building construction activities associated with future development and infrastructure projects that will be undertaken in Manteca over the next 20 years. GHG emissions would also result from worker and vendor trips to and from project sites and from demolition and soil hauling trips. Construction activities are short-term and cease to emit greenhouse gases upon completion, unlike operational emissions that are continuous year after year

until operation of the use ceases. As such, SJVAPCD recommends in its draft threshold to amortize project-specific construction emissions over a 30-year operational lifetime of a project. This normalizes construction emissions so that they can be grouped with operational emissions to generate a precise project GHG inventory. However, the SJVAPCD does not have a current threshold of significance for construction-related GHG emissions for plan-level impacts (including general plans).

Adoption of the proposed General Plan does not directly approve or otherwise entitle any new development projects or infrastructure improvement projects in Manteca. As such, the construction-related GHG emissions of future projects cannot be known or quantified at this time, as it would be highly speculative. Typically, construction-related GHG emissions contribute unacceptably (less than one percent) to a project's annual greenhouse gas emissions inventory and mitigation for construction-related emissions is not effective in reducing a project's overall contribution to climate change, given how small of a piece of the total emissions construction emissions are. Short-term climate change impacts due to future construction-related activities would be subject to State requirements for GHG emissions and would be assessed on project-by-project basis, as required by the SJVAPCD.

LONG-TERM EMISSIONS

Future development projects will result in continuous GHG emissions from mobile, area, and operational sources. Mobile sources, including vehicle trips to and from development projects, will result primarily in emissions of CO₂, with minor emissions of CH₄ and N₂O. The most significant GHG emission from natural gas usage will be methane. Electricity usage by future development and indirect usage of electricity for water and wastewater conveyance will result primarily in emissions of carbon dioxide. Disposal of solid waste will result in emissions of methane from the decomposition of waste at landfills coupled with CO₂ emission from the handling and transport of solid waste. These sources combine to define the long-term greenhouse gas inventory for typical development projects.

As shown in Table 2.0-2 in Chapter 2.0 of this Draft EIR, buildout of the City's existing General Plan would result in a projected population increase of 116,546 and an increase of 37,969 jobs. The population growth is an approximately 40% increase compared to the previous population forecast.

Table 3.7-3 below summarizes VMT for the Planning Area and total VMT for the existing baseline condition, for the projected proposed General Plan buildout condition, and for the projected existing General Plan buildout condition. The "per service population" metric, which accounts for both population and employment, is a common way to analyze the GHG efficiency of new development in comparison to an existing baseline. The land use modifications and policies proposed as part of the proposed General Plan would result in an overall approximately 5.9% decrease in per service population vehicle miles traveled compared to the existing baseline condition. Additionally, the proposed General Plan would result in an approximately 9.6% reduction in per service population vehicle miles traveled compared to the existing General Plan. Table 3.7-3, below, provides the VMT summary for the proposed project.

As discussed in Chapter 2.0, growth projections for the General Plan should not be considered a prediction for growth, as the actual amount of development that will occur throughout the 20- to 30-year planning horizon of the General Plan is based on many factors outside of the City’s control. Actual future development would depend on future real estate and labor market conditions, property owner preferences and decisions, site-specific constraints, and other factors.

TABLE 3.7-3: VMT SUMMARY FOR THE PROPOSED GENERAL PLAN

YEAR/SCENARIO	TOTAL POPULATION	TOTAL EMPLOYMENT	VMT	VMT PER CAPITA	VMT PER SERVICE POPULATION
<i>VMT – PLANNING AREA</i>					
2019 – Existing Baseline	84,800	16,862	1,784,908	21.05	17.56
Buildout – Existing General Plan	167,963	42,938	3,855,205	22.95	18.28
Buildout – Proposed General Plan	211,003	43,829	4,213,635	19.97	16.53

SOURCE: DE NOVO PLANNING GROUP, 2020; FEHR & PEERS, 2020

In order to reduce community-wide GHG emissions, Manteca has an adopted Climate Action Plan, which is a Qualified GHG Reduction Plan. The CAP is designed to streamline environmental review of future development projects in the City of Manteca consistent with CEQA Guidelines Section 15183.5(b), as identified within the CAP itself. The CAP identifies a strategy, reduction measures, and implementation strategies the City will use to achieve the State-recommended greenhouse gas (GHG) emissions reduction targets. The City uses the CAP to achieve GHG emissions reductions in a manner consistent with AB 32 within discretionary projects on a project-by-project basis and through ongoing planning activities and programs.

The proposed General Plan has been developed to be consistent with the adopted CAP, and to further the goals and implementation strategies identified in the CAP.

For example, CAP Strategy Bicycle Infrastructure calls for increasing bicycle infrastructure within the City, including by requiring developers to contribute fair share funding to the construction of planned bike lanes, and to developing bicycle lanes as a means of alternative transportation. Additionally, CAP Strategy: Energy Efficient New Buildings requires developers to exceed Title 24 energy efficiency standards by at least 10 percent, or by providing solar panels or other non-building-related energy efficiency measures such as exterior lighting or water savings. Moreover, CAP Strategy: Energy Efficient Existing Buildings requires the City to encourage residents and business to participate in voluntary energy efficiency programs. Lastly, CAP Strategy: Solar Generation encourages the installation of on-site solar photovoltaic systems. These CAP strategies are supported by the following General Plan policies and implementation measures:

LU-6.9: Require mixed-use development to provide strong connections with the surrounding development and neighborhoods through the provision of pedestrian and bicycle infrastructure and facilities and, where feasible, site consolidation.

C-2.7: Provide access for bicycles and pedestrians at the ends of cul-de-sacs, where right-of-way is available, to provide convenient access within and between neighborhoods and to encourage walking and bicycling to neighborhood destinations.

3.7 GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

C-2.8: Signals, roundabouts, traffic circles and other traffic management, calming, and safety techniques shall be applied according to industry standards at residential and collector street intersections with collector and arterial streets in order to allow bicyclists and pedestrians to travel more conveniently and more safely from one neighborhood to another.

C-2.15: Ensure that development and infrastructure projects are designed in a way that provides pedestrian and bicycle connectivity to adjacent neighborhoods and areas (such as ensuring that sound walls, berms, and similar physical barriers are considered and gaps or other measures are provided to ensure connectivity).

C-4.1: Through regular updates to the City's Active Transportation Plan inclusive of community members and stakeholders, establish a more safe and more convenient network of identified bicycle and pedestrian routes connecting residential areas with schools, recreation, shopping, and employment areas within the city, generally as shown in Figure CI-2). The City shall also strive to develop connections with existing and planned regional routes shown in the San Joaquin County Bicycle Master Plan.

C-4.2: Improve safety conditions, efficiency, and comfort for bicyclists and pedestrians by providing native and drought-tolerant shade trees and controlling traffic speeds by implementing narrow lanes or other traffic calming measures in accordance with the City Neighborhood Traffic Calming Program on appropriate streets, in particular residential and downtown areas.

C-4.3: Provide a sidewalk and bicycle route system that serves all pedestrian and bicycle users and meets the latest guidelines related to the Americans with Disabilities Act (ADA).

C-4.5: Expand the existing network of off-street bicycle facilities as shown in the City's Active Transportation Plan to accommodate cyclists who prefer to travel on dedicated trails. Further, the City shall strive to develop: 1) a "city-loop" Class I bike path for use by both bicyclists and pedestrians that links Austin Road, Atherton Drive, Airport Way, and a route along or near Lathrop Road to the Tidewater bike path and its existing and planned extensions, and 2) an off-street bicycle trail extension between the Tidewater Bike Trail near the intersection of Moffat Boulevard and Industrial Park Drive to the proposed regional route between Manteca and Ripon.

C-4.6: Provide on-street Class II bike lanes, Class IV protected bike lanes, or off-street Class I bike paths along major collector and arterial streets whenever feasible.

C-4.7: Facilitate bicycle travel through residential streets through signage necessary to communicate the presence of Class III bicycle routes on residential streets that have sufficiently low volumes as to not require bike lanes or have narrower street cross sections that assist in calming traffic.

C-4.8: Provide sidewalks and/or walkways connecting to the residential neighborhoods, primary public destinations, major public parking areas, transit stops, and intersections with the bikeway system.

C-5.4: Include primary locations where the transit systems will connect to the major bikeways and pedestrian ways and primary public parking areas in the Active Transportation Plan (see C-4a).

RC-4.3 Maintain a Climate Action Plan that addresses State-adopted GHG reduction goals and provides effective measures to meet GHG targets.

RC-4.6: Require all new public and privately constructed buildings to meet and comply with construction and design standards that promote energy conservation, including the most current “green” development standards in the California Green Building Standards Code.

RC-4.7: Support expanded innovative and green building best practices including, but not limited to, LEED certification for all new development and retrofitting existing uses, and encourage public and private projects to exceed the most current “green” development standards in the California Green Building Standards Code.

RC-4.8: Increase energy efficiency and conservation in public buildings and infrastructure.

RC-4.9: Encourage the conservation of public utilities and use of renewable energy technologies in new development, rehabilitation projects, and in City buildings and facilities.

RC-4.10: Encourage measures, including building siting and shading and use of shade trees, to reduce urban heat island effects.

RC-4.11: Support state efforts to power electricity with renewable and zero-carbon resources, such as solar and wind energy.

RC-4.12: Encourage the conservation of petroleum products.

RC-4.13: Encourage the installation of renewable energy technologies serving agricultural operations.

RC-5.3: Require construction and operation of new development to be managed to minimize fugitive dust and air pollutant emissions.

C-1c: Develop a pedestrian, bicycle, and transit improvement plan for the Downtown area through an engaging process inclusive of community members and stakeholders to facilitate implementation of level of service policy C-1.4. This plan will develop a list of multi-modal improvements in the Downtown area to increase the viability and encourage the use of non-auto modes.

C-2b: When planning roadway facilities, incorporate the concept of complete streets. Complete streets include design elements for more safe travel by all modes that use streets, including autos, transit, pedestrians, and bicycles. Complete streets shall be developed in a context-sensitive manner. For example, it may be more appropriate to provide a Class I bike path instead of bike lanes along a major arterial. Pedestrian districts like Downtown Manteca or areas near school entrances should have an enhanced streetscape (e.g., narrower travel lanes, landscape buffers with street trees, etc.) to better accommodate and encourage pedestrian travel.

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C-2f: Ensure that bicycle and pedestrian access is both provided and prioritized through providing openings to increase access where soundwalls and berms are located to minimize travel distances and increase the viability walking and bicycling.

C-2i: Pursue funding to improve and address areas of traffic, bicycle, and pedestrian hazards and conflicts with vehicular traffic movements.

C-4a: Periodically update the Active Transportation Plan through a process inclusive of community members and stakeholders to include all areas envisioned for development by this General Plan and to address pedestrian and bicycle facilities needed to provide a complete circulation system that adequately meets the needs of pedestrians and bicyclists.

C.4b: Utilize the standards set forth in the latest editions of the California MUTCD and American Association of State Highway and Transportation Officials (AASHTO) Green Book for improvement and re-striping of appropriate major collector and arterial streets to accommodate Class II bike lanes or Class IV protected bikeways in both directions, where sufficient roadway width is available. This may include narrowing of travel lanes.

C.4d: Add bicycle facilities whenever possible in conjunction with road rehabilitation, reconstruction, or re-striping projects.

C-4e: Update the City's standard plans to accommodate pedestrians and bicyclists, including landscape-separated sidewalks where appropriate, and to include bike lanes on collector and arterial streets, as defined by the Active Transportation Plan.

C-4f: Encourage and facilitate resident and visitor use of the bike trail system by preparing a map of the pedestrian and bike paths and implementing wayfinding signage.

C-4g: Update the standard plans to specify a set of roadways with narrower lanes (less than 12 feet) and pedestrian bulb-outs to calm traffic and increase pedestrian and bicycle comfort. These narrow lane standards shall be applied to appropriate streets (e.g., they shall not be applied to outside lanes on major truck routes) and new development.

RC-4b: Implement development standards and best practices that promote energy conservation and the reduction in greenhouse gases, including:

- Require new development to be energy-efficient through passive design concepts (e.g., techniques for heating and cooling, building siting orientation, street and lot layout, landscape placement, and protection of solar access);
- Require construction standards which promote energy conservation including window placement, building eaves, and roof overhangs;
- Require all projects to meet minimum State and local energy conservation standards;
- Require developments to include vehicle charging stations that meet or exceed the requirements of State law and to include outdoor electrical outlets to reduce the need for portable generators or other portable power sources, including for residential, commercial, industrial, park, and public/quasi-public uses;
- Require best practices in selecting construction methods, building materials, project appliances and equipment, and project design;
- Encourage and accommodate projects that incorporate alternative energy;
- Encourage projects to incorporate enhanced energy conservation measures, electric-only appliances, and other voluntary methods of reducing energy usage and

greenhouse gas emissions; and

- Require large energy users to implement an energy conservation plan as part of the project review and approval process, and develop a program to monitor compliance with and effectiveness of that plan.

RC-4c: Continue to review development projects to ensure that all new public and private development complies with or exceeds the California Code of Regulations, Title 24 standards as well as the energy efficiency standards established by the General Plan and the Municipal Code.

RC-4d: Develop a public education program in partnership with relevant agencies and community organizations to increase public participation in energy conservation.

RC-4e: Connect residents and businesses with programs that provide free or low-cost energy efficiency audits and retrofits to existing buildings.

RC-4f: Update the Municipal Code to incentivize the use of small-scale renewable energy facilities and, where appropriate, to remove impediments to such uses.

RC-4g: Cooperate with other agencies, jurisdictions, and organizations to expand energy conservation programs.

RC-4h: Explore alternative energy sources, including co-generation, active solar energy, and wind generation, and identify opportunities for alternative energy to be used in public and private projects.

These General Plan policies and implementing actions would support and implement the goals established by the CAP, and that would minimize potential impacts associated with GHG emissions in the Planning Area. Subsequent development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the reduction of GHG emissions, including the adopted CAP. The City of Manteca has prepared the General Plan to include numerous policies and actions intended to reduce GHG emissions associated with future development and improvement projects. GHG emissions would be minimized through the implementation of the policies and actions listed below.

Crucially, the proposed General Plan includes implementation measure RC-4a, which requires the City to update the City's existing CAP to achieve the State's greenhouse gas reduction targets beyond 2020, which would include the 2030 and 2050 targets. Updates to the CAP would align the City's GHG reduction targets and associated reduction measures with the statewide GHG reduction targets established by AB 32, SB 32, and SB 375 and EOs S-03-05 and B-30-15. The proposed General Plan's consistency with the existing 2013 Manteca CAP ensures that the proposed project is consistent with a current Qualified GHG Reduction Strategy (i.e., the CAP) and the proposed General Plan ensures that the 2013 Manteca CAP is updated to address State-established GHG reduction targets. Therefore, potential impacts to this topic would therefore be **less than significant**.

CONCLUSION

As demonstrated in the analysis provided above, the proposed General Plan is consistent with the existing 2013 CAP, ensuring consistency with a Qualified GHG Reduction Strategy. Additionally, the

proposed General Plan policy RC-4.3 and implementation measure RC-4a ensures the City will maintain and update the City's existing CAP to achieve the State's greenhouse gas reduction targets beyond 2020, which would include the 2030 and 2050 targets. Therefore, the proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

While future development would generate GHGs that would contribute to climate change, the implementation of the General Plan policies and action listed below, as well as Federal and State regulations, and implementation of the adopted Manteca CAP would result in a ***less than significant*** impact.

GENERAL PLAN POLICIES THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

LU-6.8: Encourage the mixing of retail, service, residential, office, and institutional uses on the properties surrounding The Promenade to create a significant retail, employment, and cultural center south of Highway 120.

LU-6.9: Require mixed-use development to provide strong connections with the surrounding development and neighborhoods through the provision of pedestrian and bicycle infrastructure and facilities and, where feasible, site consolidation.

LU-6.10: Encourage the reuse of existing buildings within Downtown and in other developed locations designated for mixed-use development by utilizing the California Existing Building Code which provides flexibility in the retrofitting of buildings.

LU-6.11: Prioritize the revitalization of underutilized, deteriorated areas and buildings within Downtown and in other developed locations designated for mixed-use development through development incentives, public/private partnerships, and public investments.

LU-8.5: Policy Area 3 is the Austin Road Business Park and Residential Community Master Plan area, with boundaries as shown in Figure LU-6. The primary land uses within Policy Area 3 are envisioned to be a master planned residential community with high-quality parks, community-serving commercial uses, and residential development ranging from very low to high density residential in order to accommodate a broad range of housing types, including executive housing and workforce housing. Residential uses located near SR 99 and adjacent the railroad tracks should include appropriate transitions and buffers to address air quality and noise.

C-2.7: Provide access for bicycles and pedestrians at the ends of cul-de-sacs, where right-of-way is available, to provide convenient access within and between neighborhoods and to encourage walking and bicycling to neighborhood destinations.

C-2.8: Signals, roundabouts, traffic circles and other traffic management, calming, and safety techniques shall be applied according to industry standards at residential and collector street intersections with collector and arterial streets in order to allow bicyclists and pedestrians to travel more conveniently and more safely from one neighborhood to another.

C-2.15: Ensure that development and infrastructure projects are designed in a way that provides pedestrian and bicycle connectivity to adjacent neighborhoods and areas (such as ensuring that sound walls, berms, and similar physical barriers are considered and gaps or other measures are provided to ensure connectivity).

C-4.1: Through regular updates to the City's Active Transportation Plan inclusive of community members and stakeholders, establish a more safe and more convenient network of identified bicycle and pedestrian routes connecting residential areas with schools, recreation, shopping, and employment areas within the city, generally as shown in Figure CI-2). The City shall also strive to develop connections with existing and planned regional routes shown in the San Joaquin County Bicycle Master Plan.

C-4.2: Improve safety conditions, efficiency, and comfort for bicyclists and pedestrians by providing native and drought-tolerant shade trees and controlling traffic speeds by implementing narrow lanes or other traffic calming measures in accordance with the City Neighborhood Traffic Calming Program on appropriate streets, in particular residential and downtown areas
C-4.3: Provide a sidewalk and bicycle route system that serves all pedestrian and bicycle users and meets the latest guidelines related to the Americans with Disabilities Act (ADA).

C-4.4: Provide bicycle parking facilities at commercial, business/professional and light industrial uses in accordance with Part 11 of the California Building Standards Code.

C-4.5: Expand the existing network of off-street bicycle facilities as shown in the City's Active Transportation Plan to accommodate cyclists who prefer to travel on dedicated trails. Further, the City shall strive to develop: 1) a "city-loop" Class I bike path for use by both bicyclists and pedestrians that links Austin Road, Atherton Drive, Airport Way, and a route along or near Lathrop Road to the Tidewater bike path and its existing and planned extensions, and 2) an off-street bicycle trail extension between the Tidewater Bike Trail near the intersection of Moffat Boulevard and Industrial Park Drive to the proposed regional route between Manteca and Ripon.

C-4.6: Provide on-street Class II bike lanes, Class IV protected bike lanes, or off-street Class I bike paths along major collector and arterial streets whenever feasible.

C-4.7: Facilitate bicycle travel through residential streets through signage necessary to communicate the presence of Class III bicycle routes on residential streets that have sufficiently low volumes as to not require bike lanes or have narrower street cross sections that assist in calming traffic.

C-4.8: Provide sidewalks and/or walkways connecting to the residential neighborhoods, primary public destinations, major public parking areas, transit stops, and intersections with the bikeway system.

C-4.9: Provide sidewalks along both sides of all new streets in the City and add sidewalks to fill gaps on existing streets as identified in the Active Transportation Plan.

C-5.1: Encourage and plan for the expansion of regional bus service in the Manteca area.

C-5.2: Promote increased commuter and regional passenger rail service that will benefit the businesses and residents of Manteca. Examples include Amtrak, the Altamont Commuter Express (ACE), and high-speed rail.

3.7 GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

C-5.3: Identify and implement means of enhancing the opportunities for residents to commute from residential neighborhoods to the ACE station or other transit facilities that may develop in the City.

C-5.4: Include primary locations where the transit systems will connect to the major bikeways and pedestrian ways and primary public parking areas in the Active Transportation Plan (see C-4a).

C-5.5: Encourage programs that provide ridesharing and vanpool opportunities and other alternative modes of transportation for Manteca residents.

C-5.6: Promote the development of park-and-ride facilities near I-5, SR 120, SR 99, and transit stations.

C-5.7: Maintain a working relationship between the City administration and the local management of the Union Pacific Railroad regarding expansion of freight and passenger rail service and economic development of the region.

C-5.8: Design future roadways to accommodate transit facilities, as appropriate. These design elements should include installation of transit stops adjacent to intersections and provision of bus turnouts and sheltered stops, where feasible.

C-5.9: Encourage land uses and site developments that promote public transit along fixed route public transportation corridors, with priority given to those projects that will bring the greatest increase in transit ridership.

C-5.10: Ensure that development projects provide adequate facilities to accommodate school buses, including loading and turn-out locations in multifamily and other projects that include medium and high density residential uses, and that the school districts are provided an opportunity to address specific needs associated with school busing.

C-5.11: As new areas and neighborhoods of the City are developed, fund transit and paratransit expansion (including capital, operations, and maintenance) to provide service levels consistent with existing development.

C-7.1: Encourage employers to provide alternative mode subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting, and work-at-home programs employee education and preferential parking for carpools/vanpools.

C-7.2: Require development projects that accommodate or employ 50 or more full-time equivalent employees to establish a transportation demand management (TDM) program that meets or exceeds applicable standards, including Air District requirements.

C-7.3: Partner with SJCOG on the Dibs program, which is the regional smart travel program, including rideshare, transit, walking, and biking, operated by SJCOG.

C-7.4: Require proposed development projects that could have a potentially significant VMT impact to consider reasonable and feasible project modifications and other measures during the project design and environmental review stage of project development that would reduce VMT effects in a manner consistent with state guidance on VMT reduction.

C-7.5: Evaluate the feasibility of a local or regional VMT impact fee program, bank, or exchange. Such an offset program, if determined feasible, would be administered by the City or a City-approved agency, and would offer demonstrated VMT reduction strategies through transportation demand management programs, impact fee programs, mitigation banks or exchange programs, in-lieu fee programs, or other land use project conditions that reduce VMT in a manner consistent with state guidance on VMT reduction. If, through on-site changes, a subject project cannot eliminate VMT impacts, the project could contribute on a pro-rata basis to a local or regional VMT reduction bank or exchange, as necessary, to reduce net VMT impacts.

C-7.6: Expand alternatives to driving by increasing opportunities to walk, bike, and use transit.

EF-2.3: Prioritize the development of employment-generating uses on sites with vacant buildings or on underutilized commercial, office, and industrial-designated parcels.

EF-2.9: Encourage mixed-use development on vacant and underutilized parcels along the North Main Street and Yosemite Avenue corridors, allowing flexible reaction to changing market conditions.

Program and update the program as necessary to meet or exceed the State waste diversion requirements.

CF-11.4: Reduce municipal waste generation by increasing recycling, on-site composting, and mulching, where feasible, at municipal facilities, as well as using resource efficient landscaping techniques in new or renovated medians and parks.

CF-11.5: Encourage residential, commercial, and industrial recycling and reuse programs and techniques.

CF-11.6: Coordinate with and support other local agencies and jurisdictions in the region to develop and implement effective waste management strategies and waste-to-energy technologies.

RC-4.1 Support the conservation of energy through comprehensive and sustainable land use, transportation, and energy planning, implementation of greenhouse gas reduction measures, and inclusive public education and outreach regarding climate adaptation and greenhouse gas emissions to address opportunities to decrease emissions associated with growth, development, and local government operations.

RC-4.2 Support and actively participate with the state, regional, and local agencies and stakeholders toward State greenhouse gas emission reduction goals.

RC-4.3 Maintain a Climate Action Plan that addresses State-adopted GHG reduction goals and provides effective measures to meet GHG targets.

RC-4.4 Ensure that land use and circulation improvements are coordinated to reduce the number and length of vehicle trips.

RC-4.5 Encourage private development to explore and apply non-traditional energy sources such as co-generation, wind, and solar to reduce dependence on traditional energy sources.

3.7 GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

RC-4.6 Require all new public and privately constructed buildings to meet and comply with construction and design standards that promote energy conservation, including the most current “green” development standards in the California Green Building Standards Code.

RC-4.7 Support expanded innovative and green building best practices including, but not limited to, LEED certification for all new development and retrofitting existing uses, and encourage public and private projects to exceed the most current “green” development standards in the California Green Building Standards Code.

RC-4.8 Increase energy efficiency and conservation in public buildings and infrastructure.

RC-4.9 Encourage the conservation of public utilities and use of renewable energy technologies in new development, rehabilitation projects, and in City buildings and facilities.

RC-4.10 Encourage measures, including building siting and shading and use of shade trees, to reduce urban heat island effects.

RC-4.11 Support state efforts to power electricity with renewable and zero-carbon resources, such as solar and wind energy.

RC-4.12 Encourage the conservation of petroleum products.

RC-4.13 Encourage the installation of renewable energy technologies serving agricultural operations.

RC-5.1: Coordinate with the San Joaquin Valley Air Pollution Control District (Air District), San Joaquin Council of Governments, and the California Air Resources Board (State Air Board), and other agencies to develop and implement regional and county plans, programs, and mitigation measures that address cross-jurisdictional and regional air quality impacts, including land use, transportation, and climate change impacts, and incorporate the relevant provisions of those plans into City planning and project review procedures. Also cooperate with the Air District, SJCOG, and State Air Board in:

- *Enforcing the provisions of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality.*
- *Identifying baseline air pollutant and greenhouse gas emissions.*
- *Encouraging zero emission or alternative fuel for city vehicle fleets, when feasible.*
- *Developing consistent procedures for evaluating and mitigating project-specific and cumulative air quality impacts of projects.*
- *Promoting participation of major existing and new employers in the transportation demand management (TDM) program facilitated by the San Joaquin Council of Governments.*

RC-5.2: Minimize exposure of the public to toxic or harmful air emissions and odors through requiring an adequate buffer or distance between residential and other sensitive land uses and land uses that typically generate air pollutants, toxic air contaminants, or obnoxious fumes or odors, including but not limited to industrial, manufacturing, and processing facilities, highways, and rail lines and, where uses or facilities pose substantial health risks, ensure that a Health Risk Assessment is conducted to identify and mitigate exposure to toxic air contaminants.

RC-5.3: Require construction and operation of new development to be managed to minimize fugitive dust and air pollutant emissions.

RC-5.4: Require installation of energy-efficient appliances and equipment, including wood-burning devices, in development projects to meet current standards for controlling air pollution, including particulate matter and toxic air contaminants.

RC-5.5: Require and/or cooperate with the Air District to ensure that burning of any combustible material within the City is consistent with Air District regulations to minimize particulate air pollution.

RC-5.6: Encourage and support the regional Sustainable Communities Strategy that integrates planning for growth, transportation, land use, housing, and sustainability to meet State greenhouse reduction goals.

ACTIONS

LU-1b: Regularly review and revise, as necessary, the Zoning Code to accomplish the following purposes:

- *Ensure consistency with the General Plan in terms of zoning districts and development standards;*
- *Provide for a Downtown zone that permits the vibrant mixing of residential, commercial, office, business-professional, and institutional uses within the Central Business District;*
- *Ensure adequate buffers and transitions are required between intensive uses, such as industrial and agricultural industrial, and sensitive receptors, including residential uses and schools; and*
- *Provide for an Agricultural Industrial zone that accommodates the processing of crops and livestock.*
- *Ensure that land use requirements meet actual demand and community needs over time as technology, social expectations, and business practices change.*

LU-6b: Implement incentives to support developers who construct vertical mixed-use projects and/or who build housing above non-residential ground-floor uses within Downtown.

LU-6e: Promote the intensified use and reuse of existing suites above ground floors.

LU-9a: Review all development proposals, planning projects, and infrastructure projects to ensure that potential adverse impacts to disadvantaged communities, such as exposure to pollutants, including toxic air contaminants, and unacceptable levels of noise and vibration are reduced to the extent feasible and that measures to improve quality of life, such as connections to bicycle and pedestrian paths, community services, schools, and recreation facilities, access to healthy foods, and improvement of air quality are included in the project. The review shall address both the construction and operation phases of the project.

LU-9c: Encourage and support local transit service providers, through input from residents and stakeholders, to increase and expand services for people who are transit-dependent, including seniors, persons with mobility disabilities, and persons without regular access to automobiles by improving connections to regional medical facilities, senior centers, and other support systems that serve residents and businesses.

C-1c: Develop a pedestrian, bicycle, and transit improvement plan for the Downtown area through an engaging process inclusive of community members and stakeholders to facilitate implementation

of level of service policy C-1.4. This plan will develop a list of multi-modal improvements in the Downtown area to increase the viability and encourage the use of non-auto modes.

C-2b: When planning roadway facilities, incorporate the concept of complete streets. Complete streets include design elements for more safe travel by all modes that use streets, including autos, transit, pedestrians, and bicycles. Complete streets shall be developed in a context-sensitive manner. For example, it may be more appropriate to provide a Class I bike path instead of bike lanes along a major arterial. Pedestrian districts like Downtown Manteca or areas near school entrances should have an enhanced streetscape (e.g., narrower travel lanes, landscape buffers with street trees, etc.) to better accommodate and encourage pedestrian travel.

C-2f: Ensure that bicycle and pedestrian access is both provided and prioritized through providing openings to increase access where soundwalls and berms are located to minimize travel distances and increase the viability walking and bicycling.

C-2i: Pursue funding to improve and address areas of traffic, bicycle, and pedestrian hazards and conflicts with vehicular traffic movements.

C-4a: Periodically update the Active Transportation Plan through a process inclusive of community members and stakeholders to include all areas envisioned for development by this General Plan and to address pedestrian and bicycle facilities needed to provide a complete circulation system that adequately meets the needs of pedestrians and bicyclists.

C-4b: Utilize the standards set forth in the latest editions of the California MUTCD and American Association of State Highway and Transportation Officials (AASHTO) Green Book for improvement and re-striping of appropriate major collector and arterial streets to accommodate Class II bike lanes or Class IV protected bikeways in both directions, where sufficient roadway width is available. This may include narrowing of travel lanes.

C-4d: Add bicycle facilities whenever possible in conjunction with road rehabilitation, reconstruction, or re-striping projects.

C-4e: Update the City's standard plans to accommodate pedestrians and bicyclists, including landscape-separated sidewalks where appropriate, and to include bike lanes on collector and arterial streets, as defined by the Active Transportation Plan.

C-4f: Encourage and facilitate resident and visitor use of the bike trail system by preparing a map of the pedestrian and bike paths and implementing wayfinding signage.

C-4g: Update the standard plans to specify a set of roadways with narrower lanes (less than 12 feet) and pedestrian bulb-outs to calm traffic and increase pedestrian and bicycle comfort. These narrow lane standards shall be applied to appropriate streets (e.g., they shall not be applied to outside lanes on major truck routes) and new development.

C-5a: Periodically review transit needs in the city through a process inclusive of community members and stakeholders and adjust bus routes to accommodate changing land use and transit demand patterns. The City shall also periodically coordinate with the San Joaquin Regional Transit District to assess the demand for regional transit services.

C-5b: Explore a transit connections study that would identify improvements to connections and access to the existing ACE station, the Manteca Transit Center, and future planned transit stations.

C-5c: Update the City's standard plans to include the option for bus turnouts at intersections of major streets.

C-5d: Review and consider alternatives to conventional bus systems, such as smaller shuttle buses (i.e. micro-transit), on-demand transit services, or transportation networking company services that connect neighborhood centers to local activity centers with greater cost efficiency.

C-5e: Work with the school districts to identify and implement opportunities for joint-use public transit that would provide both student transportation and local transit service.

C-5f: Through the development review process, ensure that projects provide increased land use densities and mixed uses, consistent with the Land Use Element to enhance the feasibility of transit and promote alternative transportation modes.

C-5g: Along fixed route corridors, require that new development to be compatible with and further the achievement of the Circulation Element. Requirements for compatibility may include but are not limited to:

- *Orienting pedestrian access to transit centers and existing and planned transit routes.*
- *Orienting buildings, walkways, and other features to provide pedestrian access from the street and locating parking to the side or behind the development, rather than separating the development from the street and pedestrian with parking.*
- *Providing clearly delineated routes through parking lots to safely accommodate pedestrian and bicycle circulation.*

C-5h: Review and update the City's funding programs to provide for adequate transit services, including funding for capital, operations, and maintenance, commensurate with growth of the City.

C-7a: Provide information about transit services, ridesharing, vanpools, and other transportation alternatives to single occupancy vehicles at City Hall, the library, on the City website, and through other channels.

C-7b: Develop TDM program requirements with consideration of addressing CEQA vehicle miles traveled impact analysis requirements (i.e., SB 743) in accordance with implementation measure C-1b. TDM programs shall include measures to reduce total vehicle miles traveled and peak hour vehicle trips. A simplified version of the Air District's Rule 9410 could be used to implement this measure.

C-7c: Coordinate with the San Joaquin Council of Governments on a Congestion/Mobility Management Program to identify TDM strategies to reduce VMT and mitigate peak-hour congestion impacts. Strategies may include: growth management and activity center strategies, telecommuting, increasing transit service frequency and speed, transit information systems, subsidized and discount transit programs, alternative work hours, carpooling, vanpooling, guaranteed ride home program, parking management, addition of general purpose lanes, channelization, computerized signal systems, intersection or midblock widenings, and Intelligent Transportation Systems.

*C-7d: Proposed development projects shall incorporate measures to reduce VMT, including consideration of the measures listed below. This list is not intended to be exhaustive, and not all measures may be feasible, reasonable, or applicable to all projects. The purpose of this list is to identify options for future development proposals, not to constrain projects to this list, or to require that a project examine or include all measures from this list. Potential measures, with possible ranges of VMT reduction for a project, include:**

- *Increase density of development (up to 10.75 percent)*
- *Increase diversity of land uses (up to 12 percent)*
- *Implement car-sharing programs (up to 5 percent)*

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- *Implement parking management and pricing (up to 6 percent)*
- *Implement subsidized or discounted transit program (up to 0.7 percent)*
- *Implement commute trip reduction marketing and launch targeted behavioral interventions (up to 3 percent)*
- *Participating in local or regional carpool matching programs***
- *Providing preferential carpool and vanpool parking***
- *Providing secure bicycle parking, showers, and lockers at work site***

**Note: VMT reduction ranges based on Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association (2010), and new research compiled by Fehr & Peers (2020). Additional engineering analysis is required prior to applying reductions to specific projects. Actual reductions will vary by project and project context.*

***Reduction determined at the project-level*

C-7e: Partner with SJCOG, San Joaquin County, and neighboring cities to evaluate a potential regional VMT impact fee program, bank, or exchange.

C-7f: Implement the Active Transportation Plan and other Bikeway and Pedestrian Systems goals and policies (C-4).

C-7g: Expand transit service and increase transit frequency and implement Public Transit goals and policies (C-5).

RC-4a: Continue to assess and monitor performance of greenhouse gas emissions reduction efforts, including progress toward meeting longer-term GHG emissions reduction goals for 2035 and 2050 by reporting on the City's progress annually, updating the Climate Action Plan and GHG inventory regularly to demonstrate consistency with State-adopted GHG reduction targets, including those targets established beyond 2020, and updating the GHG Strategy in the General Plan, as appropriate.

RC-5a: Implement development standards and best practices that promote energy conservation and the reduction in greenhouse gases, including:

- *Require new development to be energy-efficient through passive design concepts (e.g., techniques for heating and cooling, building siting orientation, street and lot layout, landscape placement, and protection of solar access;*
- *Require construction standards which promote energy conservation including window placement, building eaves, and roof overhangs;*
- *Require all projects to meet minimum State and local energy conservation standards;*
- *Require developments to include vehicle charging stations that meet or exceed the requirements of State law and to include outdoor electrical outlets to reduce the need for portable generators or other portable power sources, including for residential, commercial, industrial, park, and public/quasi-public uses;*
- *Require best practices in selecting construction methods, building materials, project appliances and equipment, and project design;*
- *Encourage and accommodate projects that incorporate alternative energy;*
- *Encourage projects to incorporate enhanced energy conservation measures, electric-only appliances, and other voluntary methods of reducing energy usage and greenhouse gas emissions; and*

- *Require large energy users to implement an energy conservation plan as part of the project review and approval process, and develop a program to monitor compliance with and effectiveness of that plan.*

RC-4c: Continue to review development projects to ensure that all new public and private development complies with or exceeds the California Code of Regulations, Title 24 standards as well as the energy efficiency standards established by the General Plan and the Municipal Code.

RC-4d: Develop a public education program in partnership with relevant agencies and community organizations to increase public participation in energy conservation.

RC-4e: Connect residents and businesses with programs that provide free or low-cost energy efficiency audits and retrofits to existing buildings.

RC-4f: Update the Municipal Code to incentivize the use of small-scale renewable energy facilities and, where appropriate, to remove impediments to such uses.

RC-4g: Cooperate with other agencies, jurisdictions, and organizations to expand energy conservation programs.

RC-4h: Explore alternative energy sources, including co-generation, active solar energy, and wind generation, and identify opportunities for alternative energy to be used in public and private projects.

RC-4i: Evaluate methods to increase energy efficiency and reduce greenhouse gas emissions, including 1) generating electricity on City-owned sites with solar and other low or zero-carbon emission resources to reduce the City's carbon footprint, 2) joining or creating a Community Choice Aggregator to encourage affordable access to clean power, 3) replacing City-owned vehicles with hybrid or electric vehicles, 4) increasing energy efficiency in public buildings and infrastructure, and 5) deploying affordable charging and alternative fuel options throughout Manteca.

RC-4i: Implement transportation measures, as outlined in the Circulation Element, which reduce the need for automobile use and petroleum products.

RC-4j: Develop a Zero Emissions Vehicle Market Development Strategy that ensures expeditious implementation of the systems of policies, programs and regulations necessary to address Executive Order N-79-20.

RC-5j: Implement transportation measures, as outlined in the Circulation Element, which reduce the need for automobile use and petroleum products.

RC-5a: Work with the Air District to implement the Air Quality Management Plan (AQMP).

- *Cooperate with the Air District to develop consistent and accurate procedures for evaluating project-specific and cumulative air quality impacts.*
- *Cooperate with the Air District and the State Air Board in their efforts to develop a local airshed model.*
- *Cooperate with the Air District in its efforts to develop a cost/benefit analysis of possible control strategies (mitigation measures to minimize short and long-term stationary and area source emissions as part of the development review process, and monitoring measures to ensure that mitigation measures are implemented.*
- *Cooperate with the Air District and community organizations to promote public awareness*

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of air quality issues.

RC-5b: Review development, land use, transportation, and other projects that are subject to CEQA for potentially significant climate change and air quality impacts, including toxic and hazardous emissions and require that projects provide adequate, appropriate, and cost-effective mitigation measures reduce significant and potentially significant impacts. This includes, but is not limited to, the following:

- *Use of the Air District “Guide for Assessing and Mitigating Air Quality Impacts”, as may be amended or replaced from time to time, in identifying thresholds, evaluating potential project and cumulative impacts, and determining appropriate mitigation measures;*
- *Contact the Air District for comment regarding potential impacts and mitigation measures as part of the evaluation of air quality effects of discretionary projects that are subject to CEQA;*
- *Require projects to participate in regional air quality mitigation strategies, including Air District-required regulations, as well as recommended best management practices when applicable and appropriate ;*
- *Promote the use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
- *The use of energy efficient lighting (including controls) and process systems beyond Title 24 requirements shall be encouraged where practicable (e.g., water heating, furnaces, boiler units, etc.);*
- *The use of energy efficient automated controls for air conditioning beyond Title 24 requirements shall be encouraged where practicable; and*
- *Promote solar access through building siting to maximize natural heating and cooling, and landscaping to aid passive cooling and to protect from winds;*
- *The developer of a sensitive air pollution receptor shall submit documentation that the project design includes appropriate buffering (e.g., setbacks, landscaping) to separate the use from highways, arterial streets, hazardous material locations and other sources of air pollution or odor;*
- *Identify sources of toxic air emissions and, if appropriate, require preparation of a health risk assessment in accordance with Air District-recommended procedures; and*
- *Circulate the environmental documents for projects with significant air quality impacts to the Air District for review and comment.*

RC-5c: Review area and stationary source projects that could have a significant air quality impact, either individually or cumulatively, to identify the significance of potential impacts and ensure that adequate air quality mitigation is incorporated into the project, including:

- *The use of best available and economically feasible control technology for stationary industrial sources;*
- *All applicable particulate matter control requirements of Air District Regulation VIII;*
- *The use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
- *Provision of adequate electric or natural gas outlets to encourage use of natural gas or electric barbecues and electric gardening equipment; and*
- *Use of alternative energy sources.*

RC-5d: Maintain adequate data to analyze cumulative land use impacts on air quality and climate change. This includes tracking proposed, planned, and approved General Plan amendments, development, and land use decisions so that projects can be evaluated for cumulative air quality impacts, including impacts associated with transportation and land use decisions.

Impact 3.7-2: General Plan implementation would not conflict with adopted plans, policies, or regulations adopted for the purpose of reducing greenhouse gas emissions (Less than Significant)

As described under Impact 3.7-1, the proposed General Plan is consistent with the City's adopted Climate Action Plan, which is a Qualified GHG Reduction Plan. The City's CAP has been developed to satisfy the GHG reduction requirements established by AB 32. As further provided under Impact 3.7-1, the GHG emissions that would be emitted with implementation of proposed General Plan would be required to comply with the existing 2013 Manteca CAP.

In addition, the General Plan will not conflict with the implementation of regional transportation-related GHG targets outlined in San Joaquin Council of Governments' (SJCOG) 2018 Regional Transportation Plan and Sustainable Communities Strategy (2018 RTP/SCS). The 2018 RTP/SCS relied upon the existing Manteca General Plan to determine population, employment, and VMT increases associated with General Plan buildout. However, because the land use modifications contained in the proposed General Plan reduce VMT per capita and per service population, in comparison to the existing General Plan as shown in Table 3.7-1, the proposed General Plan would result in emissions less than those forecasted in the 2018 RTP/SCS. Additionally, the proposed General Plan would not conflict with any of the other provisions of the Scoping Plan or applicable regulations related to GHG reductions because the General Plan includes a comprehensive approach to expanding transit access, increasing mobility options, promoting a pedestrian- and bicycle-oriented urban development pattern, improve the City's jobs to housing ratio, developing complete neighborhoods that accommodate a variety of housing types and are proximate to shopping, services, and jobs, and encourages development of infill sites at comparable or higher densities higher than those allowed by the existing General Plan. All of these comprehensive policy approaches serve to support regional and statewide efforts to reduce GHG emissions, including CARB's Scoping Plan and SJCOG's 2018 RTP/SCS through energy efficiency, green building, VMT reduction, and the other policies and actions listed under Impact 3.7-1.

CONCLUSION

The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. There is a **less than significant** impact relative to this topic.

Impact 3.7-3: General Plan implementation would not result in a significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources, or conflict with or obstruct a state or local plan for renewable energy or energy efficiency (Less than Significant)

The State CEQA Guidelines require consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce “wasteful, inefficient and unnecessary” energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to Appendix G of the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, a project would be considered “wasteful, inefficient, and unnecessary” if it were to violate state and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The proposed project is the updated Manteca General Plan, with a horizon year of 2040. Buildout of the General Plan includes residential, commercial, office, industrial, mixed-use, open space, and other land uses (see Chapter 2.0: Project Description for further detail). As previously discussed, the buildout growth projections are not a prediction for growth as the actual amount of development that will occur through the planning horizon of the General Plan is based on many factors outside of the City’s control, including future real estate and labor market conditions, property owner preferences and decisions, and site-specific constraints. The amount of energy used in the Planning Area at buildout would directly correlate to the type and size of development, the energy consumption associated with unit appliances, outdoor lighting, and energy use associated with other buildings and activities. Other major sources of Planning Area energy consumption include fuel used by vehicle trips generated during construction and operational activities, and fuel used by off-road and on-road construction vehicles during construction. The following discussion provides a breakdown of the energy uses in the Planning Area upon buildout of the proposed project.

ELECTRICITY AND NATURAL GAS

At buildout, the City’ electricity and natural gas consumption would be used primarily to power buildings (all types of buildings, including residential, commercial, office, industrial, public, etc.). Electricity would primarily come from the electricity utility provider (PG&E), though on-site solar generation would generate a substantial source of energy for the community at General Plan buildout.

FUEL CONSUMPTION - ON-ROAD VEHICLES (OPERATION)

Buildout of the General Plan would generate vehicle trips during its operational phase. As shown in Table 3.7-1, the proposed project would generate approximately 4,384,963 daily VMT in the Planning Area. Fuel consumption is anticipated to represent the largest sector of GHG emissions at

General Plan buildout. Energy for on-road vehicles would derive from gasoline, diesel, as well as electricity from PG&E and from on-site solar generation.

FUEL CONSUMPTION - ON-ROAD VEHICLES (CONSTRUCTION)

The proposed project would also generate on-road vehicle trips during construction activities (from construction workers, vendors, and haulers). The vast majority of on-road mobile vehicle fuel used during the construction activities during buildout of the General Plan would occur during building construction.

OFF-ROAD VEHICLES (CONSTRUCTION)

Off-road construction vehicles would use diesel fuel during construction activities. A non-exhaustive list of off-road constructive vehicles expected to be used during construction activities includes: cranes, forklifts, generator sets, tractors, excavators, and dozers.

CONCLUSION

Buildout of the General Plan would use energy resources for the operation of buildings (electricity and natural gas), for on-road vehicle trips (e.g., gasoline and diesel fuel), and from off-road construction activities (e.g., diesel fuel) associated with buildout of the General Plan. Each of these activities would require the use of energy resources. Developers of individual projects within the Planning Area would be responsible for conserving energy, to the extent feasible, and would rely heavily on reducing per capita energy consumption to achieve this goal, including through Statewide and local measures. For example, developers would be required to comply with the latest version of the 2019 Building Energy Efficiency Standards (CalGreen), which became effective on January 1, 2020, as also required under General Plan Policy RC-5.3. CalGreen requires developers to implement stringent requirements for home insulation, energy efficiency of appliances, renewable energy, electric vehicle charging, water efficiency and conservation, construction waste reduction, indoor and outdoor air quality, material conservation and resource efficiency, and efficiency of building maintenance and operation.

Additionally, developers would have to comply with proposed General Plan policies and implementing actions that reduce energy usage, promote renewable and/or alternative energy sources, and encourage pedestrian/bicycle modes of transportation, as identified under Impact 3.7-1. For example, Policy LU-6.9 of the proposed General Plan requires mixed-use development to provide strong connections with the surrounding development and neighborhoods through the provision of pedestrian and bicycle facilities. Additionally, Policy RC-5.4 support innovative and green building best practices including, but not limited to, LEED certification for all new development, that exceed the most current “green” development standards in the California Green Building Standards Code. Other General Plan policies and implementation actions would further reduce energy consumption.

Buildout of the General Plan would be in compliance with all applicable federal, state, and local regulations regulating energy usage. For example, PG&E is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the

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Statewide RPS to increase the proportion of renewable energy (e.g., solar and wind) within its energy portfolio.

PG&E is expected to achieve at least 60% renewables by 2030, and 100 percent zero-carbon electricity by 2045 (in compliance with SB 100). Additionally, energy-saving regulations, including the latest State Title 24 building energy efficiency standards (“part 6”), would be applicable to the proposed project. Other Statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g., the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time. Furthermore, additional project-specific the sustainability features individual development projects could further energy consumption of individual projects. The proposed project would also be in compliance with the planning documents described previously within this section.

As a result, the proposed project would not result in any significant adverse impacts related to project energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type for during General Plan buildout, including during construction, operations, maintenance, and/or removal. PG&E, the electricity and natural gas provider to the site, maintains sufficient capacity to serve the Planning Area. The City of Manteca would comply with all existing energy standards in implementing the General Plan project, and would not result in significant adverse impacts on energy resources. Furthermore, General Plan policies would ensure that connections would be developed between the Planning Area and nearby pedestrian and bicycle pathways, including Policy C-2.15, which would ensure that development and infrastructure projects are designed in a way that provides pedestrian and bicycle connectivity to adjacent neighborhoods and areas, Policy C-4.1, which would establish a safe and convenient network of identified bicycle and pedestrian routes connecting residential areas with schools, recreation, shopping, and employment areas within the city, and Policy C-4.5, which would expand the existing network of off-street bicycle facilities as shown in the City’s Active Transportation Plan to accommodate cyclists who prefer to travel on dedicated trails.

Additionally, public transit access exists nearby, reducing the need for local motor vehicle travel. For example, General Plan Policy C.5.1 encourages and calls for planning for the expansion of regional bus service in the Manteca Area; Policy C-5.2 promotes increased commuter and regional passenger rail service; Policy C.5.5 encourages programs that provide ridesharing and vanpool opportunities and other alternative modes of transportation for Manteca residents; Policy C-5.6 promotes the development of park-and-ride facilities near I-5, SR 120, SR 99, and transit stations; and Policy C-5.8 requires that future roadways are designed to accommodate transit facilities.

Furthermore, with implementation of the proposed General Plan, the Planning Area would be linked closely with existing and proposed road, bicycle, and pedestrian networks that would well serve the residents of the Planning Area and neighboring communities. For the reasons stated above, buildout of the General Plan would not be expected cause an inefficient, wasteful, or unnecessary use of energy resources nor conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This is a ***less than significant*** impact.

GENERAL PLAN POLICIES THAT MINIMIZE THE POTENTIAL FOR IMPACTS**POLICIES**

LU-6.8: Encourage the mixing of retail, service, residential, office, and institutional uses on the properties surrounding The Promenade to create a significant retail, employment, and cultural center south of Highway 120.

LU-6.9: Require mixed-use development to provide strong connections with the surrounding development and neighborhoods through the provision of pedestrian and bicycle infrastructure and facilities and, where feasible, site consolidation.

LU-6.10: Encourage the reuse of existing buildings within Downtown and in other developed locations designated for mixed-use development by utilizing the California Existing Building Code which provides flexibility in the retrofitting of buildings.

LU-6.11: Prioritize the revitalization of underutilized, deteriorated areas and buildings within Downtown and in other developed locations designated for mixed-use development through development incentives, public/private partnerships, and public investments.

LU-8.5: Policy Area 3 is the Austin Road Business Park and Residential Community Master Plan area, with boundaries as shown in Figure LU-6. The primary land uses within Policy Area 3 are envisioned to be a master planned residential community with high-quality parks, community-serving commercial uses, and residential development ranging from very low to high density residential in order to accommodate a broad range of housing types, including executive housing and workforce housing. Residential uses located near SR 99 and adjacent the railroad tracks should include appropriate transitions and buffers to address air quality and noise.

C-2.7: Provide access for bicycles and pedestrians at the ends of cul-de-sacs, where right-of-way is available, to provide convenient access within and between neighborhoods and to encourage walking and bicycling to neighborhood destinations.

C-2.8: Signals, roundabouts, traffic circles and other traffic management, calming, and safety techniques shall be applied according to industry standards at residential and collector street intersections with collector and arterial streets in order to allow bicyclists and pedestrians to travel more conveniently and more safely from one neighborhood to another.

C-2.15: Ensure that development and infrastructure projects are designed in a way that provides pedestrian and bicycle connectivity to adjacent neighborhoods and areas (such as ensuring that sound walls, berms, and similar physical barriers are considered and gaps or other measures are provided to ensure connectivity).

C-4.1: Through regular updates to the City's Active Transportation Plan inclusive of community members and stakeholders, establish a more safe and more convenient network of identified bicycle and pedestrian routes connecting residential areas with schools, recreation, shopping, and employment areas within the city, generally as shown in Figure CI-2). The City shall also strive to develop connections with existing and planned regional routes shown in the San Joaquin County Bicycle Master Plan.

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C-4.2: Improve safety conditions, efficiency, and comfort for bicyclists and pedestrians by providing native and drought-tolerant shade trees and controlling traffic speeds by implementing narrow lanes or other traffic calming measures in accordance with the City Neighborhood Traffic Calming Program on appropriate streets, in particular residential and downtown areas
C-4.3: Provide a sidewalk and bicycle route system that serves all pedestrian and bicycle users and meets the latest guidelines related to the Americans with Disabilities Act (ADA).

C-4.4: Provide bicycle parking facilities at commercial, business/professional and light industrial uses in accordance with Part 11 of the California Building Standards Code.

C-4.5: Expand the existing network of off-street bicycle facilities as shown in the City's Active Transportation Plan to accommodate cyclists who prefer to travel on dedicated trails. Further, the City shall strive to develop: 1) a "city-loop" Class I bike path for use by both bicyclists and pedestrians that links Austin Road, Atherton Drive, Airport Way, and a route along or near Lathrop Road to the Tidewater bike path and its existing and planned extensions, and 2) an off-street bicycle trail extension between the Tidewater Bike Trail near the intersection of Moffat Boulevard and Industrial Park Drive to the proposed regional route between Manteca and Ripon.

C-4.6: Provide on-street Class II bike lanes, Class IV protected bike lanes, or off-street Class I bike paths along major collector and arterial streets whenever feasible.

C-4.7: Facilitate bicycle travel through residential streets through signage necessary to communicate the presence of Class III bicycle routes on residential streets that have sufficiently low volumes as to not require bike lanes or have narrower street cross sections that assist in calming traffic.

C-4.8: Provide sidewalks and/or walkways connecting to the residential neighborhoods, primary public destinations, major public parking areas, transit stops, and intersections with the bikeway system.

C-4.9: Provide sidewalks along both sides of all new streets in the City and add sidewalks to fill gaps on existing streets as identified in the Active Transportation Plan.

C-5.1: Encourage and plan for the expansion of regional bus service in the Manteca area.

C-5.2: Promote increased commuter and regional passenger rail service that will benefit the businesses and residents of Manteca. Examples include Amtrak, the Altamont Commuter Express (ACE), and high-speed rail.

C-5.3: Identify and implement means of enhancing the opportunities for residents to commute from residential neighborhoods to the ACE station or other transit facilities that may develop in the City.

C-5.4: Include primary locations where the transit systems will connect to the major bikeways and pedestrian ways and primary public parking areas in the Active Transportation Plan (see C-4a).

C-5.5: Encourage programs that provide ridesharing and vanpool opportunities and other alternative modes of transportation for Manteca residents.

C-5.6: Promote the development of park-and-ride facilities near I-5, SR 120, SR 99, and transit stations.

C-5.7: Maintain a working relationship between the City administration and the local management of the Union Pacific Railroad regarding expansion of freight and passenger rail service and economic development of the region.

C-5.8: Design future roadways to accommodate transit facilities, as appropriate. These design elements should include installation of transit stops adjacent to intersections and provision of bus turnouts and sheltered stops, where feasible.

C-5.9: Encourage land uses and site developments that promote public transit along fixed route public transportation corridors, with priority given to those projects that will bring the greatest increase in transit ridership.

C-5.10: Ensure that development projects provide adequate facilities to accommodate school buses, including loading and turn-out locations in multifamily and other projects that include medium and high density residential uses, and that the school districts are provided an opportunity to address specific needs associated with school busing.

C-5.11: As new areas and neighborhoods of the City are developed, fund transit and paratransit expansion (including capital, operations, and maintenance) to provide service levels consistent with existing development.

C-7.1: Encourage employers to provide alternative mode subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting, and work-at-home programs employee education and preferential parking for carpools/vanpools.

C-7.2: Require development projects that accommodate or employ 50 or more full-time equivalent employees to establish a transportation demand management (TDM) program that meets or exceeds applicable standards, including Air District requirements.

C-7.3: Partner with SJCOG on the Dibs program, which is the regional smart travel program, including rideshare, transit, walking, and biking, operated by SJCOG.

C-7.4: Require proposed development projects that could have a potentially significant VMT impact to consider reasonable and feasible project modifications and other measures during the project design and environmental review stage of project development that would reduce VMT effects in a manner consistent with state guidance on VMT reduction.

C-7.5: Evaluate the feasibility of a local or regional VMT impact fee program, bank, or exchange. Such an offset program, if determined feasible, would be administered by the City or a City-approved agency, and would offer demonstrated VMT reduction strategies through transportation demand management programs, impact fee programs, mitigation banks or exchange programs, in-lieu fee programs, or other land use project conditions that reduce VMT in a manner consistent with state guidance on VMT reduction. If, through on-site changes, a subject project cannot eliminate VMT impacts, the project could contribute on a pro-rata basis to a local or regional VMT reduction bank or exchange, as necessary, to reduce net VMT impacts.

C-7.6: Expand alternatives to driving by increasing opportunities to walk, bike, and use transit.

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EF-2.3: Prioritize the development of employment-generating uses on sites with vacant buildings or on underutilized commercial, office, and industrial-designated parcels.

EF-2.9: Encourage mixed-use development on vacant and underutilized parcels along the North Main Street and Yosemite Avenue corridors, allowing flexible reaction to changing market conditions.

Program and update the program as necessary to meet or exceed the State waste diversion requirements.

CF-11.4: Reduce municipal waste generation by increasing recycling, on-site composting, and mulching, where feasible, at municipal facilities, as well as using resource efficient landscaping techniques in new or renovated medians and parks.

CF-11.5: Encourage residential, commercial, and industrial recycling and reuse programs and techniques.

CF-11.6: Coordinate with and support other local agencies and jurisdictions in the region to develop and implement effective waste management strategies and waste-to-energy technologies.

RC-4.1 Support the conservation of energy through comprehensive and sustainable land use, transportation, and energy planning, implementation of greenhouse gas reduction measures, and inclusive public education and outreach regarding climate adaptation and greenhouse gas emissions to address opportunities to decrease emissions associated with growth, development, and local government operations.

RC-4.2 Support and actively participate with the state, regional, and local agencies and stakeholders toward State greenhouse gas emission reduction goals.

RC-4.2 Ensure that land use and circulation improvements are coordinated to reduce the number and length of vehicle trips.

RC-4.3 Encourage private development to explore and apply non-traditional energy sources such as co-generation, wind, and solar to reduce dependence on traditional energy sources.

RC-4.4 Require all new public and privately constructed buildings to meet and comply with construction and design standards that promote energy conservation, including the most current “green” development standards in the California Green Building Standards Code.

RC-4.5 Support expanded innovative and green building best practices including, but not limited to, LEED certification for all new development and retrofitting existing uses, and encourage public and private projects to exceed the most current “green” development standards in the California Green Building Standards Code.

RC-4.6 Increase energy efficiency and conservation in public buildings and infrastructure.

RC-4.7 Encourage the conservation of public utilities and use of renewable energy technologies in new development, rehabilitation projects, and in City buildings and facilities.

RC-4.8 Encourage measures, including building siting and shading and use of shade trees, to reduce urban heat island effects.

RC-4.9 Support state efforts to power electricity with renewable and zero-carbon resources, such as solar and wind energy.

RC-4.10 Encourage the conservation of petroleum products.

RC-4.11 Encourage the installation of renewable energy technologies serving agricultural operations.

RC-5.1: Coordinate with the San Joaquin Valley Air Pollution Control District (Air District), San Joaquin Council of Governments, and the California Air Resources Board (State Air Board), and other agencies to develop and implement regional and county plans, programs, and mitigation measures that address cross-jurisdictional and regional air quality impacts, including land use, transportation, and climate change impacts, and incorporate the relevant provisions of those plans into City planning and project review procedures. Also cooperate with the Air District, SJCOG, and State Air Board in:

- Enforcing the provisions of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality.
- Identifying baseline air pollutant and greenhouse gas emissions.
- Encouraging zero emission or alternative fuel city vehicle fleets, when feasible.
- Developing consistent procedures for evaluating and mitigating project-specific and cumulative air quality impacts of projects.
- Promoting participation of major existing and new employers in the transportation demand management (TDM) program facilitated by the San Joaquin Council of Governments.

RC-5.2: Minimize exposure of the public to toxic or harmful air emissions and odors through requiring an adequate buffer or distance between residential and other sensitive land uses and land uses that typically generate air pollutants, toxic air contaminants, or obnoxious fumes or odors, including but not limited to industrial, manufacturing, and processing facilities, highways, and rail lines and, where uses or facilities pose substantial health risks, ensure that a Health Risk Assessment is conducted to identify and mitigate exposure to toxic air contaminants..

RC-5.3: Require construction and operation of new development to be managed to minimize fugitive dust and air pollutant emissions.

RC-5.4: Require installation of energy-efficient appliances and equipment, including wood-burning devices, in development projects to meet current standards for controlling air pollution, including particulate matter and toxic air contaminants.

RC-5.5: Require and/or cooperate with the Air District to ensure that burning of any combustible material within the City is consistent with Air District regulations to minimize particulate air pollution.

RC-5.6: Encourage and support the regional Sustainable Communities Strategy that integrates planning for growth, transportation, land use, housing, and sustainability to meet State greenhouse reduction goals.

ACTIONS

LU-1b: Regularly review and revise, as necessary, the Zoning Code to accomplish the following purposes:

- Ensure consistency with the General Plan in terms of zoning districts and development standards;
- Provide for a Downtown zone that permits the vibrant mixing of residential, commercial, office, business-professional, and institutional uses within the Central Business District;
- Ensure adequate buffers and transitions are required between intensive uses, such as industrial and agricultural industrial, and sensitive receptors, including residential uses and schools; and
- Provide for an Agricultural Industrial zone that accommodates the processing of crops and livestock.
- Ensure that land use requirements meet actual demand and community needs over time as technology, social expectations, and business practices change.

LU-6b: Implement incentives to support developers who construct vertical mixed-use projects and/or who build housing above non-residential ground-floor uses within Downtown.

LU-6e: Promote the intensified use and reuse of existing suites above ground floors.

LU-9a: Review all development proposals, planning projects, and infrastructure projects to ensure that potential adverse impacts to disadvantaged communities, such as exposure to pollutants, including toxic air contaminants, and unacceptable levels of noise and vibration are reduced to the extent feasible and that measures to improve quality of life, such as connections to bicycle and pedestrian paths, community services, schools, and recreation facilities, access to healthy foods, and improvement of air quality are included in the project. The review shall address both the construction and operation phases of the project.

LU-9c: Encourage and support local transit service providers, through input from residents and stakeholders, to increase and expand services for people who are transit-dependent, including seniors, persons with mobility disabilities, and persons without regular access to automobiles by improving connections to regional medical facilities, senior centers, and other support systems that serve residents and businesses.

C-1c: Develop a pedestrian, bicycle, and transit improvement plan for the Downtown area to facilitate implementation of level of service policy C-1.4. This plan will develop a list of multi-modal improvements in the Downtown area through an engaging process inclusive of community members and stakeholders to increase the viability and encourage the use of non-auto modes.

C-2b: When planning roadway facilities, incorporate the concept of complete streets. Complete streets include design elements for more safe travel by all modes that use streets, including autos, transit, pedestrians, and bicycles. Complete streets shall be developed in a context-sensitive manner. For example, it may be more appropriate to provide a Class I bike path instead of bike lanes along a major arterial. Pedestrian districts like Downtown Manteca or areas near school entrances should have an enhanced streetscape (e.g., narrower travel lanes, landscape buffers with street trees, etc.) to better accommodate and encourage pedestrian travel.

C-2f: Ensure that bicycle and pedestrian access is both provided and prioritized through providing openings to increase access where soundwalls and berms are located to minimize travel distances and increase the viability walking and bicycling.

C-2i: Pursue funding to improve and address areas of traffic, bicycle, and pedestrian hazards and conflicts with vehicular traffic movements.

C-4a: Periodically update the Active Transportation Plan through a process inclusive of community members and stakeholders to include all areas envisioned for development by this General Plan and to address pedestrian and bicycle facilities needed to provide a complete circulation system that adequately meets the needs of pedestrians and bicyclists.

C-4b: Utilize the standards set forth in the latest editions of the California MUTCD and American Association of State Highway and Transportation Officials (AASHTO) Green Book for improvement and re-striping of appropriate major collector and arterial streets to accommodate Class II bike lanes or Class IV protected bikeways in both directions, where sufficient roadway width is available. This may include narrowing of travel lanes.

C-4d: Add bicycle facilities whenever possible in conjunction with road rehabilitation, reconstruction, or re-striping projects.

C-4e: Update the City's standard plans to accommodate pedestrians and bicyclists, including landscape-separated sidewalks where appropriate, and to include bike lanes on collector and arterial streets, as defined by the Active Transportation Plan.

C-4f: Encourage and facilitate resident and visitor use of the bike trail system by preparing a map of the pedestrian and bike paths and implementing wayfinding signage.

C-4g: Update the standard plans to specify a set of roadways with narrower lanes (less than 12 feet) and pedestrian bulb-outs to calm traffic and increase pedestrian and bicycle comfort. These narrow lane standards shall be applied to appropriate streets (e.g., they shall not be applied to outside lanes on major truck routes) and new development.

C-5a: Periodically review transit needs in the city through a process inclusive of community members and stakeholders and adjust bus routes to accommodate changing land use and transit demand patterns. The City shall also periodically coordinate with the San Joaquin Regional Transit District to assess the demand for regional transit services.

C-5b: Explore a transit connections study that would identify improvements to connections and access to the existing ACE station, the Manteca Transit Center, and future planned transit stations.

C-5c: Update the City's standard plans to include the option for bus turnouts at intersections of major streets.

C-5d: Review and consider alternatives to conventional bus systems, such as smaller shuttle buses (i.e. micro-transit), on-demand transit services, or transportation networking company services that connect neighborhood centers to local activity centers with greater cost efficiency.

C-5e: Work with the school districts to identify and implement opportunities for joint-use public transit that would provide both student transportation and local transit service.

C-5f: Through the development review process, ensure that projects provide increased land use densities and mixed uses, consistent with the Land Use Element to enhance the feasibility of transit and promote alternative transportation modes.

C-5g: Along fixed route corridors, require that new development to be compatible with and further the achievement of the Circulation Element. Requirements for compatibility may include but are not limited to:

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- *Orienting pedestrian access to transit centers and existing and planned transit routes.*
- *Orienting buildings, walkways, and other features to provide pedestrian access from the street and locating parking to the side or behind the development, rather than separating the development from the street and pedestrian with parking.*
- *Providing clearly delineated routes through parking lots to safely accommodate pedestrian and bicycle circulation.*

C-5h: Review and update the City's funding programs to provide for adequate transit services, including funding for capital, operations, and maintenance, commensurate with growth of the City.

C-7a: Provide information about transit services, ridesharing, vanpools, and other transportation alternatives to single occupancy vehicles at City Hall, the library, on the City website, and through other channels.

C-7b: Develop TDM program requirements with consideration of addressing CEQA vehicle miles traveled impact analysis requirements (i.e., SB 743) in accordance with implementation measure C-1b. TDM programs shall include measures to reduce total vehicle miles traveled and peak hour vehicle trips. A simplified version of the Air District's Rule 9410 could be used to implement this measure.

C-7c: Coordinate with the San Joaquin Council of Governments on a Congestion/Mobility Management Program to identify TDM strategies to reduce VMT and mitigate peak-hour congestion impacts. Strategies may include: growth management and activity center strategies, telecommuting, increasing transit service frequency and speed, transit information systems, subsidized and discount transit programs, alternative work hours, carpooling, vanpooling, guaranteed ride home program, parking management, addition of general purpose lanes, channelization, computerized signal systems, intersection or midblock widenings, and Intelligent Transportation Systems.

*C-7d: Proposed development projects shall incorporate measures to reduce VMT, including consideration of the measures listed below. This list is not intended to be exhaustive, and not all measures may be feasible, reasonable, or applicable to all projects. The purpose of this list is to identify options for future development proposals, not to constrain projects to this list, or to require that a project examine or include all measures from this list. Potential measures, with possible ranges of VMT reduction for a project, include:**

- *Increase density of development (up to 10.75 percent)*
- *Increase diversity of land uses (up to 12 percent)*
- *Implement car-sharing programs (up to 5 percent)*
- *Implement parking management and pricing (up to 6 percent)*
- *Implement subsidized or discounted transit program (up to 0.7 percent)*
- *Implement commute trip reduction marketing and launch targeted behavioral interventions (up to 3 percent)*
- *Participating in local or regional carpool matching programs***
- *Providing preferential carpool and vanpool parking***
- *Providing secure bicycle parking, showers, and lockers at work site***

**Note: VMT reduction ranges based on Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association (2010), and new research compiled by Fehr & Peers (2020). Additional engineering analysis is required prior to applying reductions to specific projects. Actual reductions will vary by project and project context.*

***Reduction determined at the project-level*

C-7e: Partner with SJCOG, San Joaquin County, and neighboring cities to evaluate a potential regional VMT impact fee program, bank, or exchange.

C-7f: Implement the Active Transportation Plan and other Bikeway and Pedestrian Systems goals and polices (C-4).

C-7g: Expand transit service and increase transit frequency and implement Public Transit goals and policies (C-5).

RC-4a: Continue to assess and monitor performance of greenhouse gas emissions reduction efforts, including progress toward meeting longer-term GHG emissions reduction goals for 2035 and 2050 by reporting on the City's progress annually, updating the Climate Action Plan and GHG inventory regularly to demonstrate consistency with State-adopted GHG reduction targets, including those targets established beyond 2020, and updating the GHG Strategy in the General Plan, as appropriate.

RC-5a: Implement development standards and best practices that promote energy conservation and the reduction in greenhouse gases, including:

- Require new development to be energy-efficient through passive design concepts (e.g., techniques for heating and cooling, building siting orientation, street and lot layout, landscape placement, and protection of solar access;*
- Require construction standards which promote energy conservation including window placement, building eaves, and roof overhangs;*
- Require all projects to meet minimum State and local energy conservation standards;*
- Require developments to include vehicle charging stations that meet or exceed the requirements of State law and to include outdoor electrical outlets to reduce the need for portable generators or other portable power sources, including for residential, commercial, industrial, park, and public/quasi-public uses;*
- Require best practices in selecting construction methods, building materials, project appliances and equipment, and project design;*
- Encourage and accommodate projects that incorporate alternative energy;*
- Encourage projects to incorporate enhanced energy conservation measures, electric-only appliances, and other voluntary methods of reducing energy usage and greenhouse gas emissions; and*
- Require large energy users to implement an energy conservation plan as part of the project review and approval process, and develop a program to monitor compliance with and effectiveness of that plan.*

RC-4c: Continue to review development projects to ensure that all new public and private development complies with or exceeds the California Code of Regulations, Title 24 standards as well as the energy efficiency standards established by the General Plan and the Municipal Code.

RC-4d: Develop a public education program in partnership with relevant agencies and community organizations to increase public participation in energy conservation.

RC-4e: Connect residents and businesses with programs that provide free or low-cost energy efficiency audits and retrofits to existing buildings.

3.7 GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

RC-4f: Update the Municipal Code to incentivize the use of small-scale renewable energy facilities and, where appropriate, to remove impediments to such uses.

RC-4g: Cooperate with other agencies, jurisdictions, and organizations to expand energy conservation programs.

RC-4h: Explore alternative energy sources, including co-generation, active solar energy, and wind generation, and identify opportunities for alternative energy to be used in public and private projects.

RC-4i: Evaluate methods to increase energy efficiency and reduce greenhouse gas emissions, including 1) generating electricity on City-owned sites with solar and other low or zero-carbon emission resources to reduce the City's carbon footprint, 2) joining or creating a Community Choice Aggregator to encourage affordable access to clean power, 3) replacing City-owned vehicles with hybrid or electric vehicles, 4) increasing energy efficiency in public buildings and infrastructure, and 5) deploying affordable charging and alternative fuel options throughout Manteca.

RC-4i: Implement transportation measures, as outlined in the Circulation Element, which reduce the need for automobile use and petroleum products.

RC-4j: Develop a Zero Emissions Vehicle Market Development Strategy that ensures expeditious implementation of the systems of policies, programs and regulations necessary to address Executive Order N-79-20.

RC-5j: Implement transportation measures, as outlined in the Circulation Element, which reduce the need for automobile use and petroleum products.

RC-5a: Work with the Air District to implement the Air Quality Management Plan (AQMP).

- *Cooperate with the Air District to develop consistent and accurate procedures for evaluating project-specific and cumulative air quality impacts.*
- *Cooperate with the Air District and the State Air Board in their efforts to develop a local airshed model.*
- *Cooperate with the Air District in its efforts to develop a cost/benefit analysis of possible control strategies (mitigation measures to minimize short and long-term stationary and area source emissions as part of the development review process, and monitoring measures to ensure that mitigation measures are implemented.*
- *Cooperate with the Air District and community organizations to promote public awareness of air quality issues.*

RC-5b: Review development, land use, transportation, and other projects that are subject to CEQA for potentially significant climate change and air quality impacts, including toxic and hazardous emissions and require that projects provide adequate, appropriate, and cost-effective mitigation measures reduce significant and potentially significant impacts. This includes, but is not limited to, the following:

- *Use of the Air District "Guide for Assessing and Mitigating Air Quality Impacts", as may be amended or replaced from time to time, in identifying thresholds, evaluating potential project and cumulative impacts, and determining appropriate mitigation measures;*
- *Contact the Air District for comment regarding potential impacts and mitigation measures as part of the evaluation of air quality effects of discretionary projects that are subject to*

CEQA;

- *Require projects to participate in regional air quality mitigation strategies, including Air District-required regulations, as well as recommended best management practices when applicable and appropriate ;*
- *Promote the use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
- *The use of energy efficient lighting (including controls) and process systems beyond Title 24 requirements shall be encouraged where practicable (e.g., water heating, furnaces, boiler units, etc.);*
- *The use of energy efficient automated controls for air conditioning beyond Title 24 requirements shall be encouraged where practicable; and*
- *Promote solar access through building siting to maximize natural heating and cooling, and landscaping to aid passive cooling and to protect from winds;*
- *The developer of a sensitive air pollution receptor shall submit documentation that the project design includes appropriate buffering (e.g., setbacks, landscaping) to separate the use from highways, arterial streets, hazardous material locations and other sources of air pollution or odor;*
- *Identify sources of toxic air emissions and, if appropriate, require preparation of a health risk assessment in accordance with Air District-recommended procedures; and*
- *Circulate the environmental documents for projects with significant air quality impacts to the Air District for review and comment.*

RC-5c: Review area and stationary source projects that could have a significant air quality impact, either individually or cumulatively, to identify the significance of potential impacts and ensure that adequate air quality mitigation is incorporated into the project, including:

- *The use of best available and economically feasible control technology for stationary industrial sources;*
- *All applicable particulate matter control requirements of Air District Regulation VIII;*
- *The use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
- *Provision of adequate electric or natural gas outlets to encourage use of natural gas or electric barbecues and electric gardening equipment; and*
- *Use of alternative energy sources.*

RC-5d: Maintain adequate data to analyze cumulative land use impacts on air quality and climate change. This includes tracking proposed, planned, and approved General Plan amendments, development, and land use decisions so that projects can be evaluated for cumulative air quality impacts, including impacts associated with transportation and land use decisions.

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Hazards include man-made or natural materials or man-made or natural conditions that may pose a threat to human health, life, property, or the environment. Hazardous materials and waste present health hazards for humans and the environment. These health hazards can result during the manufacture, transportation, use, or disposal of such materials if not handled properly. In Manteca, hazards to humans can also occur from natural or human induced wildfire and air traffic accidents.

This section provides a background discussion of the hazardous materials and waste, fire hazards, and hazards from air traffic related to the Planning Area. This section is organized with an existing setting, regulatory setting, and impact analysis. Additional analysis related to wildfire hazards is contained in Section 3.16, Wildfire, of this EIR.

No comments were received during the Notice of Preparation (NOP) comment period regarding this environmental topic. Hazards-related comments were received during the public review period for the Draft EIR (released March 22, 2021) from Michael Markley (April 19, 2021).

3.8.1 ENVIRONMENTAL SETTING

HAZARDOUS MATERIALS AND WASTE

Hazardous Materials

A hazardous material is 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 irreversible illness; or (2) pose a substantial present or potential hazard to human health and safety, or the environment when improperly treated, stored, transported, or disposed of. Hazardous materials are mainly present because of industries involving chemical byproducts from manufacturing, petrochemicals, and hazardous building materials.

Hazardous Waste

Hazardous waste is the subset of hazardous materials that has been abandoned, discarded, or recycled and is not properly contained, including soil or groundwater that is contaminated with concentrations of chemicals, infectious agents, or toxic elements sufficiently high to increase human mortality or to destroy the ecological environment. If a hazardous material is spilled and cannot be effectively picked up and used as a product, it is considered to be hazardous waste. If a hazardous material site is unused, and it is obvious there is no realistic intent to use the material, it is also considered to be a hazardous waste. Examples of hazardous materials include flammable and combustible materials, corrosives, explosives, oxidizers, poisons, materials that react violently with water, radioactive materials, and chemicals.

Transportation of Hazardous Materials

The transportation of hazardous materials within California is subject to various Federal, State, and local regulations. It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery, or the

3.8 HAZARDS AND HAZARDOUS MATERIALS

loading of such materials (California Vehicle Code §§ 31602(b), 32104(a)). The California Highway Patrol (CHP) designates through routes to be used for the transportation of hazardous materials. Transportation of hazardous materials is restricted to these routes except in cases where additional travel is required from that route to deliver or receive hazardous materials to and from users. Additionally, rail transport is another method by which hazardous waste is shipped to the designated facility (66263.20(i)). As with the other methods of transport, rail transporters must have an EPA ID number and ensure the designated facility is listed on the manifest. Rail transporters must comply with the directions on the manifest and must be listed as a transporter on the manifest, but the actual manifest form does not have to accompany the waste shipments at all times. Instead, a standard waybill or other shipping document containing all the manifest information except EPA ID number, generator certification, and signatures may accompany the waste (45 FR 12739; February 26, 1980).¹

HAZARDOUS SITES

Envirostor Data Management System

The California Department of Toxic Substances Control (DTSC) maintains the *Envirostor Data Management System*, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. This site cleanup information includes: Federal Superfund Sites (NPL), State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Corrective Action Sites, Tiered Permit Sites, and Evaluation/Investigation Sites. The hazardous waste facilities include: Permitted–Operating, Post-Closure Permitted, and Historical Non-Operating.

There are 21 locations within the Manteca Planning Area that are listed in the Envirostor database, consisting of ten school investigation sites with no action required, two school investigation sites which require further evaluation, two certified State Response sites, four tiered permit sites, two evaluation sites referred to other agencies, and one voluntary cleanup site that has land use restrictions. Table 3.8-1 lists the active sites and the inactive (needs evaluation or action required) sites within the Manteca Planning Area. Additionally, Figure 3.8-1 identifies all of the active, evaluation required, and other open status sites from the EnviroStor database within the Planning Area. Following the table is a background discussion of the recent State Response cleanup at the Gordon Research Company and Nur-Al-Huda Academy sites. Additionally, background discussions of the Voluntary Cleanup sites, School Investigation sites, Evaluation sites, and Tiered Permit sites where action or evaluation is required are included.

TABLE 3.8-1: MANTECA SITE CLEANUP AND HAZARDOUS FACILITIES LIST (ENVIROSTOR)

NAME (ENVIROSTOR ID)	STATUS	LOCATION
<i>STATE RESPONSE</i>		
Gordon Research Company (60000746)	Certified	1085 South Union Road

¹ Source: <https://dtsc.ca.gov/modes-of-hazardous-waste-transportation/>

<i>NAME (ENVIROSTOR ID)</i>	<i>STATUS</i>	<i>LOCATION</i>
Nur-al-Huda Academy (60002130)	Certified	1085 South Union Road
<i>VOLUNTARY CLEANUP</i>		
Satellite Housing (60000626)	Inactive – Action Required	280 and 282 N Airport
<i>SCHOOL INVESTIGATION</i>		
Proposed South Manteca High School (60000456)	No Further Action	21143 South Tinnin Road
South Airport Way School (39010023)	No Further Action	21164 South Airport Way
Sand Lane Elementary (39020001)	No Further Action	6647 East Woodward Avenue
Tara Park Elementary School Alternative Location (60001958)	No Further Action	19589 South McKinley Avenue
Woodward Annex Site (39010046)	No Further Action	Woodward Avenue/Spreckels Road
Proposed Manteca High School Addition (60000342)	Inactive – Needs Evaluation	206, 216, & 220 S Garfield Avenue
South Manteca Elementary School (39010014)	No Further Action	Tannehill Drive
McParland Annex (39010024)	No Further Action	Louise Avenue/Union Road
East Union High School District Farm Project (60001277)	No Further Action	2901 East Louise Avenue
North Main Street Community School (39010015)	No Further Action	1271, 1275, & 1281 North Main Street
Union Station School Site (39010041)	Inactive – Needs Evaluation	14051 & 14455 South Union Road
Proposed Union Ranch Elementary School (70000179)	No Further Action	14032, 14390, & 144444 Union Road
<i>EVALUATION</i>		
Schmiedt Soil Service, Inc (39070036)	Refer: Other Agency	20696 South Manteca Road
United Agri Products (39510023)	Refer: Other Agency	301 Wetmore
<i>TIERED PERMIT</i>		
Olin Interconnect Technologies (71003418)	No Further Action	544 Industrial Park Drive
ISE Labs, Inc., Assembly Operations (71003510)	Inactive – Needs Evaluation	400 Industrial Park Drive
Qualex, Inc. – Manteca (71003156)	Inactive – Needs Evaluation	555 Industrial Park Drive
Advanced Tech Interconnect (71003427)	No Further Action	555 Carnegie Street

SOURCE: CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL, ENVIROSTOR DATABASE, 2020.

3.8 HAZARDS AND HAZARDOUS MATERIALS

STATE RESPONSE SITES

The Gordon Research Company site is located within a residential district of Manteca. The southwestern corner of the property abuts the northwestern corner of the Brock Elliot Elementary School.

According to information provided by the DTSC, state and local agencies involvement in the site began in 1984 in response to a complaint. An inspection by agency representatives revealed that Mr. Larry Gordon was engaged in chemical reformulation and repackaging of chemicals for resale without the required permits. A review of the available DTSC file revealed that prior to 1988, a chemical formulation, repackaging and resale businesses operated at the Site. The businesses were known as Gordon Research Company and U.S. Gordon Subproperty. These businesses purchased bulk chemicals and stored them at the site.

In 1984, 1988, and 2007, site inspections by regulatory agencies identified a range of potentially hazardous materials and conditions on the site, including unpermitted materials unlabeled containers, high pressure cylinders, open containers with handwritten notations, and deteriorated and leaking containers.

In 2007, the DTSC issued an Imminent and Substantial Determination and Order that specified the assessment and remedies necessary to address existing conditions at the site and removal and clean-up activities began on the site. In 2010 and 2011, DTSC conducted a Preliminary Endangerment Assessment where soil and groundwater samples were taken from the property in order to determine extent of contamination.

In May 2017, the DTSC settled with a prospective purchaser, the Nur-Al Huda Academy, for past costs and cleanup of the property for redevelopment. As shown in Table 3.8-1, this site is located on the same site as the Gordon Research Company site.

The Nur-Al-Huda Academy site property owner worked with DTSC to remediate the site in order to establish a school, Nur-Al-Huda Academy, on the site. In April 2018, DTSC approved a Remedial Action Workplan (RAW) for the removal of 600 cubic yards of soil contaminated with Arsenic, Benzo(a)pyrene, Cadmium, lead, PCBs, total Petroleum hydrocarbon and Dioxin, as well as a RAW Addendum in September 2018 for a domestic well abandonment. The DTSC oversaw the completion of the removal action at the site conducted in accordance with the RAW and RAW Addendum, which resulted in the removal of contaminated soil to reduce concentrations of hazardous materials to levels that would allow unrestricted sensitive land use. On February 12, 2020, the DTSC certified that all appropriate removal actions were completed and that acceptable engineering practices were implemented.

VOLUNTARY CLEAN-UP

The Satellite Housing site is the only active Voluntary Cleanup site located within the Manteca Planning Area. The Satellite Housing site is located at 280 and 282 North Airport Way on an irregular-shaped parcel, totaling approximately 3.37 acres, near the western city limits of Manteca. The site is in a residential area of Manteca and is improved with two residential structures.

According to information provided by the DTSC, surficial soil samples from the site were determined to contain high levels of chlordane near the residential structures, which exceeded the California Human Health Screening Levels. Satellite Housing entered into a Voluntary Cleanup Agreement with DTSC in June 2007 to conduct additional soil sampling investigations on-site, complete a Removal Action Workplan (RAW) for on-site remediation, and implement the RAW under the oversight of DTSC. According to DTSC records, Satellite Housing submitted the additional soil sampling investigation to DTSC in October 2008, which identified Chlordane concentrations exceeding 0.43 milligrams per kilogram and determined that remediation would be required. A draft RAW has been submitted to DTSC in March 2009; however, no additional activities have been completed and the site maintains an “Inactive – Action Required” status.

SCHOOL INVESTIGATION

There are two School Investigation sites located within the Planning Area requiring further evaluation, including the Proposed Manteca High School Addition site and the Union Station site.

The Proposed Manteca High School site is located at 206, 216 & 220 S Garfield Avenue on an approximately 0.7-acre project site north of the Manteca High School. The Manteca Unified School District voluntarily brought this project into DTSC for review. According to a Phase II report prepared for the site, lead concentrations were detected at up to 360 mg/kg, resulting in the removal of an on-site shed and approximately 50 cubic yards of soil in April/May 2006. The removal was conducted without DTSC oversight; thus, DTSC required a Phase I Addendum to evaluate the site for organochlorine pesticide impacts. Prior to collecting samples for the Phase 1 Addendum, the site was completely graded two to three feet below the original surface, and not native soil was sampled. Therefore, on October 17, 2007, DTSC issued a letter recommending a Preliminary Environmental Assessment be prepared due to the significant grading on-site. The District subsequently chose to remove the project from DTSC oversight and has maintained an “Inactive – Needs Evaluation” status since October 17, 2007.

The Union Station site is located on a 20-acre project site historically used for agricultural activities west of Union Road and North of Lathrop Road (APNs 204-100-09 and 204-100-15). According to DTSC records, DTSC entered into an Environmental Oversight Agreement (Docket Number HSA-A 02/03-190) with the Manteca Unified School District to provide oversight for a Preliminary Endangerment Assessment for the proposed Union Station School site in July 2003. In August 2003, the DTSC identified completion of a Preliminary Environmental Assessment Work Plan for the site; however, no action has been completed following acceptance of the PEA Work Plan and the site has maintained an “Inactive – Needs Evaluation” status.

TIERED PERMIT

There are two Tiered Permit sites located within the Planning Area requiring further evaluation, including the ISE Labs, Inc. Assembly Operations site at 400 Industrial Park Drive and the Qualex, Inc. site at 555 Industrial Park Drive. The EnviroStor database does not contain details regarding the past actions completed on-site or for the “Inactive – Needs Evaluation” status of each site.

3.8 HAZARDS AND HAZARDOUS MATERIALS

Cortese List

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. The DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List.

There are no Cortese List sites located in the Planning Area.

GeoTracker

GeoTracker is the California Water Resources Control Board's data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense, Site Cleanup Program) as well as permitted facilities such as operating USTs and land disposal sites.

LEAKING UNDERGROUND STORAGE TANKS

There are 60 locations within the Manteca Planning Area that are listed in the GeoTracker database for Leaking Underground Storage Tanks (LUST). Fifty-eight of the locations have undergone LUST cleanup and the State has closed the case. There are two locations in the Planning Area, Frank's One Stop at 2071 W. Yosemite Avenue and Rainwater Car Wash at 420 W. Yosemite Ave., with an open case. Table 3.8-2 lists the location of open and closed cases for LUSTs in Manteca. Additionally, Figure 3.8-1 identifies the location of the open cases for LUSTs in the Planning Area.

TABLE 3.8-2: MANTECA LUST CLEANUP SITES

<i>NAME</i>	<i>ACTIVITY</i>	<i>LOCATION</i>
<i>OPEN CASES</i>		
Frank's One Stop	Open - Verification Monitoring	2072 Yosemite Ave. W
Rainwater Car Wash	Open - Verification Monitoring	420 Yosemite Ave. W
<i>CLOSED CASES (CLEANUP COMPLETED)</i>		
7-11 Store #2243-17647	Completed - Case Closed	1048 Yosemite Ave. W
7-Eleven Store #21756	Completed - Case Closed	853 Yosemite Ave. E
ABF Freight	Completed - Case Closed	2427 Yosemite Ave. W
Ace Tomato Co Inc	Completed - Case Closed	2771 E. French Camp Rd.
Arco #6020 Case #2	Completed - Case Closed	1711 Yosemite Ave. E
Arco #6020 Case #1	Completed - Case Closed	1711 Yosemite Ave. E
Beacon #3-492	Completed - Case Closed	470 Main St. N
Bob's Muffler	Completed - Case Closed	466 Moffat Blvd.
Boyett Petroleum	Completed - Case Closed	419 Main St. S
Brophy Texaco (Former)	Completed - Case Closed	941 Yosemite Ave. E
Cal-West Concrete Cutting Inc	Completed - Case Closed	1153 Vanderbilt Cir.
Cardoza Enterprises	Completed - Case Closed	1151 Louise Ave.

<i>NAME</i>	<i>ACTIVITY</i>	<i>LOCATION</i>
Carl Karcher Enterprises	Completed - Case Closed	800 Mellon St.
Carrol/Richie Property	Completed - Case Closed	443 Sycamore Ave.
Center Plumbing	Completed - Case Closed	2001 Main St. N
Chevron #9-1848	Completed - Case Closed	1257 Yosemite Ave. W
City of Manteca	Completed - Case Closed	210 Wetmore St. E
City of Manteca Public Works	Completed - Case Closed	220 Oak St.
Claudio Dell'eva	Completed - Case Closed	260 Main St. S
Delicato Vineyards	Completed - Case Closed	12001 Hwy 99 S
Diamond Lumber	Completed - Case Closed	151 Main St. S
E-Z Serve #100878	Completed - Case Closed	1012 Yosemite Ave. W
Eckert Cold Storage	Completed - Case Closed	757 Moffat Blvd.
Food & Liquor #76	Completed - Case Closed	890 Main St. N
Frank's Exxon #2	Completed - Case Closed	1399 Yosemite Ave. E
Frank's Exxon #4	Completed - Case Closed	14800 Frontage Rd W & Hwy 99 S
House of Redwood	Completed - Case Closed	1199 Vanderbilt Cir.
Jackpot Food Mart	Completed - Case Closed	1434 Yosemite Ave. W
Jiffy Lube	Completed - Case Closed	1130 Main St. N
Karlson Bros Trucking	Completed - Case Closed	23675 Airport Way S
Lathrop Gas and Food Mart	Completed - Case Closed	14800 West Frontage Rd., Hwy 99
Lee Jennings Enterprises	Completed - Case Closed	815 Moffat Blvd.
Manteca Bean	Completed - Case Closed	229 Moffat Blvd.
Manteca Equipment Rental	Completed - Case Closed	616 Main St. S
Manteca School Dist (Case #1)	Completed - Case Closed	2901 Louise Ave. E
Manteca Unified School Dist	Completed - Case Closed	2901 Louise Ave. (Case #2)
Manteca Unified School Dist	Completed - Case Closed	660 Mikesell Rd.
Manteca-Lathrop Fire Protect.	Completed - Case Closed	9121 Lathrop Rd. E
MBP-Manteca	Completed - Case Closed	983 Moffat Blvd.
Mountain Valley Express	Completed - Case Closed	1299 Vanderbilt Cir.
Payless Shoe Store	Completed - Case Closed	1160 Yosemite Ave. W
Pitts Property	Completed - Case Closed	203 Lincoln Ave. S
Ponte's Car Wash Case #2	Completed - Case Closed	707 Yosemite Ave. E
Ponte's Car Wash Case #1	Completed - Case Closed	707 Yosemite Ave. E
Pony Express Courier	Completed - Case Closed	959 Moffat Blvd.
Private Residence	Completed - Case Closed	Private Residence
Quick Stop #121	Completed - Case Closed	1196 Louise Ave. W
Rino Gas (Diablo Gasoline)	Completed - Case Closed	1001 Yosemite Ave. E
Royal Oaks S&L	Completed - Case Closed	510 Main St. N
Samuel Farrow	Completed - Case Closed	440 Main St. N
San Joaquin Delta College Farm	Completed - Case Closed	5298 Brunswick Rd.
Shell SS	Completed - Case Closed	1071 Main St. N

3.8 HAZARDS AND HAZARDOUS MATERIALS

<i>NAME</i>	<i>ACTIVITY</i>	<i>LOCATION</i>
Southland 7-11 #19976	Completed - Case Closed	1399 Main St. N
Super Stop Market	Completed - Case Closed	290 Main St. N
Ted Peters Trucking	Completed - Case Closed	1985 Yosemite Ave. W
Tuff Boy Trailers	Completed - Case Closed	5151 Almondwood Dr.
Union #5417	Completed - Case Closed	1700 Yosemite Ave. E
Western Stone Products	Completed - Case Closed	1945 Lathrop Rd. E

SOURCE: CALIFORNIA WATER RESOURCES CONTROL BOARD GEOTRACKER DATABASE, 2020.

PERMITTED UNDERGROUND STORAGE TANK (UST)

There are 38 locations within the Manteca Planning Area that have Underground Storage Tanks (UST) that are permitted through the California Water Resources Control Board. Table 3.8-3 lists the location of the 38 permitted underground storage tanks in the Planning Area.

TABLE 3.8-3: MANTECA PERMITTED UST SITES

<i>NAME</i>	<i>LOCATION</i>
7-Eleven Inc #17647	1048 West Yosemite
7-Eleven Inc #19976	1399 N. Main Street
A&A Gas & Food Mart	1330 E Yosemite Avenue
AGS Fuel Inc dba Circle-K Chevron	1490 S Main Street
Ahmeds Son Inc	1257 W Yosemite Avenue
Arco AMPM	85 E Louise Avenue
Arco AMPM #83831	1904 Daniels Street
Cagasoline Express	2115 W Yosemite Avenue
Chevron	1231 N Main Street
Chevron Station #209167	1234 E Yosemite Avenue
Chevron USA #201761	1103 South Main Street
Costco Wholesale #1031	2440 Daniel Street
Cruisers Manteca #29	1137 W Lathrop Road
DBA Circle K, Refuel Petroleum Inc.	419 S Main Street
Diamond Gas and Mart DBA Quick Serve	824 E Yosemite Avenue
Dino Mart	1001 E Yosemite Avenue
Frontier California Inc.: Manteca CO	430 W Center Street
H&S Energy Products #3034	1434 W Yosemite Avenue
Jiffy Lube #598	1130 North Main Street
JM Dairy	12700 E Louise Avenue
Kaiser Foundation – Manteca	1777 W Yosemite Avenue
Main Street Arco AM PM	1100 South Main Street
Manteca Gas & Food	1229 E Louise Avenue
Manteca Liquor & Food	890 Main Street
Manteca Valero	1700 E Yosemite Avenue
National Petroleum Manteca	2072 W Yosemite Avenue
Nella Oil #487	983 Moffat Boulevard
One Stope Market	1151 W Louise Avenue
Quicki Kleen Car Wash	707 E Yosemite Avenue

<i>NAME</i>	<i>LOCATION</i>
Quick Stop Market #2121	1196 W Louise Avenue
Quick Stop Market #5124	505 N Main Street
Raymond Dowell	8330 E Southland Road
Save on Fuel	420 W Yosemite Avenue
SJ Delta Farm College	5298 Brunswick Road
Super Stop Gas & Liquor	290 N Main Street, Suite C
Tiger Express Stores	1399 E Yosemite Avenue
Tulare Farms, LLLP	2771 E French Camp Road
Yosemite Avenue Arco AMPM	1711 E Yosemite Avenue

SOURCE: CALIFORNIA WATER RESOURCES CONTROL BOARD GEOTRACKER DATABASE, 2020.

WATER BOARD PROGRAM CLEANUP SITES

There are 11 locations in the Manteca Planning Area that are listed in the GeoTracker database for Water Board Cleanup Sites. Six of the locations have undergone cleanup and the State has closed the case. There are five locations in the Planning Area with an open case, including the Former Suprema Cheese Wastewater Pond north of Lathrop Road and East of Airport Road, the Tri-Ag Service, Inc. site at 2112 South Main Street, the 99 Auto Recycling site (De Rose Property) at 430 Moffat Boulevard, the French Cleaners at 416 Yosemite Avenue, and the ISE Labs Incorporated site at 400-560 Industrial Park Drive. Table 3.8-4 lists the location of open and closed cases for Water Board Program Cleanup Sites in the Manteca Planning Area. Additionally, Figure 3.8-1 identifies the location of open cases in the Planning Area.

TABLE 3.8-4: MANTECA WATER BOARD CLEANUP SITES

<i>NAME</i>	<i>LOCATION</i>
<i>OPEN – REMEDIATION</i>	
Former Suprema Cheese Wastewater Pond	N. Of Lathrop Rd. And E. Of Airport Road
<i>OPEN – SITE ASSESSMENT</i>	
Tri-Ag Service, Inc.	2112 South Main Street
<i>OPEN - INACTIVE CASE</i>	
99 Auto Recycling (De Rose Property)	430 Moffat Boulevard
French Cleaners	416 West Yosemite Avenue
ISE Labs Incorporated	400-560 Industrial Park Drive
<i>CLOSED CASES (CLEANUP COMPLETED)</i>	
Evans Estates	South Main Street
Former Spreckels Sugar Company, Parcel 35	407 Spreckels Avenue
Karlson Trucking	9909 East Woodward Avenue
Lineage Logistics	730 Spreckels Avenue
Sterling Transit	410 S. Main Street
Ted Peters Trucking Mantic Facility	1985 W Yosemite Avenue

SOURCE: CALIFORNIA WATER RESOURCES CONTROL BOARD GEOTRACKER DATABASE, 2020.

3.8 HAZARDS AND HAZARDOUS MATERIALS

WATER BOARD CEASE AND DESIST ORDERS

On March 19, 2004, the Regional Water Quality Control Board, Central Valley Region, adopted Waste Discharge Requirements Order No. R5-2004-0028, (Order) NPDES No. CA0081558, prescribing waste discharge requirements for the City of Manteca Wastewater Quality Control Facility. Cease and Desist Order No. R5-2004-0029 (CDO) was also issued, which includes requirements and time schedules to bring the discharge into full compliance with the final effluent and receiving water limitations contained in the Order.

On July 17, 2007, the City released a Draft EIR for the Manteca Wastewater Quality Control Facility (WQCF) and Collection System Master Plans project, which would allow the expansion of the WQCF treatment capacity from 9.87 million gallons per day (mgd) to 27 mgd average dry weather flow (ADWF), would allow the construction of new trunk sewers to accommodate growth planned for in the City's existing General Plan (adopted in 2003), and would allow the construction of a new recycled water distribution system. The WQCF expansion resulted in the construction of treatment facilities to achieve compliance with water quality limitations including rapid mixing and flocculation tanks to address turbidity requirements and a tertiary ultraviolet (UV) light disinfection treatment system to address wastewater reuse requirements. The new wastewater treatment system was completed two months ahead of the regulatory deadline set by the ACL Order No. R5-2005-0128 and was awarded a 2010 Merit Award in the American Council of Engineering Company's (ACEC) California Engineering Excellence Awards competition².

Order Nos. R5-2004-0028 and R5-2004-029 were rescinded by Order No. R5-2009-0095, which has been rescinded by a series of subsequent orders. The City is currently operating under Order No. 2015-0026, Waste Discharge Requirements/NPDES Permit CA0081558, adopted on April 17, 2015. Since Order No. 2015-0026 was adopted, the City has received subsequent orders including Nos. R5-2019-0512, No. R5-2019-0534, and R5-2020-0525 which have each been settled by the City's payment of the penalties assessed by each order.

19043 and 19051 McKinley Avenue

In addition to the hazardous sites and cleanup sites included in GeoTracker and EnviroStor, the City has identified a site with potentially hazardous conditions which may be redeveloped for use as a freeway off-ramp. The property, located at 19043 and 19051 McKinley Avenue in Manteca, includes two parcels identified as Assessor's Parcel Numbers (APNs) 241-400-18 and -20. The subject property is currently occupied by a single-family residence, garage, miscellaneous vehicles, ranching equipment, miscellaneous trash and debris, concrete blocks roughly one cubic yard in size, one active groundwater well, one decommissioned groundwater well, piles of tires and treated wood products, and vegetated vacant land.

² <https://www.nv5.com/news/awards/2010-manteca-wastewater-quality-control-facility/>

A Phase I ESA was completed for the subject property dated April 3, 2019. Based on the results of the Phase I ESA, six Recognized Environmental Conditions (RECs) were identified in connection with the subject property, as follows:

1. **Suspected current use of the subject property as a landfill/disposal site.** During the Phase I ESA site reconnaissance, numerous vehicles, storage tanks, drums, containers of hazardous materials and petroleum products, and solid waste and debris were observed to be stored throughout the subject property. Dirt mounds were observed throughout the subject property, with partially-buried vehicle frames or parts or miscellaneous solid waste. Piles of miscellaneous solid waste were also observed. Roughly 40 to 60 concrete blocks, each approximately one cubic yard in size, were observed along the western edge of the residence and on the western portion of the subject property. The eastern embankment was observed to be comprised of disturbed dirt with exposed solid waste. In addition, the subject property was identified in the United States Environmental Protection Agency (USEPA) Facility Index System (FINDS) database as a solid waste landfill.
2. **Trash burning at the subject property.** During the site reconnaissance, active trash burning was observed onsite, as well as what appeared to be former burn sites. Soil staining was observed immediately north of a solid waste fire pit located west of the residence on the subject property.
3. **Former pond on the subject property.** According to the historical resources reviewed, a pond was formerly located on the subject property. Because the material used to fill the pond is unknown, and based on the suspected former and current use of the subject property as a suspected solid waste landfill, the former pond was considered a Recognized Environmental Condition.
4. **Former and current use of the western portion of the subject property as a storage area.** According to the historical resources reviewed, the western portion of the subject property appeared to be a disturbed area with equipment intermittently present from approximately 1982 to present day.
5. **Former agricultural use of the subject property.** According to the historical resources reviewed, the subject property was formerly used for agricultural purposes (row crops) from approximately 1940 to 1968 and in at least 1993.
6. **Former and current storage of vehicles and equipment near the residence on the central portion of the subject property.** According to the historical resources reviewed, multiple vehicles and equipment appear to be stored near the residence on the central portion of the subject property from approximately 2003 to present day. During the site reconnaissance, the central portion of the subject property surrounding the single-family residence and garage was observed to contain vehicles, including recreational vehicles (RVs), motorcycles, passenger vehicles, pickup trucks, hauling trucks, tractors, boats, and farm equipment, and stained soil was observed. In addition, oil sheen was observed on ponded water in this area.

3.8 HAZARDS AND HAZARDOUS MATERIALS

Based on the findings of the Phase I ESA, Rincon completed a Phase II ESA at the subject property on May 15th and 16th, 2019. The Phase II ESA consisted of soil matrix, soil vapor and groundwater sampling. The following summarizes the results of the Phase II ESA:

- **Soil Vapor Sampling Results:** No volatile organic compounds (VOCs) were detected above laboratory reporting limits in soil vapor. In addition, methane was not detected in soil vapor. Therefore, no further assessment is recommended with respect to VOCs or methane in soil vapor.
- **Soil Sampling Results:** Based on the findings of the soil assessment, low concentrations of total petroleum hydrocarbons (TPH), VOCs, metals, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and organochlorine pesticides (OCPs) were detected in soil throughout the subject property; however, the concentrations did not exceed regulatory screening levels for commercial/industrial soil or hazardous waste thresholds, where applicable.

With the exception of arsenic, metal concentrations did not exceed regulatory screening levels for commercial/industrial soil. Although arsenic was detected above regulatory screening levels, arsenic was not detected at concentrations exceeding typical background levels.

With the exception of chromium, metal concentrations did not exceed hazardous waste screening thresholds. Chromium was detected in five soil samples at concentrations exceeding the California hazardous waste screening threshold of 50 milligrams per kilogram (mg/kg), indicating that soil should undergo additional Soluble Threshold Limit Concentration (STLC) analysis to determine if it would be considered a hazardous waste.

- **Groundwater Sampling Results:** Low concentrations of VOCs were detected in the four groundwater samples collected. None of the detected VOCs exceeded the California or Federal Maximum Contaminant Levels for drinking water (MCLs), or the San Francisco Bay Regional Water Quality Control Board (RWQCB) Tier 1 Environmental Screening Levels (ESLs). However, TPH as diesel (TPHd) was detected in two samples at concentrations exceeding the Tier 1 ESL.

In response to the findings of the Phase II ESA and pursuant to the Compliance Agreements for the property, Corrective Actions were prescribed, including but not limited to a Clean Closure Plan with an Excavation Management Plan.

Solid Waste Information System (SWIS)

The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by the California Integrated Waste Management Board (CIWMB). The SWIS data identifies active, planned and closed sites. The City has seven solid waste facilities listed in the database, four of which are active. The site details are listed in Table 3.8-5 below.

TABLE 3.8-5: CIWMB FACILITIES/SITES

<i>NUMBER</i>	<i>NAME</i>	<i>ACTIVITY</i>	<i>REGULATORY</i>	<i>STATUS</i>
39-AA-0008	Lovelace Transfer Station	Large Volume Transfer/Proc Facility	Permitted	Active
39-AA-0015	Forward Landfill, Inc.	Solid Waste Landfill	Permitted	Active
39-AA-0020	Forward Resource Recovery Facility	Large Volume Transfer/Proc Facility	Permitted	Active
39-AA-0037	Delicato Vineyards	Composting Operation (Ag)	Permitted	Active
39-CR-0024	Manteca City Dump	Solid Waste Disposal Site	Pre-regulations	Closed
39-CR-0025	Manteca County Dump	Solid Waste Disposal Site	Pre-regulations	Closed
39-CR-0032	Spic and Span Private Garbage Dump	Solid Waste Disposal Site	Pre-regulations	Closed
39-CR-0005	F & W Cattle Co. #1	Solid Waste Landfill	Unpermitted	Closed

SOURCE: CALIFORNIA DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY, 2020.

The Lovelace Transfer Station is located at 2323 Lovelace Road. The facility is owned by the County of San Joaquin, is administered by the Public Works Department, and is inspected numerous times each year. The most recent inspection of this facility (as of 12/17/2020) by the Local Enforcement Agency (San Joaquin County Health Services Department Environmental Health Division) shows no violations or areas of concern.

The Forward Landfill is located at 9999 S. Austin Road. The facility is owned by Forward Inc./Allied Waste North America and is inspected numerous times each year. The most recent inspections of this facility (as of 12/17/2020) by the Local Enforcement Agency (San Joaquin County Health Services Department Environmental Health Division) shows no violations or areas of concern.

The Forward Resources Recovery Facility is located at 9999 N. Austin Road. The facility is owned by Forward Inc./Allied Waste North America and is inspected numerous times each year. The most recent inspections of this facility (as of 12/17/2020) by the Local Enforcement Agency (San Joaquin County Health Services Department Environmental Health Division) show no violations or areas of concern.

The Delicato Vineyards composting operation is located at 12001 S. Highway 99. The facility is owned by Delicato Vineyards and is inspected numerous times each year. The most recent inspections of this facility (as of 12/17/2020) by the Local Enforcement Agency (San Joaquin County Health Services Department Environmental Health Division) show no violations or areas of concern.

HAZARDS FROM AIR TRAFFIC

The State Division of Aeronautics has compiled extensive data regarding aircraft accidents around airports in California. This data is much more detailed and specific than data currently available from the FAA and the National Transportation Safety Board (NTSB). According to the California Airport Land Use Planning Handbook (2011), prepared by the State Division of Aeronautics, 21 percent of general aviation accidents occur during takeoff and initial climb and 44.2 percent of general aviation accidents occur during approach and landing. The State Division of Aeronautics has plotted accidents during these phases at airports across the country and has determined certain theoretical areas of high accident probability.

Approach and Landing Accidents

As nearly half of all general aviation accidents occur in the approach and landing phases of flight, considerable work has been done to determine the approximate probability of such accidents. Nearly 77 percent of accidents during this phase of flight occur during touchdown onto the runway or during the roll-out. These accidents typically consist of hard or long landings, ground loops (where the aircraft spins out on the ground), departures from the runway surface, etc. These types of accidents are rarely fatal and often do not involve other aircraft or structures. Commonly these accidents occur due to loss of control on the part of the pilot and, to some extent, weather conditions. (California Division of Aeronautics, 2011).

The remaining 23 percent of accidents during the approach and landing phase of flight occur as the aircraft is maneuvered towards the runway for landing, in a portion of the airspace around the airport commonly called the traffic pattern. Common causes of approach accidents include the pilot's misjudging of the rate of descent, poor visibility, unexpected downdrafts, or tall objects beneath the final approach course. Improper use of rudder on an aircraft during the last turn toward the runway can sometimes result in a stall (a cross-control stall) and resultant spin, causing the aircraft to strike the ground directly below the aircraft. The types of events that lead to approach accidents tend to place the accident site fairly close to the extended runway centerline. The probability of accidents increases as the flight path nears the approach end of the runway. (California Division of Aeronautics, 2011).

According to aircraft accident plotting provided by the State Division of Aeronautics, most accidents that occur during the approach and landing phase of flight occur on the airport surface itself. The remainder of accidents that occur during this phase of flight are generally clustered along the extended centerline of the runway, where the aircraft is flying closest to the ground and with the lowest airspeed. (California Division of Aeronautics, 2002).

Takeoff and Departure Accidents

According to data collected by the State Division of Aeronautics, nearly 65 percent of all accidents during the takeoff and departure phase of flight occur during the initial climb phase, immediately after takeoff. This data is correlated by two physical constraints of general aviation aircraft:

- The takeoff and initial climb phase are times when the aircraft engine(s) is under maximum stress and is thus more susceptible to mechanical problems than at other phases of flight; and
- Average general aviation runways are not typically long enough to allow an aircraft that experiences a loss of power shortly after takeoff to land again and stop before the end of the runway.

While the majority of approach and landing accidents occur on or near to the centerline of the runway, accidents that occur during initial climb are more dispersed in their location as pilots are not attempting to get to any one specific point (such as a runway). Additionally, aircraft vary widely in payload, engine power, glide ratio, and several other factors that affect glide distance, handling characteristics after engine loss, and general response to engine failure. This further disperses the

accident pattern. However, while the pattern is more dispersed than that seen for approach and landing accidents, the departure pattern is still generally localized in the direction of departure and within proximity of the centerline. This is partially due to the fact that pilots are trained to fly straight ahead and avoid turns when experiencing a loss of power or engine failure. Turning flight causes the aircraft to sink faster and flying straight allows for more time to attempt to fix the problem (California Division of Aeronautics, 2002).

Local Airport Facilities

There are no private or public airport facilities in the Planning Area.

Stockton Metropolitan Airport: The Stockton Metropolitan Airport is located approximately 3.5 miles north of the Manteca City limits. This airport is a County-owned facility that occupies approximately 1,609 acres at an elevation of 23 feet above mean sea level (MSL). The acreage within the airport influence area is 56,184 acres.

The Stockton Metropolitan Airport is designated as a Non-hub Commercial Service Airport within the Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems (NPIAS). The airport is served by Allegiant Air, which provides service to Phoenix/Mesa, Arizona and Las Vegas, Nevada. In addition to commercial service, Stockton Metropolitan Airport offers a wide range of fixed base operators (FBOs) providing fuel, aircraft maintenance, aircraft hangar and tie-down rental, aircraft rental, flight training, aircraft management services, and pilot lounges for corporate and general aviation pilots. The airport also houses FBOs that support air cargo operations.

Stockton Metropolitan Airport is served by a parallel runway system in a northwest-southeast orientation. Runway 11L-29R is 10,650 feet long and 150 feet wide and is constructed of asphalt. Runway 11R-29L is 4,448 feet long and 75 feet wide and also constructed of asphalt. Runway 11L-29R is accommodated by several instrument approach procedures aiding pilots in navigation to the runway. Runway 29R contains a medium intensity approach lighting system with runway alignment lights (MALSR) to provide runway alignment guidance for pilots in reduced visibility conditions. Runway 11L-29R is served by a four-light Precision Approach Path Indicator (PAPI- 4) at both ends and contains high intensity runway lighting (HIRL) to indicate the location of the runway edge. Runway 11R-29L does not contain approach or runway edge lighting.

The northernmost portion of the Planning Area is located within the airport influence area for the Stockton Metropolitan Airport identified in the Airport Land Use Compatibility Plan (ALUCP). The majority of this land within the airport influence area is zoned for agricultural uses by the City's General Plan 2023. Other land uses within the airport influence area include park, industrial, commercial, public, low density residential, and medium density residential.

The lands within the City limits that are located in the airport influence area for the Stockton Metropolitan Airport are not within the Airport's noise exposure contours. However, the lands within the City that are located in the airport influence area are within two of the Airport's Safety Zones: Traffic Pattern Zone 7b and Zone 8. Lands within Traffic Pattern Zone 7b cannot be developed with non-residential intensities greater than 450 persons per acre and must have open land over 10 percent of the site. Additionally, uses within Traffic Pattern Zone 7b cannot be hazardous to flight,

3.8 HAZARDS AND HAZARDOUS MATERIALS

and outdoor stadiums are prohibited. Non-residential development on land within Traffic Pattern Zone 8 is not subject to a maximum intensity or open space requirement. Airspace review is required for development greater than 100 feet tall on lands within Zone 7b or Zone 8. Similarly, new dumps or landfills within Zone 7b or Zone 8 are subject to the FAA notification and review and are further subject to restrictions and conditions outlined by the FAA. Figure 3.8-2 identifies the portions of the Planning Area located within the Traffic Pattern Zone 7a, 7b, and 8 of the Stockton Metropolitan Airport's Safety Zone.

New Jerusalem Airport: The New Jerusalem Airport is located approximately 6.5 miles southwest of the Manteca City limits. This airport is owned and operated by the City of Tracy. New Jerusalem Airport is served by one runway, Runway 12-30, which is 3,530 feet long and 60 feet wide, constructed of asphalt. The runway has a full-length parallel taxiway. There are no airfield support facilities located at the airport.

The airport is unattended and serves as a staging area for aerial chemical application, pilot training activities, as well as powered parachute and ultralight activities. The number of operations at the airport is estimated to be 4,000 annually. Additional improvements are not anticipated within the planning horizon and the long-range forecast of operations for the airport is anticipated to remain at 4,000.

It should be noted that the Planning Area is not within any of the New Jerusalem Airport's safety zones or other zones outlined in the ALUCP.

Major Regional Airport Facilities

San Francisco International Airport (SFO): SFO is the largest airport in the region, and a hub for United Airlines. It provides a wide range of domestic airline service and all of the region's long-haul international flights. San Francisco serves 68% of regional Bay Area air passengers and 43% of regional air cargo shipments.

Metropolitan Oakland International Airport (OAK): Oakland Airport has traditionally been the hub for low cost carriers and a major air cargo center due to operations by FedEx and UPS. Oakland serves 17% of Bay Area regional air passengers and 52% of air cargo.

Norman Y. Mineta San Jose International Airport (SJC): Traffic at San Jose Airport has been affected by the recent realignment of airline services in the Bay Area. The airport does not currently offer any long-haul international flights, and air cargo facilities are limited due to space constraints. San Jose serves 15% of the Bay Area regional air passengers and 6% of air cargo.

Sacramento International Airport (SMF): The Sacramento Airport served nearly 9 million passengers in 2012 with 150 daily departures to 36 destinations. Southwest provides the majority of flights. Many Sacramento area air passengers use Oakland and San Francisco for their air service needs. Conversely, some Bay Area passengers choose Sacramento Airport.

National Transportation Safety Board Aviation Accident Database

The NTSB Aviation Accident Database does not identify any aircraft accidents with Manteca identified as the nearest location between January of 1983 to 2020. (National Transportation Safety Board, November 2020).

FIRE HAZARDS

Fuel Rank

Fuel rank is a ranking system developed by the California Department of Forestry and Fire Protection (CalFire) that incorporates four wildfire factors: fuel model, slope, ladder index, and crown index.

The U.S. Forest Service has developed a series of fuel models, which categorize fuels based on burn characteristics. These fuel models help predict fire behavior. In addition to fuel characteristics, slope is an important contributor to fire hazard levels. A surface ranking system has been developed by CalFire, which incorporates the applicable fuel models and slope data. The model categorizes slope into six ranges: 0-10 percent, 11-25 percent, 26-40 percent, 41-55 percent, 56-75 percent, and over 75 percent. The combined fuel model and slope data are organized into three categories, referred to as surface rank. Thus, surface rank is a reflection of the quantity and burn characteristics of the fuels and the topography in a given area.

The ladder index is a reflection of the distance from the ground to the lowest leafy vegetation for tree and plant species. The crown index is a reflection of the quantity of leafy vegetation present within individual specimens of a given species.

The surface rank, ladder index, and crown index for a given area are combined in order to establish fuel rank of medium, high, or very high. Fuel rank is used by CalFire to identify areas in the California Fire Plan where large, catastrophic fires are most likely.

The City of Manteca contains areas with “moderate” and “non-wildland fuel” ranks. The areas warranting “moderate” fuel ranks possess combustible material in sufficient quantities combined with topographic characteristics that pose a wildfire risk. CalFire data for the areas immediately surrounding the Planning Area also include “moderate” and “non-wildland fuel” ranks. Areas west of Interstate 5, approximately 15 miles or further southwest of the Planning Area, are designated as “moderate” and “high” fuel ranks.

Fire Hazard Severity Zones

The state has charged CalFire with the identification of Fire Hazard Severity Zones (FHSZ) within State Responsibility Areas. In addition, CalFire must recommend Very High Fire Hazard Severity Zones (VHFHSZ) identified within any Local Responsibility Areas. The FHSZ maps are used by the State Fire Marshall as a basis for the adoption of applicable building code standards. Figure 3.8-3 identifies the Fire Hazard Severity zones within the Manteca Planning Area and surrounding areas.

LOCAL RESPONSIBILITY AREAS

The entire Planning Area is located within a Local Responsibility Area (LRA). Four portions of the Planning Area are located in a zoned LRA (ranging from Low to High Threat Class): a developed area near Airport Way and W. Yosemite Avenue, a developed area near E. Yosemite Avenue and Austin Road, a developed area with agricultural fields located west of the intersection of East Southland Road and Southland Court; and a developed area near W. Louise Avenue and S. Airport Way. Manteca is an LRA that is served by the Manteca Fire Department. No areas of the Planning Area are located in Very High or Extreme FHSZs. The Manteca Fire Department serves approximately 71,164 residents throughout approximately 17.2 square miles within the City limits. The City of Manteca is not categorized as a "Very High" FHSZ by CalFire. No cities or communities within San Joaquin County are categorized as a "Very High" FHSZ by CalFire.

STATE RESPONSIBILITY AREAS

There are no State Responsibility Areas (SRAs) within the vicinity of the Planning Area.

FEDERAL RESPONSIBILITY AREAS

There are no Federal Responsibility Areas (FRAs) within the vicinity of the Planning Area.

Fire Threat

The fuel rank data are used by CalFire to delineate fire threat based on a system of ordinal ranking. Thus, the Fire Threat model creates discrete regions, which reflect fire probability and predicted fire behavior. The four classes of fire threat range from moderate to extreme. Fire threat can be used to estimate the potential for impacts on various assets and values susceptible to fire. Impacts are more likely to occur and/or be of increased severity for the higher threat classes.

As shown in Figure 3.8-4, the majority of the Planning Area within Manteca is considered to have no fire threat with some concentrations of land considered to have a low to moderate fire threat to people. The majority of the land with a low to moderate fire threat to people is located in the southeast corner of the Planning Area, at the intersections along State Route 120, and generally along the City Limits and Highway 99. The Planning Area also contains small portions of land categorized as high fire threat to people generally found along Lathrop Road, the intersection of Union Road and State Route 120, and various locations generally along the City Limits.

3.8.2 REGULATORY SETTING

FEDERAL

Aviation Act of 1958

The Federal Aviation Act resulted in the creation of the Federal Aviation Administration (FAA). The FAA is charged with the creation and maintenance of a National Airspace System.

Federal Aviation Regulations (CFR, Title 14)

The Federal Aviation Regulation (FAR) establish regulations related to aircraft, aeronautics, and inspection and permitting.

Clean Air Act

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

Clean Water Act

The Clean Water Act (CWA), which amended the Water Pollution Control Act (WPCA) of 1972, sets forth the §404 program to regulate the discharge of dredged and fill material into Waters of the U.S. and the §402 National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants into Waters of the U.S. The §401 Water Quality Certification program establishes a framework of water quality protection for activities requiring a variety of Federal permits and approvals (including CWA §404, CWA §402, FERC Hydropower and §10 Rivers and Harbors).

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) introduced active Federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. The Act was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous material releases. CERCLA deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

Environmental Protection Agency

The primary regulator of hazards and hazardous materials is the EPA, whose mission is to protect human health and the environment. The City of Manteca is located within EPA Region 9, which includes Arizona, California, Hawaii, and New Mexico.

FY 2001 Appropriations Act

Title IV of the Appropriations Act required the identification of “Urban Wildland Interface Communities in the Vicinity of Federal Lands that are at High Risk from Wildfire” by the U.S. Departments of the Interior and Agriculture.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act, as amended, is the statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interstate commerce. This law gives the U.S. Department of Transportation (USDOT) and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials (DOE 2002).

Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act authorizes the U.S. Department of Transportation Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the Federal government is primarily responsible for developing, issuing, and enforcing pipeline safety regulations, the pipeline safety statutes provide for State assumption of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum Federal regulations and may adopt additional or more stringent regulations as long as they are not incompatible.

Resource Conservation and Recovery Act

The Resources Conservation and Recovery Act (RCRA) established EPA's "cradle to grave" control (generation, transportation, treatment, storage and disposal) over hazardous materials and wastes. In California, the DTSC has RCRA authorization.

The 1976 Federal Resource Conservation and Recovery Act (RCRA) and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

The 1984 RCRA amendments provided the framework for a regulatory program designed to prevent releases from USTs. The program established tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to ensure that the stored material will not corrode the tanks. The RCRA was further amended in 1988 to set additional standards for USTs.

In July 2015, the EPA revised the federal UST regulation, which strengthened the 1988 federal UST regulations by increasing emphasis on properly operating and maintaining UST equipment. The revision added new operation and maintenance requirements and addressed UST systems deferred in the 1988 UST regulation. The purpose of the revision was to help prevent and detect UST releases, which are a leading source of groundwater contamination. To ensure compliance performance measures reflect the 2015 UST regulation, the Environmental Protection Agency (EPA) and the Association of State and Territorial Solid Waste Management Officials coordinated to update

existing compliance performance measures and add new measures. The measures required states to switch from tracking compliance against significant operational compliance measures to the more stringent technical compliance rate (TCR) measures. As of October 2019, only 43.7 percent of USTs were in compliance with all TCR categories.

STATE

Aeronautics Act (Public Utilities Code §21001)

The Caltrans Division of Aeronautics bases the majority of its aviation policies on the Aeronautics Act. Policies include permits and annual inspections for public airports and hospital heliports and recommendations for schools proposed within two miles of airport runways.

Airport Land Use Commission Law (Public Utilities Code §21670 et seq.)

The law, passed in 1967, authorized the creation of Airport Land Use Commissions (ALUC) in California. Per the Public Utilities Code, the purpose of an ALUC is to protect *public health, safety, and welfare by encouraging orderly expansion of airports and the adoption of land use measures that minimizes exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses* (Pub. Util. Code §21670). Furthermore, each ALUC must prepare an ALUCP. Each ALUCP, which must be based on a twenty-year planning horizon, should focus on broadly defined noise and safety impacts.

Assembly Bill 337

Per AB 337, local fire prevention authorities and CalFire are required to identify Very High Fire Hazard Severity Zones (VHFHSZ) in LRAs. Standards related to brush clearance and the use of fire resistant materials in fire hazard severity zones are also established.

California Code of Regulations

Title 3 of the California Code of Regulations (CCR) pertains to the application of pesticides and related chemicals. Parties applying regulated substances must continuously evaluate application equipment, the weather, the treated lands and all surrounding properties. Title 3 prohibits any application that would:

- Contaminate persons not involved in the application;
- Damage non-target crops or animals or any other public or private property; and
- Contaminate public or private property or create health hazards on said property.

Title 8 of the CCR establishes California Occupational Safety and Health Administration (Cal OSHA) requirements related to public and worker protection. Topics addressed in Title 8 include materials exposure limits, equipment requirements, protective clothing, hazardous materials, and accident prevention. Construction safety and exposure standards for lead and asbestos are set forth in Title 8.

Title 14 of the CCR establishes minimum standards for solid waste handling and disposal.

3.8 HAZARDS AND HAZARDOUS MATERIALS

Title 17 of the CCR establishes regulations relating to the use and disturbance of materials containing naturally occurring asbestos.

Title 19 of the CCR establishes a variety of emergency fire response, fire prevention, and construction and construction materials standards.

Title 22 of the CCR sets forth definitions of hazardous waste and special waste. The section also identifies hazardous waste criteria and establishes regulations pertaining to the storage, transport, and disposal of hazardous waste.

Title 26 of the CCR is a medley of State regulations pertaining to hazardous materials and waste that are presented in other regulatory sections. Title 26 mandates specific management criteria related to hazardous materials identification, packaging, and disposal. In addition, Title 26 establishes requirements for hazardous materials transport, containment, treatment, and disposal. Finally, staff training standards are set forth in Title 26.

Title 27 of the CCR sets forth a variety of regulations relating to the construction, operation, and maintenance of the state's landfills. The title establishes a landfill classification system and categories of waste. Each class of landfill is constructed to contain specific types of waste (household, inert, special, and hazardous).

California Government Code Section 65302

This section, which establishes standards for developing and updating General Plans, includes fire hazard assessment and Safety Element content requirements.

California Health and Safety Code

Division 11 of the Health and Safety Code establishes regulations related to a variety of explosive substances and devices, including high explosives and fireworks. Section 12000 et seq. establishes regulations related to explosives and explosive devices, including permitting, handling, storage, and transport (in quantities greater than 1,000 pounds).

Division 12 establishes requirements for buildings used by the public, including essential services buildings, earthquake hazard mitigation technologies, school buildings, and postsecondary buildings.

Division 20 establishes DTSC authority and sets forth hazardous waste and underground storage tank regulations. In addition, the division creates a State superfund framework that mirrors the Federal program.

Division 26 establishes California Air Resources Board (CARB) authority. The division designates CARB as the air pollution control agency per Federal regulations and charges the Board with meeting Clean Air Act requirements.

California Health and Safety Code 13000 et seq.

State fire regulations are set forth in §13000 *et seq.* of the California Health and Safety Code, “Fires and Fire Protection”. The regulations provide for the enforcement of the Uniform Building Code and mandate the abatement of fire hazards.

The code establishes broadly applicable regulations, such as standards for buildings and fire protection devices, in addition to regulations for specific land uses, such as childcare facilities and high-rise structures.

California Vehicle Code §31600 (Transportation of Explosives)

This code establishes requirements related to the transportation of explosives in quantities greater than 1,000 pounds, including licensing and route identification.

California Public Resources Code

The State’s Fire Safety Regulations are set forth in Public Resources Code §4290, which include the establishment of SRAs.

Public Resources Code §4291 sets forth defensible space requirements, which are applicable to anyone who “...owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material” (§4291(a)).

Food and Agriculture Code

Division 6 of the California Food and Agriculture Code (FAC) establishes pesticide application regulations. The division establishes training standards for pilots conducting aerial applications as well as permitting and certification requirements.

State Oversight of Hazards and Hazardous Materials

The DTSC is chiefly responsible for regulating the handling, use, and disposal of toxic materials. The State Water Resources Control Board (SWRCB) regulates discharge of potentially hazardous materials to waterways and aquifers and administers the basin plans for groundwater resources in the various regions of the state. The RWQCB oversees surface and groundwater. Programs intended to protect workers from exposure to hazardous materials and from accidental upset are covered under OSHA at the Federal and California Division of Occupational Safety and Health (Cal/OSHA) and the California Department of Health Services (DHS) at the state level. Air quality is regulated through the CARB and San Joaquin Valley Air Pollution Control District. The State Fire Marshal is responsible for the protection of life and property through the development and application of fire prevention engineering, education, and enforcement; CalFire provides fire protection services for State and privately-owned wildlands.

Water Code

Division 7 of the California Water Code, commonly referred to as the Porter-Cologne Water Quality Control Act, created the SWRCB and the RWQCB. In addition, water quality responsibilities are established for the SWRCB and RWQCBs.

LOCAL

Certified Unified Program Agencies

Senate Bill 1082 (1993) required the establishment of a unified hazardous waste and hazardous materials management program. The result was Cal EPA's United Program, which consolidates the actions of DTSC, the SWRCB, the RWQCB's, OES, and the State Fire Marshall. DTSC oversees the implementation of the hazardous waste generator and onsite treatment program, one of six environmental programs at the local level, through Certified Unified Program Agencies (CUPAs). CUPAs have authority to enforce regulations, conduct inspections, administer penalties, and hold hearings. San Joaquin County implements the CUPA that has enforcement authority over the City of Manteca. Offices are located in Stockton.

San Joaquin Valley Air Pollution Control District

San Joaquin Valley Air Pollution Control District (SJVAPCD) has jurisdiction over the City of Manteca and deals with pollutants that get into the air from stationary (including fumes, dust and smoke, some asbestos) and mobile sources. SJVAPCD's mission is to improve the health and quality of life for all Valley residents through efficient, effective and entrepreneurial air quality management strategies. SJVAPCD responds to complaints about smells, answers questions about air quality management permits, and reviews development projects for compliance with air quality and greenhouse gas significance thresholds. The SJVAPCD and air quality are addressed in detail in Section 3.3, Air Quality, of this EIR.

San Joaquin County

Hazardous waste programs are managed and implemented locally through the County of San Joaquin CUPA. The County hosts a variety of hazardous waste collection events throughout the County in an effort to deter improper disposal of hazardous wastes.

Household Hazardous Waste (HHW) Collection Facilities receive hazardous waste that comes from homes and, in some cases, from small business hazardous waste generators. Household wastes include pesticides, batteries, old paint, solvents, used oil, antifreeze, and other chemicals that should not go into a regular municipal landfill.

San Joaquin County Public Health Services monitors the possible groundwater and soil contamination from underground tanks. Its funding mechanism is a billing contract with the State Water Quality Control Board. Public Health Services clean-up enforcement falls under Title 23, California Code of Regulations. Case workers monitor site-specific development and must be contacted prior to development.

The City of Manteca and San Joaquin County Public Works Department deal with illegal discharges to sanitary or industrial sewers, and sometimes collect household hazardous waste. They also help to guard against illegal discharges to storm sewers (releases to the street, etc.).

San Joaquin County Emergency Operations Plan

The purpose of the County's Emergency Operations Plan (EOP) is to provide a framework for emergency operations and information regarding the County's emergency management structure. It serves as the primary document outlining roles and responsibilities of elected officials, County departments, and key response partners during an incident.

The EOP accomplishes the following:

- Establishes a County emergency management structure, which will coordinate and support on-scene responses, including maintenance of situational awareness, facilitation of effective communication between operations centers at various levels of government, maintain continuity of government, and interaction with public information sources.
- Establishes the overall operational concepts associated with the management of incidents, emergencies, crises, disasters, and catastrophes at the County and operational area levels.
- Provides a flexible platform for planning and response to all hazards, incidents, events, and emergencies believed to be important to the operational area. It is applicable to a wide variety of anticipated incident events including floods, droughts, earthquakes, and public health issues.

Local Hazard Mitigation Plan

The County Local Hazard Mitigation Plan (LHMP) (2017) is intended to provide strategies for the County and other local jurisdictions to identify and implement mitigation actions for reducing damages from various potential natural and technological disasters. The LHMP meets the State and Federal requirement of the Disaster Mitigation Act of 2000, to develop an on-going process for mitigating disaster damages both prior to and following a disaster. The LHMP outlines impacts and vulnerabilities within the County.

Households Hazardous Waste

HHWs include pesticides, batteries, old paint, solvents, used oil, antifreeze, and other chemicals that should not go into a regular municipal landfill. HHW programs focus on removing dangerous substances from homes and preventing their release into the environment through landfills, sewer systems and illegal dumping. The City of Manteca and San Joaquin County Public Works Solid Waste Division host a variety of hazardous waste collection events throughout the year to assist in the elimination of household hazardous waste. HHW Collection Facilities receive hazardous waste that comes from homes and, in some cases, from small business hazardous waste generators.

Manteca Municipal Code

Section 8.17.030, Hazardous Substances or wastes, notes that "It is unlawful and a public nuisance for any person owning, leasing, occupying or having charge or possession of any premises or

3.8 HAZARDS AND HAZARDOUS MATERIALS

property in the city to permit any hazardous substances which because of their quantity, concentration or physical, chemical or infectious characteristics may either cause or substantially contribute to an increase in mortality or serious illness or pose a significant present or potential hazard to human health or the environment if improperly managed, or if hazardous waste to be unlawfully released, discharged, placed or deposited upon any premises or onto any city property.”

Section 15.30.050, Hazard Abatement of Historic Buildings or Structures, outlines the following notification requirements and standards should a potential hazard to the health or safety of the public occur or be found within a historic building or structure:

- A. Within ten days after the event, the building official shall notify the State Historic Preservation Officer that one of the following actions will be taken regarding any historic building or structure determined by the building official to represent an imminent *hazard* to the health or safety of the public, or to pose an imminent threat to the public right-of-way:
 1. Whenever possible, as determined by the building official, the building or structure may be braced or shored in such a manner as to mitigate the *hazard* to public health or safety or the *hazard* to the public right-of-way.
 2. Whenever bracing or shoring is determined to be an unreasonable alternative, the building official may cause the building or structure to be condemned and immediately demolished. Such condemnation and demolition may be performed in the interest of public health or safety without a condemnation hearing as required by Chapter 15.30 of this code.
- B. If, ten days after the event and less than thirty days after the event, an historic building or structure is determined by the building official to represent a *hazard* to the health or safety of the public or to pose a threat to the public right-of-way, the building official may initiate condemnation proceedings in accordance with Chapter 15.28, Abatement of Dangerous Buildings, of this code. The building official may also notify the Federal Emergency Management Agency, in accordance with the National Historic Preservation Act of 1966, as amended, of its intent to hold a condemnation hearing.
- C. If the building official and the owner of any historic building or structure agree that such a building or structure should be demolished, the building official shall submit a request to demolish to the Federal Emergency Management Agency, in accordance with the National Historic Preservation Act of 1966, as amended. Said request shall include all substantiating data. (Ord. 1067 § 1, 1997)

Section 17.58.040, Hazardous Materials, of the City’s Municipal Code includes standards intended to ensure that the use, handling, storage, and transportation of hazardous materials comply with all applicable state laws (Government Code Section 65850.2 and Health and Safety Code Section 25505, et seq.) and that appropriate information is reported to the Fire Department as the regulatory authority. This section of the code outlines reporting requirements, underground storage of hazardous materials, aboveground storage of hazardous materials, new development standards, and notification requirements.

3.8.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact from hazards and hazardous materials if it will:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: General Plan implementation would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (Less than Significant)

As would occur under the existing General Plan, future development, infrastructure, and other projects allowed under the proposed General Plan may involve the transportation, use, and/or disposal of hazardous materials. Hazardous materials are typically used in industrial, and commercial uses, as well as residential uses. Future uses may involve the transport and disposal of such materials from time to time. Future activities may involve equipment or construction activities that use hazardous materials (e.g., coatings, solvents and fuels, and diesel-fueled equipment), cleanup of sites with known hazardous materials, the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated, or disposal of contaminated materials at an approved disposal site. While hazardous materials may be associated with industrial activities, hazardous materials may also be associated with the regular cleaning and maintenance of residential and other less intense uses. Accidental release of hazardous materials

3.8 HAZARDS AND HAZARDOUS MATERIALS

that are used in the construction or operation of a project may occur. There is also the potential for accidental release of pre-existing hazardous materials, associated with previous activities on a site.

The use, transportation, and disposal of hazardous materials is regulated and monitored by local fire departments, CUPAs, the Cal OSHA and the DTSC consistent with the requirements of Federal, State, and local regulations and policies. Facilities that store hazardous materials on-site are required to maintain a Hazardous Materials Business Plan in accordance with State regulations. In the event of an accidental release of hazardous materials, the local CUPA (San Joaquin County) and emergency management agencies (e.g., Police and Fire) would respond. All future projects allowed under the General Plan would be required to comply with the provisions of Federal, State, and local requirements related to hazardous materials. As future development and infrastructure projects are considered by the City, each project would be evaluated for potential impacts, specific to the project, associated with hazardous materials as required under CEQA.

In addition to the requirements associated with Federal and State regulations and the Municipal Code (including but not limited to Section 8.17.030, Section 15.30.050, and Section 17.58.040), the General Plan includes policies and actions to minimize the potential for impacts associated with hazardous materials. These policies and actions in the General Plan, which are listed below, would ensure that potential hazards are identified on a project site, that development is located in areas where potential exposure to hazards and hazardous materials can be mitigated to an acceptable level, and that business operations comply with Federal and State regulations regarding the use, transport, storage, and disposal of hazardous materials. The General Plan also includes policies and actions to ensure that the City has adequate emergency response plans and measures to respond in the event of an accidental release of a hazardous substance.

As described previously in the regulatory setting, hazardous materials regulations related to the use, handling, and transport of hazardous materials are codified in Titles 8, 22, and 26 of the CCR, and their enabling legislation set forth in Chapter 6.95 of the California Health and Safety Code. These laws were established at the state level to ensure compliance with federal regulations to reduce the risk to human health and the environment from the routine use of hazardous substances. These regulations must be implemented by employers/businesses, as appropriate, and are monitored by the state (e.g., Cal OSHA in the workplace or DTSC for hazardous waste) and/or the County. The haulers and users of hazardous materials are listed with the City of Manteca Fire Department and are regulated and monitored by the San Joaquin County. In addition, implementation of Title 49, Parts 171-180, of the Code of Federal Regulations would reduce any impacts associated with the potential for accidental release of hazardous materials. Overall, impacts associated with the routine use, transport, storage, or disposal or accidental release of hazardous materials would be ***less than significant***.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

S-4.1: *Maintain an awareness of hazardous materials throughout the Manteca region.*

S-4.2: Strictly regulate the production, use, storage, transport, and disposal of hazardous materials in compliance with local, federal, and State requirements to protect the health and safety of Manteca residents.

S-4.3: As part of the development review process, consider the potential for the production, use, storage, transport, and/or disposal of hazardous materials and provide for appropriate controls on such hazardous materials consistent with federal, state, and local standards.

S-4.4: Use the environmental review process to comment on Hazardous Waste Transportation, Storage and Disposal Facilities proposed in the Manteca Planning Area and throughout the County to request a risk assessment and ensure that potentially significant, widespread, and long-term impacts on public health and safety of these facilities are identified and mitigated, as such impacts do not respect jurisdictional boundaries.

ACTIONS

S-4a: As part of the development review process, require projects that may result in significant risks associated with hazardous materials to include measures to address the risks and reduce the risks to an acceptable level.

S-4b: Review development proposals to address proximity of users and transporters of significant amounts of hazardous materials relative to sensitive uses, such as schools and residential neighborhoods, and to ensure adequate measures are in place to reduce risks to an acceptable level.

S-4c: Continue to require the submittal of information regarding hazardous materials manufacturing, storage, use, transport, and/or disposal by existing and proposed businesses and developments to the Manteca Fire Department.

S-4d: Annually coordinate with the Manteca Fire Department and 911 dispatch center to ensure that the City maintains a current database of hazardous materials.

S-4e: Coordinate with the Manteca Fire Department, other local agencies, and Union Pacific Railroad to strictly regulate and enforce the use, storage, transport, and/or disposal of hazardous materials under California Administrative Code Title 19 requirements.

S-4f: Continue to work with San Joaquin County and other public agencies to inform consumers about household use and disposal of hazardous materials.

S-4g: Cooperate fully with Union Pacific Railroad and other agencies, such as the California Highway Patrol, in the event of a hazardous material emergency.

S-4h: Continue the City hazardous waste pick-up program for household hazardous materials.

3.8 HAZARDS AND HAZARDOUS MATERIALS

Impact 3.8-2: General Plan implementation would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (Less than Significant)

The Manteca Unified School District (MUSD) provides school services for grades K through 12 within the communities of Manteca, Lathrop, Stockton, and French Camp. The District is approximately 113 square miles and serves more than 23,500 students. Within the City of Manteca, there are thirteen schools serving elementary age and middle school students (grades K-8), one K-6 school, four high schools (grades 9-12), one 7-12, and one vocational high school (grades 11-12). Table 3.8-6 lists MUSD schools in Manteca grades serves location and the most recent enrollment for each school.

TABLE 3.8-6: PUBLIC SCHOOLS SERVING MANTECA

<i>SCHOOL</i>	<i>GRADES SERVED</i>	<i>ADDRESS</i>	<i>ENROLLMENT 2018-2019 SCHOOL YEAR</i>
<i>ELEMENTARY AND MIDDLE SCHOOLS</i>			
George McParland Elementary School	K-8	1601 Northgate Dr.	1,121
Stella Brockman Elementary School	K-8	763 Silverado Dr.	853
Brock Elliott Elementary School	K-8	1110 Stonum Ln.	849
Golden West Elementary School	K-8	1031 North Main St.	531
Joshua Cowell Elementary School	K-8	740 Pestana Ave.	608
Lincoln Elementary School	K-8	750 E Yosemite Ave.	646
Manteca Community Day	K-6	737 W Yosemite Ave.	4
Neil Hafley Elementary School	K-8	849 Northgate Dr.	766
New Haven Elementary School	K-8	14600 Austin Rd.	530
Nile Garden Elementary School	K-8	5700 E Nile Rd.	651
Sequoia Elementary School	K-8	710 Martha St.	798
Shasta Elementary School	K-8	751 E Edison St.	763
Veritas Elementary School	K-8	1600 Pagola Ave.	938
Walter Woodward Elementary School	K-8	575 Tannehill Dr.	867
<i>HIGH SCHOOLS</i>			
Calla High School	9-12	130 S Austin Rd.	160
East Union High School	9-12	1700 N Union Rd.	1,603
Manteca Community Day School	7-12	737 W Yosemite Ave.	44
Manteca High School	9-12	450 E Yosemite Ave.	1,663
Sierra High School	9-12	1700 Thomas St.	1,377
Manteca Unified Vocational Academy (be.tech)	11-12	2271 W. Louise Ave.	121

SOURCES: CALIFORNIA DEPARTMENT OF EDUCATION EDUCATIONAL DEMOGRAPHICS UNIT ENROLLMENT FOR 2018-19

The General Plan Land Use Element includes land use designations, but does not propose actual development projects, businesses, or school facilities. As such, it is not possible to determine if a specific use will result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste in proximity to a school site. The land use designations with the highest possibility of having businesses that result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste would be business industrial park,

business park, commercial, industrial, and agricultural industrial uses. All of these uses would likely occur within ¼ mile of an existing school. Each of these uses may use a variety of hazardous materials commonly found in urban areas including but not limited to: paints, cleaners, chemicals, pesticides, and cleaning solvents. If handled appropriately, these materials do not pose a significant risk. The Business Industrial Park land use designation generally provides for sites for large uses in an office park environment that would include multi-tenant building. Allowed uses include administrative, offices, research and development, light industrial, including manufacturing and assembly, and commercial storage. The Business Professional land use designation for professional and administrative offices, medical and dental clinics, laboratories, financial institutions, public and quasi-public uses, and similar and compatible uses. The Commercial land use designation generally provides for a variety of neighborhood, community, and regional-serving retail and service uses; offices; restaurants; service stations; highway-oriented and visitor commercial and lodging; auto-serving and heavy commercial uses; wholesale; warehousing; public and quasi-public uses; commercial recreation and public gathering facilities, such as amphitheaters or public gardens; and similar and compatible uses. The Industrial designation provides for manufacturing, processing, assembling, research, wholesale, and storage uses, trucking terminals, railroad and freight stations, industrial parks, warehouses, distribution centers, light manufacturing, public and quasi-public uses and similar and compatible uses. The Agricultural Industrial land use provides for limited industrial uses directly related to agriculture and compatible uses, such as wineries, food packaging and processing, storage of food and beverages processed on-site, agricultural education, and agricultural research and development.

The proposed General Plan is not anticipated to directly lead to the establishment of new businesses that would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste because the General Plan does not approve any specific development project. However, given the unknown nature of future business establishments within the commercial and industrial use areas, the potential for hazardous materials is present.

Nevertheless, all hazardous materials would be required to be handled in accordance with Federal, State, and County requirements, which would limit the potential for a project to expose nearby uses, including schools, to hazardous emissions or an accidental release. Hazardous emissions are monitored by the SJVAPCD, RWQCB, DTSC and the local CUPA (San Joaquin County). In the event of a hazardous materials spill or release, notification and cleanup operations would be performed in compliance with applicable Federal, State, and local regulations and policies, including hazard mitigation plans. As part of the development review process, the City's proposed General Plan also includes policies and requirements, listed below, that require projects that may result in significant risks associated with hazardous materials to include measures to address and reduce the risks to an acceptable level such that surrounding uses are not exposed to hazardous materials in excess of adopted state and federal standards, and also require the submittal of information regarding hazardous materials manufacturing, storage, use, transport, and/or disposal by existing and proposed businesses and developments to the Manteca Fire Department. Compliance with all existing regulations as well as General Plan policies and actions related to land use compatibility and hazardous materials would ensure that the impact is *less than significant*.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

S-4.1: Maintain an awareness of hazardous materials throughout the Manteca region.

S-4.2: Strictly regulate the production, use, storage, transport, and disposal of hazardous materials to protect the health and safety of Manteca residents.

S-4.3: As part of the development review process, consider the potential for the production, use, storage, transport, and/or disposal of hazardous materials and provide for appropriate controls on such hazardous materials consistent with federal, state, and local standards.

S-4.4: Use the environmental review process to comment on Hazardous Waste Transportation, Storage and Disposal Facilities proposed in the Manteca Planning Area and throughout the County to request a risk assessment and ensure that potentially significant, widespread, and long-term impacts on public health and safety of these facilities are identified and mitigated, as such impacts do not respect jurisdictional boundaries.

ACTIONS

S-4a: As part of the development review process, require projects that result in significant risks associated with hazardous materials to include measures to address the risks and reduce the risks to an acceptable level.

S-4b: Review development proposals to address proximity of users and transporters of significant amounts of hazardous materials relative to sensitive uses, such as schools and residential neighborhoods.

S-4c: Continue to require the submittal of information regarding hazardous materials manufacturing, storage, use, transport, and/or disposal by existing and proposed businesses and developments to the Manteca Fire Department.

S-4d: Annually coordinate with the Manteca Fire Department and 911 dispatch center to ensure that the City maintains a current database of hazardous materials.

S-4e: Coordinate with the Manteca Fire Department, other local agencies, and Union Pacific Railroad to strictly regulate and enforce the use, storage, transport, and/or disposal of hazardous materials under California Administrative Code Title 19 requirements.

S-4f: Continue to work with San Joaquin County and other public agencies to inform consumers about household use and disposal of hazardous materials.

Impact 3.8-3: General Plan implementation would not have projects located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Less than Significant)

There are no hazardous materials release sites on a list compiled pursuant to Government Code Section 65962.5 located in the Planning Area.

As such, impacts related to sites listed pursuant to Government Code Section 65962.5 would be *less than significant*.

Impact 3.8-4: The General Plan would not result in a safety hazard for people residing or working within an area covered by an airport land use plan, or two miles of a public airport or public use airport(Less than Significant)

Hazards related to airports are typically grouped into two categories: air hazards and ground hazards. Air hazards jeopardize the safety of an airborne aircraft and expose passengers, pilots, and crews to danger. Examples of air hazards include tall structures, glare-producing objects, bird and wildlife attractants, radio waves from communication centers, or other features that have the potential to interfere with take-off or landing procedures, posing a risk to aircraft. Ground hazards jeopardize the safety of current and future residents and/or workers in the vicinity of an airport. The most obvious ground hazard is a crash, which may produce a serious, immediate risk to those residing in or using areas adjacent to the airport. Most accidents occur during take-off and landing. Therefore, the higher the density around an airport, including transportation facilities, the higher the risk associated with this type of hazard.

There are no airport facilities located within the Planning Area. The nearest airport facilities within the vicinity of the Planning Area are the Stockton Metropolitan Airport, located approximately 3.5 miles north of the Manteca City limits, and the New Jerusalem Airport, located approximately 6.5 miles southwest of the Manteca City limits.

The New Jerusalem Airport is owned and operated by the City of Tracy. New Jerusalem Airport is served by one runway, Runway 12-30, which is 3,530 feet long and 60 feet wide, constructed of asphalt. The airport is unattended and serves as a staging area for aerial chemical application, pilot training activities, as well as powered parachute and ultralight activities. The Planning Area is located outside of the airport influence areas for the New Jerusalem Airport; therefore, it is not anticipated that this airport would pose a hazard to people residing or working in the Planning Area.

As previously mentioned, the Stockton Metropolitan Airport is located in unincorporated San Joaquin County adjacent to the City of Stockton City Limits southern boundary. This airport is a County-owned facility that occupies approximately 1,609 acres at an elevation of 23 feet above Mean Sea Level (MSL). The Stockton Metropolitan Airport is designated as a Non-hub Commercial Service Airport within the Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems (NPIAS). The airport is served by Allegiant Air, which provides service to Phoenix/Mesa, Arizona and Las Vegas, Nevada. In addition to commercial service, Stockton Metropolitan Airport offers a wide range of fixed base operators (FBOs) providing fuel, aircraft maintenance, aircraft hangar and tie-down rental, aircraft rental, flight training, aircraft management services, and pilot lounges for corporate and general aviation pilots. The airport also houses FBOs that support air cargo operations.

The NTSB Aviation Accident (NTSBAA) Database identifies one aircraft accident (nonfatal) on October 16, 1969 at the Stockton Metropolitan Airport; however, the accident did not occur within

3.8 HAZARDS AND HAZARDOUS MATERIALS

the City of Manteca. Additionally, the NTSBAA Database does not identify any aircraft accidents with Manteca identified as the nearest location between January of 1983 to 2020. (National Transportation Safety Board, 2017).

The lands within the Planning Area that are located in the airport influence area for the Stockton Metropolitan Airport are not within the Airport's noise exposure contours. The lands within the Planning Area that are located in the airport influence area are within three of the Airport's Safety Zones: Traffic Pattern Zone 7a, 7b, and Zone 8. Lands within Traffic Pattern Zone 7a and 7b cannot be developed with non-residential intensities greater than 450 persons per acre and must have open land over 10% of the site. Additionally, uses within Traffic Pattern Zone 7a cannot be hazardous to flight, or include waterways that create a bird hazard. Outdoor stadiums are prohibited. Similarly, uses within Traffic Pattern Zone 7b cannot be hazardous to flight, and outdoor stadiums are prohibited. Non-residential development on land within Traffic Pattern Zone 8 is not subject to a maximum intensity or open space requirement. Airspace review is required for development greater than 100 feet tall on lands within Zone 7a, 7b or Zone 8. Similarly, new dumps or landfills within Zone 7a, 7b, or Zone 8 are subject to the FAA notification and review and are further subject to restrictions and conditions outlined by the FAA.

As shown in Figure 3.8-2, the proposed General Plan Land Use map would place a variety of land uses within the airport influence area for the Stockton Metropolitan Airport, including Agricultural Industrial, Agriculture, Commercial, Commercial Mixed Use, Very Low Density Residential, Low Density Residential, Medium Density Residential, High Density Residential, Business Park Industrial, Business Professional, Industrial, and Park uses. Overall, these proposed land uses are generally consistent with the Stockton Metropolitan Airport ALUCP; however, the Commercial and Public/Quasi-Public land use designations located within Traffic Pattern Zones 7a and 7b could potentially conflict with the Stockton Metropolitan Airport ALUCP. The Commercial land use designations allows public gathering facilities, such as amphitheaters. Additionally, the Public-Quasi-Public land use designation allows commercial recreation uses, including public and private parks, beach and water access, recreation fields.

The City of Manteca has prepared the General Plan to include numerous policies and actions intended to ensure future developments are consistent with the Stockton Metropolitan ALUCP. General Plan Policy LU-2.10 requires development within the Stockton Metropolitan Airport Influence Area to be consistent with the compatible uses identified in the Project Review Guidelines for the Airport Land Use Commission. As described above, lands within the Planning Area include lands within Zone 7 (traffic pattern zone) and Zone 8 (airport influence area). Additionally, General Plan Action LU-2i requires all applications for development within the Stockton Metro Airport Area of Influence to be referred to the ALUC and the Stockton Metro Airport for comment to ensure that all future plans have limited impacts to the community of Manteca. Future development within the Planning Area would be subject to these policies which would ensure that conflicts with the Stockton Metropolitan Airport ALUCP do not occur.

An ALUCP provides for the orderly growth of an airport and the area surrounding the airport within the jurisdiction of the ALUC, excluding existing land uses. Its primary function is to safeguard the

general welfare of the inhabitants within the vicinity of the airport and the public in general. This is generally accomplished by examining land uses within specific airport safety zones. As such, because the proposed General Plan, including the Land Use Map and policy document, is substantially consistent with the ALUCP, General Plan implementation would not result in a safety hazard for people residing or working within an area covered.

Implementation of the General Plan policies and actions discussed above and listed below, as well as Federal and State regulations, would ensure that these impacts are minimized and ***less than significant***.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

LU-2.10: *Ensure that development within the Stockton Metropolitan Airport Influence Area (Figure LU-3) is consistent with the compatible uses identified in the Project Review Guidelines for the Airport Land Use Commission. Lands within the Planning Area include lands within Zone 7 (traffic pattern zone) and Zone 8 (airport influence area).*

ACTIONS

LU-2i: *Refer all applications for development within the Stockton Metro Airport Area of Influence to the Airport Land Use Commission and the Stockton Metro Airport for comment.*

Impact 3.8-5: General Plan implementation would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (Less than Significant)

The General Plan would allow a variety of new development, including residential, commercial, industrial, and public projects, which would result in increased jobs and population in Manteca. Road and infrastructure improvements would occur to accommodate the new growth. Future development and infrastructure projects are not anticipated to remove or impede any established evacuation routes within the City. Furthermore, the General Plan does not include land uses, policies, or other components that conflict with adopted emergency response or evacuation plans, such as the San Joaquin County Emergency Operations Plan. However, given that the type, location, and size of future development and infrastructure projects is not known at this time, there is the potential that the City could receive a development proposal that could potentially interfere with an established emergency evacuation route or plan.

The General Plan ensures that the City's emergency access routes, emergency contact lists, and public information regarding designated facilities and routes are regularly reviewed to ensure that up to date information is available to the City and the public in the event of an emergency. Important new critical facilities would be located to ensure resiliency in the event of a natural disaster. Overall, this impact would be ***less than significant***.

GENERAL PLAN POLICIES AND ACTION THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

S-1.1: Maintain and periodically update the City's Emergency Plan.

S-1.2: Ensure the availability and functionality of critical facilities during flooding events.

S-1.3: Locate new critical City facilities, and promote the location of non-City critical facilities, including hospitals, emergency shelters, emergency response centers, and emergency communications facilities, outside of flood hazard zones and geologic hazard areas where feasible. Critical facilities that are, or must be, located within flood hazard zones or areas with geologic hazards should incorporate feasible site design or building construction features to mitigate potential risks, including those associated with geologic, seismic, and flood events, to ensure accessibility, operation, and structural integrity, during an emergency and to minimize damage to the facility.

S-1.4: Encourage community awareness of seismic, flooding, and other disaster safety issues, including building safety, emergency response plans, and understanding steps to take for safety during and after a disaster, including identified evacuation routes.

S-1.5: Continue to cooperate with San Joaquin County and other public agencies in implementing the Countywide Emergency Preparedness Plan and Local Hazard Mitigation Plan.

ACTIONS

S-1a: Regularly conduct periodic emergency response exercises to test the effectiveness of City emergency response procedures.

S-1b: Regularly review County and State emergency response procedures that must be coordinated with City procedures.

S-1c: Cooperate with San Joaquin County OES, Manteca Fire Department, Lathrop Manteca Fire District, Manteca Police Services, the reclamation districts, and other agencies with responsibility for emergency management in emergency response planning, training and provision of logistical support.

Impact 3.8-6: General Plan implementation would not expose people or structures to a significant risk of loss, injury or death involving wildland fires (Less than Significant)

Wildfires are a potential hazard to development and land uses located in the foothill and forested areas of the city. The severity of wildfire problems depends on a combination of vegetation, climate, slope, and people. The vegetation and topography found in the eastern portions of the Planning Area, coupled with hot, dry summers, present fire hazards during critical fire periods for much of the county. In addition to natural factors such as lightning, human activity is a primary factor contributing to the incidence of wildfires. Campfires, smoking, debris burning, arson, public utility infrastructure, and equipment use are common human-related causes of wildfires.

The City of Manteca is not categorized as a "Very High" FHSZ and no cities or communities within San Joaquin County are categorized as a "Very High" FHSZ by CalFire. The majority of the Planning Area is not located within an LRA and categorized as Urban Unzoned or Non-Wildland/Non-Urban.

As shown in Figure 3.8-3, four portions of the Planning Area are located within an LRA categorized as a Moderate FHSZ. The first is a developed area located near the intersection of Airport Way and Yosemite Avenue; the second is a developed area located east and southeast of the intersection of Austin Road and Yosemite Avenue; the third is an area located west of the intersection of East Southland Road and Southland Court; and the fourth is a developed area located near the Wet Louise Avenue and South Airport Way. It should be noted that there are no State Responsibility Areas or Federal Responsibility Areas within the vicinity of the Planning Area.

Fire threat determinations is a combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). These two factors are combined to create four threat classes ranging from moderate to extreme. Fire threat can be used to estimate the potential for impacts on various assets and values susceptible to fire. Impacts are more likely to occur and/or be of increased severity for the higher threat classes. As shown on Figure 3.8-4, the Planning Area contains tiny concentrations of land categorized as high fire threat to people generally found along Lathrop Road, the intersection of Union Road and State Route 120, and various locations generally along the City Limits; however, it should be noted that the majority of the Planning Area within Manteca is considered to have no fire threat with some concentrations of land considered to have a low to moderate fire threat to people. The majority of the land with a low to moderate fire threat to people is located in the southeast corner of the Planning Area, at the intersections along State Route 120, and generally along the City Limits and Highway 99.

Development under the General Plan would allow development to place people and/or structures in undeveloped areas that are identified as having a low to moderate risk of wildland fires. The General Plan includes policies and actions, listed below, for adequate water supply and water flow availability, ensuring adequate emergency access, adequate fire protection services, fire safe design site standards, and ensuring public awareness regarding fire safety. All future projects allowed under the General Plan would be required to comply with the provisions of Federal, State, and local requirements related to wildland fire hazards, including State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. As future development and infrastructure projects are considered by the City, each project would be evaluated for potential impacts, specific to the project, associated with wildland fire hazards as required under CEQA. Overall, this impact would be *less than significant*.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

CF-3.1: Through adequate staffing and station locations, maintain a maximum five-minute travel response time 90% of the time for fire and emergency calls, an overall fire insurance (ISO) rating of 2 or better for all developed areas within the City, and a minimum staffing of 3 personnel for all fire stations.

CF-3.2: Provide fire services to serve the existing and projected population.

CF-3.3: Periodically review, and if necessary, amend, the criteria for determining the circumstances under which fire service will be enhanced and ensure adequate levels of service are provided to older, low income, and disadvantaged areas.

3.8 HAZARDS AND HAZARDOUS MATERIALS

CF-3.4: Design and maintain roadways in such a way so as to maintain acceptable emergency vehicle response times.

CF-3.5: Ensure that new development and existing development, including older, low income, and disadvantaged areas, is designed, constructed, and equipped consistent with the requirements of the California Fire Code in order to minimize the risk of fire.

CF-3.6: Ensure that new development is served with adequate water volumes and water pressure for fire protection.

S-1.1: Maintain and periodically update the City's Emergency Plan.

S-1.4: Encourage community awareness of seismic, flooding, and other disaster safety issues, including building safety, emergency response plans, and understanding steps to take for safety during and after a disaster, including identified evacuation routes.

S-1.5: Continue to cooperate with San Joaquin County and other public agencies in implementing the Countywide Emergency Preparedness Plan and Local Hazard Mitigation Plan.

S-2.7: Require compliance with the State's building standards in the design and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous materials manufacturing and storage facilities, and large public assembly halls.

ACTIONS

CF-3a: Continuously monitor response times and provide the City Council with an annual report on the results of the monitoring.

CF-3b: Continue to enforce the California Building Code and the California Fire Code to ensure that all construction implements fire-safe techniques, including fire resistant materials, where required.

CF-3c: As part of the City's existing development review process for new projects, the Fire Department will continue to make determinations on projects' potential impacts on fire protection services. Requirements will be added as conditions of project approval, if appropriate.

CF-3d: The Planning Commission and City Engineer will review proposed residential street patterns to evaluate the accessibility for fire engines and emergency response.

S-1a: Regularly conduct periodic emergency response exercises to test the effectiveness of City emergency response procedures.

S-1b: Regularly conduct periodic emergency response exercises to test the effectiveness of City emergency response procedures.

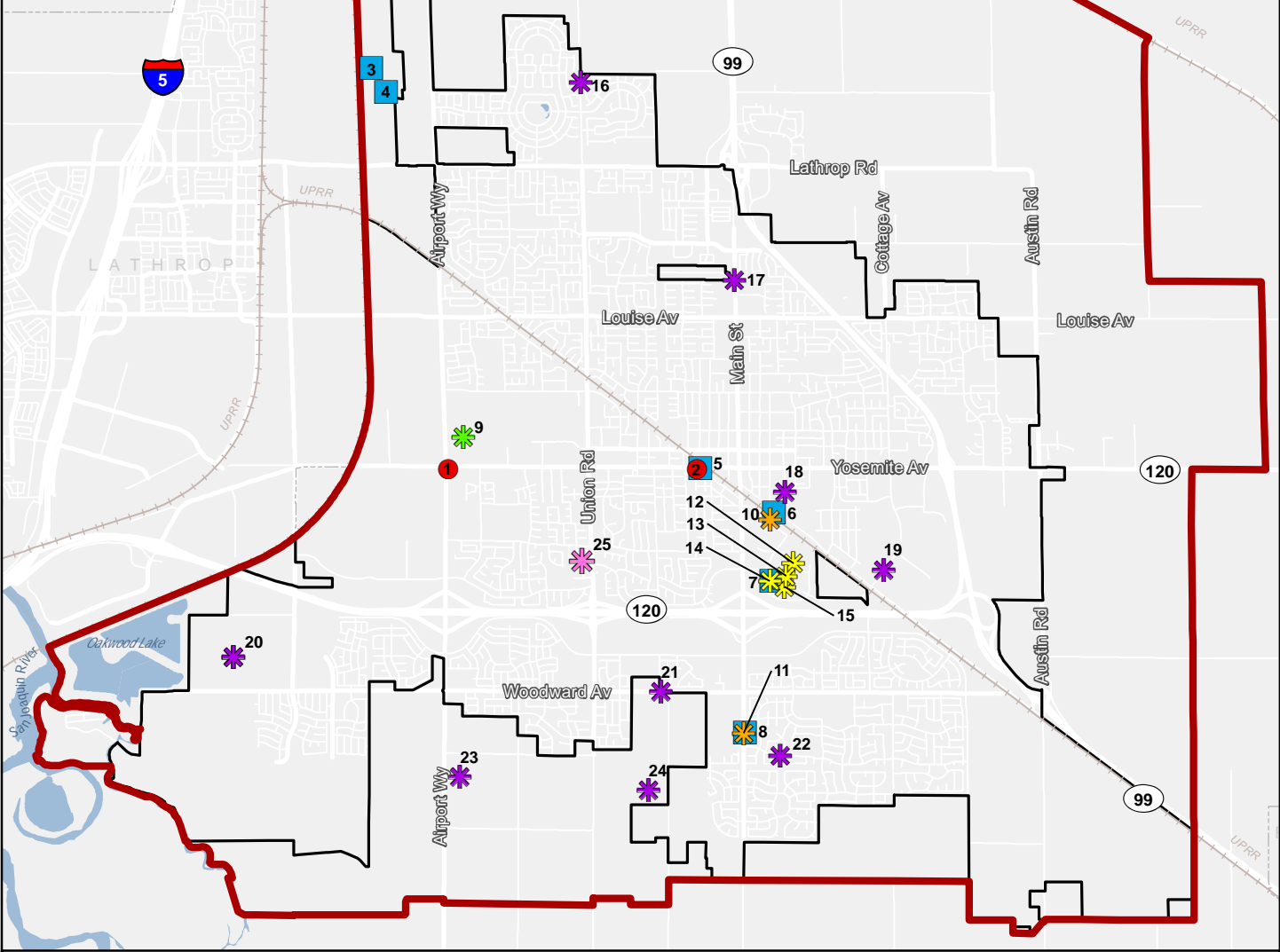
S-1:c Cooperate with San Joaquin County OES, Manteca Fire Department, Lathrop Manteca Fire District, Manteca Police Services, the reclamation districts, and other agencies with responsibility for emergency management in emergency response planning, training and provision of logistical support.

S-2b: Review development proposals to ensure compliance with the current State building standards.

S-4a: As part of the development review process, require projects that result in significant risks associated with hazardous materials to include measures to address the risks and reduce the risks to an acceptable level.

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Map ID	Site Type	Site Name	Map ID	Site Type	Site Name
1	LUST	Frank's One Stop	14	Tiered Permit	ISE Labs, Inc., Assembly Operations
2	LUST	Rainwater Car Wash	15	Tiered Permit	Olin Interconnect Technologies
3	SCP	Union Pacific Lathrop Intermodal Facility	16	School Investigation	Proposed Union Ranch Elementary School
4	SCP	Former Suprema Cheese Wastewater Pond	17	School Investigation	North Main Street Community School
5	SCP	French Cleaners	18	School Investigation	Proposed Manteca High School Addition
6	SCP	99 Auto Recycling	19	School Investigation	Woodward Annex Site
7	SCP	ISE Labs, Inc.	20	School Investigation	Tara Park Elementary School
8	SCP	Tri-Ag Service, Inc.	21	School Investigation	Sand Lane Elementary School
9	Voluntary Cleanup	Satellite Housing	22	School Investigation	South Manteca Elementary School
10	Evaluation	United Agri Products	23	School Investigation	South Airport Way School
11	Evaluation	Schmiedt Soil Service, Inc	24	School Investigation	Proposed South Manteca High School
12	Tiered Permit	Advanced Tech Interconnect, Inc.	25	State Response	Nur-Al-Huda Academy
13	Tiered Permit	Qualex, Inc. - Manteca			

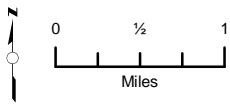


Legend

- City of Manteca
- Manteca Planning Area
- Water Board Site Cleanup Program (SCP) Site
- Leaky Underground Storage Tank (LUST) Site
- Evaluation Site
- School Investigation Site
- State Response Site
- Tiered Permit Site
- Voluntary Cleanup Site

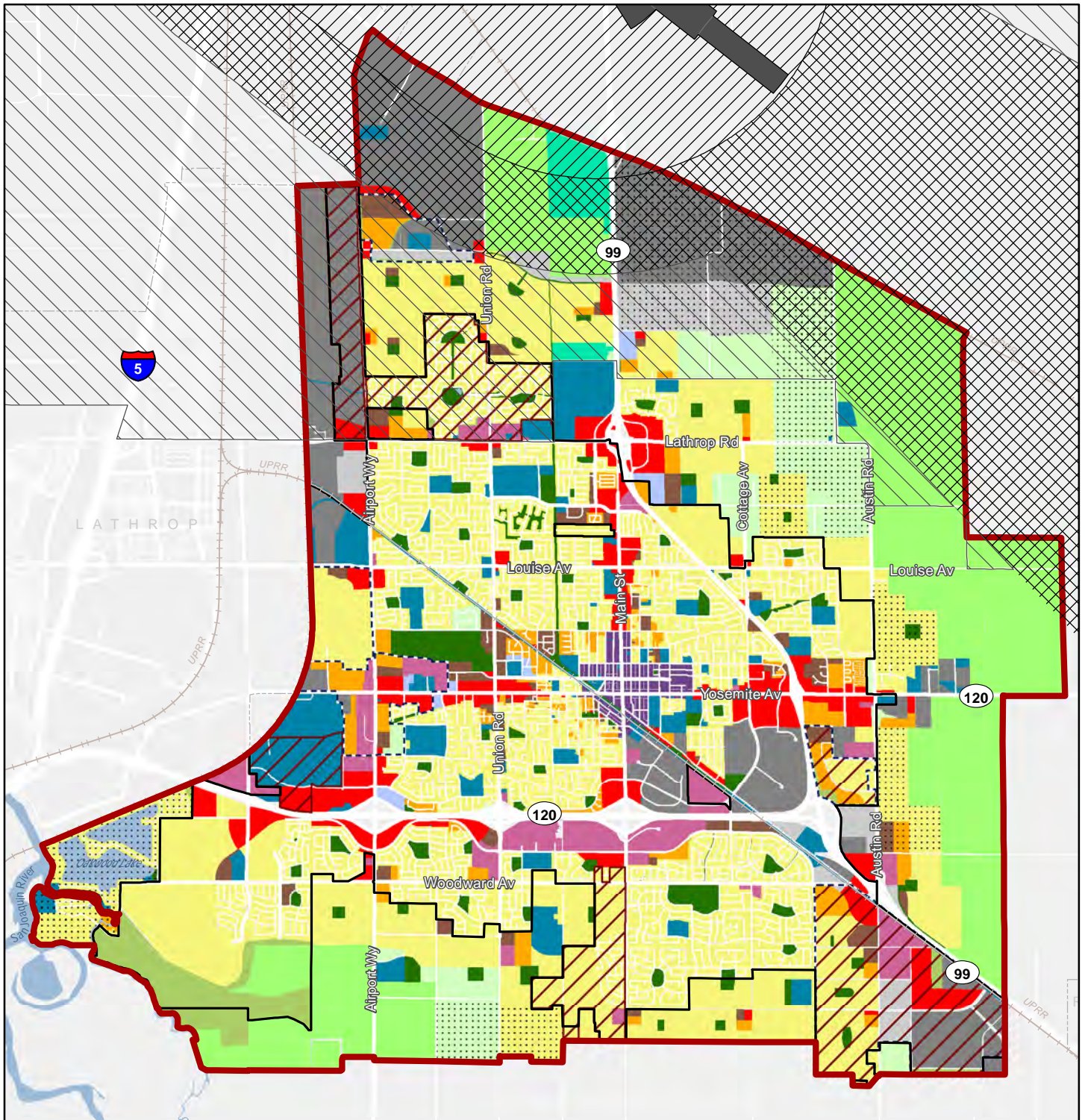
CITY OF MANTECA GENERAL PLAN

Figure 3.8-1. Hazardous Sites



Sources: City of Manteca; San Joaquin County; EnviroStor 2-23-2022; GeoTracker 2-23-2022. Map date: February 24, 2022.

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Legend

- City of Manteca
- Manteca Planning
- Master/Specific Plan
- Policy
- Urban Reserve

Stockton Metropolitan Airport

- Zones 1-6: Runway, Approach, Turning, and Property Zones
- Zone 7a (TPZ): Traffic Pattern
- Zone 7b (TPZ): Traffic Pattern
- Zone 8 (AIA): Airport Influence

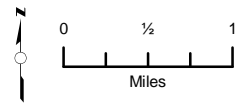
General Plan Land Use Designations

- | | | |
|----------------------------|-------------------------------------|----------------------------|
| AI - Agricultural | VLDR - Very Low Density Residential | BP - Business Professional |
| AG - | LDR - Low Density Residential | I - Industrial |
| C - Commercial | MDR - Medium Density Residential | OS - Open Space |
| CMU - Commercial Mixed Use | HDR - High Density Residential | P - Park |
| DW - Downtown | BIP - Business Industrial Park | PQP - Public/Quasi-Public |

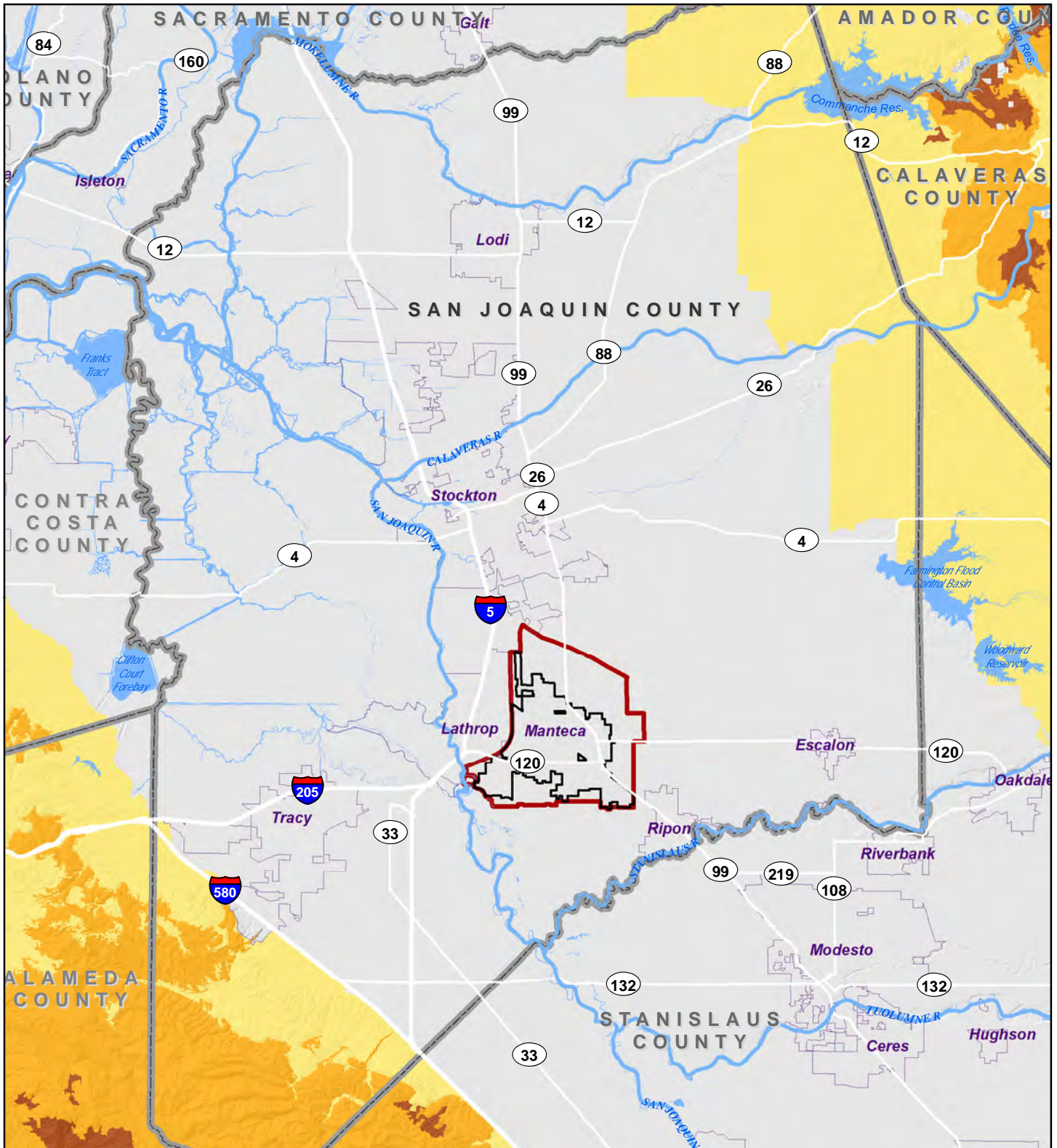
Sources: City of Manteca; San Joaquin County. Map date: February 23, 2022.

CITY OF MANTECA GENERAL PLAN

Figure 3.8-2. Stockton Metropolitan Airport



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Legend

- Manteca City Limits
- Other Incorporated Area
- Planning Area
- County Boundary

Fire Hazard Severity Zones (FHSZ) in State Responsibility Areas (SRA)

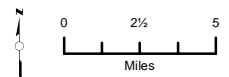
- Moderate
- High
- Very High

There are no Very High Fire Hazard Severity Zones (VHFHSZ) in Local Responsibility Areas (LRA) within the mapped extent.

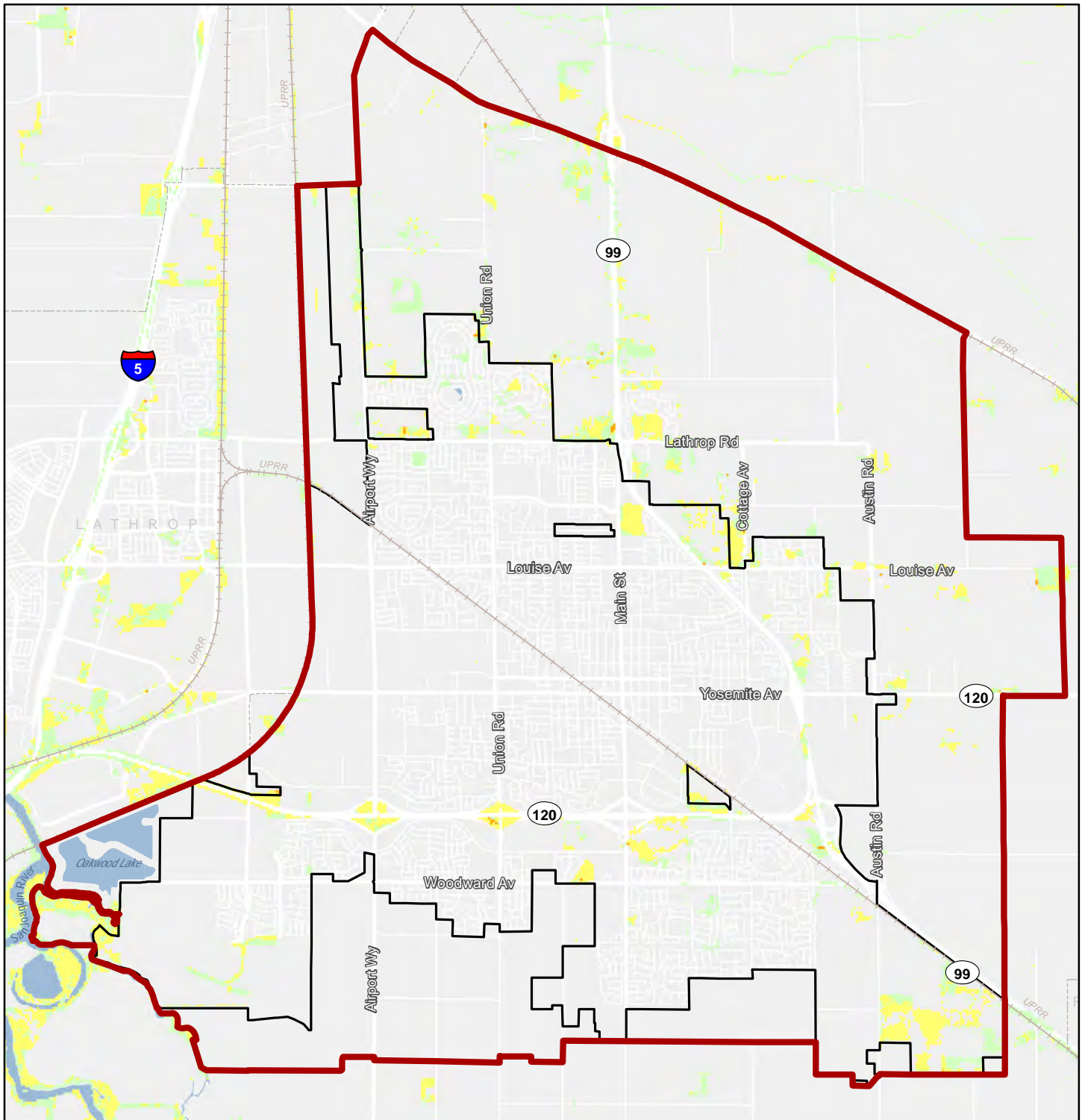
Sources: CalFire/State Office of the Fire Marshall; California State Geoportal; San Joaquin County GIS. Map date: August 28, 2022.

CITY OF MANTECA GENERAL PLAN

Figure 3.8-3. Fire Hazard Severity Zones



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Legend

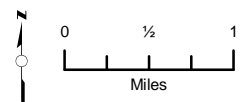
- City of Manteca
- Manteca Planning Area

Threat Class

- Low
- Moderate
- High
- Very High (not within the City or SOI)
- Extreme (not within the City or SOI)

CITY OF MANTECA GENERAL PLAN

Figure 3.8-4. Fire Threat to People



Sources: California Department of Forestry and Fire Protection, Fire and Resource Assessment Program (CALFIRE-FRAP) fhrt14_2; City of Manteca; San Joaquin County. Map date: February 23, 2022.

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This section provides a background discussion of the regional hydrology, flooding, water quality, water purveyors, and water sources in Manteca. This section is organized with an existing setting, regulatory setting, and impact analysis.

Comments were received during the Notice of Preparation comment period regarding this environmental topic from the following: Terra Land Group, LLC (February 3, 2020), Marian Rawlins (February 4, 2020), and Central Valley Regional Water Quality Control Board (CVRWQCB) (January 16, 2020). Additionally, transportation-related comments were received during the public review period for the Draft EIR (released March 22, 2021) from Terra Land Group, LLC (May 3, 2021) and Marian Rawlins (May 25, 2021).

KEY TERMS

Groundwater: Water that is underground and below the water table, as opposed to surface water, which flows across the ground surface. Water beneath the earth's surface fills the spaces in soil, gravel, or rock formations. Pockets of groundwater are often called "aquifers" and are the source of drinking water for a large percentage of the population in the United States. Groundwater is often extracted using wells which pump the water out of the ground and up to the surface. Groundwater is naturally replenished by surface water from precipitation, streams, and rivers when this recharge reaches the water table.

Surface water: Water collected on the ground or from a stream, river, lake, wetland, or ocean. Surface water is naturally replenished through precipitation but is naturally lost through evaporation and seepage into soil.

3.9.1 ENVIRONMENTAL SETTING

REGIONAL HYDROLOGY

The City of Manteca is located 12 miles south of downtown Stockton, 14 miles northwest of Modesto, and 75 miles southeast of San Francisco. The Manteca Planning Area is situated in the south-central portion of San Joaquin County. Although Manteca is one of the smaller planning areas within the County geographically, Manteca is the third most populated planning area in the County. The San Joaquin River and the Stanislaus River border the southwest and southern edge of the Planning Area, respectively.

Manteca is located in northern San Joaquin Valley. The San Joaquin Valley is the southern section of the Great Central Valley of California; the Sacramento Valley is the northern section. The Great Central Valley is a sedimentary basin, with the Coast Range to the west and the Sierra Nevada to the east. Almost all of the sediments that fill the Great Central Valley eroded from the Sierra Nevada. The oldest of these sediments are full of fragments of volcanic rocks eroded from its early volcanoes. As erosion stripped the cover of volcanic rocks from the granites of the Sierra Nevada, their detritus of pale quartz and feldspar sand began to wash into the Great Central Valley. Drainage into the San Joaquin Valley is mainly from the Sierra Nevada. The sediments on the valley floor were deposited within the past one-two million years, some within the past few thousand years.

3.9 HYDROLOGY AND WATER QUALITY

Generally, slopes are nearly level across the Planning Area. The elevation ranges from approximately 10 to 50 feet above sea level, gently rising from the San Joaquin River on the west toward the east and the Sierra Nevada.

CLIMATE

Summers in the Planning Area are warm and dry ranging from an average high in July of 93°F to an average low of approximately 59°F. Winters are cool and mild, with an average high of 53°F and a low of 37°F in January. The average annual precipitation is approximately 13.81 inches. Precipitation occurs as rain most of which falls between the months of November through April, peaking in January at 2.85 inches. The average temperatures range from December lows of 37.5°F to July highs of 94.3°F.

WATERSHEDS

A watershed is a region that is bound by a divide that drains to a common watercourse or body of water. Watersheds serve an important biological function, oftentimes supporting an abundance of aquatic and terrestrial wildlife including special status species and anadromous and native local fisheries. Watersheds provide conditions necessary for riparian habitat.

The State uses a hierarchical naming and numbering convention to define watershed areas for management purposes. This means that boundaries are defined according to size and topography, with multiple sub-watersheds within larger watersheds. Table 3.9-1 shows the primary watershed classification levels used by the State of California. The second column indicates the approximate size that a watershed area may be within a particular classification level, although variation in size is common.

TABLE 3.9-1: STATE OF CALIFORNIA WATERSHED HIERARCHY NAMING CONVENTION

<i>WATERSHED LEVEL</i>	<i>APPROXIMATE SQUARE MILES (ACRES)</i>	<i>DESCRIPTION</i>
Hydrologic Region (HR)	12,735 (8,150,000)	Defined by large-scale topographic and geologic considerations. The State of California is divided into ten HRs.
Hydrologic Unit (HU)	672 (430,000)	Defined by surface drainage; may include a major river watershed, groundwater basin, or closed drainage, among others.
Hydrologic Area (HA)	244 (156,000)	Major subdivisions of hydrologic units, such as by major tributaries, groundwater attributes, or stream components.
Hydrologic Sub-Area (HSA)	195 (125,000)	A major segment of an HA with significant geographical characteristics or hydrological homogeneity.

SOURCE: CALWATER, CALIFORNIA INTERAGENCY WATERSHED MAPPING COMMITTEE, 2008.

Hydrologic Region

San Joaquin County is located in the San Joaquin River Hydrological Region. The San Joaquin River is the principal river of the region, and all other streams of the region are tributary to it. The Mokelumne River and its tributary the Cosumnes River originate in the central Sierra Nevada, along with the more southerly Stanislaus and Tuolumne rivers. The Merced River flows from the south central Sierra Nevada and enters the San Joaquin near the City of Newman. The Chowchilla and Fresno rivers also originate in the Sierra south of the Merced River and trend westward toward the San Joaquin River. Creeks originating in the Coast Range and draining eastward into the San Joaquin River include Del Puerto Creek, Orestimba Creek, and Panoche Creek. Del Puerto Creek enters the San Joaquin near the City of Patterson, and Orestimba Creek enters north of the City of Newman. During flood years, Panoche Creek may enter the San Joaquin River or the Fresno Slough near the town of Mendota. The Kings River is a stream of the Tulare Lake Hydrologic Region, but in flood years it may contribute to the San Joaquin River, flowing northward through the James Bypass and Fresno Slough to enter near the City of Mendota. The Mud, Salt, Berrenda, and Ash Sloughs also add to the San Joaquin River, and numerous lesser streams and creeks also enter the system, originating in both the Sierra Nevada and the Coast Range. The entire San Joaquin river system drains northwesterly through the Delta to Suisun Bay (DWR 2013, pg. SJR-5).

Local Watersheds (Hydrologic Sub-Areas)

Within the San Joaquin River Hydrological Region, the Planning Area is located in the Lower Lone Tree Creek, Middle Lone Tree Creek, Oakwood Lake-San Joaquin River, Town of French Camp-San Joaquin River, Walker Slough-French Camp Slough, and Walthall Slough-San Joaquin River watersheds as shown on Figure 3.9-1.

LOCAL DRAINAGE

The City of Manteca provides and maintains a system of storm drains, detention basins, and pumping facilities as well as monitoring and control of the operations of the storm drain system. Additionally, the City enforces storm drain regulations established by the US Environmental Protection Agency (EPA) and the State of California.

The City of Manteca operates and maintains its storm drainage system, which consists of approximately 170 miles of pipeline, 36 pump stations, and 35 detention basins. The runoff flows through this system, into South San Joaquin Irrigation District (SSJID) drains and laterals, and eventually into the San Joaquin River.

The City maintains a dynamic computer model of its storm drainage system. The model was formulated as an XP-SWMM model originally developed by the US EPA. The current version was advanced by a private sector organization, XP Software, Inc. The model provides analysis over time and offers the ability to maximize the efficiency of detention basin and pump operations along with the ability to monitor and control downstream water levels to minimize flooding problems with a minimum of new capital improvements.

The SSJID owns a complex network of irrigation Laterals and Drains that run throughout the City limits. These facilities deliver irrigation water to various farming operations in the region, and they convey excess irrigation water and field runoff to downstream receiving waters, specifically the San Joaquin River. The City relies on SSJID's facilities to convey its storm water runoff to the San Joaquin River.

The City and SSJID have a long-standing agreement that authorizes the City to discharge its storm water runoff into SSJID facilities for ultimate disposal to the San Joaquin River. In 1975 the City first entered into a storm drainage agreement with SSJID, and in 2006 the City renewed its drainage agreement with SSJID. Of the many requirements in the 2006 Agreement, the two most significant new requirements are that all storm water discharges into SSJID facilities must be monitored and controlled such that the capacity of SSJID's facilities is not exceeded, and that storm water quality must be controlled such that it complies with all applicable laws.

The City meets the first requirement by requiring all new development to attenuate its runoff in a storage facility before pumping it into SSJID's facilities. In addition, the City uses real-time water level monitoring stations at critical low points in the conveyance system complete with SCADA (Supervisory Control and Data Acquisition) facilities. Regarding the water quality requirement, the City is classified as a Phase II city by the State Water Resources Control Board. As such, the City, and consequently new development, is required to comply with the State Board's storm water National Pollution Discharge Elimination System (NPDES) permit for Phase II cities.

Per the City/SSJID Master Drainage Agreement, SSJID prohibits the direct discharge of storm water runoffs into its facilities. Accordingly, the City requires all new developments to attenuate its runoff in a storage facility before pumping it into SSJID's facilities. For surface attenuation facilities, there are two allowable basin types that may be used: Interim Percolation Basin or a Permanent Detention Basin.

Future Storm Water Drainage Demand and System Improvements

The City's 2013 Storm Drain Master Plan (SDMP) provides a comprehensive planning document to guide improvement and expansion of the City's storm drainage system to meet current and future needs in a safe and reliable manner while maintaining compliance with all applicable regulations. Five planning zones have been identified to define the capital improvements needed to serve future growth: Zones 30, 32, 34, 36 and 39. With the exception of drainage Zone 39, all drainage zones are located in the SSJID service area.

STORMWATER QUALITY

Surface water quality is affected by point source and non-point source pollutants. Point source pollutants are those emitted at a specific point, such as a pipe, while non-point source pollutants are typically generated by surface runoff from diffuse sources, such as streets, paved areas, and landscaped areas. Point source pollutants are controlled with pollutant discharge regulations or waste discharge requirements (WDRs). Non-point source pollutants are more difficult to monitor and control, although they are important contributors to surface water quality in urban areas.

Stormwater runoff pollutants vary based on land use, topography, the amount of impervious surface, and the amount and frequency of rainfall and irrigation practices. Runoff in developed areas typically contains oil, grease, and metals accumulated in streets, driveways, parking lots, and rooftops, as well as pesticides, herbicides, particulate matter, nutrients, animal waste, and other oxygen-demanding substances from landscaped areas. The highest pollutant concentrations usually occur at the beginning of the wet season during the “first flush.”

303(d) Impaired Water Bodies

Water quality in the City is governed by the CVRWQCB, which set water quality standards in their Water Quality Control Plan for the respective basins (Basin Plans). The Basin Plans identify beneficial uses for surface water and groundwater and establish water quality objectives to attain those beneficial uses.

Section 303(d) of the federal CWA requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

According to the California Water Quality Control Monitoring Council, which is part of California Environmental Protection Agency, Natural Resources, there are many areas within the San Joaquin County which are considered Section 303(d) impaired waterbodies. Those areas in the regional vicinity of the Planning Area that are impaired are referred as Delta Waterways (Southern Portion) by the Water Quality Control Monitoring Council. This includes 3,125 acres listed as early as 1996 for Chlorpyrifos (Agriculture, Urban Runoff/Storm Sewers), DDT (Agriculture), Diazinon (Agriculture, Urban Runoff/Storm Sewers), Electrical Conductivity (Agriculture), Group A Pesticides (Agriculture), Invasive Species (Source Unknown), Mercury (Resource Extraction), and Unknown Toxicity (Source Unknown).

Storm water runoff may play a role in the water quality impairments described above. Runoff that occurs as overland flow across yards, driveways, and public streets is intercepted by the storm water drainage system and conveyed to local drainages before eventually being routed to the Pacific. This storm water can carry pollutants that can enter the local waterways and result in the types of water quality impairments described above. Common sources of storm water pollution in the City include litter, trash, pet waste, paint residue, organic material (yard waste), fertilizers, pesticides, sediments, construction debris, metals from automobile brake pad dust, air pollutants that settle on the ground or attach to rainwater, cooking grease, illegally dumped motor oil, and other harmful fluids.

Potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity from sediment resulting from erosion of improperly graded construction projects, concentration of nitrates and dissolved solids from agriculture or surfacing septic tank failures, contaminated street and lawn run-off from urban areas, and warm water drainage discharges into cold water streams.

3.9 HYDROLOGY AND WATER QUALITY

The most critical period for surface water quality is following a rainstorm which produces significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminants in the low flowing stream. Such conditions are most frequent during the fall at the beginning of the rainy season when stream flows are near their lowest annual levels. Besides the greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Urban stormwater runoff was managed as a non-point discharge (a source not readily identifiable) under the Federal Water Pollution Control Amendments of 1972 (PL 92-500, Section 208) until the mid-1980's. However, since then, the Federal Environmental Protection Agency has continued to develop implementing rules which categorize urban runoff as a point source (an identifiable source) subject to NPDES permits. Rules now affect medium and large urban areas, and further rulemaking is expected as programs are developed to meet requirements of Federal water pollution control laws.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices all lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies these same factors often cause a buildup of siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

Table 3.9-2 below summarizes 303(d) impaired water bodies in the vicinity of the Planning Area.

TABLE 3.9-2: PLANNING AREA VICINITY IMPAIRED WATER BODIES

<i>POLLUTANT</i>	<i>FINAL LISTING DECISION</i>	<i>TMDL STATUS¹</i>	<i>EXPECTED TMDL COMPLETION²</i>	<i>USEPA TMDL APPROVAL DATE³</i>	<i>POTENTIAL SOURCES</i>
<i>DELTA WATERWAYS, EASTERN PORTION (2,972 ACRES)</i>					
<i>METALS/METALLOIDS</i>					
Mercury	Do Not Delist from 303(d) list (USEPA approved TMDL)	5B		10/20/2011	Agricultural Return Flows, Atmospheric Deposition, Highway/Road/Bridge Runoff, Industrial Point Sources, Municipal Point Sources, Natural Sources, Resource Extraction, Miscellaneous, Urban Runoff/Storm Sewers

<i>POLLUTANT</i>	<i>FINAL LISTING DECISION</i>	<i>TMDL STATUS¹</i>	<i>EXPECTED TMDL COMPLETION²</i>	<i>USEPA TMDL APPROVAL DATE³</i>	<i>POTENTIAL SOURCES</i>
<i>MISCELLANEOUS</i>					
Invasive Species	List on 303(d) list (TMDL required list)	5A	2019		Unknown
DDT (Dichlorodiphenyl trichloroethane)	Do Not Delist from 303(d) list	5A	2011		Unknown
Dieldrin	Do Not Delist from 303(d) list	5A	2013		Unknown
Diazinon	List on 303(d) list (USEPA approved TMDL)	5B		10/10/2007	Unknown
Chlorpyrifos	List on 303(d) list (USEPA approved TMDL)	5B		10/10/2007	Unknown
Group A Pesticides	List on 303(d) list (TMDL required list)	5A	2027		Unknown
<i>TOXICITY</i>					
Toxicity	List on 303(d) list (TMDL required list)	5A	2019		Unknown
<i>DELTA WATERWAYS, SOUTHERN PORTION (3,125 ACRES)</i>					
<i>METALS/METALLOIDS</i>					
Mercury	Do Not Delist from 303(d) list (USEPA approved TMDL)	5B		10/20/2011	Agricultural Return Flows, Atmospheric Deposition, Highway/Road/Bridge Runoff, Industrial Point Sources, Municipal Point Sources, Natural Sources, Resource Extraction, Urban Runoff/Storm Sewers
<i>MISCELLANEOUS</i>					
Invasive Species	List on 303(d) list (TMDL required list)	5A	2019		Unknown
<i>PESTICIDES</i>					
DDT (Dichlorodiphenyl trichloroethane)	Do Not Delist from 303(d) list (TMDL required list)	5A	2027		Unknown
Group A Pesticides	List on 303(d) list (TMDL required list)	5A	2027		Unknown
Chlorpyrifos	List on 303(d) list (being addressed by USEPA approved TMDL)	5B		10/10/2007	Unknown
Diazinon	List on 303(d) list (being addressed by USEPA approved TMDL)	5B		10/10/2007	Unknown

3.9 HYDROLOGY AND WATER QUALITY

<i>POLLUTANT</i>	<i>FINAL LISTING DECISION</i>	<i>TMDL STATUS¹</i>	<i>EXPECTED TMDL COMPLETION²</i>	<i>USEPA TMDL APPROVAL DATE³</i>	<i>POTENTIAL SOURCES</i>
<i>SALINITY</i>					
Electrical Conductivity	Do Not Delist from 303(d) list (TMDL required list)	5A	2027		Unknown
<i>TOXICITY</i>					
Toxicity	List on 303(d) list (TMDL required list)	5A	2019		Unknown
<i>FRENCH CAMP SLOUGH (PORTION) (6.3 MILES)</i>					
<i>FECAL INDICATOR BACTERIA</i>					
Indicator Bacteria	Do Not Delist from 303(d) list (TMDL required list)	5A	2027		Unknown
<i>NUTRIENTS</i>					
Oxygen, Dissolved	Do Not Delist from 303(d) list (TMDL required list)	5A	2027		Unknown
Diazinon	Do Not Delist from 303(d) list (being addressed with action other than TMDL)	5C			Agriculture
Chlorpyrifos	List on 303(d) list (USEPA approved TMDL)	5B		10/8/2007	Agriculture
<i>TOXICITY</i>					
Toxicity	Do Not Delist from 303(d) list (TMDL required list)	5A	2027		Unknown
<i>LONE TREE CREEK (14.8 MILES)</i>					
<i>FECAL INDICATOR BACTERIA</i>					
Indicator Bacteria	Do Not Delist from 303(d) list (TMDL required list)	5A	2021		Unknown
<i>NUTRIENTS</i>					
Ammonia	List on 303(d) list (TMDL required list)	5A	2020		Unknown
BOD, Biochemical oxygen demand	List on 303(d) list (TMDL required list)	5A	2020		Unknown
<i>PESTICIDES</i>					
Chlorpyrifos	Do Not Delist from 303(d) list (being addressed with action other than TMDL)	5C			Agriculture
Diuron	Do Not Delist from 303(d) list (being addressed with action other than TMDL)	5C			Agriculture
Diazinon	List on 303(d) list (being addressed by action other than TMDL)	5C			Agriculture

<i>POLLUTANT</i>	<i>FINAL LISTING DECISION</i>	<i>TMDL STATUS¹</i>	<i>EXPECTED TMDL COMPLETION²</i>	<i>USEPA TMDL APPROVAL DATE³</i>	<i>POTENTIAL SOURCES</i>
<i>TOXICITY</i>					
Toxicity	Do Not Delist from 303(d) list (TMDL required list)	5A	2021		Unknown
<i>TOM PAINE SLOUGH, IN DELTA WATERWAYS SOUTHERN PORTION (14 MILES)</i>					
<i>NUTRIENTS</i>					
Oxygen, Dissolved	List on 303(d) list (TMDL required list)	5A	2027		Unknown
<i>SALINITY</i>					
Chloride	List on 303(d) list (TMDL required list)	5A	2027		Unknown
Salinity	List on 303(d) list (TMDL required list)	5A	2027		Unknown

1: TOTAL MAXIMUM DAILY LOAD (TDML)

2: DETERMINATION THE LOADING CAPACITY OF THE WATERBODY AND ALLOCATION OF LOAD AMONG DIFFERENT POLLUTANT SOURCES.

3: APPROVED TMDL WASTELOAD ALLOCATIONS GENERALLY BECOME IMPLEMENTED THROUGH EPA’S NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS UNDER CWA SECTION 402.

SOURCE: STATE WATER RESOURCES CONTROL BOARD, FINAL 2014/2016 CALIFORNIA INTEGRATED REPORT (CLEAN WATER ACT SECTION 303(D) LIST / 305(B) REPORT)

GROUNDWATER

The City of Manteca is located in the Eastern San Joaquin River Groundwater Basin. The basin is not adjudicated; however, a basin management plan has been created. The Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan (ESJGS-GSP) (Eastern San Joaquin Groundwater Authority, 2019) was prepared in November 2019. The purpose of the ESJGS-GSP is “to meet the regulatory requirements set forth in the three-bill legislative package consisting of Assembly Bill (AB) 1739 (Dickinson), Senate Bill (SB) 1168 (Pavley), and SB 1319 (Pavley), collectively known as the Sustainable Groundwater Management Act (SGMA). SGMA.”

According to Department of Water Resources (DWR) Bulletin 118 (DWR, 2016), the groundwater basin is critically overdrafted, with historical declines averaging 1.7 feet per year. Past estimates of safe groundwater yield from the basin have indicated that pumping at or below 1 AFY/acre of City land is sustainable. The City targets this sustainable yield, but it is important to note that the total groundwater pumping occurring within City boundaries includes City-owned municipal and park irrigation wells, as well as irrigation and domestic wells owned and operated by others. While all of the City’s municipal wells have historically been metered, the irrigation wells were not all metered until 2015 and groundwater pumping data for other wells is incomplete. Therefore, the available safe yield for the City’s wells includes some uncertainty. With the introduction of surface water supplies, as discussed above, and implementation of conservation measures, withdrawals have declined, stabilizing groundwater levels in the Manteca area (Kennedy/Jenks Consultants, 2016).

Most of the fresh groundwater is encountered at depths of 700 to 1,900 feet, and most of this shallow groundwater is unconfined. A discussion of basin hydrogeology is provided in the ESJGS-GSP.

The Eastern San Joaquin Subbasin includes lands south of Dry Creek between the San Joaquin River on the west and the crystalline basement rock of the Sierra Nevada foothills on the east. The Eastern San Joaquin Subbasin boundary to the south stretches along the San Joaquin County line and continues along the Stanislaus River into Calaveras County to the east. Geologic units in the Eastern San Joaquin Subbasin consist of consolidated rocks and unconsolidated deposits.

The Eastern San Joaquin Subbasin Hydrogeologic Conceptual Model has one principal aquifer that provides water for domestic, irrigation, and municipal water supply and that is composed of three water production zones. The zones have favorable aquifer characteristics that deliver a reliable water resource because of their basin location and sand thickness. The zones are:

- **Shallow Zone** that consists of the alluvial sands and gravels of the Modesto, Riverbank, and Upper Turlock Lake Formations;
- **Intermediate Zone** that consists of the Lower Turlock Lake and Laguna Formations;
- **Deep Zone** that consists of the consolidated sands and gravels of the Mehrten Formation.

The City's annual potable groundwater production increased with demand until 2005, reaching a peak of 14,900 AFY in 2004. Commissioning of the WTP in 2005 decreased groundwater use considerably. In addition, the City has shifted from potable water use to irrigation water use wherever possible, to reduce potable water demand and groundwater treatment costs. In 2015, the City's annual groundwater production was 7,249 AFY, of which 5,639 AFY was for potable use and 1,610 AFY for irrigation use (Kennedy/Jenks Consultants, 2016).

The City's 2015 UWMP indicates that the City's goal is to limit groundwater use to between 47 to 53 percent of total water supply. West Yost assumes the City will limit groundwater use to approximately 18,500 AFY, equal to the City's Normal Year surface water supply (West Yost, 2021). The estimated safe yield of the groundwater basin is 1 AFY/acre.

FLOODPLAIN MAPPING

FEMA Flood Zones

Federal Emergency Management Agency (FEMA) mapping provides important guidance for the City in planning for flooding events and regulating development within identified flood hazard areas. FEMA's National Flood Insurance Program (NFIP) is intended to encourage State and local governments to adopt responsible floodplain management programs and flood measures. As part of the program, the NFIP defines floodplain and floodway boundaries that are shown on Flood Insurance Rate Maps (FIRMs). The FEMA FIRM for the Planning Area is shown on Figure 3.9-2.

Areas that are subject to flooding are indicated by a series of alphabetical symbols, indicating anticipated exposure to flood events:

- **Zone A:** Subject to 100-year flooding with no base flood elevation determined. Identified as an area that has a one percent chance of being flooded in any given year.
- **Zone AE:** Subject to 100-year flooding with base flood elevations determined.
- **Zone AH:** Subject to 100-year flooding with flood depths between one- and three-feet being areas of ponding with base flood elevations determined.
- **500-year Flood Zone:** Subject to 500-year flooding. Identified as an area that has a 0.2 percent chance of being flooded in a given year.

The Planning Area is subject to flooding problems along the natural creeks and drainages that traverse the area. The primary flood hazard is the San Joaquin River (four miles outside the Study Area) and its tributaries, notably Walthall Slough (contiguous with the southwestern Study Area boundary). A levee running from Williamson Road east to Airport Way provides flood protection for the land north and east of Walthall Slough. This levee is under the jurisdiction of Reclamation District No. 17.

The 100-year flood plain is largely confined to the southwestern portion of the City limits and SOI. Similarly, the 500-year flood plain is located in the southwestern and western portions of the City limits and SOI.

SB 5 Flood Zones

Both State policy and recently enacted State legislation (Senate Bill [SB] 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. SB 5 requires that the 200-year protection be consistent with criteria used or developed by the Department of Water Resources. SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys to achieve 200-year flood protection in order to approve development. The 200-year floodplain for the Planning Area, as mapped by the City of Manteca and San Joaquin County, is shown on Figure 3.9-3. As shown in the figure, the 200-year floodplain is located in the western portion of the City's SOI and City limits. Existing uses within the 200-year floodplain include mainly agricultural and rural-residential uses. Some more recently developed homes located south of State Route 120 are also located within the 200-year floodplain.

The City's 2013 Public Facilities Implementation Plan (PFIP) Update notes several stormwater control improvements aimed to protect the City from flooding during storm events. The 2013 Storm Drain Master Plan evaluates drainage from the General Plan lands within the City's Primary Urban Service Area through build out. Five planning zones have been identified to define the capital improvements needed to serve future growth: Zones 30, 32, 34, 36 and 39. With the exception of drainage Zone 39, all drainage zones are located in the SSJID service area. For development within Zone 39, separate facilities will be constructed to convey runoff to one regional pump station that will discharge to the San Joaquin River. The outfall is in close proximity to the confluence of Walthall Slough and the San Joaquin River. These facilities would be required as new development within Zone 39 occurs.

Additionally, as individual development projects occur and as funds are available, the City will construct water level monitoring facilities in the various PFIP zones and in the French Camp Outlet

Canal to monitor water elevations in real-time to prevent flooding caused by additional drainage flows. Each zone's proportionate share of the water level monitoring stations is included the various PFIP zone fees. It is noted that the City and SSJID are jointly updating a master plan for improvements to the French Camp Outlet Canal that will provide the nexus for the timing of improvements. The master plan is estimated to be complete by the second quarter of fiscal year 2022/2023.

Dam Inundation

Earthquakes centered close to a dam are typically the most likely cause of dam failure. Dam Inundation maps have been required in California since 1972, following the 1971 San Fernando Earthquake and near failure of the Lower Van Norman Dam. The Planning Area has the potential to be inundated by four dams: Tulloch Dam, San Luis Dam, New Exchequer Dam (Lake McClure), and New Melones Dam. The dam inundation area for each dam is shown in Figure 3.9-4. Each dam is briefly described below:

- The **Tulloch Dam**, owned and operated by the Oakdale and South San Joaquin Irrigation Districts (collectively known as the Tri-Dam Project), is a gravity dam located on the Stanislaus River in both Calaveras and Tuolumne Counties. This dam was built in 1958 at a height of 205 feet with a reservoir capacity of 68,400 acre-feet. The Tulloch Dam is a jurisdictional dam.
- The **San Luis Dam** (or B.F. Sisk Dam), jointly owned and operated by the Bureau of Reclamation and the State of California, is a zoned earthfill dam that provides supplemental irrigation water to land in western Merced, Fresno and Kings Counties, as well as generates power. This dam, located on San Luis Creek near Los Banos, was completed in 1967 at a height of 382 feet with a reservoir capacity of 2,041,000 acre-feet. The San Luis Dam is a non-jurisdictional dam.
- The **New Exchequer Dam**, owned and operated by the Merced Irrigation District, is utilized for irrigation, power production, and downstream flood control. This concrete gravity-arch dam is located on the Merced River in Mariposa County. New Melones Dam was completed in 1967 at a height of 490 feet and a storage capacity of 1,024,600 acre-feet. The New Exchequer Dam is a jurisdictional dam.
- The **New Melones Dam**, owned and operated by Bureau of Reclamation's Central Valley Project, is utilized for irrigation, power production, and downstream flood control. This earth and rockfill dam is located on the Stanislaus River in southern Mother Lode, off of Highway 49. New Melones Dam was completed in 1979 at a height of 625 feet and a storage capacity of 2,400,000 acre-feet. The New Melones Dam is a non-jurisdictional dam.

These dams do not have a history of failure; however, they are identified as having the potential to inundate habitable portions of the Planning Area in the unlikely event of dam failure. The dam owners/operators, Oakdale and South San Joaquin Irrigation Districts, the Bureau of Reclamation, and the State of California, are responsible for the management, monitoring, and improvements to these dams to reduce the risk of dam failure and inundation.

Portions of the 100-year floodplain would be subject to inundation in the event of dam failure. Although the likelihood is remote, the area subject to inundation within the Study Area is not

specifically defined, but would generally coincide with the area delineated as the 100-year floodplain.

Despite the number of dams near San Joaquin County, the risk of dam failure inundating portions of the County is considered low, and the degree and nature of risk for each dam is unknown. Dam failure can occur under three general conditions: as a result of an earthquake, an isolated incident due to structural instability, or because of intense rain in excess of design capacity.

Section 8589.5 of the California Government Code requires local jurisdictions to adopt emergency procedures for the evacuation of populated inundation areas identified by dam owners. The local Office of Emergency Services has prepared a Dam Failure Plan. This plan includes a description of dams, direction of floodwaters, responsibilities of local jurisdictions, and evacuation plans.

3.9.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the water resources of the state and nation including FEMA, the US EPA, the State Water Resources Control Board (SWRCB), and the CVRWQCB. The following is an overview of the federal, state and local regulations that are applicable to the proposed project.

FEDERAL

Clean Water Act

The CWA, initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the act establishes a framework for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) Program. Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

The CWA establishes the basic structure for regulating the discharges of pollutants into the waters of the United States and gives the US Environmental Protection Agency (EPA) the authority to implement pollution control programs. The statute's goal is to regulate all discharges into the nation's waters and to restore, maintain, and preserve the integrity of those waters. The CWA sets water quality standards for all contaminants in surface waters and mandates permits for wastewater and stormwater discharges.

The CWA also requires states to establish site-specific water quality standards for navigable bodies of water and regulates other activities that affect water quality, such as dredging and the filling of wetlands. The following CWA sections assist in ensuring water quality for the water of the United States:

CWA Section 208 requires the use of best management practices (BMPs) to control the discharge of pollutants in stormwater during construction CWA Section 303(d) requires the creation of a list of impaired water bodies by states, territories, and authorized tribes; evaluation of lawful activities

that may impact impaired water bodies, and preparation of plans to improve the quality of these water bodies. CWA Section 303(d) also establishes TMDLs, which is the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards. CWA Section 404 authorizes the US Army Corps of Engineers to require permits that will discharge dredge or fill materials into waters in the US, including wetlands.

In California, the EPA has designated the SWRCB and its nine RWQCBs with the authority to identify beneficial uses and adopt applicable water quality objectives.

The SWRCB is responsible for implementing the CWA and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for storm water discharges (individual permits and general permits).

Federal Emergency Management Agency

FEMA operates the NFIP. Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the California Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

Flood Control Act

The Flood Control Act (1917) established survey and cost estimate requirements for flood hazards in the Sacramento Valley. All levees and structures constructed per the Act were to be maintained locally but controlled federally. All rights of way necessary for the construction of flood control infrastructure were to be provided to the Federal government at no cost.

Federal involvement in the construction of flood control infrastructure, primarily dams and levees, became more pronounced upon passage of the Flood Control Act of 1936.

Flood Disaster Protection Act (FDPA)

The FDPA of 1973 was a response to the shortcomings of the NFIP, which were experienced during the flood season of 1972. The FDPA prohibited Federal assistance, including acquisition, construction, and financial assistance, within delineated floodplains in non-participating NFIP communities. Furthermore, all Federal agencies and/or federally insured and federally regulated lenders must require flood insurance for all acquisitions or developments in designated Special Flood Hazard Areas (SFHAs) in communities that participate in the NFIP.

Improvements, construction, and developments within SFHAs are generally subject to the following standards:

- All new construction and substantial improvements of residential buildings must have the lowest floor (including basement) elevated to or above the base flood elevation (BFE).

- All new construction and substantial improvements of non-residential buildings must either have the lowest floor (including basement) elevated to or above the BFE or dry-floodproofed to the BFE.
- Buildings can be elevated to or above the BFE using fill, or they can be elevated on extended foundation walls or other enclosure walls, on piles, or on columns.
- Extended foundation or other enclosure walls must be designed and constructed to withstand hydrostatic pressure and be constructed with flood-resistant materials and contain openings that will permit the automatic entry and exit of floodwaters. Any enclosed area below the BFE can only be used for the parking of vehicles, building access, or storage.

National Flood Insurance Program (NFIP)

Per the National Flood Insurance Act of 1968, the NFIP has three fundamental purposes: *Better indemnify individuals for flood losses through insurance; Reduce future flood damages through State and community floodplain management regulations; and Reduce Federal expenditures for disaster assistance and flood control.*

While the Act provided for subsidized flood insurance for existing structures, the provision of flood insurance by FEMA became contingent on the adoption of floodplain regulations at the local level.

National Pollutant Discharge Elimination System

NPDES permits are required for discharges to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, oceans, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal CWA, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the EPA Regional Administrator (EPA Region 9). The terms of these NPDES permits implement pertinent provisions of the Federal CWA and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti-degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the CWA's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

Individual projects in the City that disturb more than one acre would be required to obtain NPDES coverage under the California General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit). The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) describing Best Management Practices (BMP) the discharger would use to prevent and retain storm water runoff. The SWPPP must contain a visual monitoring program; a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a waterbody listed on the 303(d) list for sediment.

Rivers and Harbors Appropriation Act of 1899

One of the country’s first environmental laws, this Act established a regulatory program to address activities that could affect navigation in Waters of the United States.

Water Pollution Control Act of 1972

The Water Pollution Control Act (WPCA) established a program to regulate activities that result in the discharge of pollutants to waters of the United States

STATE

California Fish and Wildlife Code

The California Department of Fish and Wildlife (CDFW) protects streams, water bodies, and riparian corridors through the streambed alteration agreement process under Section 1600 to 1616 of the California Fish and Game Code. The California Fish and Game Code establishes that “an entity may not substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river stream, or lake” (Fish and Game Code Section 1602(a)) without notifying the CDFW, incorporating necessary mitigation and obtaining a streambed alteration agreement. The CDFW’s jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation canopy cover.

California Code of Regulations

California Code of Regulations (CCR) Title 22, Chapter 15, Article 20 requires all public water systems to prepare a Consumer Confidence Report for distribution to its customers and to the Department of Health Services. The Consumer Confidence Report provides information regarding the quality of potable water provided by the water system. It includes information on the sources of the water, any detected contaminants in the water, the maximum contaminants levels set by regulation, violations and actions taken to correct them, and opportunities for public participation in decisions that may affect the quality of the water provided.

California Government Code

Relevant sections of the California Government Code are identified below.

SECTION 65302

Revised safety elements must include maps of any 200-year flood plains and levee protection zones within the Planning Area.

SECTION 65584.04

Any land having inadequate flood protection, as determined by FEMA or DWR, must be excluded from land identified as suitable for urban development within the planning area.

SECTION 8589.4

California Government Code §8589.4, commonly referred to as the Potential Flooding-Dam Inundation Act, requires owners of dams to prepare maps showing potential inundation areas in the event of dam failure. A dam failure inundation zone is different from a flood hazard zone under the National Flood Insurance Program (NFIP). NFIP flood zones are areas along streams or coasts where storm flooding is possible from a “100-year flood.” In contrast, a dam failure inundation zone is the area downstream from a dam that could be flooded in the event of dam failure due to an earthquake or other catastrophe. Dam failure inundation maps are reviewed and approved by the California Office of Emergency Services (OES). Sellers of real estate within inundation zones are required to disclose this information to prospective buyers.

California Department of Health Services

The Department of Health Services, Division of Drinking Water and Environmental Management, oversees the Drinking Water Program. The Drinking Water Program regulates public water systems and certifies drinking water treatment and distribution operators. It provides support for small water systems and for improving their technical, managerial, and financial capacity. It provides subsidized funding for water system improvements under the State Revolving Fund (“SRF”) and Proposition 50 programs. The Drinking Water Program also oversees water recycling projects, permits water treatment devices, supports and promotes water system security, and oversees the Drinking Water Treatment and Research Fund for MTBE and other oxygenates.

Consumer Confidence Report Requirements

California Code of Regulations (CCR) Title 22, Chapter 15, Article 20 requires all public water systems to prepare a Consumer Confidence Report for distribution to its customers and to the Department of Health Services. The Consumer Confidence Report provides information regarding the quality of potable water provided by the water system. It includes information on the sources of the water, any detected contaminants in the water, the maximum contaminant levels set by regulation, violations and actions taken to correct them, and opportunities for public participation in decisions that may affect the quality of the water provided.

California Water Code

California’s primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation

of California's responsibilities under the Federal CWA. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites, and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a Water Quality Control Plan (Basin Plan) for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

Assembly Bill 162

Assembly Bill (AB) 162 requires a general plan's land use element to identify and annually review those areas covered by the general plan that are subject to flooding as identified by flood plain mapping prepared by FEMA or DWR. The bill also requires, upon the next revision of the housing element, on or after January 1, 2009, the conservation element of the general plan to identify rivers, creeks, streams, flood corridors, riparian habitat, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management. By imposing new duties on local public officials, the bill creates a State-mandated local program.

This bill also requires, upon the next revision of the housing element, on or after January 1, 2009, the safety element to identify, among other things, information regarding flood hazards and to establish a set of comprehensive goals, policies, and objectives, based on specified information for the protection of the community from, among other things, the unreasonable risks of flooding.

Assembly Bill 70

AB 70 provides that a city or county may be required to contribute its fair and reasonable share of the property damage caused by a flood to the extent that it has increased the State's exposure to liability for property damage by unreasonably approving, as defined, new development in a previously undeveloped area, as defined, that is protected by a State flood control project, unless the city or county meets specified requirements.

Senate Bill 610 and Assembly Bill 901

The State Legislature passed SB 610 and AB 901 in 2001. Both measures modified the Urban Water Management Planning Act.

SB 610 requires additional information in an urban water management plan if groundwater is identified as a source of water available to an urban water supplier. It also requires that the plan include a description of all water supply projects and programs that may be undertaken to meet total projected water use. SB 610 requires a city or county that determines a project is subject to CEQA to identify any public water system that may supply water to the project and to request identified public water systems to prepare a specified water supply assessment. The assessment

must include, among other information, an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and water received in prior years pursuant to these entitlements, rights, and contracts.

AB 901 requires an urban water management plan to include information, to the extent practicable, relating to the quality of existing sources of water available to an urban water supplier over given time periods. AB 901 also requires information on the manner in which water quality affects water management strategies and supply reliability. The bill requires a plan to describe plans to supplement a water source that may not be available at a consistent level of use, to the extent practicable. Additional findings and declarations relating to water quality are required.

Senate Bill 221

SB 221 adds Government Code Section 66455.3, requiring that the local water agency be sent a copy of any proposed residential subdivision of more than 500 dwelling units within five days of the subdivision application being accepted as complete for processing by the city or county. It also adds Government Code Section 66473.7, establishing detailed requirements for establishing whether a “sufficient water supply” exists to support any proposed residential subdivisions of more than 500 dwellings, including any such subdivision involving a development agreement. When approving a qualifying subdivision tentative map, the city or county must include a condition requiring availability of a sufficient water supply. The applicable public water system must provide proof of availability. If there is no public water system, the city or county must undertake the analysis described in Government Code Section 66473.7. The analysis must include consideration of effects on other users of water and groundwater.

State Updated Model Landscape Ordinance

Under AB 1881, the updated Model Landscape Ordinance requires cities and counties to adopt landscape water conservation ordinances by January 31, 2010 or to adopt a different ordinance that is at least as effective in conserving water as the updated Model Ordinance. Chapter 17.48, Landscaping, of the Manteca Municipal Code includes landscaping water use standards.

Water Quality Control Basin Plan

The Water Quality Control Plan for the Sacramento-San Joaquin River Basins (Basin Plan), amended by the CVRWQCB in 2018, identifies the beneficial uses of water bodies and provides water quality objectives and standards for waters of the Sacramento River and SJR basins, including the Delta.

State and federal laws mandate the protection of designated “beneficial uses” of water bodies. State law defines beneficial uses as “domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves” (Water Code Section 13050[f]). Additional protected beneficial uses of the SJR include groundwater recharge and freshwater replenishment.

State Water Resources Control Board Storm Water Strategy

The Storm Water Strategy is founded on the results of the Storm Water Strategic Initiative, which served to direct the State Water Board’s role in storm water resources management and evolve the Storm Water Program by a) developing guiding principles to serve as the foundation of the storm water program, b) identifying issues that support or inhibit the program from aligning with the guiding principles, and c) proposing and prioritizing projects that the Water Boards could implement to address those issues.

The State Water Board staff created a strategy-based document called the Strategy to Optimize Management of Storm Water (STORMS). STORMS includes a program vision, missions, goals, objectives, projects, timelines, and consideration of the most effective integration of project outcomes into the Water Board’s Storm Water Program.

California State Lands Commission (Public Resources Code Sections 6009, 6301 and 6306)

The California State Lands Commission has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The Commission also has certain residual and review authority for tidelands and submerged lands legislatively granted to local jurisdictions. This includes Walthall Slough due to the proximity of the planned Zone 36 and 39 outfall structure on the San Joaquin River.

LOCAL

San Joaquin Area Flood Control Agency

The San Joaquin Area Flood Control Agency (SJAFCA) is a Joint Powers Authority that was created in May 1995 between the City of Stockton, San Joaquin County and the San Joaquin County Flood Control and Water Conservation District for the purpose of addressing flood protection for the City of Stockton and surrounding County area.

SJAFCA’s first endeavor was to prevent the possible disaccreditation of levees and to improve local levees to meet Federal Emergency Management Agency (FEMA) standards. As a result, SJAFCA constructed the Flood Protection Restoration Project (FPRP) which consisted of flood wall and levee improvements along 40 miles of existing channel levees, 12 miles of new levees, modifications to 24 bridges and the addition of two major detention basins and pumps.

Construction of the FPRP was completed in 1998, merely three and a half years after notification by FEMA that most of the City of would be remapped into a 100-year flood plain. SJAFCA formed an assessment district of more than 74,000 parcels to finance the \$70 million project. One-time \$700 assessments (average) per single family home were collected versus the approximately \$350 per home of annual flood insurance premiums. In addition, SJAFCA established an annual Operations and Maintenance assessment for the upkeep of flood improvements. SJAFCA levees are maintained by the San Joaquin County Flood Control and Water Conservation District.

Section 211 of the Water Resources Development Act of 1996 authorized the local sponsor (SJAFCA) to construct flood control improvements and receive reimbursement for the federal share of project costs. The federal share of the plan approved by the U.S. Army Corps of Engineers and the Office of Management and Budget is estimated at \$33.4 million. In 1998, SJAFCA received an appropriation of \$12.6 million from the State of California for their share of the non-federal cost of the project. To date, SJAFCA has received \$22.4 million in reimbursement from the U.S. Army Corps of Engineers and continues to seek the remainder of the approved federal reimbursement through the annual federal appropriations process.

SJAFCA works with San Joaquin, other cities, and local reclamation districts to address flood protection and levee requirements in our area. SJAFCA coordinates and partners with State and Federal agencies to address FEMA's Flood Insurance Rate Maps, levee standards, and flood protection issues.

City of Manteca Municipal Code

TITLE 13 CHAPTER 13.28 STORM WATER MANAGEMENT DISCHARGES

The purpose of this chapter is to establish minimum storm water management requirements and controls to protect and safeguard the general health, safety and welfare of the public residing in watersheds within the city of Manteca. This chapter seeks to meet that purpose through the following objectives:

- A. Minimize increases in storm water runoff from any development in order to reduce flooding, siltation and stream bank erosion and maintain the integrity of drainage channels;
- B. Minimize increases in non-point source pollution caused by storm water runoff from development that would otherwise degrade local water quality;
- C. Minimize the total annual volume of surface water runoff that flows from any specific site during and following development to not exceed the pre-development hydrologic regime to the maximum extent practicable; and
- D. Reduce storm water runoff rates and volumes, soil erosion and non-point source pollution wherever possible, through storm water management controls and to ensure that these management controls are properly maintained and pose no threat to public safety. (Ord. 1253 § 1, 2004)

TITLE 13 CHAPTER 13.28 SECTION 13.28.060 DISCHARGES IN VIOLATION OF INDUSTRIAL OR CONSTRUCTION ACTIVITY NPDES STORM WATER DISCHARGE PERMIT.

- A. Any person subject to an industrial NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the director upon inspection of the facility, during any enforcement proceeding or action or for any other reasonable cause.
- B. Any person subject to a construction activity NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the director prior to or as a condition of a subdivision map, site plan, building permit or development or improvement plan; upon inspection of the

facility; during any enforcement proceeding or action; or for any other reasonable cause. Prior to issuance of a construction permit a copy of the Notice of Intent (NOI) and the Storm Water Pollution Prevention Plan (SWPPP) shall be submitted to the city. (Ord. 1253 § 1, 2004).

Utility Master Plans

The City of Manteca maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. This includes the City's *Storm Drain Master Plan* (2013).

Municipal Storm Water Program

The discharge of storm water within the City of Manteca is regulated by the SWRCB Water Quality Order No. 2013-0001-DWQ NPDES General Permit, WDRs for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4), collectively referred to as the Phase II Small MS4 General Permit. The City of Manteca is a Phase II MS4 permittee under the NPDES General Permit.

The City's Engineering Department oversees the Municipal Storm Water Program and works in conjunction with the Planning and Public Works Departments to implement requirements of the Phase II Small MS4 General Permit. Engineering and Planning Department staff review new and re-development projects for compliance with State and Regional Water Board requirements for storm water management and control. The Cities of Lathrop, Lodi, Manteca, Patterson, and Tracy, and County of San Joaquin collaborated to prepare the Multi-Agency Post-Construction Stormwater Standards Manual (Stormwater Standards Manual), dated June 2015. The Stormwater Standards Manual establishes post-construction standards to address stormwater quality for regulated new development and redevelopment projects in compliance with the requirements of Order No. 2013-0001-DWQ.

NPDES Waste Discharge Requirements – Wastewater Quality Control Facility

On April 17, 2015, the Regional Water Quality Control Board, Central Valley Region, adopted Waste Discharge Requirements Order No. R5-2015-0026, (Order) NPDES No. CA0081558, prescribing waste discharge requirements for the City of Manteca Wastewater Quality Control Facility.

3.9.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with hydrology and water quality if it will:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - Result in substantial erosion or siltation on- or off-site;
 - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
 - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
 - Impede or redirect flood flows.
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

IMPACTS AND MITIGATION

Impact 3.9-1: General Plan implementation would not violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality or obstruct implementation of a water quality control plan (Less than Significant)

CONSTRUCTION-RELATED WATER QUALITY IMPACTS

Grading, excavation, removal of vegetation cover, and loading activities associated with future construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion impacts that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

As required by the CWA, each subsequent development project or improvement project will require an approved SWPPP that includes best management practices for grading and preservation of topsoil. A SWPPP is not required if the project will disturb less than one acre. SWPPPs are designed to control storm water quality degradation to the extent practicable using best management practices during and after construction.

Future development project applicants must submit the SWPPP with a Notice of Intent to the CVRWQCB to obtain a General Permit. The CVRWQCB is an agency responsible for reviewing the SWPPP with the Notice of Intent, prior to issuance of a General Permit for the discharge of storm water during construction activities. The CVRWQCB accepts General Permit applications (with the SWPPP and Notice of Intent) after specific projects have been approved by the lead agency. The lead agency for each specific project that is larger than one acre is required to obtain a General Permit

for discharge of storm water during construction activities prior to commencing construction (per the CWA).

The General Plan sets policies and actions for build-out of the City, but it does not envision or authorize any specific development project. Because of this, the site-specific details of potential future development projects are currently unknown and analysis of potential impacts of such projects is not feasible and would be speculative. However, each future project must include detailed project specific drainage plans that control storm water runoff and erosion, both during and after construction. The CVRWQCB will require a project specific SWPPP to be prepared for each future project that disturbs an area one acre or larger. The SWPPPs will include project specific best management measures that are designed to control drainage and erosion.

NEW DEVELOPMENT-RELATED WATER QUALITY IMPACTS

New development and infrastructure improvements projects under the proposed General Plan could introduce constituents into the storm water system that are typically associated with urban runoff. These constituents include sediments, petroleum hydrocarbons, pesticides, fertilizers, and heavy metals such as lead, zinc, and copper. These pollutants tend to build up during the dry months of the year. Precipitation during the early portion of the wet season (generally from November to April) washes away most of these pollutants, resulting in high pollutant concentrations in the initial wet weather runoff. This initial runoff is referred to as the “first flush” of storm events. Subsequent periods of rain would result in less concentrated pollutant levels in the runoff.

The majority of development allowed under the General Plan would be within areas currently developed with urban uses, and the amount and type of runoff generated by various future development and infrastructure projects would be similar to existing conditions. However, new development and infrastructure projects have the potential to result in increases in the amount of impervious surfaces throughout Manteca. Future increases in impervious surfaces would result in increased urban runoff, pollutants, and first flush roadway contaminants, as well as an increase in nutrients and other chemicals from landscaped areas. These constituents could result in water quality impacts to onsite and offsite drainage flows to area waterways.

Waters that are listed under Section 303(d) of the CWA are known as “impaired.” CWA Section 303(d) lists many water bodies within the County. Those areas in the regional vicinity of the Planning Area that are impaired by the Water Quality Control Monitoring Council include the: Delta Waterways (Northern Portion), Delta Waterways (Southern Portion), French Camp Slough (Portion), Lone Tree Creek, and Tom Paine Slough (in Delta Waterways Southern Portion). The Delta Waterways (Eastern Portion) includes 2,927 acres listed as in 2011 for Agricultural Return Flows, Atmospheric Deposition, Highway/Road/Bridge Runoff, Industrial Point Sources, Municipal Point Sources, Natural Sources, Resource Extraction, Miscellaneous, Urban Runoff/Storm Sewers. The Delta Waterways (Southern Portion) includes 3,125 acres listed as early as 1996 for Chlorpyrifos (Agriculture, Urban Runoff/Storm Sewers), DDT (Agriculture), Diazinon (Agriculture, Urban Runoff/Storm Sewers), Electrical Conductivity (Agriculture), Group A Pesticides (Agriculture), Invasive Species (Source Unknown), Mercury (Resource Extraction), and Unknown Toxicity (Source

Unknown). The other impaired water bodies range in size from 6.3 to 14.8 miles with unknown or agricultural-related pollutant sources.

Storm water runoff may play a role in the water quality impairments described above. Runoff that occurs as overland flow across yards, driveways, and public streets is intercepted by the storm water drainage system and conveyed to local drainages before eventually being routed to the Pacific. This storm water can carry pollutants that can enter the local waterways and result in the types of water quality impairments described above. Common sources of storm water pollution in the City include litter, trash, pet waste, paint residue, organic material (yard waste), fertilizers, pesticides, sediments, construction debris, metals from automobile brake pad dust, air pollutants that settle on the ground or attach to rainwater, cooking grease, illegally dumped motor oil, and other harmful fluids.

Due to future development and infrastructure projects, the overall volume of runoff in Manteca could be increased compared to existing conditions. If the City's drainage system is not adequately designed, General Plan buildout could result in localized higher peak flow rates. Localized increases in flow would be significant if increases exceeded system capacity or contributed to bank erosion. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below, as well as the City's adopted Municipal Code requirements.

The General Plan sets policies and actions for build-out of the City, but it does not envision or authorize any specific development project. Because of this, the site-specific details of potential future development projects are currently unknown and analysis of potential impacts of such projects is not feasible and would be speculative. However, each future development and infrastructure project is required to prepare a detailed project specific drainage plan, Water Quality Management Plan, and a SWPPP that will control storm water runoff and erosion, both during and after construction. If the project involves the discharge into surface waters the project proponent will need to acquire a Dewatering permit, NPDES permit, and Waste Discharge permit from the CVRWQCB.

As described above, under the Regulatory Setting, the City is required to implement a range of measures and procedures when reviewing new development and infrastructure projects.

Chapter 13.28 of the City's Municipal Code establishes minimum storm water management requirements and controls and outlines discharges which violate industrial or construction activity NPDES permit. Chapter 15.14 of the City's Municipal Code regulates stormwater quality and prohibits discharges of pollutants into surface waters unless the discharge is authorized by an NPDES storm water discharge permit. Compliance with existing City construction and stormwater management codes, and submittal of a site-specific drainage study and SWPPP, would reduce these potential impacts related to stormwater quality.

While the primary regulatory mechanisms for ensuring that future development and infrastructure projects do not result in adverse water quality impacts are contained in the Manteca Municipal Code, the City of Manteca has developed the General Plan to include additional policies and actions that, when implemented, will further reduce water pollution from construction, new development,

and new infrastructure projects, and protect and enhance natural storm drainage and water quality features. The policies and actions identified below include numerous requirements that would reduce the potential for General Plan implementation to result in increased water quality impacts. Actions by the City during the development review process require the review of development projects to identify potential stormwater and drainage impacts and require development to include measures to ensure that off-site runoff is not increased beyond pre-development levels during rain and flood events. In addition, compliance with the CWA and regulations enforced by the Regional Water Quality Control Board would ensure that construction-related impacts to water quality are minimized and future projects comply with all applicable laws and regulations.

The City of Manteca provides and maintains a system of storm drains, detention basins, and pumping facilities as well as monitoring and control of the operations of the storm drain system. The City relies on SSJID's facilities to convey its storm water runoff to the San Joaquin River. Provision of stormwater detention facilities as needed would reduce runoff rates and peak flows. The implementation of the General Plan policies and implementation actions listed below include policies aimed to maximize stormwater quality and infiltration as well as actions to review development projects to identify potential stormwater and drainage impacts and require development to identify potential stormwater and drainage impacts and require development to include measures to ensure that off-site runoff is not increased as a during rain and flood events. Existing regulatory requirements that manage water quality include requirements to obtain approval from the CVRWQCB for NPDES permits, other discharge permits, SWPPPs, and to implement Best Management Practices. These regulatory requirements are intended to ensure that water quality does not degrade to levels that would violate water quality standards. Through implementation of the General Plan policies and actions listed below, implementation of the Manteca Municipal Code requirements identified above, compliance with mandatory Federal and State regulations, and compliance with the existing regulations for the San Joaquin River Hydrological Region would ensure that impacts to drainage patterns and water quality would be ***less than significant***.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

RC-1.7: Maximize stormwater filtration and/or infiltration in areas that are not subject to high groundwater by maximizing the natural drainage patterns and the retention of natural vegetation and other pervious surfaces.

CF-8.1: Maintain and improve Manteca's storm drainage facilities.

CF-8.2: Require all development projects to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process and as required by the City's NPDES Municipal Regional Permit. Project applicants shall mitigate any drainage impacts as necessary and shall demonstrate that the project will not result in any increase in off-site runoff during rain and flood events.

CF-8.6: Continue to work cooperatively with outside agencies such as the San Joaquin Area Flood Control Agency and South San Joaquin Irrigation District regarding storm drainage and flood control management issues.

ACTIONS

RC-3b: Require site-specific land management and development practices for proposed development projects, including appropriate measures for drainage control and avoiding or reducing erosion.

RC-3c: Continue to implement, and periodically review/update as necessary, Municipal Code Section 17.48.070(G) (Grading Design Plan). The City shall review projects to ensure that best management practices are implemented during construction and site grading activities, as well as in project design to reduce pollutant runoff into water bodies.

CF-8a: Update the Storm Drainage Master Plan and Public Facilities Implementation Plan every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

CF-8b: Continue to complete gaps in the drainage system in areas of existing development.

CF-8c: Identify which storm water and drainage facilities are in need of repair and address these needs through the City's Capital Improvement Program.

CF-8d: Continue to review development projects to identify potential stormwater and drainage impacts and require development to include measures to ensure that off-site runoff is not increased as a during rain and flood events.

Impact 3.9-2: General Plan implementation would not result in the depletion of groundwater supplies or interfere substantially with groundwater recharge or conflict with a groundwater management plan. (Less than Significant)

The quantity of ground water in the San Joaquin Valley has been declining for decades, as evidenced by the substantial lowering of water levels in the aquifers. Impacts on groundwater in the Manteca area are an important consideration in any development plan. See Impact 3.15-1 in Section 3.15, Utilities, for further discussions regarding water demand and groundwater supplies. Impacts related to groundwater supplies and interference with groundwater recharge are considered in two ways: (1) conversion of pervious surfaces (which allow for groundwater recharge), and (2) use of groundwater as a water supply (which reduces the amount of local groundwater supply).

Future development projects in the Planning Area would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge in those areas. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potential; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff.

3.9 HYDROLOGY AND WATER QUALITY

The City of Manteca is located in the Eastern San Joaquin River Groundwater Basin. The basin is not adjudicated; however, a basin management plan has been created. The ESJGS-GSP (Eastern San Joaquin Groundwater Authority, 2019) was prepared in November 2019. The purpose of the ESJGS-GSP is “to meet the regulatory requirements set forth in the three-bill legislative package consisting of Assembly Bill (AB) 1739 (Dickinson), Senate Bill (SB) 1168 (Pavley), and SB 1319 (Pavley), collectively known as the Sustainable Groundwater Management Act (SGMA). SGMA.” According to Department of Water Resources (DWR) Bulletin 118 (DWR, 2016), the ESJGB is in a critical condition of overdraft.

Past estimates of safe groundwater yield from the basin have indicated that pumping at or below one acre-foot per acre per year (AF/AC/YR) of City land is sustainable. The City targets this sustainable yield, but it is important to note that the total groundwater pumping occurring within City boundaries includes City-owned municipal wells, City-owned park irrigation wells, and irrigation and domestic wells owned and operated by others. While all of the City’s municipal wells have historically been metered, the irrigation wells were not all metered until 2015 and groundwater pumping data for other wells is incomplete. Therefore, the estimated safe yield for the City’s wells includes some uncertainty. With the introduction of surface water supplies, as discussed above, and conservation measures, withdrawals have declined, stabilizing groundwater levels in the Manteca area (Kennedy/Jenks Consultants, 2016).

The 2014 SGMA enacted groundwater legislation in California that requires the formation of Groundwater Sustainability Agencies who will be responsible for developing Groundwater Sustainability Plans to manage groundwater basins. The City plans to play an active role in local GSA formation (Kennedy/Jenks Consultants, 2016).

As discussed in Section 3.15, Utilities and Service Systems, the City’s 2015 UWMP documents 2015 and projected future water demands and supplies through 2040, as shown in Table 3.15-1 (Kennedy/Jenks Consultants, 2016). Water supplies to meet future demands include surface water purchased from SSJID, City produced groundwater and recycled water. The City’s water supply is projected to increase by about 37 percent from 2015 to 2040, primarily due to implementation of Phase 2 of the SCWSP. Future City groundwater pumping is estimated based on the safe yield for all groundwater pumping within the City’s planning area, less estimated groundwater pumping by other users. Recycled water demand projections assumed decreased use over time of water for crop irrigation, and implementation of a tertiary-treated irrigation supply by 2040.

Subsequent development projects under the General Plan, such as residential, commercial, industrial, and roadway projects would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. However, the majority of the developable areas within the city are currently developed with urban uses. The majority of open undeveloped lands within the city are designated for parks and open space uses, while the majority of open undeveloped lands outside the SOI but within the Planning Area are proposed for agricultural uses. The proposed General Plan Land Use Map does not re-designate any areas currently designated for open spaces uses to urban uses. The amount of new pavement and impervious surfaces, and the extent to which they affect infiltration, depends on the site-specific features and soil types of a given

project site. Projects located in urban areas would have less of an impact than projects converting open lands and spaces.

Given that implementation and future buildout of the proposed General Plan would not appreciably add to the volume of impervious surfaces in Manteca, when compared to the overall size of the regional groundwater basin recharge area, and that there are adequate water supplies (including groundwater) to serve the projected buildout demand of the General Plan, this impact would be **less than significant**, and no additional mitigation is required.

While mitigation is not required for this less than significant impact, the General Plan includes policies and implementation actions that support water conservation and aim to diversify the City's water sources. The General Plan and development codes are consistent with the ESJGS-GSP.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

CF-6.1: Ensure the water system and supply is adequate to meet the needs of existing and future development and is utilized in a sustainable manner.

CF-6.3: Pursue additional water supply agreements to supplement the City's existing system in order to meet projected demand and to reduce the City's reliance on groundwater resources.

CF-6.6: Limit development of private water wells to occur only if the City makes a finding that it cannot feasibly provide water service. Such systems shall only be allowed to be used until such time as City water service becomes available.

CF-6.7: Ensure that all new development provides for and funds a fair share of the costs for adequate water distribution, including line extensions, easements, and plant expansions.

CF-6.8: Continue efforts to reduce potable water use, increase water conservation, and establish water reuse and recycling systems.

CF-6.9: Encourage the use of recycled water for industrial uses and landscape irrigation where feasible, within the parameters of State and County Health Codes and standards.

CF-6.10: Consider the effect of incremental increases in the demands on groundwater supply and water quality when reviewing development applications.

ACTIONS

CF-6a: Update the Public Facilities Implementation Plan, regarding water supply and distribution, every five years. The update shall reflect the most recent adopted groundwater studies that establish a safe yield for the groundwater basin and/or establish maximum extraction from the basin. The update shall be reviewed annually for adequacy and consistency with the General Plan.

CF-6b: Continue to rely groundwater resources, while participating in the regional efforts to secure surface water to augment the City's groundwater supply in the mid and long term.

CF-6d: Regularly review and update the City's water conservation measures to be consistent with current best management practices for water conservation, considering measures recommended by

3.9 HYDROLOGY AND WATER QUALITY

the State Department of Water Resources, the California Urban Water Conservation Council, and the San Joaquin County Flood Control and Water Conservation District.

CF-6h: Retain a water conservation ordinance requiring the installation of low-flush toilets, low-flow showerheads, and similar features in all new development.

CF-6j: Regularly monitor water quality in the water system and wells and take necessary measures to prevent contamination and reduce known contaminants to acceptable levels.

Impact 3.9-3: General Plan implementation would not alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, impeded flows, or polluted runoff (Less than Significant)

The City is within the jurisdictional boundary of the CVRWQCB. Under the CVRWQCB NPDES permit system, all existing and future municipal and industrial discharges to surface water within the city would be subject to regulation. NPDES permits are required for operators of municipal separate storm sewer systems, construction projects, and industrial facilities. These permits contain limits on the amount of pollutants that can be contained in each facility's discharge

General Plan implementation may impact the Planning Area's storm drainage system. The impacts would be primarily derived from development in what are now underdeveloped and/or underutilized areas. Construction activities are regulated by the NPDES General Construction Storm Water Permit. Compliance with the storm water permit during construction activities requires the preparation of a SWPPP that contains BMPs to control the discharge of pollutants, including sediment, into local surface water drainages.

A gradual increase in impervious cover associated with new development could increase operational storm water runoff. An agreement between the City and SSJID requires that the City monitor stormwater discharges to SSJID facilities to make sure that facilities capacities are not exceeded. The City is also required to control stormwater quality to meet applicable regulations. The detention basins are used to detain stormwater to attenuate peak flows before pumping drainage flows into SSJID facilities. Where required, to meet NPDES permit requirements, stormwater is treated prior to release to natural water bodies within the area. Treatment is provided at detention basin sites, or by on-site source control. Most of the City's pump stations pump from detention basins into the SSJID laterals and drains. The City system also includes 10 water level monitoring stations that are used to obtain real-time water level measurements at critical low points in the system, to prevent flooding. The storm drain system is monitored and controlled remotely through SCADA (City of Manteca, 2013).

In addition to complying with the NPDES programs and Municipal Code stormwater requirements, the General Plan contains policies and implementation actions to reduce impacts associated with stormwater and drainage including policies which require new development to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process. Additionally, the General Plan actions require the City to continue to review development projects to identify potential stormwater and drainage

impacts and require development to include measures to ensure that off-site runoff is not increased as a during rain and flood events.

Individual future projects developed after adoption of the General Plan would create new impervious surfaces. This would result in an incremental reduction in the amount of natural soil surfaces available for infiltration of rainfall and runoff, potentially generating additional runoff during storm events. In addition, the increase in impervious surfaces, along with the increase in surface water runoff, could increase the non-point source discharge of pollutants. Anticipated runoff contaminants include sediment, pesticides, oil and grease, nutrients, metals, bacteria, and trash. Contributions of these contaminants to stormwater and non-stormwater runoff would degrade the quality of receiving waters. During the dry season, vehicles and other urban activities release contaminants onto the impervious surfaces, where they can accumulate until the first storm event. During this initial storm event, or first flush, the concentrated pollutants would be transported via runoff to stormwater drainage systems. Contaminated runoff waters could flow into the stormwater drainage systems that discharge into rivers, agricultural ditches, sloughs, and channels, and ultimately could degrade the water quality of any of these water bodies.

The General Plan sets policies and actions for build-out of the City, but it does not envision or authorize any specific development project. Because of this, the site-specific details of potential future development projects are currently unknown and analysis of potential impacts of such projects is not feasible and would be speculative. As previously discussed in the Regulatory Setting section of this chapter, future project applicants would be required to obtain permits from the Army Corps of Engineers and the Department of Fish and Wildlife if any work is performed within a waterway. Each future development project must also include detailed project specific floodplain and drainage studies that assess the drainage characteristics and flood risks so that an appropriate storm drainage plan can be prepared to control storm water runoff, both during and after construction. The drainage plan will ultimately include project specific best management measures that are designed to allow for natural recharge and infiltration of stormwater. Construction of storm drainage improvements would occur as part of an overall development or infrastructure project, and is considered in the environmental impacts associated with project construction and implementation as addressed throughout this EIR.

The City manages local storm drain facilities and the SJAFCA is responsible for regional flood control planning. The City utilizes SSJID facilities for local storm water management. Provision of stormwater detention facilities as needed would reduce runoff rates and peak flows. The City has developed the General Plan to include policies and actions that, when implemented, will reduce flooding from new development, reduce storm water pollution from new development, and protect and enhance natural storm drainage and water quality features, which will in turn minimize water quality impacts.

Through implementation of the General Plan policies and actions listed below, implementation of the Manteca Municipal Code requirements identified above, and compliance with mandatory Federal and State regulations would ensure that impacts related to increased flooding or water quality impacts associated with increased runoff would be *less than significant*.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

CF-8.1: Maintain and improve Manteca's storm drainage facilities.

CF-8.2: Require all development projects to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process and as required by the City's NPDES Municipal Regional Permit. Project applicants shall mitigate any drainage impacts as necessary and shall demonstrate that the project will not result in any increase in off-site runoff during rain and flood events.

CF-8.3: Continue to allow dual-use detention basins for parks, ball fields, and other uses where appropriate.

CF-8.4: Incorporate recreational trails and parkway vegetation design where open stormwater facilities are appropriate and ensure that vegetation does not reduce channel capacity.

CF-8.5: Maintain drainage channels in a naturalized condition where appropriate, incorporating recreational trails, parkway vegetation, and other amenities and ensuring that vegetation does not reduce channel capacity, and consistent with the Resource Conservation Element.

CF-8.6: Continue to work cooperatively with outside agencies such as the San Joaquin Area Flood Control Agency and South San Joaquin Irrigation District regarding storm drainage and flood control management issues.

CF-8.7: Ensure and prioritize adequate drainage facilities low income, disadvantaged, and older neighborhoods and senior communities.

ACTIONS

CF-8a: Update the Storm Drainage Master Plan and Public Facilities Implementation Plan every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

CF-8b: Continue to complete gaps in the drainage system in areas of existing and future development.

CF-8c: Identify which storm water and drainage facilities are in need of repair and address these needs through the City's Capital Improvement Program.

CF-8d: Continue to review development projects to identify potential stormwater and drainage impacts and require development to include measures to ensure that off-site runoff is not increased as a during rain and flood events.

Impact 3.9-4: General Plan implementation would not release pollutants due to project inundation by flood hazard, tsunami, or seiche. (Less than Significant)

FLOOD

The FEMA FIRM for the Planning Area is shown on Figure 3.9-2. The Planning Area is subject to flooding problems along the natural creeks and drainages that traverse the area. The primary flood

hazard is the San Joaquin River (four miles outside the Study Area) and its tributaries, notably Walthall Slough (contiguous with the southwestern Study Area boundary). A levee running from Williamson Road east to Airport Way provides flood protection for the land north and east of Walthall Slough. This levee is under the jurisdiction of Reclamation District No. 17. The 100-year flood plain is largely confined to the southwestern portion of the City limits and SOI. Similarly, the 500-year flood plain is located in the southwestern and western portions of the City limits and SOI.

The 200-year floodplain for the Planning Area, as mapped by the San Joaquin Area Flood Control Agency (SJAFCFA), is shown on Figure 3.9-3. As shown in the figure, the 200-year floodplain is located in the western portion of the City's SOI and City limits. Existing uses within the 200-year floodplain include mainly agricultural and rural-residential uses. Some more recently developed homes located south of State Route 120 are also located within the 200-year floodplain.

The existing RD 17 levees protecting the Mossdale Tract Area do not provide 200-year flood protection as required by state law. SJAFCFA and RD 17 are engaged in efforts to meet this requirement by 2028. The existing plan for meeting state requirements includes two components: (1) RD 17's ongoing Levee Seepage Repair Project (LSRP) and (2) SJAFCFA Levee Improvements to achieve 200-year flood protection (the Project). The Project consists of a fix-in-place levee improvement project and an extension of the existing dryland levee in Manteca.

The estimated Project cost is \$270 million. Funding is expected to come from the following sources:

- a regional development impact fee
- an assessment of all benefitting properties
- the Mossdale Tract Enhanced Infrastructure Financing District (EIFD)
- any remaining funds following the completion of RD 17's Levee Seepage Repair Project

The EIFD is governed by a Public Financing Authority, the Board of Directors for which is comprised of two elected officials from each participating agency and two members-at-large. The District's purpose is to help finance the necessary flood protection improvements to provide a 200-year level of protection to the Mossdale Tract Area. The EIFD will receive tax increments generated from growth in property taxes collected from within its boundaries as agreed upon by each participating agency.

The General Plan would allow development and improvement projects that would involve some land clearing, grading, and other ground-disturbing activities that could temporarily increase soil erosion rates during and shortly after project construction. As required by the CWA, each subsequent development project or improvement project will require an approved SWPPP that includes best management practices for grading and preservation of topsoil. SWPPPs are designed to control storm water quality degradation to the extent practicable using best management practices during and after construction.

As described previously in the Regulatory Setting, the City of Manteca regulates storm water discharge in accordance with the NPDES permit through Chapter 13.28 of the Manteca Municipal Code, Stormwater Quality Management Discharges. In addition to complying with the NPDES programs and Municipal Code requirements, the General Plan contains policies to reduce impacts

3.9 HYDROLOGY AND WATER QUALITY

associated with stormwater and drainage including policies to maintain sufficient levels of storm drainage service, maintain drainage channels in a naturalized condition where appropriate, and other best practices in order to protect the community from flood hazards and minimize the discharge of materials into the storm drain system that are toxic.

Additionally, Section 17.30.040, 200-Year Floodplain (F-200) Overlay Zone, of the City's Municipal Code requires certain findings prior to approving certain projects within a 200-year floodplain. The review authority shall not approve the execution of a development agreement, a tentative map, or a parcel map for which a tentative map is not required, or a discretionary permit or other discretionary entitlement that would result in the construction of a new building, or construction that would result in an increase in allowed occupancy for an existing building, or issuance of a ministerial permit that would result in the construction of a new residence for property that is located within the F-200 Zone unless the review authority finds, based on substantial evidence in the record, one of the following:

1. The facilities of the State Plan of Flood Control or other flood management facilities protect the property to the urban level of flood protection in urban and urbanizing areas;
2. The City has imposed conditions on a development agreement, map, permit, or entitlement that will protect the property to the urban level of flood protection in urban and urbanizing areas;
3. The local flood management agency¹ has made adequate progress (as defined in California Government Code Section 65007) on the construction of a flood protection system that will result in flood protection equal to or greater than the urban level of flood protection in urban or urbanizing areas; or
4. The property is located in an area of potential flooding of three feet or less from a storm event that has a one in two hundred chance of occurring in any given year, from sources other than local drainage, in urban and urbanizing areas.

Further, the City's 2013 PFIP Update notes several stormwater control improvements aimed to protect the City from localized flooding and water damage during storm events. The 2013 Storm Drain Master Plan evaluates drainage from the General Plan lands within the City's Primary Urban Service Area through build out. As funds are available, the City will construct water level monitoring facilities in the various PFIP zones and in the French Camp Outlet Canal to monitor water elevations in real-time to prevent flooding caused by additional drainage flows. Each zone's proportionate share of the water level monitoring stations is included the various PFIP zone fees.

Lastly, the proposed General Plan includes policies and actions in order to reduce impacts associated with flooding. For example, Policy S-3.3 requires evaluation of potential flood hazards prior to approval of development projects to determine whether the proposed development is reasonably safe from flooding. Action S-3e requires applications for development in areas subject to 200-year flooding to indicate the depth of predicted 200-year flooding on the basis of official maps approved

¹ The local flood management agency for the City of Manteca is the SJAFCA.

by the City or Floodplain Administrator (SJAFCA). The implementation of the General Plan would result in a *less than significant* impact relative to this topic.

TSUNAMI AND SEICHES

Tsunamis and seiches are standing waves that occur in the ocean or relatively large, enclosed bodies of water that can follow seismic, landslide, and other events from local sources (California, Oregon, Washington coast) or distant sources (Pacific Rim, South American Coast, Alaska/Canadian coast).

Manteca is located approximately 67 miles from the Pacific Ocean at an elevation of approximately 20 feet above mean sea level. Based on tsunami inundation maps prepared by the Department of Conservation, California Emergency Management Agency, and California Geological Survey, the City is not identified as being within a tsunami inundation or run-up zone.

Seiches are typically caused when strong winds and rapid changes in atmospheric pressure push water from one end of a body of water to the other. When the wind stops, the water rebounds to the other side of the enclosed area. The water then continues to oscillate back and forth for hours or even days. In a similar fashion, earthquakes, tsunamis, or severe storm fronts may also cause seiches along ocean shelves and ocean harbors, or other bodies large of water. Any body of water may experience limited oscillation during storm events or following seismic events, however oscillation in small bodies of water is generally limited. In smaller water bodies seiches may have the potential to damage or overtop dams. Generally, in lakes the threat of large-scale damage from seiches comes from downstream flooding that would be caused by large volumes of water overtopping a dam or reservoir.

As described previously, the Planning Area has the potential to be inundated by four dams: Tulloch Dam, San Luis Dam, New Exchequer Dam (Lake McClure), and New Melones Dam. The dam inundation area for each dam is shown in Figure 3.9-4. As such, the City is at significant risk from a dam failure. Dam failure is generally a result of structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam. As discussed previously, larger dams that are higher than 25 feet or with storage capacities over 50 acre-feet of water are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, DSD. The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of dam failure. The County Office of Emergency Services is responsible for developing and implementing a Dam Failure Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information.

Regular inspection by DSD and maintenance by the dam owners ensure that the dams are kept in safe operating condition. As such, failure of these dams is considered to have an extremely low probability of occurring and is not considered to be a reasonably foreseeable event.

In addition, man-made lakes within the Planning Area are shallow with limited surface areas and would not generate devastating seiches. The City of Manteca is not within a tsunami hazard area

and would not be subject to substantial impacts from seiche events. This is a *less than significant* impact and no mitigation is required.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

S-1.1: Maintain and periodically update the City's Emergency Plan.

S-1.2: Ensure the availability and functionality of critical facilities during flooding events.

S-1.3: Locate new critical City facilities, and promote the location of non-City critical facilities, including hospitals, emergency shelters, emergency response centers, and emergency communications facilities, outside of flood hazard zones and geologic hazard areas where feasible. Critical facilities that are, or must be, located within flood hazard zones or areas with geologic hazards should incorporate feasible site design or building construction features to mitigate potential risks, including those associated with geologic, seismic, and flood events, to ensure accessibility, operation, and structural integrity, during an emergency and to minimize damage to the facility.

S-1.4: Encourage community awareness of seismic, flooding, and other disaster safety issues, including building safety, emergency response plans, and understanding steps to take for safety during and after a disaster, including identified evacuation routes.

S-1.5: Continue to cooperate with San Joaquin County and other public agencies in implementing the Countywide Emergency Preparedness Plan and Local Hazard Mitigation Plan.

S-3.3: Require evaluation of potential flood hazards prior to approval of development projects to determine whether the proposed development is reasonably safe from flooding and consistent with California Department of Water Resources Urban Level of Flood Protection Criteria (ULOP). The City shall not approve the execution of a development agreement, a tentative map, or a parcel map for which a tentative map is not required, or a discretionary permit or other discretionary entitlement that would result in the construction of a new building, or construction that would result in an increase in allowed occupancy for an existing building, or issuance of a ministerial permit that would result in the construction of a new residence for property that is located within a 200-year flood hazard zone, unless the adequacy of flood protection as described in Government Code §65865.5(a), 65962(a), or 66474.5(a), has been demonstrated.

CF-8.1: Maintain and improve Manteca's storm drainage facilities.

CF-8.2: Require all development projects to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process and as required by the City's NPDES Municipal Regional Permit. Project applicants shall mitigate any drainage impacts as necessary and shall demonstrate that the project will not result in any increase in off-site runoff during rain and flood events.

CF-8.3: Continue to allow dual-use detention basins for parks, ball fields, and other uses where appropriate.

CF-8.4: Incorporate recreational trails and parkway vegetation design where open stormwater facilities are appropriate and ensure that vegetation does not reduce channel capacity.

CF-8.5: Maintain drainage channels in a naturalized condition where appropriate, incorporating recreational trails, parkway vegetation, and other amenities and ensuring that vegetation does not reduce channel capacity, and consistent with the Resource Conservation Element.

CF-8.6: Continue to work cooperatively with outside agencies such as the San Joaquin Area Flood Control Agency and South San Joaquin Irrigation District regarding storm drainage and flood control management issues.

ACTIONS

S-1e: Periodically coordinate with local flood protection agencies, including the reclamation districts, to discuss the status of flood protection facilities and improvements, strategize future improvements, consider potential climate change effects, financing for improvements, emergency response plans, and worker training for emergency response situations.

S-1f: Review and maintain critical City facilities to ensure the accessibility and structural and operational integrity of essential facilities during an emergency.

S-3e: Require applications for development in areas subject to 200-year flooding to indicate the depth of predicted 200-year flooding on the basis of official maps approved by the City of Manteca or Floodplain Administrator.

S-3f: Maintain an official 200-year Floodplain Map, including predicted flood depths, for reference when making land use determinations.

S-3g: Amend Chapter 8.30 (Floodplain Management) of the Municipal Code to reflect flood protection requirements specified in the Safety Element as well as any relevant updates to Federal or State requirements.

S-3h: Consider potential effects of climate change in planning, design, and maintenance of levee improvements and other flood control facilities.

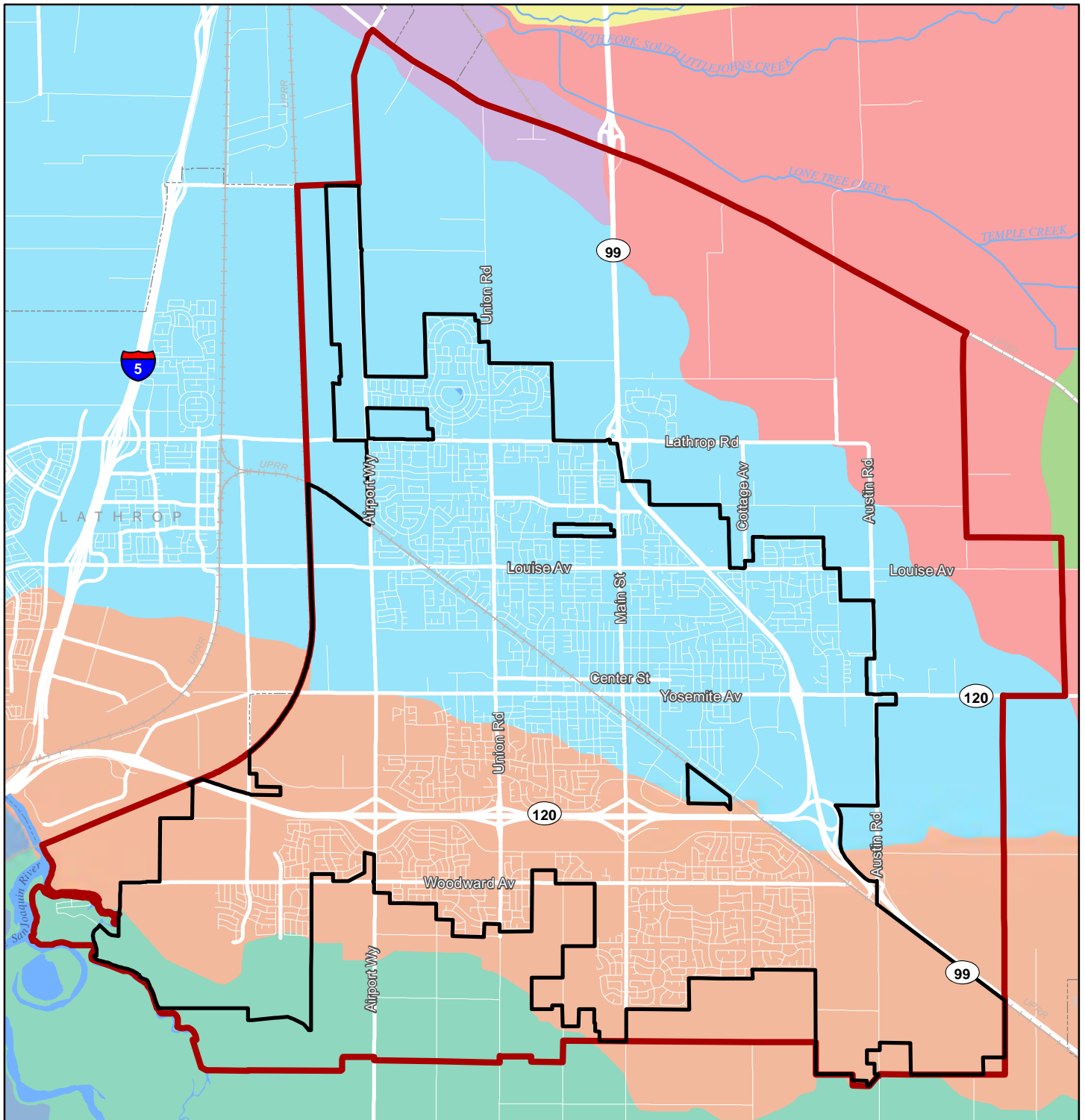
CF-8a: Update the Storm Drainage Master Plan and Public Facilities Implementation Plan every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

CF-8b: Continue to complete gaps in the drainage system in areas of existing and future development.

CF-8c: Identify which storm water and drainage facilities are in need of repair and address these needs through the City's Capital Improvement Program.

CF-8d: Continue to review development projects to identify potential stormwater and drainage impacts and require development to include measures to ensure that off-site runoff is not increased as a during rain and flood events.

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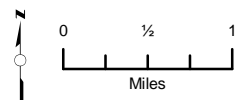


Legend

- | | |
|---------------------------------|---------------------------------------|
| City of Manteca | Town of French Camp-San Joaquin River |
| Manteca Planning | Upper Old River |
| Lower Lone Tree Creek | Walker Slough-French Camp Slough |
| Middle Lone Tree Creek | Walthall Slough-San Joaquin River |
| Oakwood Lake-San Joaquin River | |
| Simmons Creek-Littlejohns Creek | |

CITY OF MANTECA GENERAL PLAN

Figure 3.9-1. Watershed Map



Sources: City of Manteca; San Joaquin County; USGS Watershed Boundary Dataset. Map date: February 2, 2022.

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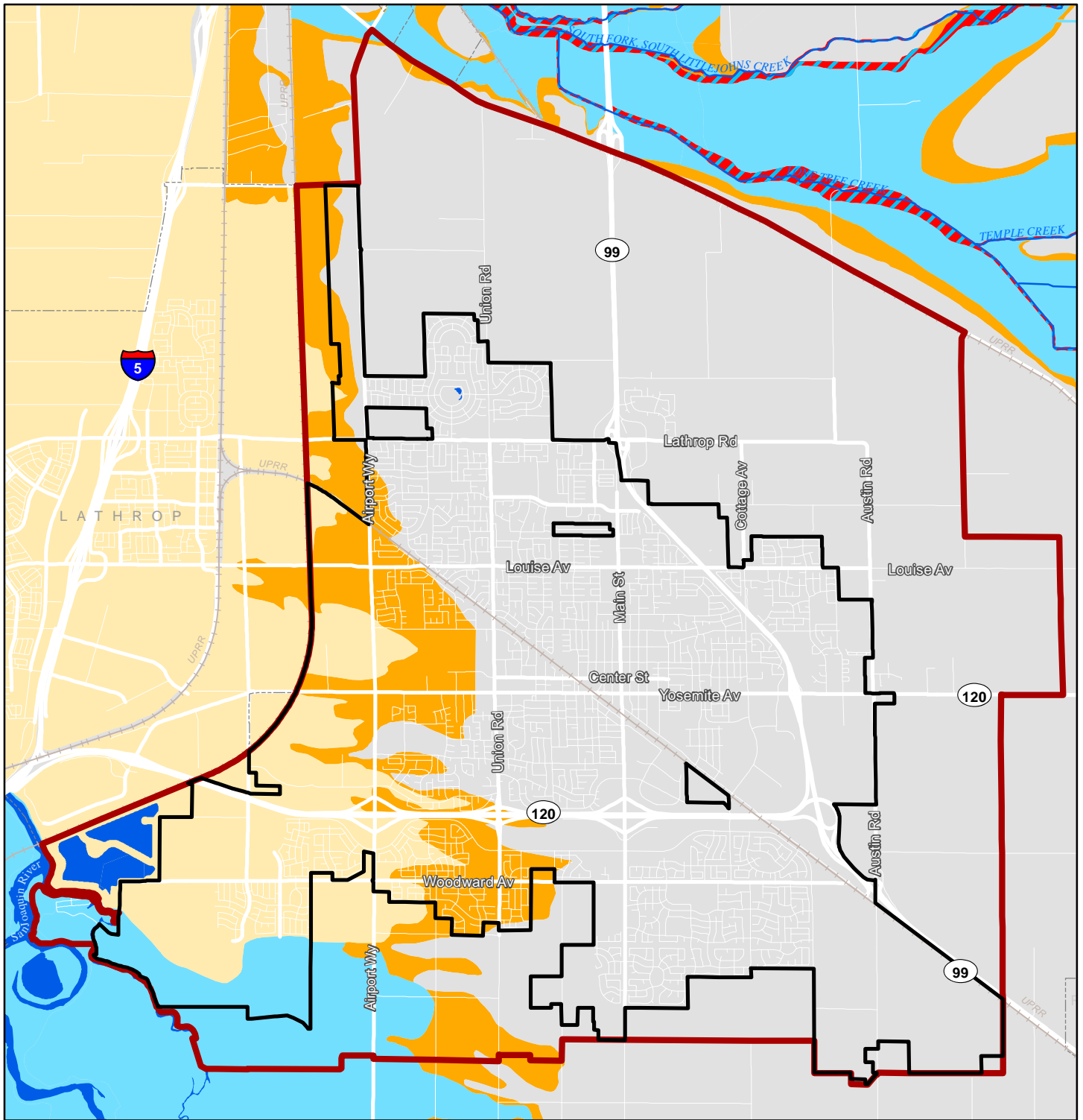







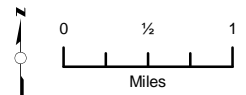


Figure 3.9-2. FEMA Flood Zone Designations

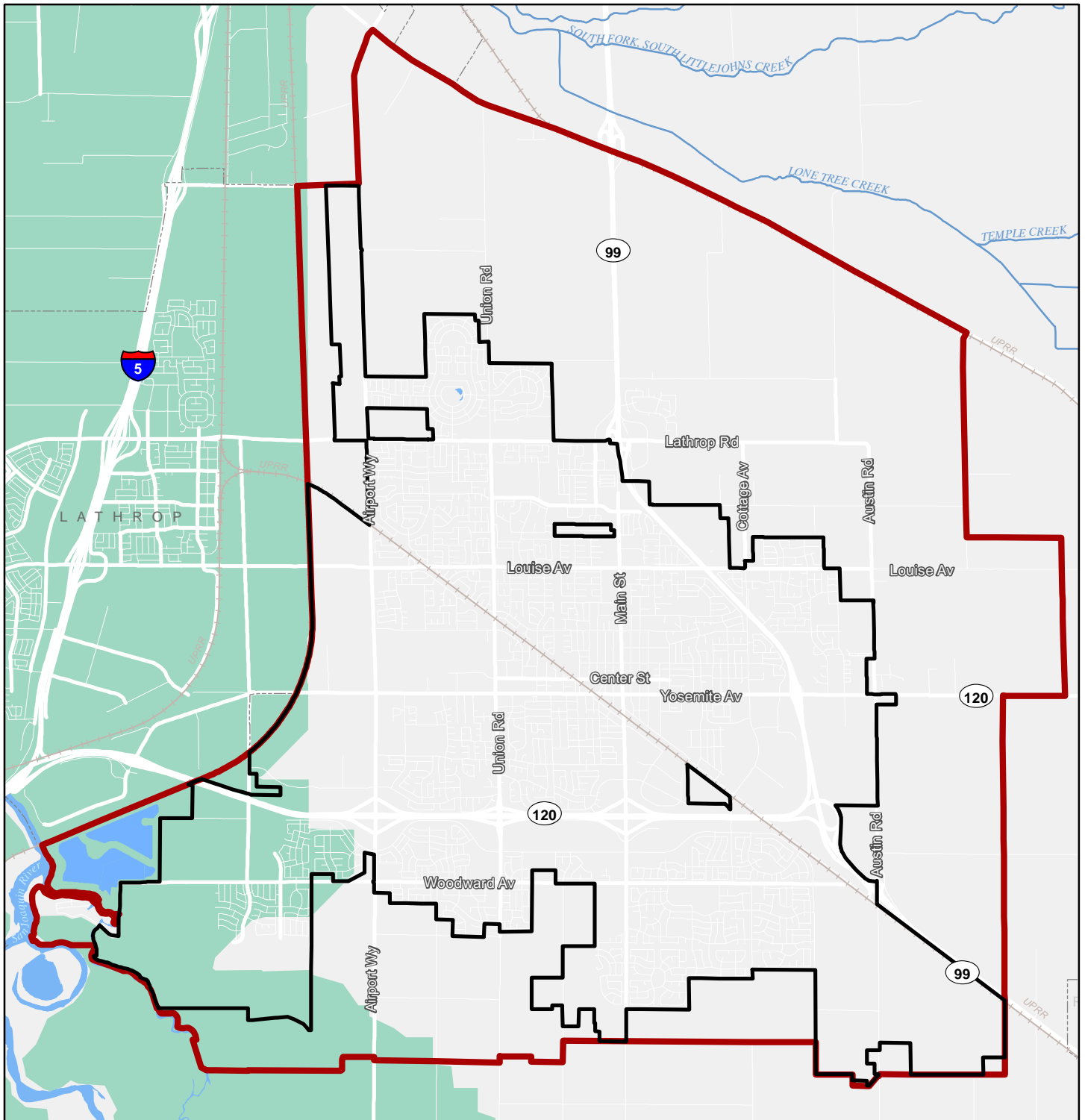
Legend

-  City of Manteca
-  Manteca Planning Area
-  100-year Flood Zone
-  500-year Flood Zone
-  Regulatory Floodway
-  Area of Minimal Flood Hazard
-  Area with Reduced Risk due to Levee



Sources: City of Manteca; San Joaquin County; FEMA's National Flood Hazard Layer, 11/18/2021. Map date: February 2, 2022.

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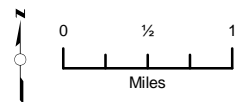


CITY OF MANTECA GENERAL PLAN

Figure 3.9-3. 200-year Floodplain

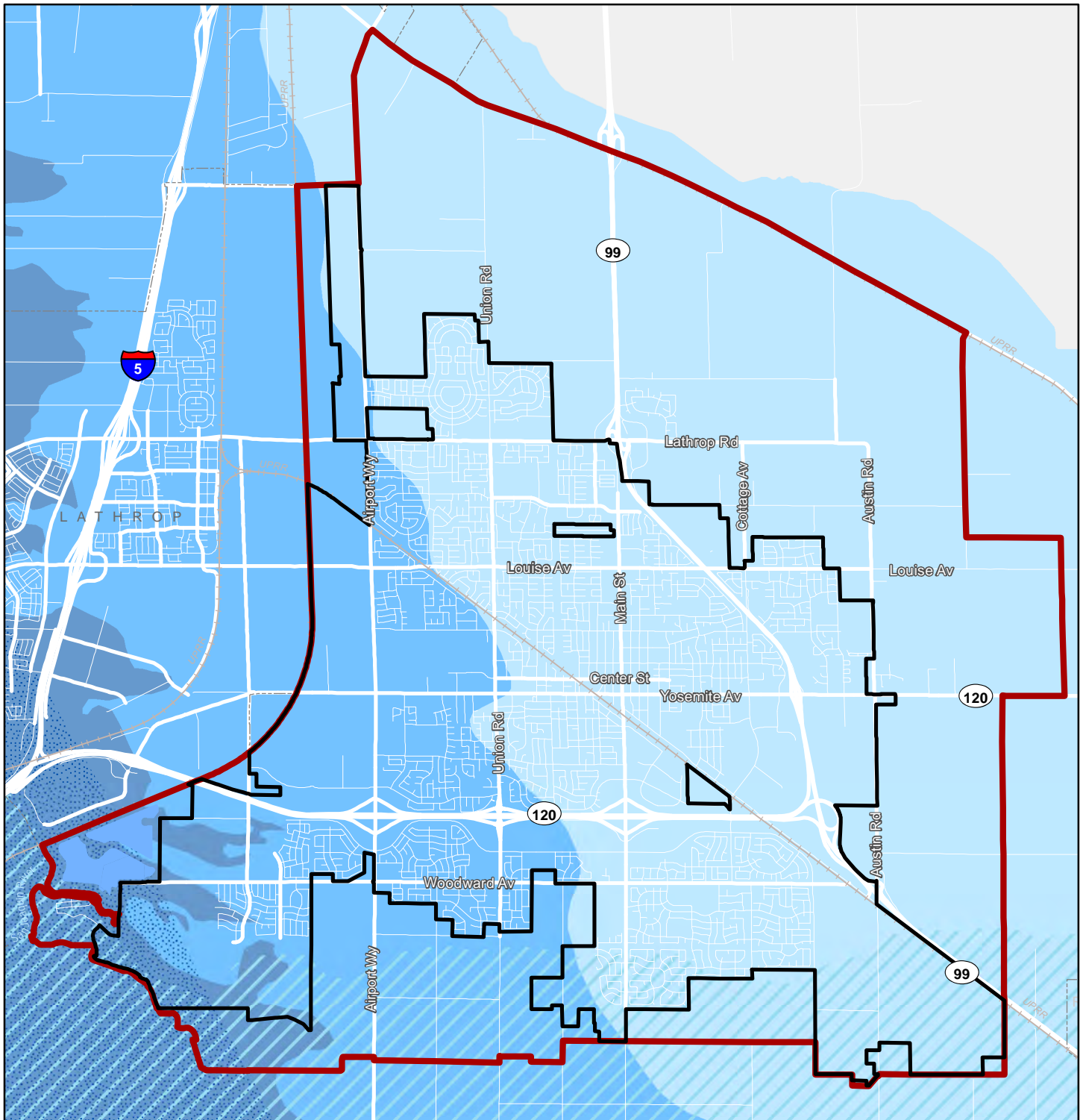
Legend

- City of Manteca
- Manteca Planning Area
- USACE
Comprehensive Study
200-year Floodplain



Sources: City of Manteca; San Joaquin County; DWR Best Available Map (BAM) data USACE Comprehensive Study. Map date: February 2, 2022.








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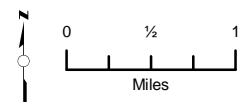


CITY OF MANTECA GENERAL PLAN

Figure 3.9-4. Dam Inundation Areas

Legend

-  City of Manteca
-  Manteca Planning Area
-  Pine Flat Dam
-  Tulloch Reservoir
-  Lake McClure Reservoir
-  San Luis Reservoir
-  New Melones Dam



Sources: City of Manteca; San Joaquin County; California Office of Emergency Services, Dam Inundation Areas made available via sjmap.org. Map date: February 2, 2022.

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This section identifies the existing land use conditions, discusses population and housing trends and projections, analyzes the project's consistency with relevant planning documents and policies adopted for the purpose of avoiding or mitigating an environmental effect, and recommends mitigation measures to avoid or minimize the significance of potential environmental impacts. General Plan policies associated with other specific environmental topics are discussed in the relevant sections of this EIR.

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the California Department of Transportation (Caltrans), Curtis Powers, Herum\Crabtree\Suntag Attorneys, Zottarelli Ranch, and NorthStar Engineering. Additionally, land use related comments were received during the public review period for the Draft EIR (released March 22, 2021) from the City of Stockton Community Development Department (June 9, 2021), Shute Mihaly & Weinberger, LLP (June 10, 2021), Herum Crabtree, Suntag Attorneys (May 5, 2021), and Amita Kotecha (June 9, 2021). Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

3.10.1 ENVIRONMENTAL SETTING

EXISTING CONDITIONS

The City Limits includes the area within the City's corporate boundary, over which the City exercises land use authority and provides public services. The City's Sphere of Influence (SOI) is the planning boundary outside of the City Limits that designates the probable physical boundary and service area of the City, as adopted by a Local Agency Formation Commission (LAFCO). For the purposes of the General Plan, the Planning Area is the geographic area for which the General Plan provides a framework for long-term plans for growth, resource conservation, and continued agricultural activity. State law requires the General Plan to include all territory within Manteca's incorporated area as well as "any land outside its boundaries which in the planning agency's judgment bears relation to its planning" (California Government Code Section 65300). The Planning Area for the Manteca General Plan includes the entire city limits and the City's SOI. Figure 2.0-2 in Chapter 2.0, Project Description, shows the Manteca Planning Area boundary.

Land Use Patterns

When discussing land use, it is important to distinguish between planned land uses and existing land uses. The General Plan land use designations identify the long-term planned use of land but do not present a complete picture of existing land uses. The San Joaquin County Assessor's office maintains a database of existing land uses on individual parcels, including the number of dwelling units and related improvements such as non-residential building square footage. This information is used as the basis for property tax assessments and is summarized in Table 3.10-1 and depicted on Figure 3.10-1.

Existing land uses refer to the existing built environment, which may be different from the land use or zoning designations applied to land for planning purposes. Existing land uses are based on data provided by the County Assessor. The predominant land uses in the City and Planning Area are

3.10 LAND USE, POPULATION, AND HOUSING

agricultural uses (53% of total acres), single-family residential (26.9% of total acres, institutional (8.2% of total acres), and commercial (4.7% of total acres). Additional uses in the City and Planning Area include industrial manufacturing and non-manufacturing, multifamily residential, parks and recreation, open space, office, and communication/utilities uses.

TABLE 3.10-1: ASSESSED LAND USES – CITY OF MANTECA

<i>LAND USE</i>	<i>CITY LIMITS</i>	<i>PLANNING AREA (OUTSIDE OF CITY)</i>	<i>TOTAL ACRES</i>
Single Family Residential	4,675.55	2,061.90	6,737.45
Multifamily Residential	312.87	14.77	327.64
Commercial	1,052.06	34.99	1,087.06
Industrial Manufacturing	447.64	58.76	506.40
Industrial Non-Manufacturing	347.68	57.39	405.07
Institutional	1,307.89	725.56	2,033.45
Office	51.29	3.36	54.65
Open Space	0.00	176.14	176.14
Parks and Recreation Facilities	199.44	19.80	219.24
Agricultural	2,822.94	9,629.54	12,452.47
Communication/Utilities	17.87	23.09	40.96
Non-Taxable	23.64	0.00	23.64
No Use Code	200.32	10.05	210.37
Total	11,459.18	12,815.36	24,274.54

SOURCE: SAN JOAQUIN COUNTY ASSESSOR'S OFFICE, 2016; DE NOVO PLANNING GROUP, 2020.

Development Trends

Development began in Manteca between 1914 and 1920. Residential neighborhoods were beginning to fill in by 1918. The City of Manteca was incorporated on May 28, 1918. During the 1950's, the City grew as inexpensive housing drew workers from the Sharpe Army Depot in Lathrop and industrial plants in south San Joaquin County.

Residential development constructed before 1940 until 1959 is generally located near Downtown Manteca. Scattered rural residences constructed in the same time period are also located in the periphery of the City. From 1960 to 1999, residential development was generally constructed south of Lathrop Road, west of Austin Road, north of SR 120, and east of Airport Way. Residential construction south of SR 120 and north of Lathrop Road generally occurred between 2000 to 2022.

While agriculture still plays an important role in the local economy, the economic base has become more diversified with the development of industries and the influx of Bay Area workers seeking affordable housing. The community has grown with the addition of new neighborhoods, primarily to the north and west of the historic geographic core.

Manteca has grown outward from the geographic center at Yosemite Avenue and Main Street. Commercial development along Yosemite Avenue and Main Street is flanked by residential neighborhoods. In the early years, the community grew close to the historic center in a concentric pattern.

In the decades of the 1970’s through 1990’s the community grew away from the center toward the north and west. In the latter 1990’s, following the approval of the South Area Plan, Manteca began to grow south of SR 120. Large scale residential development south of SR 120 began in 2003. Additionally, residential development north of Lathrop Road began in late 2006.

Over the past two decades, subdivisions and multifamily development have continued to develop south of SR 120 and active adult subdivisions have developed north of Lathrop Road and east of SR 99 between Louse Ave and E. Southland Road. Residential, commercial, and industrial in-fill development has occurred throughout the City. Regional recreational and commercial uses, including the Big League Dreams sports park, Great Wolf Lodge, and Stadium Center Shopping Center (anchored by a Costco and a Kohls Department Store) have developed north of SR 120 between Airport Way and McKinley Avenue. South of SR 120 between Main Street and Union Road, the Promenade at Orchard Valley Shopping Center (anchored by Bass Pro and AMC Theaters as well as Living Spaces), a regional commercial use, was recently developed. Industrial uses have continued to expand, with significant warehousing and distribution development occurring west of Airport Way between Lathrop and Roth Roads.

Population and Households

Table 3.10-2 summarizes the population and household data for Manteca and San Joaquin County from 1980 through 2017.

TABLE 3.10-2: POPULATION AND HOUSEHOLD GROWTH TRENDS

	1980	1990	2000	2010	2020	1980-2000 CHANGE	2000-2020 CHANGE	1980-2020 AVG. ANNUAL CHANGE
<i>MANTECA</i>								
Population	24,925	40,773	49,258	67,096	84,800	98%	72%	3.1%
Households	8,592	13,981	16,368	21,618	26,510	97%	62%	2.9%
Persons per household	2.87	3.02	2.98	3.08	3.18	3.8%	6.7%	0.3%
<i>SAN JOAQUIN COUNTY</i>								
Population	347,342	480,628	556,229	685,306	773,632	60%	39%	2.0%
Households	124,626	166,274	181,629	215,007	234,766	52%	29%	1.6%
Persons per household	2.71	2.94	3.00	3.12	3.23	%	7.7%	0.4%

SOURCE: U.S. CENSUS, 1980, 1990; MANTECA HOUSING ELEMENT, JANUARY 2016; CALIFORNIA DEPARTMENT OF FINANCE, 2020.

From 1980 to 2000, the city’s population increased by 98% from 24,925 to 49,258 persons. Additionally, from 2000 to 2020, Manteca experienced additional population growth increasing by approximately 72% from 49,258 to 84,800. Similarly, San Joaquin County's total population increased by approximately 39% during the 2000s and 2010s. Between 1980 and 2020, Manteca’s population growth rate averages 3.1% per year, while that of San Joaquin County is an average of 2.9% per year.

3.10 LAND USE, POPULATION, AND HOUSING

Households have increased at a rate generally proportional to Manteca’s population, with both households and populations increasing by similar percentages from 1980 to 2000 and 2010 to 2020. Over the years, the average household size has fluctuated slightly with a high of 3.18 in 2020 and a low of 2.87 in 1980. In recent years, household size has remained at relatively similar levels with an average of 3.08 persons per household in 2010 and 3.18 persons per household in 2020.

Housing Units

As shown in Table 3.10-3, the number of housing units in Manteca has increased at rates similar to the population with significant increases since 1980. From 1980 to 2000, housing units increased from 9,165 to 16,368, a 79% increase. In 2020, there were 27,667 housing units in the city, which is a 28% increase from 2010.

TABLE 3.10-3: HOUSING UNITS

	1980	1990	2000	2010	2020	1980- 2000 CHANGE	2000- 2020 CHANGE
Manteca	9,165	13,466	16,368	21,618	27,667	79%	28%
San Joaquin Co.	136,001	158,659	181,629	215,007	249,058	34%	16%

SOURCE: U.S. CENSUS, 1990; MANTECA HOUSING ELEMENT, 2016; CALIFORNIA DEPARTMENT OF FINANCE, 2020.

3.10.2 REGULATORY SETTING

STATE

California General Plan Law

Government Code Section 65300 requires that each county and city adopt a General Plan “for the physical development of the county or city, and any land outside its boundaries which bears relation to its planning.”

The General Plan will include a comprehensive set of goals, policies, and actions (implementation measures), as well as a revised Land Use Map. It is a comprehensive long-term plan for the physical development of the county or city and is considered a "blueprint" for development. The General Plan must contain seven state-mandated elements: Land Use, Open Space, Conservation, Housing, Circulation, Noise, and Safety. It may also contain any other elements that the county or city wishes to include. The land use element designates the general location and intensity of designated land uses to accommodate housing, business, industry, open space, education, public buildings and grounds, recreation areas, and other land uses.

The 2017 General Plan Guidelines, established by the Governor’s Office of Planning and Research (OPR) to assist local agencies in the preparation of their general plans, further describe the mandatory land use element as a guide to planners, the general public, and decision makers prescribing the ultimate pattern of development for the county or city.

Regional Housing Needs Plan

California General Plan law requires each city and county to have land zoned to accommodate a fair share of the regional housing need. The share is known as the Regional Housing Needs Allocation (RHNA) and is based on a Regional Housing Needs Plan (RHNP) developed by councils of government. The San Joaquin Council of Governments (SJCOG) is the lead agency for developing the RHNP for the San Joaquin County area that includes the Cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, and Tracy. Manteca’s fair share of the adopted RHNA for 2014-2023 is summarized in Table 3.10-4

TABLE 3.10-4: REGIONAL HOUSING NEEDS ALLOCATION

<i>EXTREMELY LOW INCOME</i>	<i>VERY LOW INCOME</i>	<i>LOW INCOME</i>	<i>MODERATE INCOME</i>	<i>ABOVE MODERATE INCOME</i>	<i>TOTAL</i>
<i>2014 - 2023</i>					
459	466	693	825	1,958	4,401

SOURCE: SJCOG, 2014-2023 REGIONAL HOUSING NEEDS PLAN (RHNP), AUGUST 2014.

The City is not required to ensure that adequate development to accommodate the RHNA occurs; however, the City must facilitate housing production by ensuring that land is available and that unnecessary development constraints have been removed. The City’s Housing Element, adopted in 2010, provides for the accommodation of the 2014-2023 RHNA that has been assigned to the City of Manteca.

As of August 2022, SJCOG is currently updating the RHNA for the period beginning June 30, 2023 and ending December 31, 2031.

Regional Transportation Plan/Sustainable Communities Strategy

SJCOG approved its most-recent Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) in June 2018, which continues to provide a “sustainability vision” through year 2042 that recognizes the significant impact the transportation network has on the region’s public health, mobility, and economic vitality. The Plan serves as a guide for achieving public policy decisions that will result in balanced investments for a wide range of multimodal transportation improvements. The plan charts a course for closely integrating land use and transportation – so that the region can grow smartly and sustainably. It outlines more than \$11.461 billion in transportation system investments through 2042. The Plan was prepared through a collaborative and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within San Joaquin County.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) was developed to protect the quality of the environment and the health and safety of persons from adverse environmental effects. Discretionary projects are required to be reviewed consistent with the requirements of CEQA to determine if there is potential for the project to cause a significant adverse effect on the environment. Depending on the type of project and its potential effects, technical traffic, noise, air quality, biological resources, and geotechnical reports may be needed. If potential adverse effects

3.10 LAND USE, POPULATION, AND HOUSING

can be mitigated to less than significant levels, a mitigated negative declaration may be adopted. If potentially adverse effects cannot be mitigated to less than significant levels, an environmental impact report is required. These documents have mandated content requirements and public review times. Preparation of CEQA documents can be costly and time-consuming, potentially extending the processing time of a project by a year or longer.

Subdivision Code

A subdivision is any division of land for the purpose of sale, lease or finance. The State of California Subdivision Map Act (Government Code § 66410) regulates subdivisions throughout the state. The goals of the Subdivision Map Act are as follows:

- To encourage orderly community development by providing for the regulation and control of the design and improvement of a subdivision with proper consideration of its relationship to adjoining areas.
- To ensure that areas within the subdivision that are dedicated for public purposes will be properly improved by the subdivider so that they will not become an undue burden on the community.
- To protect the public and individual transferees from fraud and exploitation.

The Map Act allows cities flexibility in the processing of subdivisions. Manteca controls this process through the subdivision regulations in the Municipal Code Title 7 (referred to as the Manteca Subdivision Code). These regulations ensure that minimum requirements are adopted for the protection of the public health, safety and welfare; and that the subdivision includes adequate community improvements, municipal services, and other public facilities.

Delta Protection Act of 1992

The southwest corner of the General Plan Study Area is within the "Secondary Zone" defined in the Resource Management Plan required in the California Delta Protection Act of 1992. As stated in the act the "basic goals of the state for the delta are the following:

- (a) Protect, maintain, and, where possible, enhance and restore the overall quality of the delta environment, including, but not limited to, agriculture, wildlife habitat, and recreational activities.
- (b) Assure orderly, balanced conservation and development of delta land resources.
- (c) Improve flood protection by structural and nonstructural means to ensure an increased level of public health and safety.

"Secondary zone" means all the delta land and water area within the boundaries of the delta not included within the primary zone, subject to the land use authority of local government, and that includes the land and water areas as shown on the map titled "Delta Protection Zones" on file with the State Lands Commission. (Section 29731) However, this division does not confer any permitting authority upon the commission or require any local government to conform their general plan, or land use entitlement decisions, to the resource management plan, except with regard to lands within the primary zone. The resource management plan does not preempt local government general plans for lands within the secondary zone. (Section 29764)

The Delta Reform Act of 2009

While there are many agencies involved in both the near and long-term management of the Delta, the Sacramento-San Joaquin Delta Reform Act of 2009 (Delta Reform Act) established the Delta Stewardship Council (Council) to create a comprehensive, long-term, legally enforceable plan to guide how multiple federal, state, and local agencies manage the Delta's water and environmental resources. The 2009 legislation directed the Council to oversee implementation of this plan through coordination and oversight of state and local agencies proposing to fund, carry out, and approve Delta-related activities. It also granted the Council regulatory and appellate authority over certain actions that take place in whole or in part in the Delta and Suisun Marsh, referred to as covered actions.

Since 2010, the Council has developed, amended, and begun implementing the Delta Plan, addressing multiple complex challenges in the process. Much progress has been made, but much remains to be done. Developed to achieve the state's coequal goals of a reliable statewide water supply and a protected, restored Delta ecosystem in a manner that preserves the values of the Delta as a place, the Delta Plan includes 14 regulatory policies and 95 recommendations. Collectively, these policies and recommendations address current and predicted challenges related to the Delta's ecology, flood management, land use, water quality, and water supply reliability. The Delta Plan's policies and recommendations are based on best available science and depend on cooperation and coordination among federal, state, and local agencies.

LOCAL

City of Manteca General Plan

The current Manteca General Plan was adopted in October 2003 and provided a comprehensive update to the 1988 General Plan document. The current General Plan provides a comprehensive set of goals, policies, and implementing actions to guide the County's growth through the year guides the City to the year 2023. Since adoption in 2003, the current General Plan has been amended in June 2010 to incorporate an updated Housing Element and in April 2011 to incorporate an updated Circulation Element.

The current Manteca General Plan includes the following elements and goals:

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.

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.

Goal LU-3. Provide adequate land for the development of commercial uses that provide goods and services to Manteca residents and Manteca's market area.

3.10 LAND USE, POPULATION, AND HOUSING

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.

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.

Goal LU-6. Provide open space as a framework for the city, and meet the active and passive recreational needs of the community.

Goal LU-7. Reinforce land use and development patterns that encourage walking and the use of public transit within the community.

Goal LU-8. To reinforce strong urban design, quality development and a compact city form.

COMMUNITY DESIGN ELEMENT

Goal CD-1. Retain the compact and cohesive community form of the City.

Goal CD-2. Maintain a memorable City identity characterized by distinctive, high quality buildings and streetscapes.

Goal CD-3. Establish distinct, attractive identities for neighborhoods, gateways and commercial areas.

Goal CD-4. Promote the upgrading and aesthetic improvement of the downtown.

Goal CD-5. Strengthen the aesthetic and functional links between the Central Business District (CBD) and the Civic Center.

Goal CD-6. Promote the aesthetic development of Main Street and Yosemite Avenue.

Goal CD-7. Develop attractive and memorable entries to Manteca.

Goal CD-8. Upgrade and enhance the visual quality of Manteca's arterial and collector streets.

Goal CD-9. Establish a durable sustainable community that utilizes resources efficiently.

Goal CD-10. Establish a pedestrian and bicycle friendly environment in neighborhoods and commercial and office land use areas.

Goal CD-11. To the extent possible, new development shall retain or incorporate visual reminders of the agricultural heritage of the community.

CIRCULATION ELEMENT

Goal C-1. Provide for a circulation system that allows for the efficient movement of people, goods, and services within and through Manteca while minimizing public costs to build and maintain the system.

Goal C-2. Provide complete streets designed to serve a broad spectrum of travel modes, including automobiles, public transit, walking, and bicycling.

Goal C-3. Develop attractive streetscapes that include landscaping, street trees, planted berms, and landscaped medians.

Goal C-4. Support the development of a Downtown area that is highly accessible to all modes of travel, focusing primarily on pedestrians, bicyclists, and transit riders.

Goal C-5. Balance the level of service for all modes so that residents and visitors have a variety of transportation choices.

Goal C-6. Maintain a safe transportation system for all modes.

Goal C-7. Accommodate truck and freight movements by developing city-wide truck routes and encouraging the development of freight and warehousing centers near existing rail lines and spurs.

Goal C-8. Establish reasonable parking requirements (minimum and maximum rates for uses) that limit parking encroachment while minimizing the amount of land consumed by parking lots.

Goal C-9. Provide a safe, secure, and convenient bicycle route system that connects to retail, employment centers, public facilities, and parks.

Goal C-10. Provide for safe and convenient pedestrian circulation.

Goal C-11. Maintain a coordinated, efficient bus service that provides both an effective alternative to automobile use and serves members of the community that cannot drive.

Goal C-12. Support and encourage regional transit connections that link Manteca to other cities.

ECONOMIC DEVELOPMENT ELEMENT

Goal ED-1. Provide for adequate land for a wide range of commercial activities. Industrial, office and retail land should be designated in an appropriate mix to provide a full range of employment and opportunities that match the skills of Manteca residents as well as shopping to meet the needs of residents.

Goal ED-2. Locate commercially designated land in the appropriate places to maximize job creation, local capture of commercial sales, regional and interregional competitiveness and to minimize residential/commercial conflicts.

Goal ED-3. Expand, retain, and attract stable employment opportunities available to broad income levels.

Goal ED-4. Expand education and training opportunities for City residents at all levels.

Goal ED-5. Attract new industries that are compatible with the character of the City.

Goal ED-6. Protect and promote the overall commercial service and retail business sectors of the local economy.

Goal ED-7. Promote the establishment and expansion of small businesses and work place alternatives including home occupations, telecommuting businesses, and technology transfer based industries.

3.10 LAND USE, POPULATION, AND HOUSING

Goal ED-8. Reform and improve regulatory processes relating to businesses to foster the spirit of cooperation, understanding, and consensus between government and business.

Goal ED-9. Promote the development of affordable and market rate housing that matches with the needs of the present and future Manteca work force.

Goal ED-10. Provide a variety of housing types to house all segments of the Manteca community in accordance with the Housing Element.

Goal ED-11. Maintain and enhance the real and perceived safety in the community.

Goal ED-12. Enhance recreational and educational opportunities in the community.

Goal ED-13. Preserve and strengthen the city neighborhoods.

Goal ED-14. Enhance cultural opportunities both public and private.

Goal ED-15. Promote and protect the qualities and resources that make the Manteca area special, identifiable, unique and attractive.

Goal ED-16. Maintain and enhance the physical beauty of the Community and surrounding landscape.

Goal ED-17. Assure adequate public infrastructure is available at the right place and the right time to serve economic development opportunities.

Goal ED-18. Work with private utilities and private firms to assure that private infrastructure needed to support modern commercial development is available at a reasonable cost.

Goal ED-19. Assure that new development provides funding for necessary infrastructure.

Goal ED-20. Provide for affordable private infrastructure cost by pursuing alternative sources of energy and other utilities.

PUBLIC FACILITIES AND SERVICES ELEMENT

Goal PF-1. The City will be innovative in new techniques and technologies to provide the best available level of public services in a cost-effective manner.

Goal PF-2. Public infrastructure and services will be affordable to the residents and business interests in the City.

Goal PF-3. Facilities improvements and services required to serve development will not place an economic burden on existing residents of the City. Development will pay a fair share of all costs of required public infrastructure and services.

Goal PF-4. Public improvements and facilities will be designed to enhance, rather than degrade, the natural environment in the City and surrounding area.

Goal PF-5. The City's public services and facilities will support economic development and residential growth in the City.

Goal PF-6. Public facilities and services agencies will cooperate on a regional basis.

Goal PF-7. Maintain an adequate level of service in the City's water system to meet the needs of existing and projected development.

Goal PF-8. Maintain an adequate level of service in the City's sewage collection and disposal system to meet the needs of existing and projected development.

Goal PF-9. Maintain an adequate level of service in the City's drainage system to accommodate runoff from existing and projected development and to prevent property damage due to flooding.

Goal PF-10. The City shall ensure adequate, reliable electric service is available to all users in the City.

Goal PF-11. Provide for the implementation and enforcement of the provisions for the Source Reduction and Recycling Element, as mandated by the State.

Goal PF-12. Maintain efficient, effective and economical solid waste services for the residents, businesses and visitors to Manteca.

Goal PF-13. Maintain sufficient land inventory so that the Manteca Unified School District can provide for the educational needs of Manteca residents.

Goal PF-14. Establish and maintain a park system and recreation facilities that support economic development and residential growth in the City.

Goal PF-15. Establish and maintain a park system and recreation facilities that are suited to the needs of Manteca residents and visitors.

Goal PF-16. Promote the provision of private recreational facilities and opportunities.

Goal PF-17. Establish a recreation program that is suited to the needs and interests of all Manteca residents.

Goal PF-18. Provide a network of pedestrian and bicycle routes connecting Manteca's major open space areas and destination points.

SAFETY ELEMENT

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

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.

Goal S-3. Protect life and property from flood events.

Goal S-4. Provide a planning framework suitable for flood protection and risk management consistent with Federal and State law.

Goal S-5. Pursue flood control solutions that minimize environmental impacts.

3.10 LAND USE, POPULATION, AND HOUSING

Goal S-6. The City shall protect the health, safety, natural resources, and property through regulation of use, storage, transport, and disposal of hazardous materials.

Goal S-7. Ensure that City emergency procedures are adequate in the event of potential natural or man-made disasters.

RESOURCE CONSERVATION ELEMENT

Goal RC-1. Minimize the consumption of water to reasonable levels consistent with a high level of amenities and quality of life for City residents and visitors.

Goal RC-2. Maximize the beneficial uses of water by recycling water for irrigation and other non-potable uses.

Goal RC-3. The City shall ensure that land use and circulation improvements are coordinated to reduce the number and length of vehicle trips and thereby help conserve scarce or nonrenewable energy resources.

Goal RC-4. Encourage private development to explore and apply non-traditional energy sources such as co-generation, wind, and solar to reduce dependence on traditional energy sources.

Goal RC-5. Promote energy efficiency in new development and in building design.

Goal RC-6. Preserve and maintain Manteca's soils to avoid pollution of surface waters, decreased air quality, and loss of soil.

Goal RC-7. To protect water quality in the San Joaquin River and in the area's groundwater basin.

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.

Goal RC-9. To promote the continuation of agricultural uses in the Manteca area and to discourage the premature conversion of agricultural land to nonagricultural uses, while providing for the urban development needs of Manteca.

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

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

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

NOISE ELEMENT

Goal N-1. Protect the residents of Manteca from the harmful and annoying effects of exposure to excessive noise.

Goal N-2. Protect the quality of life in the community and the tourism economy from noise generated by incompatible land uses.

Goal N-3. Ensure that the downtown core noise levels remain acceptable and compatible with commercial and higher density residential land uses.

Goal N-4. Protect public health and welfare by eliminating existing noise problems where feasible, by establishing standards for acceptable indoor and outdoor noise, and by preventing significant increases in noise levels.

Goal N-5. Incorporate noise considerations into land use planning decisions, and guide the location and design of transportation facilities to minimize the effects of noise on adjacent land uses.

AIR QUALITY ELEMENT

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.

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.

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 gaselectric, electric and compressed natural gas.

Goal AQ-4. Reduce air emissions through energy conservation.

ADMINISTRATION AND IMPLEMENTATION ELEMENT

Goal AD-1. To provide for the ongoing administration and implementation of the General Plan.

LAND USE DESIGNATIONS

The following are the land use designations identified in the current Manteca General Plan:

- Agriculture;
- General Commercial;
- Neighborhood Commercial;
- Commercial Mixed Use;
- Heavy Industrial;
- Light Industrial;
- Business Industrial Park;
- Business Professional;
- High Density Residential (15.1 to 25 dwelling units per acre);
- Medium Density Residential (8.1 to 15 dwelling units per acre);

3.10 LAND USE, POPULATION, AND HOUSING

- Low Density Residential (2.1 to 8 dwelling units per acre);
- Very Low Density Residential (0.5 to 2 dwelling units per acre);
- Public/Quasi-Public;
- Open Space; and
- Park.

City of Manteca Community Growth Management Program

The City's Community Growth Management Program is summarized in Chapter 18.04 of the City's Municipal Code. The Community Growth Management Program applies to all development project(s) within the City and those development projects outside the City seeking sewer capacity that the city council, by special agreement ratified by a City Council resolution securing an approving vote of the majority of the entire City Council, determines appropriate, except as otherwise provided in Chapter 18.04. No development project building permits shall be issued by the City unless and until a project allocation has been obtained by the development project in accordance with this chapter, except as otherwise provided in Chapter 18.04. The Community Growth Management Program requires projects to secure a project allocation before a building permit for such development can be issued. The allocation process involves both:

- A. The sewer allocation system (as set forth in Chapter 18.04 and in subsequent City Council action) which shall determine the amount of phase three sewage capacity available to each type of development; and
- B. The point rating system, to be established by subsequent City Council action, which shall establish a mechanism by which to evaluate specific development project proposals competing for such available sewage capacity.

City of Manteca Zoning Ordinance

Title 17 of the Manteca Municipal Code is the City's Zoning Ordinance. The Zoning Ordinance carries out the policies of the General Plan by classifying and regulating the uses of land and structures within the City, consistent with the General Plan. The Zoning Ordinance is adopted to protect and promote the public health, safety, comfort, convenience, prosperity, and general welfare of residents and businesses. More specifically, the purpose of the Zoning Ordinance is to achieve the following objectives:

1. To provide a precise guide for the physical development of the City in such a manner as to progressively achieve the arrangement of land uses depicted in the Manteca General Plan consistent with the goals and policies of the General Plan;
2. To facilitate prompt review of development proposals and provide for public information, review, and comment on development proposals;
3. To foster a harmonious, convenient, and workable relationship among land uses to help ensure the provision of adequate water, sewer, transportation, off-street parking and off-street loading facilities, drainage, parks, open space, and other public and community facilities and institutions;
4. To promote the stability of existing land uses that conform with the General Plan and to protect them from inharmonious influences and harmful intrusions;

5. To ensure that public and private lands are ultimately used for the purposes which are most appropriate and most beneficial from the standpoint of the City as a whole;
6. To protect and enhance real property values;
7. To ensure compatibility between residential and nonresidential development and land uses;
8. To conserve and protect the City's natural resources and features, such as creeks, significant trees, and historic and environmental resources; and
9. To safeguard and enhance the appearance of the City and its established character and the social and economic stability of agricultural, residential, commercial, industrial, and other types of improved areas.

Article II of the Zoning Ordinance includes the City's Zoning Map and provides direction for the interpretation of the Zoning Map. Articles III through V define allowable land uses within each zoning district, provide development standards for each zoning district and, where applicable, provide performance standards and identify design criteria.

Downtown Design Improvement Plan and Streetscape Improvements Project

The Downtown Design Improvement Plan and Streetscape Improvements Project applies to development within the Planning Area that is located in downtown Manteca. The Downtown Design Improvement Plan and Streetscape Improvements Project covers an area of 9.1 acres, incorporating 25 city blocks. The Plan focuses on the traditional core downtown of properties along the east-west streets of Yosemite Avenue, Center Street, Mikesell Street, and Moffat Boulevard. In the north-south direction, the Plan area includes land east of the Union Pacific Railroad (UPRR) tracks at Elm Avenue, the streets of Poplar Avenue, Manteca Avenue, Sycamore Avenue, Maple Avenue, Main Street, Grant Avenue, and Lincoln Avenue. The Plan area also incorporates several blocks immediately south of the UPRR tracks.

The intent of the Downtown Manteca Design Guidelines is:

- To promote the continuing development and revitalization of the downtown;
- To act as a continuation and amplification of the goals and objectives for the downtown as outlined in "Vision 2020, Manteca California";
- To complement the existing and proposed land uses that are part of the overall Downtown Improvement Plan; and
- To help property owners and developers design desired improvements in a manner that will insure a positive impact on the collective character and quality of downtown and create a more secure climate for other property owners to make comparable new investments.

The Downtown Manteca Design Guidelines identify a specific set of criteria for site planning, building design, and public places (i.e., sidewalks, landscaping, parking, etc.). The Downtown Manteca Design Guidelines contain guidelines for new development on lots smaller than 9,999 square feet, new development on lots larger than 10,000 square feet, and renovations of existing buildings.

Local Agency Formation Commission of San Joaquin County

In 1963, the State Legislature created a LAFCO for each county, with the authority to regulate local agency boundary changes. Subsequently, the State has expanded the authority of a LAFCO. The goals of a LAFCO include preserving agricultural and open space land resources and providing for efficient delivery of services. The San Joaquin LAFCO has authority over land use decisions in San Joaquin County affecting local agency boundaries. Its authority extends to the incorporated cities, including annexation of County lands into a city, and special districts within the County. LAFCO has the authority to review and approve or disapprove the following:

- Annexations to or detachments from cities or districts;
- Formation or dissolution of districts;
- Incorporation or disincorporation of cities;
- Consolidation or reorganization of cities or districts;
- Extensions of service beyond an agency's jurisdictional boundaries;
- Development of, and amendments to, Spheres of Influence (SOI). The SOI is the probable physical boundary and service area of each local government agency. This may extend beyond the current service area of the agency; and
- Provision of new or different services by districts.

In addition, LAFCO conducts Municipal Service Reviews (MSRs) for services within its jurisdiction. A MSR typically includes a review of existing municipal services provided by a local agency and its infrastructure needs and deficiencies. It also evaluates financing constraints and opportunities, management efficiencies, opportunities for rate restructuring and shared facilities, local accountability and governance, and other issues.

Legislation, including Assembly Bill 1555 and Senate Bill 244, has been enacted to encourage the identification and annexation of islands, which are unincorporated areas substantially surrounded by a city or cities.

San Joaquin County Aviation System Airport Land Use Compatibility Plans

In July 2009, the San Joaquin County's Aviation System Airport Land Use Commission adopted the Countywide Airport Land Use Compatibility Plan (ALUCP) for all airports within San Joaquin County except Stockton Metropolitan, which sets forth the "referral area boundaries" around each airport in the County and the limits on land use, building height, and population density in those areas. The ALUCP regulates land use in three major areas: safety zones, noise zones, and height restrictions. It provides land use compatibility guidelines for lands near the airport, to avert potential safety problems and to ensure unhampered airport operations. The ALUCP establishes two compatibility areas: safety and noise. In May 2016, the San Joaquin County's Aviation System Airport Land Use Commission adopted the Stockton Metropolitan Airport Land Use Compatibility Plan (ALUCP), which establishes the planning boundaries around airport that define height/airspace protection, noise, and safety areas for policy implementation, and areas within which notification of airport proximity is required as part of real estate transactions. Both the Countywide ALUCP and Stockton Metropolitan ALUCP were updated in 2018 to ensure consistency between the two ALUCPs.

Under California Government Code Section 65302.3(a), general plans must be consistent with any airport land use plan adopted pursuant to Public Utilities Code Section 21675. The Stockton Metropolitan Airport is the closest airport to Manteca. The northernmost portion of the City of Manteca and the City's Planning Area are located the airport influence area for the Stockton Metropolitan Airport identified in the ALUCP. The majority of this land within the airport influence area is zoned for agricultural uses by the City's municipal code. Other land uses within the airport influence area include park, industrial, commercial, public, low density residential, and medium density residential.

The lands within the Planning Area that are located in the airport influence area for the Stockton Metropolitan Airport are not within the Airport's noise exposure contours. However, the lands within the City that are located in the airport influence area are within two of the Airport's Safety Zones: Traffic Pattern Zone 7b and Zone 8. Lands within Traffic Pattern Zone 7b cannot be developed with non-residential intensities greater than 450 persons per acre and must have open land over 10% of the site. Additionally, uses within Traffic Pattern Zone 7b cannot be hazardous to flight, and outdoor stadiums are prohibited. Non-residential development on land within Traffic Pattern Zone 8 is not subject to a maximum intensity or open space requirement. Airspace review is required for development greater than 100 feet tall on lands within Zone 7b or Zone 8. Similarly, new dumps or landfills within Zone 7b or Zone 8 are subject to the Federal Aviation Administration (FAA) notification and review and are further subject to restrictions and conditions outlined by the FAA.

San Joaquin County General Plan

San Joaquin County adopted its General Plan in December 2016. The County's General Plan provides a comprehensive set of goals, policies, and implementing actions to guide the County's growth through the year 2035. The County's General Plan includes the following Elements:

- Community Development
- Public Facilities and Services
- Public Health and Safety
- Natural and Cultural Resources

The County's General Plan establishes allowed land uses for lands within the City's SOI. While the City of Manteca General Plan Land Use Map identifies planned land uses within the SOI, San Joaquin County has ultimate land use planning and project approval authority within the SOI unless the lands are annexed to the City.

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

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

3.10 LAND USE, POPULATION, AND HOUSING

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

BACKGROUND

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

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

The SJMSCP compensates for Conversions of Open Space for the following activities: urban development, mining, expansion of existing urban boundaries, non-agricultural activities occurring outside of urban boundaries, levee maintenance undertaken by the San Joaquin Area Flood Control Agency, transportation projects, school expansions, non-federal flood control projects, new parks and trails, maintenance of existing facilities for non-federal irrigation district projects, utility installation, maintenance activities, managing Preserves, and similar public agency projects. These activities will be undertaken by both public and private individuals and agencies throughout San Joaquin County and within the County's incorporated cities of Escalon, Manteca, Lodi, Lathrop, Ripon, Stockton and Tracy. Public agencies including Caltrans (for transportation projects), and the San Joaquin Council of Governments (for transportation projects) also will undertake activities which will be covered by the SJMSCP. In addition, 5,340 acres is allocated for anticipated projects (e.g., annexations, general plan amendments).

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

3.10.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on land use and population if it will:

- Physically divide an established community;
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect;
- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); or
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

IMPACTS AND MITIGATION MEASURES

Impact 3.10-1: General Plan implementation would not physically divide an established community (Less than Significant)

The proposed General Plan establishes the City's vision for future growth and development. Goal LU-1 of the General Plan aims to "maintain a land use plan that provides a mix and distribution of uses that meet the identified needs of the community." The land uses allowed under the proposed General Plan (Figure 2.0-3) provide opportunities for cohesive new growth at in-fill locations within existing urbanized areas of the city, as well as new growth adjacent to existing urbanized areas, but would not create physical division within the community. New development and redevelopment projects would be designed to complement the character of the existing community and neighborhoods and provide connectivity between existing development and new development.

The proposed General Plan Land Use Map designates sites for a range of urban and rural developed uses as well as open space. The proposed General Plan does not include any new areas designated for urbanization or new roadways, infrastructure, or other features that would divide existing communities. The proposed General Plan would have a **less than significant** impact associated with the physical division of an established community. The policies and actions listed below would ensure that future development is compatible with adjacent communities and land issues.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

LU-1.1: *Maintain an adequate supply of land to support projected housing, employment, service, retail, educational, and institutional needs for the community.*

LU-1.2: *Promote land use compatibility through use restrictions, development standards, environmental review, and design considerations.*

3.10 LAND USE, POPULATION, AND HOUSING

LU-2.3: To maintain balanced growth and to manage the City's investment in infrastructure, facilities, and services for growth areas, encourage infill development, redevelopment, and rehabilitation projects within the City and growth that is contiguous with existing development and/or the boundary of the City.

LU-2.4: Continue to encourage the use of specific and master plans, as needed, to ensure orderly, well-planned growth.

LU-2.5: Lands within the SOI that are not designated with the Urban Reserve Overlay are intended to serve as the Primary Urban Service Area and be planned for development during the General Plan horizon (2040). Lands within the SOI that are designated with the Urban Reserve Overlay as well as lands within the Planning Area that are outside of the SOI are anticipated to accommodate the City's long-term growth and are intended to serve as the Secondary Urban Service Area.

LU-2.6: Evaluate applications for annexations based upon the following criteria:

- *The annexation shall mitigate its impacts through consistency with the General Plan goals and polices and shall provide a positive benefit to Manteca.*
- *The annexation area is contiguous with city boundaries and provides for logical expansion and development.*
- *The annexation area creates clear and reasonable boundaries for the City and service providers.*
- *The annexation area will be adequately served by municipal services.*
- *The annexation area will be adequately served by schools.*
- *The annexation, when reviewed cumulatively with other annexations, provides a long-term fiscal balance for the City and its residents.*
- *The annexation is consistent with State law and San Joaquin County Local Agency Formation Commission standards.*
- *The annexation is consistent with the General Plan.*
- *The annexation contributes its fair-share to applicable infrastructure and public services needs, including facilities identified in the Regional Transportation Plan, Public Facilities Implementation Plan, and Capital Improvement Program.*
- *The effect of the proposal on maintaining the physical and economic integrity of agricultural lands and achievement of Resource Conservation and Community Design Elements goals.*
- *The extent to which the proposal will assist the City in achieving the adopted fair share of the Regional Housing Needs Assessment as determined by the San Joaquin Council of Governments.*
- *The extent to which the proposal will promote environmental justice. As used in this policy, "environmental justice" means the fair treatment of people of all races, cultures, and incomes with respect to the location of public facilities and the provision of public services.*
- *The extent in which the proposal facilitates achievement of the City's jobs/housing balance goal of a 1:1 ratio.*

ACTIONS

LU-1a: As part of the annual report on the implementation of the General Plan to the Planning Commission and City Council, provide an evaluation of the year's development trends, current land supply, and the ability of infrastructure and public services to meet future needs.

LU-1b: Regularly review and revise, as necessary, the Zoning Ordinance to accomplish the following purposes:

- *Ensure consistency with the General Plan in terms of zoning districts and development standards;*
- *Provide for a Downtown zone that permits the vibrant mixing of residential, commercial, office, business-professional, and institutional uses within the Central Business District;*
- *Ensure adequate buffers and transitions are required between intensive uses, such as industrial and agricultural industrial, and sensitive receptors, including residential uses and schools; and*
- *Provide for an Agricultural Industrial zone that accommodates the processing of crops and livestock.*
- *Ensure that land use requirements meet actual demand and needs over time as technology, social expectations, and business practices change.*

LU-2a: Monitor the issuance of building permits and development entitlement in order to determine and forecast the rate of future development.

LU-2b: Educate the community regarding the benefits of infill development.

LU-2d: Prior to the consideration of any General Plan amendment to modify the land use allocation or expand the City's boundaries or sphere of influence, the City shall complete or cause to be completed the following City-wide studies/plans:

- a. *Recreational needs assessment and consistency with the Open Space and Conservation Element and Parks and Recreation Master Plan.*
- b. *Economic Development Studies and consistency with Economic Development and Fiscal Element goals and policies.*
- c. *Public Facilities and Services Capacity Study consistent with the Public Facilities and Services Element.*
- d. *Transportation System Capacity Study, including Long Range Transit Plan consistent with the Circulation Element.*

The studies shall define overall holding capacities and identify additional performance standards that will need to be met to ensure the achievement of the goals and policies of the General Plan.

Impact 3.10-2: General Plan implementation would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect (Less than Significant)

STATE PLANS

The proposed General Plan was prepared in conformance with State laws and regulations associated with the preparation of general plans, including requirements for environmental protection. Discussion of the proposed General Plan's consistency with State regulations, plans, and policies associated with specific environmental issues (e.g., air quality, traffic, water quality, etc.) is provided in the relevant chapters of this Draft EIR. The State would continue to have authority over any State-owned lands in the vicinity of the city and the proposed General Plan would not conflict with

3.10 LAND USE, POPULATION, AND HOUSING

continued application of State land use plans, policies, and regulations adopted to avoid or mitigate environmental effects.

The Delta Plan contains a set of regulatory policies with which State and local agencies are required to comply with. The Delta Reform Act specifically established a certification process for compliance with the Delta Plan. This means that State and local agencies that propose to carry out, approve, or fund a qualifying action in whole or in part in the Delta, called a “covered action,” must certify that this action is consistent with the Delta Plan and must file a certificate of consistency with the Council that includes detailed findings. Areas Subject to the Delta Plan are included within the Delta’s Primary and Secondary zones. As previously mentioned, the southwest corner of the General Plan Study Area is within the “Secondary Zone.” Figure RC-2 of the proposed General Plan shows lands within the Manteca Planning Area that are subject to the Delta Plan.

The City of Manteca has prepared the General Plan to include numerous policies and actions intended to ensure construction and maintenance activities associated with future development projects under the proposed General Plan do not conflict with the Delta Plan. For example, General Plan Action RC-11a requires City staff to review all projects affecting areas within the Delta Secondary Zone to ensure they are consistent with the criteria and policies set forth by the Delta Stewardship Council’s “Delta Plan”. Additionally, General Plan Action RC-11b requires City staff to provide opportunities for review of and comment by the Reclamation Districts, the Delta Stewardship Council, Delta Protection Commission, and SWRCB during project review, as applicable. Further, General Plan Action RC-11d requires City staff to review and regulate new development to ensure consistency with Federal and State flood and floodway requirements, including BDCP and Delta Plan policies. Overall, consistency with the General Plan policies and actions described above and listed below would ensure future development projects under the proposed General Plan would not conflict with the Delta Plan.

As previously mentioned, the northernmost portion of the Planning Area is located within the airport influence area for the Stockton Metropolitan Airport identified in the Stockton Metropolitan ALUCP. Construction and maintenance activities associated with future development projects under the proposed General Plan could result in conflicts with the adopted ALUCP for the Stockton Metropolitan Airport. For this reason, the City of Manteca has prepared the General Plan to include numerous policies and actions intended to ensure consistency between the General Plan and the Stockton Metropolitan ALUCP. General Plan Policy LU-2.10 states that the City will ensure that development within the Stockton Metropolitan Airport Influence Area is consistent with the compatible uses identified in the Project Review Guidelines for the Airport Land Use Commission. Lands within the Planning Area include lands within Zone 7 (traffic pattern zone) and Zone 8 (airport influence area). Additionally, General Plan Action LU-2i states that the City will refer all applications for development within the Stockton Metro Airport Area of Influence to the ALUC and the Stockton Metro Airport for comment to ensure that all future plans have limited impacts to the community of Manteca. Consistency with the General Plan policies and actions described above would ensure future development projects under the proposed General Plan would not conflict with an adopted ALUCP.

SJMSCP

As discussed in Impact 3.4-6 of Section 3.4, Biological Resources, the City of Manteca is a participant in SJMSCP. The SJMSCP was approved in 2000 and the City of Manteca is a signatory to the SJMSCP.

The proposed General Plan Land Use Map does not re-designate any land currently designated for open space or habitat protection. As such, the proposed General Plan and the Land Use Map are consistent with the adopted SHMSCP in terms of land uses and habitat protection. Implementation of the General Plan would not conflict with the provisions of an adopted HCP/NCCP, or other approved local, regional, or State habitat conservation plan.

Future projects that do not comply with the SJMSCP could result in potentially significant impacts, which would be mitigated to a less than significant level through the implementation of Action RC-9a. Action RC-9a from the Resource Conservation Element of the General Plan requires City staff to continue to require projects to comply with the requirements of the SJMSCP when reviewing proposed public and private land use changes.

CITY PLANS

As set forth by State law, the General Plan serves as the primary planning document for the City and subordinate documents and plans would be updated to be consistent with the General Plan. Similar to the existing General Plan, the proposed General Plan focuses on a balanced land use pattern, creating a community where new development blends with existing neighborhoods, and promoting the City as a desirable place to live and work. The proposed General Plan carries forward and enhances policies and measures from the City's existing General Plan that were intended for environmental protection and would not remove or conflict with City plans, policies, or regulations adopted for environmental protection. The proposed General Plan would require modifications to the City's Zoning Ordinance to provide consistency between the General Plan and zoning; however, these modifications will not remove or adversely modify portions of the Manteca Municipal Code that were adopted to mitigate an environmental effect.

The General Plan Update includes modifications to the General Plan Land Use Map. The proposed Land Use Map is depicted in Figure 2.0-3-2. The revisions to the Land Use Map are consistent with the City's overall objectives provided in Chapter 2.0, Project Description. While the proposed General Plan has been developed to be largely consistent with adopted plans and regulations, the General Plan Land Use Map designates lands for development that are designated as open space, agricultural, or urban reserve by the current General Plan or identifies lands for intensification of land use (development at higher densities and intensities) than the current General Plan. In some cases, the redesignation reflects existing development on parcels and would not provide for additional density. However, there would be parcels currently designated as open space and agricultural use that would be allowed to develop with urban uses under the proposed project. Environmental impacts, including aesthetics, air quality, biological resources, noise, transportation and traffic, and utilities, associated with potential development under the proposed General Plan are discussed in Sections 3.1 through 3.9 and 3.11 through 4.0 of this Draft EIR.

3.10 LAND USE, POPULATION, AND HOUSING

SUMMARY

Subsequent development and infrastructure projects would be required to be consistent with all applicable policies, standards, and regulations, including those land use plans, policies, and regulations adopted to mitigate environmental effects by the City as well as those adopted by agencies with jurisdiction over components of future development projects. Any potential environmental impact associated with conflicts with land use requirements would be **less than significant**. The policies listed below would ensure that the General Plan does not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

LU-1.2: Promote land use compatibility through use restrictions, development standards, environmental review, and design considerations.

LU-1.3: Ensure consistency between the Land Use Map and implementing plans, ordinances, and regulations.

LU-1.4: Assign the land use designations throughout the City and to parcels within the Planning Area, as included in this element and shown in the Land Use Map (Figure LU-2).

LU-2.1: Continue to maintain and implement the City's Growth Management Program, as set forth in the Growth Management Element.

LU-2.3: To maintain balanced growth and to manage the City's investment in infrastructure, facilities, and services for growth areas, encourage infill development, redevelopment, and rehabilitation projects within the City, prioritizing investments in underserved neighborhoods, and growth that is contiguous with existing development and/or the boundary of the City.

LU-2.4: Continue to encourage the use of specific and master plans, as needed, to ensure orderly, well-planned growth

LU-2.6: Evaluate applications for annexations based upon the following criteria:

- *The annexation shall mitigate its impacts through consistency with the General Plan goals and polices and shall provide a positive benefit to Manteca.*
- *The annexation area is contiguous with city boundaries and provides for logical expansion and development.*
- *The annexation area creates clear and reasonable boundaries for the City and service providers.*
- *The annexation area will be adequately served by municipal services.*
- *The annexation area will be adequately served by schools.*
- *The annexation, when reviewed cumulatively with other annexations, provides a long-term fiscal balance for the City and its residents.*
- *The annexation is consistent with State law and San Joaquin County Local Agency Formation Commission standards.*
- *The annexation is consistent with the General Plan.*

- *The annexation contributes its fair-share to applicable infrastructure and public services needs, including facilities identified in the Regional Transportation Plan, Public Facilities Implementation Plan, and Capital Improvement Program.*
- *The effect of the proposal on maintaining the physical and economic integrity of agricultural lands and achievement of Resource Conservation and Community Design Elements goals.*
- *The extent to which the proposal will assist the City in achieving the adopted fair share of the Regional Housing Needs Assessment as determined by the San Joaquin Council of Governments.*
- *The extent to which the proposal will promote environmental justice. As used in this policy, “environmental justice” means the fair treatment of people of all races, cultures, and incomes with respect to the location of public facilities and the provision of public services.*
- *The extent in which the proposal facilitates achievement of the City’s jobs/housing balance goal of a 1:1 ratio.*

LU-2.7: Review public and private development proposals and land use changes within the City’s Sphere of Influence (SOI) and Planning Area for consistency within the General Plan.

LU-2.10: Ensure that development within the Stockton Metropolitan Airport Influence Area (Figure LU-3) is consistent with the compatible uses identified in the Project Review Guidelines for the Airport Land Use Commission. Lands within the Planning Area include lands within Zone 7 (traffic pattern zone) and Zone 8 (airport influence area).

RC-11.1: Support the long-term viability and success of the natural Delta ecosystems and the continuation of Delta heritage.

RC-11.2: Support efforts to ensure the protection, viability, and restoration of the Delta ecosystem in perpetuity, including implementing local conservation efforts that improve adequate water supply and quality.

RC-11.3: Support funding mechanisms that provide for the longer-term improvement and maintenance of Delta levees, and coordinate Delta emergency preparedness, response, and recovery with local agencies.

RC-11.4: Promote protection of areas for habitat restoration, including remnants of riparian and aquatic habitat, particularly in the Delta.

RC-11.5: Encourage compatibility between agricultural practices and wildlife habitat.

RC-11.6: Preserve and protect the water availability and quality of the Delta for designated beneficial uses and habitat protection.

RC-11.7: Encourage and promote the expansion of floodplains and riparian habitats in levee projects.

RC-11.8: Recognize that climate change impacts may influence future guidance, and best available data, and continue to ensure that up-to-date information is consulted when reviewing projects for potential impacts to the Delta.

3.10 LAND USE, POPULATION, AND HOUSING

ACTIONS

LU-1b: Regularly review and revise, as necessary, the Zoning Ordinance to accomplish the following purposes:

- Ensure consistency with the General Plan in terms of zoning districts and development standards;
- Provide for a Downtown zone that permits the vibrant mixing of residential, commercial, office, business-professional, and institutional uses within the Central Business District;
- Ensure adequate buffers and transitions are required between intensive uses, such as industrial and agricultural industrial, and sensitive receptors, including residential uses and schools; and
- Provide for an Agricultural Industrial zone that accommodates the processing of crops and livestock.
- Ensure that land use requirements meet actual demand and community needs over time as technology, social expectations, and business practices change.

LU-1c: Conduct a General Plan review in conjunction with adoption of policy and regulatory documents to ensure consistency with the Land Use Map.

LU-2c: Maintain a computerized land use database system that includes current parcel-specific information regarding General Plan, Zoning, parcel size, pending and approved development, and other relevant factors.

LU-2f: Formally request that the County provide the City with notice of development applications and related actions within and adjacent to the Planning Area and provide the City with the opportunity to comment on land use changes and development proposals under review. The City's review of projects within the referral area shall emphasize the importance of:

- Consistency with the Land Use Map;
- The protection of agricultural lands and open space;
- The protection of biological resources, including riparian habitat and corridors;
- The protection of groundwater recharge areas and watersheds;
- Reducing sprawl; and
- Ensuring quality development that meets the City's standards and is consistent with the City's character and values.

LU-2g: Review and comment on development proposals in adjacent communities to minimize potential environmental and economic impacts to Manteca.

LU-2i: Refer all applications for development within the Stockton Metro Airport Area of Influence to the Airport Land Use Commission and the Stockton Metro Airport for comment.

RC-11a: Review all projects affecting areas within the Delta Secondary Zone to ensure they are consistent with the criteria and policies set forth by the Delta Stewardship Council's "Delta Plan".

RC-11b: As applicable, provide opportunities for review of and comment by the Reclamation Districts, the Delta Stewardship Council, Delta Protection Commission, and SWRCB during project review.

RC-11c: Review all projects located within or adjacent to priority habitat restoration areas, and consult the California Department of Fish and Wildlife to ensure that any impacts do not have a significant effect on the opportunity to restore habitat as described in the Delta Plan.

RC-11d: Review and regulate new development to ensure consistency with Federal and State flood and floodway requirements, including Bay Delta Conservation Plan and Delta Plan policies as applicable.

Impact 3.10-3: General Plan implementation would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure) (Less than Significant)

The proposed General Plan is a long-range planning document that establishes the City's vision for growth patterns, including areas for development and lands for open space and conservation. The General Plan provides the framework for the City's plan for growth and development, including new businesses, expansion of existing businesses, and new residential uses. Infrastructure and services would need to be extended to accommodate future growth. At full buildout, the proposed General Plan could accommodate approximately a total of up to 38,103 housing units and 28,713,612 square feet of non-residential building square footage within the Planning Area. As shown in Table 2.0-3 in Chapter 2.0, compared to the existing General Plan, the proposed General Plan would result in approximately 11,951 new housing units. This new growth may increase the city's population by approximately 38,004 residents and 3,469 employees compared to the existing General Plan for a total of approximately 121,168 residents and 27,448 jobs. Depending on growth rates, the actual growth during the life of the General Plan could be lower or higher, but would not exceed the theoretical buildout described in Chapter 2.0.

Given the historical and current population, housing, and employment trends, growth in the city, as well as the entire state, is inevitable. The primary factors that account for population growth are natural increase and net migration. The average annual birth rate for California is expected to be 20 births per 1,000 population. Additionally, California is expected to attract more than one third of the country's immigrants. Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and transportation. While these factors would likely result in growth in Manteca during the planning period of the proposed General Plan, growth will continue to occur based primarily on the demand of the housing market and demand for new commercial, industrial, and other non-residential uses. As future development occurs under the proposed General Plan, new roads, infrastructure, and services would be necessary to serve the development, and this infrastructure would accommodate planned growth. The proposed General Plan is intended to accommodate the City's fair share of statewide housing needs, which are allocated by the SJCOG, based on regional numbers provided by the California Department of Housing and Community Development on a regular basis (every eight years).

The proposed General Plan includes policies and actions that mitigate environmental impacts associated with growth, such as air quality, noise, traffic, water supply, and water quality effects. Chapters 3.1 through 3.16 and 4.0 provide a discussion of environmental effects associated with development allowed under the proposed General Plan. Each of these EIR chapters include relevant

policies and action items that would minimize potential environmental impacts associated with growth, to the greatest extent feasible.

With implementation of General Plan, policies and actions intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under the proposed General Plan, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth that would exceed adopted thresholds, beyond those disclosed and analyzed throughout this EIR. Therefore, population and housing growth associated with the proposed General Plan would result a **less than significant** impact, as there are no additional potential environmental impacts, beyond those analyzed and disclosed in this EIR, that would result from growth accommodated by the proposed project. No additional mitigation is required.

Impact 3.10-4: General Plan implementation would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere (Less than Significant)

The majority of developed land in the Planning Area is comprised of residential uses, which are not anticipated to undergo significant land use changes under the Proposed Project. The proposed General Plan focuses on providing the framework for logical, orderly growth from the City's compact, historic center extending to well-delineated residential neighborhoods, employment centers, and community amenities. The proposed General Plan Land Use Map includes an expansion to the City's Planning Area in the northwest, increasing the total size of the Planning Area. When compared to the existing General Plan, the proposed General Plan increases the total amount of residential land uses in the Planning Area by 11,951 dwelling units at full buildout. The increase in dwelling units allows for the diversification of the City's housing supply to meet the needs of the community at various socioeconomic levels. While the proposed General Plan may result in development that would remove residences, development allowed under the General Plan identifies lands for a variety of housing densities and types would result in an increase in the total number of residences and provide housing opportunities for persons that may be displaced as a result of development.

Therefore, impacts of the proposed General Plan on the displacement of people or housing are considered **less than significant** and no mitigation is required. The policies listed below would further ensure that a range of housing types are provided in the City, and that housing conditions are evaluated as the housing supply ages.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

EF-5.1: Plan and encourage residential development with a broad range of housing types and densities to accommodate all income levels and job classifications and take into account anti-gentrification measures to preserve existing affordable housing.

EF-5.2: Plan for a balanced community where the Manteca workforce will be able to afford housing within the city of Manteca.

ACTIONS

EF-5a: Use the Policies and Implementation Measures outlined in the Housing Element to assure provision of housing affordable to the existing and future workforce.

EF54b: Use appropriate land use, zoning, and permit streamlining strategies, and financial incentives to provide for and encourage housing types that are compatible with wage structures associated with existing and forecast employment.

EF-5c: Ensure specific plans and large planned developments throughout the City to include a mix of housing types and density ranges (consistent with the Zoning Ordinance) related to local wage structures to achieve a jobs/housing balance.

EF-5d: Encourage creative approaches to encourage integration of housing production with commercial development.

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Insert Figure 3.10-1 - Existing Assessed Land Uses

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Insert Figure 3.10-2 - Development Trends

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This section provides a background discussion and analysis of mineral and energy resources in Manteca. This section is organized with an environmental setting, regulatory setting, and impact analysis.

No comments were received on this environmental topic during the NOP comment period.

3.11.1 ENVIRONMENTAL SETTING

MINERAL RESOURCE CLASSIFICATION

Pursuant to Surface Mining and Reclamation Act (SMARA), the California State Mining and Geology Board oversees the mineral resource zone (MRZ) classification system. The MRZ system characterizes both the location and known/presumed economic value of underlying mineral resources. The mineral resource classification system uses four main MRZs based on the degree of available geologic information, the likelihood of significant mineral resource occurrence, and the known or inferred quantity of significant mineral resources. The four classifications are described in Table 3.11-1.

TABLE 3.11-1: MINERAL RESOURCE CLASSIFICATION SYSTEM

CLASSIFICATION	DESCRIPTION
MRZ-1	Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
MRZ-2	Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
MRZ-3	Areas containing mineral deposits, the significance of which cannot be evaluated.
MRZ-4	Areas where available information is inadequate for assignment to any other MRZ classification.

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION DIVISION OF MINES AND GEOLOGY, 2002.

MINERAL RESOURCES

Mineral resources include commercially viable oil and gas deposits, and nonfuel mineral resources deposits. Nonfuel mineral resources include metals such as gold, silver, iron, and copper; industrial metals such as boron compounds, rare-earth elements, clays, limestone, gypsum, salt, and dimension stone; and construction aggregate, including sand, gravel, and crushed stone. California is the largest producer of sand and gravel in the nation.

In 2014, the California Geological Survey identified that approximately 4 billion tons of permitted aggregate reserves lie within the 31 aggregate study areas in California. These permitted aggregate reserves have been determined to be acceptable for commercial use, exist within properties owned or leased by aggregate producing companies, and have permits allowing mining of aggregate material. Sand, gravel, and crushed stones are construction materials that are collectively referred to as construction aggregate. These materials provide the bulk and strength to Portland cement concrete (PCC), asphaltic concrete (AC), plaster, and stucco. Other uses include road base, subbase, railroad ballast, and fill.

3.11 MINERAL RESOURCES

From 1981 to 2010, California consumed an average of about 180 million tons of construction aggregate (all grades) per year. (CGS, 2012)

The California Geological Survey issued Special Report 199 designating areas within the Stockton-Lodi P-C Region based on the significance of mineral resources. The Stockton-Lodi P-C Region contains about 969 million tons PCC-grade aggregate resources and 67 million tons PCC-grade sand resources. These resources are classified into different mineral resource zone designations, MRZ-1, MRZ-2, MRZ-2 (PCC sand), MRZ-3, and MRZ-4.

MRZ-2 (PCC-1) zones are identified as areas where adequate information indicates that fine aggregate (naturally sand) mineral deposits are present, or where it is judged that a high likelihood for their presence exists. The fine sand aggregate found in these areas are typically used to produce PCC-grade aggregate. PCC-1 indicates that it produces general use cement, as opposed to type 2 or 3 used for structures in water or in high early strength periods. The primary mineral resources in San Joaquin County are sand, gravel, and natural gas, with limited mining of peat, gold, and silver. In 2012, the California Geological Survey assessed the Stockton-Lodi Production-Consumption (P-C) Region mineral resources, with a focus on aggregate resources. Mineral resources in the region are classified based on whether the aggregate meets the specifications for use in PCC. This aggregate is termed “PCC-grade aggregate.” The material quality specifications for PCC-grade aggregate are more restrictive than the specifications for aggregate for other applications. As a result of the strict specifications, PCC-grade aggregate deposits are scarcer and more valuable than other aggregate resources.

To be considered significant for the purpose of mineral land classification, a mineral deposit or group of deposits, must meet criteria adopted by the State Mining and Geology Board. These criteria include marketability and threshold values. The threshold value is approximately \$17.375 million for a construction aggregate deposit. PCC-grade aggregate sells for about \$13 per ton in the Stockton-Lodi P-C Region; therefore, \$17,375,000 equates to about 1.3 million tons of PCC-grade aggregate material.

Approximately 232 million tons of PCC-grade aggregate reserves are permitted for production in the County (CGS, 2012). There are 34 active and inactive aggregate mines within San Joaquin County (San Joaquin County, 2009).

Planning Area

Figure 5.6-1: Mineral Resource Zones shows mineral resources within and near the Planning Area. As shown on Figure 5.6-1, the southwestern portion of the planning area near Oakwood Lake is located in Resource Sector D, which consists of a large PCC-grade sand deposit situated along the San Joaquin River west of Manteca and south of Lathrop near the middle of the valley. This sector covers approximately 878 acres. Subsector D-9 is located within the Planning Area. This subsector is designated by the State Mining and Geology Board as containing regionally significant PCC-grade aggregate resources. This sector is classified as MRZ-2 (PCC sand), which contains a high likelihood of fine sand aggregate and is located at the southwestern corner of the planning area. The planning area also contains areas that are designated as MRZ-3 “areas containing mineral deposits the

significance of which cannot be evaluated from available data.” These areas are located in the southwest portion of the Planning Area adjacent to the areas south and west of Oakwood Lake designated MRZ-2. Another portion of area designated as MRZ-3 currently extends through the southern/central portion of the City in an east/west direction, then extends southeast to undeveloped land.

The City of Manteca has identified lands near the San Joaquin River as areas of significant mineral resources. In particular, sand deposits in these areas are considered to be of regional significance. Brown Sand and Gravel, Incorporated, has produced processed sand at Oakwood Lake Pit, located within the Study Area. These mining operations have ceased, and the former quarry site has been developed with Oakwood Shores, a residential project.

3.11.2 REGULATORY SETTING

STATE

Surface Mining and Reclamation Act of 1975

The California Department of Conservation Surface Mining and Reclamation Act of 1975 (§ 2710), also known as SMARA, provides a comprehensive surface mining and reclamation policy that permits the continued mining of minerals, as well as the protection and subsequent beneficial use of the mined and reclaimed land. The purpose of SMARA is to ensure that adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition and are readily adaptable for alternative land uses. The production and conservation of minerals are encouraged, while also giving consideration to values relating to recreation, wildlife, range, and forage, as well as aesthetic enjoyment. Residual hazards to public health and safety are eliminated. These goals are achieved through land use planning by allowing a jurisdiction to balance the economic benefits of resource reclamation with the need to provide other land uses.

If a use is proposed that might threaten the potential recovery of minerals from an area that has been classified MRZ-2, SMARA would require the jurisdiction to prepare a statement specifying its reasons for permitting the proposed use, provide public notice of these reasons, and forward a copy of the statement to the State Geologist and the State Mining and Geology Board (Cal. Pub. Res. Code Section 2762). Lands classified MRZ-2 are areas that contain identified mineral resources.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project may have a significant impact on the environment associated with mineral resources if it would:

1. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or
2. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

IMPACTS AND MITIGATION MEASURES

Impact 3.11-1: General Plan implementation would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state (Less than Significant)

Within the Planning Area, mineral resources include sand and gravel.

The western portion of the planning area near Oakwood Lake is designated as MRZ-2, which consists of a large PCC-grade sand deposit situated along the San Joaquin River west of Manteca and south of Lathrop near the middle of the valley. The area is classified as an important MRZ for PCC grade aggregate by the DOC. PCC-grade aggregate is valuable in central California where it used for a variety of construction purposes. However, mining operations at the Oakwood Lake Mine have ceased. Oakwood Lake Resort was created from these reclaimed mined lands and the Oakwood Shores residential project was subsequently developed on the site of this former quarry. A portion of MRZ-2 (PCC-1) land currently exists on and east of the Oakwood Shores residential project. However, this land is currently designated as LDR and is expected to be developed with residential uses. It is noted that, under the proposed General Plan land use map, the Urban Reserve overlay is applied to the Oakwood Lake area in the southwest portion of the Planning Area outside of the City limits, reducing the potential for growth in this area. Although the Urban Reserve overlay would preserve this area, this area has already been mined and then subsequently developed.

In addition, a large area designated MRZ-3 is located in the southwest portion of the Planning Area within zones designated as LDR and agricultural by the City of Manteca. Another portion of area designated as MRZ-3 currently extends through the southern/central portion of the City in an east/west direction, then extends southeast to undeveloped land primarily designated as LDR. These areas identified as MRZ-3, which consist of areas containing mineral deposits; the significance of which cannot be evaluated. However, the majority of the area designated as MRZ-3 runs through the center of the City of Manteca and is currently developed and is no longer available for mining.

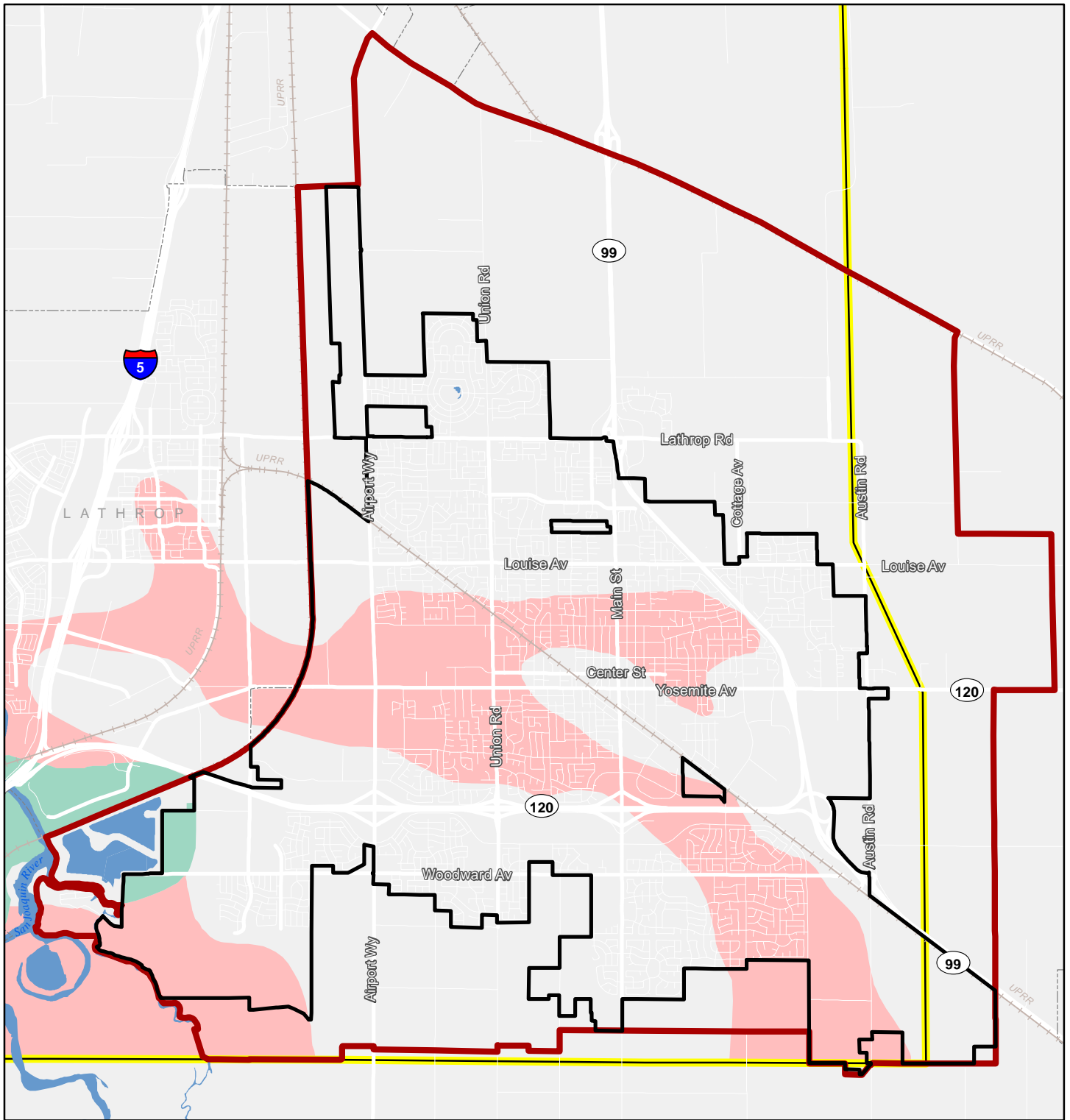
Given that the only known MRZ-2 area in Manteca has already been mined and then subsequently developed, no significant potential for extraction remains from this known MRZ. There are no other known mineral deposits or resources within Manteca that are of significant value to the region or the state. As such, implementation of the proposed General Plan would have a **less than significant** impact on this environmental topic, and no mitigation is required.

Impact 3.11-2: General Plan implementation would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan (Less than Significant)

The current General Plan indicates that san deposits near the San Joaquin River are considered to be of regional significance. As previously described, Brown Sand and Gravel, Incorporated, has produced processed sand at Oakwood Lake Pit, located within the area designated as resources of regional significance. However, as noted above, these mining operations have ceased, and Oakwood

Shores has been developed on the former quarry site. Therefore, the regional resource is no longer available for extraction and the proposed project would not result in loss of availability of a designated locally important mineral resource recovery site. Therefore, this impact is considered ***less than significant*** and no additional mitigation is necessary.

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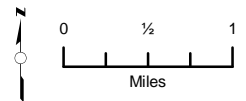


Legend

- City of Manteca
- Planning
- Stockton-Lodi Production-Consumption Region Boundary
- MRZ-2 - Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presences exists
- MRZ-3 - Areas containing mineral deposits the significance of which cannot be evaluated from available data

CITY OF MANTECA GENERAL PLAN

Figure 3.11-1. Mineral Resource Zones



Sources: California Geological Survey, Updated Mineral Land Classification Map for Portland Cement Concrete-Grade Aggregate in the Stockton-Lodi Production-Consumption Region, San Joaquin and Stanislaus Counties, CA, Special Report 199-Plate 1, 2012; City of Manteca; San Joaquin County GIS. Map date: August 17, 2022.

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This section provides a discussion of the regulatory setting and a general description of existing noise sources in the City of Manteca. The analysis in this section was prepared with assistance from Saxelby Acoustics.

There were no comments received during the NOP comment period related to this environmental topic. However, noise-related comments were received during the public review period for the Draft EIR (released March 22, 2021) from Kenneth Fujimoto (June 1, 2022), Shute Mihaly & Weinberger, LLP (June 10, 2021), and Joe Mendes (June 14, 2021).

3.12.1 ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50 percent of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.

SEL A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptor, Ldn, and shows very good correlation with community response to noise.

The day/night average level (Ldn) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because Ldn represents a 24-hour average, it tends to

disguise short-term variations in the noise environment. CNEL is similar to Ldn, but includes a +3 dB penalty for evening noise. Table 3.12-1 lists several examples of the noise levels associated with common situations.

TABLE 3.12-1: TYPICAL NOISE LEVELS

<i>COMMON OUTDOOR ACTIVITIES</i>	<i>NOISE LEVEL (dBA)</i>	<i>COMMON INDOOR ACTIVITIES</i>
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. SEPTEMBER 2013.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual’s past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING NOISE LEVELS

Traffic Noise Levels

The FHWA Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop Ldn (24-hour average) noise contours for all highways and major roadways in the General Plan study area. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver and the acoustical characteristics of the site. The FHWA Model predicts hourly Leq values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict Ldn values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour period.

Existing traffic volumes were obtained from the traffic modeling performed for the General Plan study area. Day/night traffic distributions were based upon continuous hourly noise measurement data. Caltrans vehicle truck counts were obtained for CA-99 and CA-120. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing (2019) conditions. Table 3.12-2 shows the results of this analysis.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segments. In some locations sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the project-area roadway segments analyzed in this report.

The actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated roadways, or elevated receivers. The distances reported in Table 3.12-2 are generally considered to be conservative estimates of noise exposure along roadways in the City of Manteca. Figure 3.12-1 shows existing citywide traffic noise contours.

TABLE 3.12-2: PREDICTED EXISTING TRAFFIC NOISE LEVELS

ROADWAY	NOISE LEVEL AT CLOSEST RECEPTORS (DB, LDN) ¹	DISTANCES TO TRAFFIC NOISE CONTOURS, LDN (FEET)		
		60 DB	65 DB	70 DB
Airport Way north of Crom Street	63.3	286	133	62
Airport Way north of Daisywood Drive	66.6	387	180	83
Airport Way north of Daniels Street	65.5	328	152	71
Airport Way south of Northgate Drive	66.5	323	150	70
Airport Way south of SR 120 EB ramps	61.8	199	93	43
Atherton Drive east of Main Street	56.6	102	48	22
Atherton Drive east of Union Road	60.3	135	63	29
Austin Road south of Moffat Boulevard	65.4	161	75	35
Austin Road south of Yosemite Avenue	66.1	127	59	27
Cottage Avenue south of Aldwina Lane	65.4	92	43	20
Daniels Street west of Airport Way	63.2	164	76	35
French Camp Rd east of SR 99	62.8	270	125	58
French Camp Rd west of SR 99	72.4	401	186	86
Lathrop Avenue west of Airport Way	71.9	310	144	67
Lathrop Avenue west of Madison Grove Drive	68.2	416	193	90
Lathrop Avenue west of Sherwood Avenue	68.4	429	199	92
Louise Avenue east of Marguerite Avenue	63.6	168	78	36
Louise Avenue east of Tulip Place	64.0	159	74	34
Louise Avenue west of Airport Way	69.9	228	106	49
Louise Avenue west of Austin Road	61.2	72	33	15
Louise Avenue west of Cottage Avenue	61.1	152	71	33
Louise Avenue west of Yvonne Avenue	63.9	197	91	42
Lovelace Rd east of Union Rd	0.0	0	0	0
Lovelace Road east of Airport Way	63.2	90	42	19
Lovelace Road west of SR 99	0.0	0	0	0
Main Street (Manteca Rd) north of Sedan Avenue	68.4	183	85	39
Main Street north of Northgate Drive	61.7	195	91	42
Main Street north of SR 120 WB ramps	72.4	434	201	93
Main Street south of Alameda Street	71.3	226	105	49
Main Street south of Quintal Road	63.0	205	95	44
Moffat Boulevard east of Powers Avenue	63.7	141	66	30
Moffat Boulevard north of Woodward Avenue	55.1	233	108	50
Raymus Parkway east of Austin Road	0.0	0	0	0
Raymus Parkway east of Main Street	0.0	0	0	0
Raymus Parkway east of Union Road	0.0	0	0	0
Raymus Parkway west of Airport Way	0.0	0	0	0
Roth Rd east of Airport Way	0.0	0	0	0

3.12 NOISE

TABLE 3.12-2: PREDICTED EXISTING TRAFFIC NOISE LEVELS

ROADWAY	NOISE LEVEL AT CLOSEST RECEPTORS (DB, LDN) ¹	DISTANCES TO TRAFFIC NOISE CONTOURS, LDN (FEET)		
		60 DB	65 DB	70 DB
Roth Rd west of Airport Way	66.8	308	143	66
Spreckels Avenue south of Phoenix Drive	61.2	359	167	77
SR 120 EB between McKinley Ave and Airport Way	66.5	1116	518	240
SR 120 total between McKinley Ave and Airport Way	69.7	1816	843	391
SR 120 WB between McKinley Ave and Airport Way	63.9	1172	544	253
SR 99 NB north of Lovelace Rd	76.4	1239	575	267
SR 99 NB north of Yosemite Ave	71.6	1184	549	255
SR 99 SB north of Lovelace Rd	75.5	1248	579	269
SR 99 SB north of Yosemite Ave	74.1	1224	568	264
SR 99 total north of Lovelace Rd	79.4	1974	916	425
SR 99 total north of Yosemite Ave	77.0	1911	887	412
Union Rd north of Lovelace Rd	63.5	94	44	20
Union Road north of Crom Street	63.3	179	83	39
Union Road north of Del Webb Boulevard	60.4	126	59	27
Union Road south of Mission Ridge Drive	66.4	199	92	43
Union Road south of Northgate Drive	64.1	163	76	35
Union Road south of SR 120 EB ramps	60.3	169	78	36
Union Road south of Woodward Avenue	63.7	132	61	28
Van Ryn Avenue north of Atherton Drive	64.2	95	44	21
Woodward Avenue west of Airport Way	58.2	53	25	11
Woodward Avenue west of Laurie Avenue	62.8	107	50	23
Woodward Avenue west of Moffat Boulevard	66.3	131	61	28
Yosemite Avenue east of Cottage Avenue	70.9	450	209	97
Yosemite Avenue west of Airport Way	69.7	334	155	72
Yosemite Avenue west of Almond Avenue	64.6	102	47	22
Yosemite Avenue west of El Rancho Drive	68.1	373	173	80
Yosemite Avenue west of Pacific Road	54.5	279	130	60
Yosemite Avenue west of Washington Avenue	65.1	98	46	21

NOTES: DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS.

¹ TRAFFIC NOISE LEVELS ARE PREDICTED AT THE CLOSEST SENSITIVE RECEPTORS

SOURCE: FEHR & PEERS AND SAXELBY ACOUSTICS, 2022.

Railroad Noise Levels

In order to quantify noise exposure from existing train operations, two continuous (24-hour) noise level measurement surveys were conducted along the two Union Pacific (UP) railroad lines which run through the City. In addition to freight, the westernmost line also carries commuter trains for the Altamont Corridor Express (ACE) service which provides passenger transportation between Stockton and San Jose.

The purpose of the noise level measurements was to determine typical sound exposure levels (SEL) for railroad line operations, while accounting for the effects of travel speed, warning horns and other factors which may affect noise generation. In addition, the noise measurement equipment was programmed to identify individual train events, so that the typical number of train operations could be determined.

Table 3.12-3 shows a summary of the continuous noise measurement results for railroad activity within the City.

TABLE 3.12-3: RAILROAD NOISE MEASUREMENT RESULTS

MEASUREMENT LOCATION	RAILROAD TRACK	GRADE CROSSING /WARNING HORN	TRAIN EVENTS PER 24-HR PERIOD	AVERAGE SEL AT 50'
Site A	U.P. and A.C.E.	Yes	13	109 dBA
Site B	U.P.	Yes	26	108 dBA

SOURCE: SAXELBY ACOUSTICS, 2022.

Noise measurement equipment consisted of Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters equipped with LDL ½" microphones. The measurement systems were calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

To determine the distances to the day/night average (Ldn) railroad contours, it is necessary to calculate the Ldn for typical train operations. This was done using the SEL values and above-described number and distribution of daily train operations. The Ldn may be calculated as follows:

$$Ldn = SEL + 10 \log N_{eq} - 49.4 \text{ dB, where:}$$

SEL is the mean Sound Exposure Level of the event, N_{eq} is the sum of the number of daytime events (7 a.m. to 10 p.m.) per day, plus 10 times the number of nighttime events (10 p.m. to 7 a.m.) per day, and 49.4 is ten times the logarithm of the number of seconds per day. Based upon the above-described noise level data, number of operations and methods of calculation, the Ldn value for railroad line operations have been calculated, and the distances to the L_{dn} noise level contours are shown in Table 3.12-4.

TABLE 3.12-4: APPROXIMATE DISTANCES TO THE RAILROAD NOISE CONTOURS

EXTERIOR NOISE LEVEL AT 50 FEET, L_{DN}	DISTANCE TO EXTERIOR NOISE LEVEL CONTOURS, FEET		
	60 DB L_{DN}	65 DB L_{DN}	70 DB L_{DN}
U.P. AND A.C.E LINE WITH WARNING HORNS			
77 dB	642'	298'	138'
UPRR – WITH WARNING HORNS			
78 dB	833'	387'	179'

SOURCE: SAXELBY ACOUSTICS, 2022.

Fixed Noise Sources

The production of noise is a result of many industrial processes, even when the best available noise control technology is applied. Noise exposures within industrial facilities are controlled by federal and state employee health and safety regulations (OSHA and Cal-OSHA), but exterior noise levels may exceed locally

acceptable standards. Commercial, recreational and public service facility activities can also produce noise which affects adjacent sensitive land uses. These noise sources can be continuous and may contain tonal components which have a potential to annoy individuals who live nearby. In addition, noise generation from fixed noise sources may vary based upon climatic conditions, time of day and existing ambient noise levels.

In the City of Manteca, fixed noise sources typically include parking lots, loading docks, parks, schools, and other commercial/retail use noise sources (HVAC, exhaust fans, etc.)

From a land use planning perspective, fixed-source noise control issues focus upon two goals:

1. To prevent the introduction of new noise-producing uses in noise-sensitive areas, and
2. To prevent encroachment of noise sensitive uses upon existing noise-producing facilities.

The first goal can be achieved by applying noise level performance standards to proposed new noise-producing uses. The second goal can be met by requiring that new noise-sensitive uses in near proximity to noise-producing facilities include mitigation measures that would ensure compliance with noise performance standards.

Fixed noise sources which are typically of concern include but are not limited to the following:

- HVAC Systems
- Pump Stations
- Steam Valves
- Generators
- Air Compressors
- Conveyor Systems
- Pile Drivers
- Drill Rigs
- Welders
- Outdoor Speakers
- Chippers
- Loading Docks
- Cooling Towers/Evaporative Condensers
- Lift Stations
- Steam Turbines
- Fans
- Heavy Equipment
- Transformers
- Grinders
- Gas or Diesel Motors
- Cutting Equipment
- Blowers
- Amplified music and voice

The types of uses which may typically produce the noise sources described above, include, but are not limited to: wood processing facilities, pump stations, industrial/agricultural facilities, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, special events such as concerts, and athletic fields. Typical noise levels associated with various types of stationary noise sources are shown in Table 3.12-5.

TABLE 3.12-5: TYPICAL STATIONARY SOURCE NOISE LEVELS

USE	NOISE LEVEL AT 100 FEET, LEQ ¹	DISTANCE TO NOISE CONTOURS, FEET			
		50 DB LEQ (NO SHIELDING)	45 DB LEQ (NO SHIELDING)	50 DB LEQ (WITH 5 DB SHIELDING)	45 DB LEQ (WITH 5 DB SHIELDING)
Auto Body Shop	56 dB	200	355	112	200
Auto Repair (Light)	53 dB	141	251	79	141
Busy Parking Lot	54 dB	158	281	89	158
Cabinet Shop	62 dB	398	708	224	398
Car Wash	63 dB	446	792	251	446
Cooling Tower	69 dB	889	1,581	500	889
Loading Dock	66 dB	596	1,059	335	596
Lumber Yard	68 dB	794	1,413	447	794
Maintenance Yard	68 dB	794	1,413	447	794
Outdoor Music Venue	90 dB	10,000	17,783	5,623	10,000
Paint Booth Exhaust	61 dB	355	631	200	355
Skate Park	60 dB	316	562	178	316
School Playground / Neighborhood Park	54 dB	158	281	89	158
Truck Circulation	48 dB	84	149	47	84
Vendor Deliveries	58 dB	251	446	141	251

NOTE: ¹ ANALYSIS ASSUMES A SOURCE-RECEIVER DISTANCE OF APPROXIMATELY 100 FEET, NO SHIELDING, AND FLAT TOPOGRAPHY. ACTUAL NOISE LEVELS WILL VARY DEPENDING ON SITE CONDITIONS AND INTENSITY OF THE USE. THIS INFORMATION IS INTENDED AS A GENERAL RULE ONLY, AND IS NOT SUITABLE FOR FINAL SITE-SPECIFIC NOISE STUDIES.

SOURCE: SAXELBY ACOUSTICS. – 2022

COMMUNITY NOISE SURVEY

A community noise survey was conducted to document ambient noise levels at various locations throughout the City. Short-term noise measurements were conducted at seven locations throughout the City on November 23rd, 2020. In addition, ten continuous 24-hour noise monitoring sites were also conducted to record day-night statistical noise level trends. The data collected included the hourly average (Leq), median (L50), and the maximum level (Lmax) during the measurement period. Noise monitoring sites and the measured noise levels at each site are summarized in Table 3.12-6 and Table 3.12-7. Figure 3.12-2 shows the locations of the noise monitoring sites.

Community noise monitoring equipment included Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters equipped with LDL ½" microphones. The measurement systems were calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

3.12 NOISE

TABLE 3.12-6: EXISTING CONTINUOUS 24-HOUR AMBIENT NOISE MONITORING RESULTS

SITE	LOCATION	LDN (dBA)	MEASURED HOURLY NOISE LEVELS, dBA LOW-HIGH (AVERAGE)					
			DAYTIME (7:00 AM - 10:00 PM)			NIGHTTIME (10:00 PM - 7:00 AM)		
			LEQ	L50	LMAX	LEQ	L50	LMAX
A	ACE Lathrop/Manteca Station	79	65-77 (72)	60-71 (67)	78-108 (85)	59-81 (73)	48-67 (57)	76-110 (85)
B	Manteca Skateboard Park	76	50-76 (71)	47-51 (49)	66-103 (87)	43-77 (70)	41-48 (45)	59-104 (82)
C	French Camp Road at S. Austin Rd.	66	57-67 (63)	61-68 (65)	76-95 (85)	51-65 (59)	55-67 (60)	69-85 (77)
D	North of CA-99 at Cottage Avenue	82	75-79 (78)	73-78 (77)	86-98 (90)	73-79 (76)	65-78 (71)	86-95 (89)
E	CA-120	71	65-68 (67)	63-67 (66)	74-86 (80)	61-67 (64)	58-66 (61)	73-83 (77)
F	South Airport Way abandoned buildings	72	64-69 (67)	55-68 (63)	77-90 (81)	61-68 (65)	51-65 (57)	76-93 (79)
G	Airport Way and West Louise Avenue	69	61-67 (66)	56-66 (63)	74-89 (80)	57-65 (66)	48-63 (63)	74-80 (76)
H	CA-99 access road, north of Lathrop Road	78	73-75 (74)	71-74 (73)	81-98 (88)	69-75 (72)	65-74 (69)	80-92 (85)
I	North Main Street and Northgate Drive	69	61-69 (65)	58-65 (62)	72-92 (82)	56-67 (62)	55-63 (59)	70-90 (78)
J	South of CA-120, west of Hart Ln.	71	63-69 (68)	55-68 (65)	78-90 (85)	60-68 (65)	47-66 (55)	77-85 (81)

SOURCE – SAXELBY ACOUSTICS. – 2022.

TABLE 3.12-7: EXISTING SHORT-TERM COMMUNITY NOISE MONITORING RESULTS

SITE	LOCATION	TIME ¹	MEASURED SOUND LEVEL, dB			NOTES
			LEQ	L50	LMAX	
1	BMX Park on Spreckles Avenue	1:05 p.m.	64	63	77	Primary noise source is Spreckles Ave., with train horn and crossing bells causing L _{max} .
2	West of CA-99	10:53 a.m.	76	75	84	CA-99 is the primary noise source, with some from Frontage Rd. traffic
3	Raymus Village Park	11:24 a.m.	57	57	63	CA-99 is the primary noise source.
4	North Segment of South Airport Way	3:32 p.m.	74	71	87	South Airport Way is the primary noise source. Some audible noise from truck depot.
5	Intersection of Airport Way and Almondwood Drive	1:32 a.m.	65	55	80	Primary source is South Airport Way.

TABLE 3.12-7: EXISTING SHORT-TERM COMMUNITY NOISE MONITORING RESULTS

SITE	LOCATION	TIME ¹	MEASURED SOUND LEVEL, dB			NOTES
			LEQ	L50	LMAX	
6	Intersection of Austin Rd. and Palm Ave.	10:05 a.m.	71	62	85	Austin Rd. is primary noise source. Secondary noise source is traffic on Palm Ave.
7	Dead end of Vasconcellos Ave, adjacent to El Rancho Mobile Home Park.	12:24p.m.	57	54	71	CA-99 is primary noise source. Secondary source is SR-120 and Yosemite Ave.

1 - ALL COMMUNITY NOISE MEASUREMENT SITES HAVE A TEST DURATION OF 10:00 MINUTES.

SOURCE – SAXELBY ACOUSTICS. – 2022.

The results of the community noise survey shown in Table 3.12-6 and 3.12-7 indicate that existing transportation (traffic) noise sources were the major contributor of noise observed during daytime hours, especially during vehicle pass-bys.

REGULATORY FRAMEWORK

FEDERAL

Federal Railroad Administration (FRA)

The FRA established the Train Horn Rule and Quiet Zones. Under the Train Horn Rule (49 CFR Part 222), locomotive engineers must begin to sound train horns at least 15 seconds, and no more than 20 seconds, in advance of all public grade crossings. If a train is traveling faster than 60 mph, engineers will not sound the horn until it is within ¼ mile of the crossing, even if the advance warning is less than 15 seconds. There is a "good faith" exception for locations where engineers can't precisely estimate their arrival at a crossing and begin to sound the horn no more than 25 seconds before arriving at the crossing. Train horns must be sounded in a standardized pattern of 2 long, 1 short and 1 long blasts. The pattern must be repeated or prolonged until the lead locomotive or lead cab car occupies the grade crossing. The rule does not stipulate the durations of long and short blasts. The maximum volume level for the train horn is 110 decibels which is a new requirement. The minimum sound level remains 96 decibels.

Federal Highway Administration (FHWA)

The FHWA has developed noise abatement criteria that are used for federally funded roadway projects or projects that require federal review. These criteria are discussed in detail in Title 23 Part 772 of the Federal Code of Regulations (23CFR772).

Environmental Protection Agency (EPA)

The EPA has identified the relationship between noise levels and human response. The EPA has determined that over a 24-hour period, an Leq of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an Leq of 55 dBA and interior levels at or below 45 dBA. Although these levels are relevant for planning and design and useful for

informational purposes, they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community.

The EPA has set 55 dBA Ldn as the basic goal for residential environments. However, other federal agencies, in consideration of their own program requirements and goals, as well as difficulty of actually achieving a goal of 55 dBA Ldn, have generally agreed on the 65 dBA Ldn level as being appropriate for residential uses. At 65 dBA Ldn activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

The Department of Housing and Urban Development (HUD) was established in response to the Urban Development Act of 1965 (Public Law 90-448). HUD was tasked by the Housing and Urban Development Act of 1965 (Public Law 89-117) “to determine feasible methods of reducing the economic loss and hardships suffered by homeowners as a result of the depreciation in the value of their properties following the construction of airports in the vicinity of their homes.”

HUD first issued formal requirements related specifically to noise in 1971 (HUD Circular 1390.2). These requirements contained standards for exterior noise levels along with policies for approving HUD-supported or assisted housing projects in high noise areas. In general, these requirements established the following three zones:

- 65 dBA Ldn or less - an acceptable zone where all projects could be approved.
- Exceeding 65 dBA Ldn but not exceeding 75 dBA Ldn - a normally unacceptable zone where mitigation measures would be required and each project would have to be individually evaluated for approval or denial. These measures must provide 5 dBA of attenuation above the attenuation provided by standard construction required in a 65 to 70 dBA Ldn area and 10 dBA of attenuation in a 70 to 75 dBA Ldn area.
- Exceeding 75 dBA Ldn - an unacceptable zone in which projects would not, as a rule, be approved.

HUD’s regulations do not include interior noise standards. Rather a goal of 45 dBA Ldn is set forth and attenuation requirements are geared towards achieving that goal. HUD assumes that using standard construction techniques, any building will provide sufficient attenuation so that if the exterior level is 65 dBA Ldn or less, the interior level will be 45 dBA Ldn or less. Thus, structural attenuation is assumed at 20 dBA. However HUD regulations were promulgated solely for residential development requiring government funding and are not related to the operation of schools or churches.

The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the EPA. Noise exposure of this type is dependent on work conditions and is addressed through a facility’s or construction contractor’s health and safety plan. With the exception of construction workers involved in facility construction, occupational noise is irrelevant to this study and is not addressed further in this document.

STATE

California Department of Transportation (Caltrans)

Caltrans has adopted policy and guidelines relating to traffic noise as outlined in the Traffic Noise Analysis Protocol (Caltrans 2011). The noise abatement criteria specified in the protocol are the same as those specified by FHWA.

Governor’s Office of Planning and Research (OPR)

OPR has developed guidelines for the preparation of general plans (Office of Planning and Research, 2003). The guidelines include land use compatibility guidelines for noise exposure.

LOCAL

Existing City Noise Thresholds

The City of Manteca General Plan

The City of Manteca General Plan Noise Element contains goals, policies, and implementation measures for assessing noise impacts within the City. Listed below are the noise goals, policies, and implementation measures that are applicable under the current General Plan (City of Manteca as amended through 2016):

GOALS: NOISE

- N-1. Protect the residents of Manteca from the harmful and annoying effects of exposure to excessive noise.
- N-3. Ensure that the downtown core noise levels remain acceptable and compatible with commercial and higher density residential land uses.
- N-4. Protect public health and welfare by eliminating existing noise problems where feasible, by establishing standards for acceptable indoor and outdoor noise, and by preventing significant increases in noise levels.
- N-5. Incorporate noise considerations into land use planning decisions, and guide the location and design of transportation facilities to minimize the effects of noise on adjacent land uses.

POLICIES: NOISE

- N-P-2. New development of residential or other noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to satisfy the performance standards in Table 9-1 [Table 3.12-8].

TABLE 3.12-8: MAXIMUM ALLOWABLE NOISE EXPOSURE MOBILE NOISE SOURCES

LAND USE ⁴	OUTDOOR ACTIVITY AREAS ¹	INTERIOR SPACES	
		L _{DN} /C _{NEL} , DB	L _{EQ} /C _{NEL} , DB ³
Residential	60 ²	45	--
Transient Lodging	60 ²	45	--
Hospitals, Nursing Homes	60 ²	45	--
Theatres, Auditoriums, Music Halls	--	--	35

3.12 NOISE

TABLE 3.12-8: MAXIMUM ALLOWABLE NOISE EXPOSURE MOBILE NOISE SOURCES

LAND USE ⁴	OUTDOOR ACTIVITY AREAS ¹	INTERIOR SPACES	
		L _{DN} /CNEL, dB	L _{EQ} /CNEL, dB ³
Churches, Music Halls	60 ²	--	40
Office Buildings	65	--	45
Schools, Libraries, Museums	--	--	45
Playgrounds, Neighborhood Parks	70	--	--

NOTES: ¹ OUTDOOR ACTIVITY AREAS FOR RESIDENTIAL DEVELOPMENT ARE CONSIDERED TO BE BACKYARD PATIOS OR DECKS OF SINGLE FAMILY DWELLINGS, AND THE COMMON AREAS WHERE PEOPLE GENERALLY CONGREGATE FOR MULTI-FAMILY DEVELOPMENTS. OUTDOOR ACTIVITY AREAS FOR NON-RESIDENTIAL DEVELOPMENTS ARE CONSIDERED TO BE THOSE COMMON AREAS WHERE PEOPLE GENERALLY CONGREGATE, INCLUDING PEDESTRIAN PLAZAS, SEATING AREAS, AND OUTSIDE LUNCH FACILITIES. WHERE THE LOCATION OF OUTDOOR ACTIVITY AREAS IS UNKNOWN, THE EXTERIOR NOISE LEVEL STANDARD SHALL BE APPLIED TO THE PROPERTY LINE OF THE RECEIVING LAND USE.

² IN AREAS WHERE IT IS NOT POSSIBLE TO REDUCE EXTERIOR NOISE LEVELS TO 60 dB L_{DN} OR BELOW USING A PRACTICAL APPLICATION OF THE BEST NOISE-REDUCTION TECHNOLOGY, AN EXTERIOR NOISE LEVEL OF UP TO 65 L_{DN} WILL BE ALLOWED.

³ DETERMINED FOR A TYPICAL WORST-CASE HOUR DURING PERIODS OF USE.

⁴ WHERE A PROPOSED USE IS NOT SPECIFICALLY LISTED ON THE TABLE, THE USE SHALL COMPLY WITH THE NOISE EXPOSURE STANDARDS FOR THE NEAREST SIMILAR USE AS DETERMINED BY THE CITY.

SOURCE: CITY OF MANTECA GENERAL PLAN, NOISE ELEMENT, TABLE 9-1.

- N-P-3. The City may permit the development of new noise-sensitive uses only where the noise level due to fixed (non-transportation) noise sources satisfies the noise level standards of Table 9-2 [Table 3.12-9]. Noise mitigation may be required to meet Table 9-2 [Table 3.12-9] performance standards.

TABLE 3.12-9: PERFORMANCE STANDARDS FOR STATIONARY NOISE SOURCES OR PROJECTS AFFECTED BY STATIONARY NOISE SOURCES

NOISE LEVEL DESCRIPTOR	DAYTIME (7 AM – 10 PM)	NIGHTTIME (10 PM – 7 AM)
Hourly L _{eq} , dB	50	45
Maximum Level, dB	70	65

NOTES: ¹ EACH OF THE NOISE LEVELS SPECIFIED ABOVE SHOULD BE LOWERED BY FIVE (5) dB FOR SIMPLE NOISE TONES, NOISES CONSISTING PRIMARILY OF SPEECH OR MUSIC, OR RECURRING IMPULSIVE NOISES. SUCH NOISES ARE GENERALLY CONSIDERED BY RESIDENTS TO BE PARTICULARLY ANNOYING AND ARE A PRIMARY SOURCE OF NOISE COMPLAINTS.

² NO STANDARDS HAVE BEEN INCLUDED FOR INTERIOR NOISE LEVELS. STANDARD CONSTRUCTION PRACTICES SHOULD, WITH THE EXTERIOR NOISE LEVELS IDENTIFIED, RESULT IN ACCEPTABLE INTERIOR NOISE LEVELS.

SOURCE: CITY OF MANTECA GENERAL PLAN, NOISE ELEMENT, TABLE 9-1.

- N-P-5. In accord with the Table 9-2 [Table 3.12-9] standards, the City shall regulate construction-related noise impacts on adjacent uses.

IMPLEMENTATION MEASURES: NOISE

- N-I-1. New development in residential areas with an actual or projected exterior noise level of greater than 60 dB L_{dn} will be conditioned to use mitigation measures to reduce exterior noise levels to less than or equal to 60 dB L_{dn}.
- N-I-3. In making a determination of impact under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels are increased by 10 dB or more. An increase from 5-10 dB may be substantial. Factors to be considered in determining the significance of increases from 5-10 dB include:

- the resulting noise levels
- the duration and frequency of the noise
- the number of people affected
- the land use designation of the affected receptor sites
- public reactions or controversy as demonstrated at workshops or hearings, or by correspondence
- prior CEQA determinations by other agencies specific to the project
- N-I-4. Control noise at the source through use of insulation, berms, building design and orientation, buffer space, staggered operating hours and other techniques. Use noise barriers to attenuate noise to acceptable levels.

City of Manteca Municipal Code Noise Ordinance

Section 9.52.030 of the City of Manteca Municipal Code prohibits excessive or annoying noise or vibration to residential and commercial properties in the City. The following general rules are outline in the ordinance:

9.52.030 PROHIBITED NOISES—GENERAL STANDARD

No person shall make, or cause to suffer, or permit to be made upon any public property, public right-of-way or private property, any unnecessary and unreasonable noises, sounds or vibrations which are physically annoying to reasonable persons of ordinary sensitivity or which are so harsh or so prolonged or unnatural or unusual in their use, time or place as to cause or contribute to the unnecessary and unreasonable discomfort of any persons within the neighborhood from which said noises emanate or which interfere with the peace and comfort of residents or their guests, or the operators or customers in places of business in the vicinity, or which may detrimentally or adversely affect such residences or places of business. (Ord. 1374 § 1(part), 2007)

17.58.050 B. NOISE STANDARDS

The maximum sound level generated by any use or activity as measured at the point of measurement as defined in Section 17.58.030 (Points of Measurement) shall not exceed the levels established in Table 3.12-10 (Maximum Permissible Sound Pressure Levels) based on the use that is receiving the noise (e.g., residential use receiving noise generated by an industrial use).

TABLE 3.12-10: MAXIMUM PERMISSIBLE SOUND PRESSURE LEVELS

RECEIVING LAND USE CATEGORY	TIME PERIOD	MAXIMUM ALLOWABLE NOISE LEVELS (LDN/CNEL, DB)
Single-Family and Limited Multiple-Family	10 PM – 7 AM	50
	7 AM – 10 PM	60
Multiple-Family, Public Institution, and Neighborhood Commercial	10 PM – 7 AM	55
	7 AM – 10 PM	60
Medium and Heavy Commercial	10 PM – 7 AM	60
	7 AM – 10 PM	65
Light Industrial	Anytime	70
Heavy Industrial	Anytime	75

SOURCE: CITY OF MANTECA MUNICIPAL CODE, TABLE 17.58.050-1.17.58.050 C. CALCULATION

3.12 NOISE

Exterior noise levels shall be measured with a sound level meter and associated octave band analyzer meeting the American National Standards Institute's standards S1.4-1971 for Type 1 or Type 2 sound level meters or an instrument and the associated recording and analyzing equipment that will provide equivalent data. When measuring the noise level, the corrections provided in Table 3.12-11 (Noise Level Corrections) shall be applied.

TABLE 3.12-11: NOISE LEVEL CORRECTIONS

CATEGORY	CORRECTION (DB)
Daytime operation only (7 a.m. – 7 p.m.)	+5
Noise source operates less than	
20% of any one-hour period	+5
5% of any one-hour period	+10
1% of any one-hour period	+15
Noise of impulsive character (e.g., hammering)	-5
Noise rising or falling in pitch or volume (e.g., hum, screech)	-5

SOURCE: CITY OF MANTECA MUNICIPAL CODE, TABLE 17.58.050-2.

17.58.050 D. EXEMPT ACTIVITIES

8. Construction activities when conducted as part of an approved Building Permit, except as prohibited in Subsection 17.58.050(E)(1) (Prohibited Activities) below.

17.58.050 E. PROHIBITED ACTIVITIES

1. Construction Noise. Operating or causing the operation of tools or equipment on private property used in alteration, construction, demolition, drilling, or repair work daily between the hours of 7:00 p.m. and 7:00 a.m., so that the sound creates a noise disturbance across a residential property line, 9except for emergency work of public service utilities.

17.58.70 VIBRATION

Uses that generate vibrations that may be considered a public nuisance or hazard on any adjacent property shall be cushioned or isolated to prevent generation of vibrations. Uses shall be operated in compliance with the following provisions:

- A. No vibration shall be produced that is transmitted through the ground and is discernible without the aid of instruments at the points of measurement specified in Section 17.58.030 (Points of Measurement) of this Chapter, nor shall any vibration produced exceed 0.002g peak at up to 50 CPS frequency, measured at the point of measurement specified in Section 17.58.030 (Points of Measurement) of this Chapter, using either seismic or electronic vibration measuring equipment. Vibrations occurring at higher than 50 CPS frequency of a periodic vibration shall not induce accelerations exceeding 0.001g. Single impulse periodic vibrations occurring at an average interval greater than five minutes shall not induce accelerations exceeding 0.01g.

- B. Uses, activities, and processes shall not generate vibrations that cause discomfort or annoyance to reasonable persons of normal sensitivity or which endanger the comfort, repose, health, or peace of residents whose property abuts the property line of the parcel.
- C. Uses shall not generate ground vibration that interferes with the operations of equipment and facilities of adjoining parcels.
- D. Vibrations from temporary construction/demolition and vehicles that leave the subject parcel (e.g., trucks, trains, and aircraft) are exempt from the provisions of this Section. (Ord. 1501 § 1, 2011)

3.12.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact related to noise if it will result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels within two miles of a public airport or public use airport; or
- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

IMPACTS AND MITIGATION MEASURES

Thresholds of Significance

Appendix G of the CEQA Guidelines states that a project would normally be considered to result in significant noise impacts if noise levels conflict with adopted environmental standards or plans or if noise generated by the project would substantially increase existing noise levels at sensitive receivers on a permanent or temporary basis. Significance criteria for noise impacts are drawn from CEQA Guidelines Appendix G (Items XI [a-c]).

Would the project:

- a. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- b. Generate excessive groundborne vibration or groundborne noise levels?

- c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Determination of a Significant Increase in Noise Levels

Significant increases in traffic noise levels have been evaluated relative to both the existing (2003) General Plan Policies, as well as the new proposed General Plan policies, as outlined below:

Existing (2003) General Plan Policies

The CEQA guidelines define a significant impact of a project if it “increases substantially the ambient noise levels for adjoining areas”. Implementation Measure N-I-3 of the City of Manteca General Plan Noise Element provides specific guidance for assessing increases in ambient noise, as follows:

In making a determination of impact under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels are increased by 10 dB or more. An increase from 5-10 dB may be substantial. Factors to be considered in determining the significance of increases from 5-10 dB include:

- *the resulting noise levels*
- *the duration and frequency of the noise*
- *the number of people affected*
- *the land use designation of the affected receptor sites*
- *public reactions/controversy as demonstrated at workshops/hearings, or by correspondence*
- *prior CEQA determinations by other agencies specific to the project*

Proposed General Plan Policies

Under the City’s proposed General Plan Update, the following policy S-5d will apply when evaluating substantial noise increases:

In making a determination of impact under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels have a substantial increase. Generally, a 3 dB increase in noise levels is barely perceptible, and a 5 dB increase in noise levels is clearly perceptible. Therefore, increases in noise levels shall be considered to be substantial when the following occurs:

- *When existing noise levels are less than 60 dB, a 5 dB increase in noise will be considered substantial;*
- *When existing noise levels are between 60 dB and 65 dB, a 3 dB increase in noise will be considered substantial;*
- *When existing noise levels exceed 65 dB, a 1.5 dB increase in noise will be considered substantial.*

Vibration Standards

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person’s perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The City does not have specific policies pertaining to vibration levels. However, vibration levels associated with construction activities and railroad operations are addressed as potential noise impacts associated with project implementation.

Human and structural response to different vibration levels is influenced by several factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 3.12-12 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 peak particle velocity in inches per second (in/sec p.p.v). A threshold of 0.20 in/sec p.p.v. is considered to be a reasonable threshold for short-term construction projects. This value protects against human annoyance and structural damage.

TABLE 3.12-12: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

PEAK PARTICLE VELOCITY		HUMAN REACTION	EFFECT ON BUILDINGS
MM/SEC.	IN./SEC.		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of “architectural” damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of “architectural” damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize “architectural” damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic but would cause “architectural” damage and possibly minor structural damage.

SOURCE: CALTRANS. TRANSPORTATION RELATED EARTHBOEN VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.

3.12 NOISE

Construction activities may generate perceptible vibration when heavy equipment or impact tools (e.g., jackhammers, hoe rams, pile drivers) are used. Construction activities often include demolition of existing structures, excavation, site preparation work, foundation work, and new building framing and finishing.

For structural damage, the California Department of Transportation uses a vibration limit of 0.5 inches/second, peak particle velocity (in/sec, PPV) for buildings structurally sound and designed to modern engineering standards.

Table 3.12-13 presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet. Construction activities such as drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may generate substantial vibration in the immediate vicinity. Jackhammers typically generate vibration levels of 0.035 in/sec PPV and drilling typically generates vibration levels of 0.09 in/sec PPV at a distance of 25 feet.

TABLE 3.12-13: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

EQUIPMENT		PPV AT 25 FT. (IN/SEC)	APPROXIMATE LV AT 25 FT. (VDB)
Pile Driver (Impact)	upper range	1.158	112
	typical	0.644	104
Pile Driver (Sonic)	upper range	0.734	105
	typical	0.170	93
Clam shovel drop		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.210	94
Hoe ram		0.089	87
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

SOURCE: TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT, UNITED STATES DEPARTMENT OF TRANSPORTATION, OFFICE OF PLANNING AND ENVIRONMENT, FEDERAL TRANSIT ADMINISTRATION, MAY 2006.

IMPACTS AND MITIGATION MEASURES

Impact 3.12-1: General Plan implementation may result in exposure to significant traffic noise sources (Significant and Unavoidable)

The FHWA Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop Ldn (24-hour average) noise contours for all highways and major roadways in the General Plan study area. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model predicts hourly Leq values for free-flowing

traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict Ldn values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour period. It should be noted that the newer FHWA traffic noise model (TNM 3.0) is required for use on federally funded highway projects. However, the FHWA RD-77-108 model is still widely used in the industry for planning-level projects involving many roadway segments. The model typically results in slight over-predictions in traffic noise levels at typical receptor setback distances and is therefore considered to result in conservative traffic noise level predictions.

Traffic and heavy truck volumes were obtained from the traffic engineer (Fehr & Peers, 2022). Day/night traffic distributions were based upon continuous hourly noise measurement data. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing conditions. Table 3.12-14 shows the results of this analysis.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segment. Where sound walls were noted to be prevalent along a roadway segment, a conservative offset of -5 dB was applied to the noise model. In some locations sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience varying degrees of shielding from intervening barriers or sound walls. However, the traffic noise analysis is representative of the majority of sensitive receptors located closest to the project-area roadway segments analyzed in this report.

Table 3.12-14 shows the existing (2019) and future traffic noise levels and the increase in noise levels associated with traffic on the local roadway network under the proposed General Plan. Table 3.12-15 shows the existing (2019) plus approved and future traffic noise levels and the increase in noise levels associated with traffic on the local roadway network under the proposed General Plan.

Figure 3.12-3 shows future citywide traffic noise contours under the proposed general plan.

TABLE 3.12-14: EXISTING (2019) VS. PROPOSED GENERAL PLAN TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L _{DN} , DB) AT NEAREST SENSITIVE RECEPTORS				
		EXISTING (2019)	PROPOSED GENERAL PLAN	CHANGE	EX. GP CRITERIA ¹	SIGNIFICANT UNDER EX. GP?
					PROPOSED GP CRITERIA ²	SIGNIFICANT UNDER GP UPDATE?
Airport Way	North of Crom Street	63.3	68.5	5.2	+5-10 dBA	Yes
					+3 dBA	Yes
Airport Way	North of Daisywood Drive	66.6	71.3	4.7	+5-10 dBA	No
					+1.5 dBA	Yes
Airport Way	North of Daniels Street	65.5	69.4	3.9	+5-10 dBA	No
					+1.5 dBA	Yes
Airport Way	South of Northgate Drive	66.5	72.6	6.1	+5-10 dBA	Yes
					+1.5 dBA	Yes
Airport Way	South of SR 120	61.8	66.5	4.7	+5-10 dBA	No
					+3 dBA	Yes

3.12 NOISE

TABLE 3.12-14: EXISTING (2019) VS. PROPOSED GENERAL PLAN TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN} , dB) AT NEAREST SENSITIVE RECEPTORS				
		EXISTING (2019)	PROPOSED GENERAL PLAN	CHANGE	EX. GP CRITERIA ¹	SIGNIFICANT UNDER EX. GP?
					PROPOSED GP CRITERIA ²	SIGNIFICANT UNDER GP UPDATE?
Atherton Drive	East of Main Street	56.6	60.5	3.9	>60 dBA	No
					+5 dBA	No
Atherton Drive	East of Union Road	60.3	64.8	4.5	+5-10 dBA	No
					+3 dBA	Yes
Austin Road	South of Moffat Boulevard	65.4	66.0	0.6	+5-10 dBA	No
					+1.5 dBA	No
Austin Road	South of Yosemite Avenue	66.1	67.1	1.0	+5-10 dBA	No
					+1.5 dBA	No
Cottage Avenue	South of Aldwina Lane	65.4	66.8	1.4	+5-10 dBA	No
					+1.5 dBA	No
Daniels Street	West of Airport Way	63.2	65.8	2.6	+5-10 dBA	No
					+3 dBA	No
French Camp	Rd east of SR	62.8	64.6	1.8	+5-10 dBA	No
					+3 dBA	No
French Camp	Rd west of SR	72.4	76.5	4.1	+5-10 dBA	No
					+1.5 dBA	Yes
Lathrop Avenue	West of Airport Way	71.9	76.8	4.9	+5-10 dBA	No
					+1.5 dBA	Yes
Lathrop Avenue	West of Madison Grove	68.2	71.3	3.1	+5-10 dBA	No
					+1.5 dBA	Yes
Lathrop Avenue	West of Sherwood Avenue	68.4	71.5	3.1	+5-10 dBA	No
					+1.5 dBA	Yes
Louise Avenue	East of Marguerite Avenue	63.6	67.2	3.6	+5-10 dBA	No
					+3 dBA	Yes
Louise Avenue	East of Tulip Place	64.0	67.1	3.1	+5-10 dBA	No
					+3 dBA	Yes
Louise Avenue	West of Airport Way	69.9	76.1	6.2	+5-10 dBA	Yes
					+1.5 dBA	Yes
Louise Avenue	West of Austin Road	61.2	66.1	4.9	+5-10 dBA	No
					+3 dBA	Yes
Louise Avenue	West of Cottage Avenue	61.1	64.1	3.0	+5-10 dBA	No
					+3 dBA	No
Louise Avenue	West of Yvonne Avenue	63.9	66.7	2.8	+5-10 dBA	No
					+3 dBA	No

TABLE 3.12-14: EXISTING (2019) VS. PROPOSED GENERAL PLAN TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L _{DN} , dB) AT NEAREST SENSITIVE RECEPTORS				
		EXISTING (2019)	PROPOSED GENERAL PLAN	CHANGE	EX. GP CRITERIA ¹	SIGNIFICANT UNDER EX. GP?
					PROPOSED GP CRITERIA ²	SIGNIFICANT UNDER GP UPDATE?
Lovelace Rd	East of Union Rd	N/A	71.7	N/A	N/A	N/A
					N/A	N/A
Lovelace Road	East of Airport Way	63.2	73.8	10.6	+5-10 dBA	Yes
					+3 dBA	Yes
Lovelace Road	West of SR 99	N/A	72.0	N/A	N/A	N/A
					N/A	N/A
Main Street	(Manteca Rd) north of Sedan Avenue	68.4	71.3	2.9	+5-10 dBA	No
					+1.5 dBA	Yes
Main Street	North of Northgate Drive	61.7	63.5	1.8	+5-10 dBA	No
					+3 dBA	No
Main Street	North of SR 120 WB ramps	72.4	72.9	0.5	+5-10 dBA	No
					+1.5 dBA	No
Main Street	South of Alameda Street	71.3	72.4	1.1	+5-10 dBA	No
					+1.5 dBA	No
Main Street	South of Quintal Road	63.0	66.2	3.2	+5-10 dBA	No
					+3 dBA	Yes
Moffat Boulevard	East of Powers Avenue	63.7	65.3	1.6	+5-10 dBA	No
					+3 dBA	No
Moffat Boulevard	North of Woodward Avenue	55.1	57.5	2.4	>60 dBA	No
					+5 dBA	No
Raymus Parkway	East of Austin Road	N/A	66.5	N/A	N/A	N/A
					N/A	N/A
Raymus Parkway	East of Main Street	N/A	64.6	N/A	N/A	N/A
					N/A	N/A
Raymus Parkway	East of Union Road	N/A	63.9	N/A	N/A	N/A
					N/A	N/A
Raymus Parkway	West of Airport Way	N/A	N/A	N/A	N/A	N/A
					N/A	N/A
Roth Rd	East of Airport Way	N/A	69.4	N/A	N/A	N/A
					N/A	N/A
Roth Rd	West of Airport Way	66.8	72.3	5.5	+5-10 dBA	Yes
					+1.5 dBA	Yes
Spreckels Avenue	South of Phoenix Drive	61.2	61.8	0.6	+5-10 dBA	No
					+3 dBA	No

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TABLE 3.12-14: EXISTING (2019) VS. PROPOSED GENERAL PLAN TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN} , dB) AT NEAREST SENSITIVE RECEPTORS				
		EXISTING (2019)	PROPOSED GENERAL PLAN	CHANGE	EX. GP CRITERIA ¹	SIGNIFICANT UNDER EX. GP?
					PROPOSED GP CRITERIA ²	SIGNIFICANT UNDER GP UPDATE?
SR 120	Eb between McKinley Ave and Airport Way	66.5	70.2	3.7	+5-10 dBA	No
					+1.5 dBA	Yes
SR 120	Total between McKinley Ave and Airport Way	69.7	73.3	3.6	+5-10 dBA	No
					+1.5 dBA	Yes
SR 120	Wb between McKinley Ave and Airport Way	63.9	67.4	3.5	+5-10 dBA	No
					+3 dBA	Yes
SR 99	Nb north of Lovelace Rd	76.4	77.6	1.2	+5-10 dBA	No
					+1.5 dBA	No
SR 99	Nb north of Yosemite Ave	71.6	73.3	1.7	+5-10 dBA	No
					+1.5 dBA	Yes
SR 99	Sb north of Lovelace Rd	75.5	76.7	1.2	+5-10 dBA	No
					+1.5 dBA	No
SR 99	Sb north of Yosemite Ave	74.1	75.9	1.8	+5-10 dBA	No
					+1.5 dBA	Yes
SR 99	Total north of Lovelace Rd	79.4	80.6	1.2	+5-10 dBA	No
					+1.5 dBA	No
SR 99	Total north of Yosemite Ave	77.0	78.7	1.7	+5-10 dBA	No
					+1.5 dBA	Yes
Union Rd	North of Lovelace Rd	63.5	70.9	7.4	+5-10 dBA	Yes
					+3 dBA	Yes
Union Road	North of Crom Street	63.3	67.0	3.7	+5-10 dBA	No
					+3 dBA	Yes
Union Road	North of Del Webb Boulevard	60.4	64.9	4.5	+5-10 dBA	No
					+3 dBA	Yes
Union Road	South of Mission Ridge Drive	66.4	68.1	1.7	+5-10 dBA	No
					+1.5 dBA	Yes
Union Road	South of Northgate Drive	64.1	67.6	3.5	+5-10 dBA	No
					+3 dBA	Yes
Union Road	South of SR 120 EB Ramps	60.3	65.0	4.7	+5-10 dBA	No
					+3 dBA	Yes
Union Road	South of Woodward Avenue	63.7	69.6	5.9	+5-10 dBA	Yes
					+3 dBA	Yes
Van Ryn	Avenue north of Atherton Drive	64.2	66.1	1.9	+5-10 dBA	No
					+3 dBA	No

TABLE 3.12-14: EXISTING (2019) VS. PROPOSED GENERAL PLAN TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L _{DN} , dB) AT NEAREST SENSITIVE RECEPTORS				
		EXISTING (2019)	PROPOSED GENERAL PLAN	CHANGE	EX. GP CRITERIA ¹	SIGNIFICANT UNDER EX. GP?
					PROPOSED GP CRITERIA ²	SIGNIFICANT UNDER GP UPDATE?
Woodward Avenue	West of Airport Way	58.2	62.5	4.3	>60 dBA	No
					+5 dBA	No
Woodward Avenue	West of Laurie Avenue	62.8	68.0	5.2	+5-10 dBA	Yes
					+3 dBA	Yes
Woodward Avenue	West of Moffat Boulevard	66.3	N/A	N/A	N/A	N/A
					N/A	N/A
Yosemite Avenue	East of Cottage Avenue	70.9	71.7	0.8	+5-10 dBA	No
					+1.5 dBA	No
Yosemite Avenue	West of Airport Way	69.7	73.3	3.6	+5-10 dBA	No
					+1.5 dBA	Yes
Yosemite Avenue	West of Almond Avenue	64.6	65.8	1.2	+5-10 dBA	No
					+3 dBA	No
Yosemite Avenue	West of El Rancho Drive	68.1	72.0	3.9	+5-10 dBA	No
					+1.5 dBA	Yes
Yosemite Avenue	West of Pacific Road	54.5	57.8	3.3	>60 dBA	No
					+5 dBA	No
Yosemite Avenue	West of Washington Avenue	65.1	65.6	0.5	+5-10 dBA	No
					+1.5 dBA	No

¹ EXISTING GP CRITERIA - IN MAKING A DETERMINATION OF IMPACT UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA), A SUBSTANTIAL INCREASE WILL OCCUR IF AMBIENT NOISE LEVELS ARE INCREASED BY 10 DB OR MORE. AN INCREASE FROM 5-10 DB MAY BE SUBSTANTIAL. FACTORS TO BE CONSIDERED IN DETERMINING THE SIGNIFICANCE OF INCREASES FROM 5-10 DB INCLUDE:

- THE RESULTING NOISE LEVELS
- THE DURATION AND FREQUENCY OF THE NOISE
- THE NUMBER OF PEOPLE AFFECTED
- THE LAND USE DESIGNATION OF THE AFFECTED RECEPTOR SITES
- PUBLIC REACTIONS/CONTROVERSY AS DEMONSTRATED AT WORKSHOPS/HEARINGS, OR BY CORRESPONDENCE
- PRIOR CEQA DETERMINATIONS BY OTHER AGENCIES SPECIFIC TO THE PROJECT

² PROPOSED GP CRITERIA - IN MAKING A DETERMINATION OF IMPACT UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA), A SUBSTANTIAL INCREASE WILL OCCUR IF AMBIENT NOISE LEVELS ARE HAVE A SUBSTANTIAL INCREASE. GENERALLY, A 3 DB INCREASE IN NOISE LEVELS IS BARELY PERCEPTIBLE, AND A 5 DB INCREASE IN NOISE LEVELS IS CLEARLY PERCEPTIBLE. THEREFORE, INCREASES IN NOISE LEVELS SHALL BE CONSIDERED TO BE SUBSTANTIAL WHEN THE FOLLOWING OCCURS:

- WHEN EXISTING NOISE LEVELS ARE LESS THAN 60 DB, A 5 DB INCREASE IN NOISE WILL BE CONSIDERED SUBSTANTIAL;
- WHEN EXISTING NOISE LEVELS ARE BETWEEN 60 DB AND 65 DB, A 3 DB INCREASE IN NOISE WILL BE CONSIDERED SUBSTANTIAL;
- WHEN EXISTING NOISE LEVELS EXCEED 65 DB, A 1.5 DB INCREASE IN NOISE WILL BE CONSIDERED SUBSTANTIAL.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS AND SAXELBY ACOUSTICS. 2022.

Buildout of the General Plan may contribute to an exceedance of the City’s transportation noise standards and/or result in significant increases in traffic noise levels at existing sensitive receptors. As indicated by

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Tables 3.12-15, the related traffic noise level increases under the proposed General Plan are predicted to increase between 0.6 to 10.6 dB versus Existing (2019) conditions.

TABLE 3.12-15: EXISTING (2019) PLUS APPROVED VS. PROPOSED GENERAL PLAN TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (LDN, dB) AT NEAREST SENSITIVE RECEPTORS				
		EXISTING (2019) PLUS APPROVED	PROPOSED GENERAL PLAN	CHANGE	EX. GP CRITERIA ¹	SIGNIFICANT UNDER EX. GP?
					PROPOSED GP CRITERIA ²	SIGNIFICANT UNDER GP UPDATE?
Airport Way	North of Crom Street	67.4	68.5	1.1	+5-10 dBA	No
					+1.5 dBA	No
Airport Way	North of Daisywood Drive	71.1	71.3	0.2	+5-10 dBA	No
					+1.5 dBA	No
Airport Way	North of Daniels Street	69.1	69.4	0.3	+5-10 dBA	No
					+1.5 dBA	No
Airport Way	South of Northgate Drive	70.1	72.6	2.5	+5-10 dBA	No
					+1.5 dBA	Yes
Airport Way	South of SR 120	65.5	66.5	1.0	+5-10 dBA	No
					+1.5 dBA	No
Atherton Drive	East of Main Street	58.1	60.5	2.4	>60 dBA	No
					+5 dBA	No
Atherton Drive	East of Union Road	62.1	64.8	2.7	+5-10 dBA	No
					+3 dBA	No
Austin Road	South of Moffat Boulevard	65.0	66.0	1.0	+5-10 dBA	No
					+3 dBA	No
Austin Road	South of Yosemite Avenue	65.8	67.1	1.3	+5-10 dBA	No
					+1.5 dBA	No
Cottage Avenue	South of Aldwina Lane	65.9	66.8	0.9	+5-10 dBA	No
					+1.5 dBA	No
Daniels Street	West of Airport Way	67.9	65.8	-2.1	+5-10 dBA	No
					+1.5 dBA	No
French Camp	Rd east of SR	63.2	64.6	1.4	+5-10 dBA	No
					+3 dBA	No
French Camp	Rd west of SR	73.0	76.5	3.5	+5-10 dBA	No
					+1.5 dBA	Yes
Lathrop Avenue	West of Airport Way	73.4	76.8	3.4	+5-10 dBA	No
					+1.5 dBA	Yes
Lathrop Avenue	West of Madison Grove	69.8	71.3	1.5	+5-10 dBA	No
					+1.5 dBA	Yes

TABLE 3.12-15: EXISTING (2019) PLUS APPROVED VS. PROPOSED GENERAL PLAN TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (LDN, DB) AT NEAREST SENSITIVE RECEPTORS				
		EXISTING (2019) PLUS APPROVED	PROPOSED GENERAL PLAN	CHANGE	EX. GP CRITERIA ¹	SIGNIFICANT UNDER EX. GP?
					PROPOSED GP CRITERIA ²	SIGNIFICANT UNDER GP UPDATE?
Lathrop Avenue	West of Sherwood Avenue	69.7	71.5	1.8	+5-10 dBA	No
					+1.5 dBA	Yes
Louise Avenue	East of Marguerite Avenue	65.6	67.2	1.6	+5-10 dBA	No
					+1.5 dBA	Yes
Louise Avenue	East of Tulip Place	64.2	67.1	2.9	+5-10 dBA	No
					+3 dBA	No
Louise Avenue	West of Airport Way	71.9	76.1	4.2	+5-10 dBA	No
					+1.5 dBA	Yes
Louise Avenue	West of Austin Road	61.9	66.1	4.2	+5-10 dBA	No
					+3 dBA	Yes
Louise Avenue	West of Cottage Avenue	61.3	64.1	2.8	+5-10 dBA	No
					+3 dBA	No
Louise Avenue	West of Yvonne Avenue	65.7	66.7	1.0	+5-10 dBA	No
					+1.5 dBA	No
Lovelace Rd	East of Union Rd	N/A	71.7	N/A	N/A	N/A
					N/A	N/A
Lovelace Road	East of Airport Way	64.7	73.8	9.1	+5-10 dBA	Yes
					+3 dBA	Yes
Lovelace Road	West of SR 99	N/A	72.0	N/A	N/A	N/A
					N/A	N/A
Main Street	(Manteca Rd) north of Sedan Avenue	68.6	71.3	2.7	+5-10 dBA	No
					+1.5 dBA	Yes
Main Street	North of Northgate Drive	63.1	63.5	0.4	+5-10 dBA	No
					+3 dBA	No
Main Street	North of SR 120 WB ramps	72.9	72.9	0.0	+5-10 dBA	No
					+1.5 dBA	No
Main Street	South of Alameda Street	71.6	72.4	0.8	+5-10 dBA	No
					+1.5 dBA	No
Main Street	South of Quintal Road	64.0	66.2	2.2	+5-10 dBA	No
					+3 dBA	No
Moffat Boulevard	East of Powers Avenue	64.2	65.3	1.1	+5-10 dBA	No
					+3 dBA	No
Moffat Boulevard	North of Woodward Avenue	55.8	57.5	1.7	>60 dBA	No
					+5 dBA	No
Raymus Parkway	East of Austin Road	N/A	66.5	N/A	N/A	N/A
					N/A	N/A

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TABLE 3.12-15: EXISTING (2019) PLUS APPROVED VS. PROPOSED GENERAL PLAN TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (LDN, DB) AT NEAREST SENSITIVE RECEPTORS				
		EXISTING (2019) PLUS APPROVED	PROPOSED GENERAL PLAN	CHANGE	EX. GP CRITERIA ¹	SIGNIFICANT UNDER EX. GP?
					PROPOSED GP CRITERIA ²	SIGNIFICANT UNDER GP UPDATE?
Raymus Parkway	East of Main Street	N/A	64.6	N/A	N/A	N/A
					N/A	N/A
Raymus Parkway	East of Union Road	N/A	63.9	N/A	N/A	N/A
					N/A	N/A
Raymus Parkway	West of Airport Way	N/A	N/A	N/A	N/A	N/A
					N/A	N/A
Roth Rd	East of Airport Way	N/A	69.4	N/A	N/A	N/A
					N/A	N/A
Roth Rd	West of Airport Way	68.1	72.3	4.2	+5-10 dBA	No
					+1.5 dBA	Yes
Spreckels Avenue	South of Phoenix Drive	61.8	61.8	0.0	+5-10 dBA	No
					+3 dBA	No
SR 120	Eb between McKinley Ave and Airport Way	66.9	70.2	3.3	+5-10 dBA	No
					+1.5 dBA	Yes
SR 120	Total between McKinley Ave and Airport Way	70.1	73.3	3.2	+5-10 dBA	No
					+1.5 dBA	Yes
SR 120	Wb between McKinley Ave and Airport Way	64.2	67.4	3.2	+5-10 dBA	No
					+3 dBA	Yes
SR 99	Nb north of Lovelace Rd	76.7	77.6	0.9	+5-10 dBA	No
					+1.5 dBA	No
SR 99	Nb north of Yosemite Ave	72.0	73.3	1.3	+5-10 dBA	No
					+1.5 dBA	No
SR 99	Sb north of Lovelace Rd	75.8	76.7	0.9	+5-10 dBA	No
					+1.5 dBA	No
SR 99	Sb north of Yosemite Ave	74.5	75.9	1.4	+5-10 dBA	No
					+1.5 dBA	No
SR 99	Total north of Lovelace Rd	79.7	80.6	0.9	+5-10 dBA	No
					+1.5 dBA	No
SR 99	Total north of Yosemite Ave	77.4	78.7	1.3	+5-10 dBA	No
					+1.5 dBA	No
Union Rd	North of Lovelace Rd	64.0	70.9	6.9	+5-10 dBA	Yes
					+3 dBA	Yes
Union Road	North of Crom Street	64.9	67.0	2.1	+5-10 dBA	No
					+3 dBA	No

TABLE 3.12-15: EXISTING (2019) PLUS APPROVED VS. PROPOSED GENERAL PLAN TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (LDN, DB) AT NEAREST SENSITIVE RECEPTORS				
		EXISTING (2019) PLUS APPROVED	PROPOSED GENERAL PLAN	CHANGE	EX. GP CRITERIA ¹	SIGNIFICANT UNDER EX. GP?
					PROPOSED GP CRITERIA ²	SIGNIFICANT UNDER GP UPDATE?
Union Road	North of Del Webb Boulevard	61.5	64.9	3.4	+5-10 dBA	No
					+3 dBA	Yes
Union Road	South of Mission Ridge Drive	66.8	68.1	1.3	+5-10 dBA	No
					+1.5 dBA	No
Union Road	South of Northgate Drive	65.5	67.6	2.1	+5-10 dBA	No
					+1.5 dBA	Yes
Union Road	South of SR 120 EB Ramps	62.8	65.0	2.2	+5-10 dBA	No
					+3 dBA	No
Union Road	South of Woodward Avenue	64.0	69.6	5.6	+5-10 dBA	Yes
					+3 dBA	Yes
Van Ryn	Avenue north of Atherton Drive	65.6	66.1	0.5	+5-10 dBA	No
					+1.5 dBA	No
Woodward Avenue	West of Airport Way	64.6	62.5	-2.1	+5-10 dBA	No
					+3 dBA	No
Woodward Avenue	West of Laurie Avenue	65.6	68.0	2.4	+5-10 dBA	No
					+1.5 dBA	Yes
Woodward Avenue	West of Moffat Boulevard	67.6	N/A	N/A	N/A	N/A
					N/A	N/A
Yosemite Avenue	East of Cottage Avenue	71.8	71.7	-0.1	+5-10 dBA	No
					+1.5 dBA	No
Yosemite Avenue	West of Airport Way	71.2	73.3	2.1	+5-10 dBA	No
					+1.5 dBA	Yes
Yosemite Avenue	West of Almond Avenue	66.5	65.8	-0.7	+5-10 dBA	No
					+1.5 dBA	No
Yosemite Avenue	West of El Rancho Drive	68.8	72.0	3.2	+5-10 dBA	No
					+1.5 dBA	Yes
Yosemite Avenue	West of Pacific Road	56.7	57.8	1.1	>60 dBA	No
					+5 dBA	No
Yosemite Avenue	West of Washington Avenue	65.7	65.6	-0.1	+5-10 dBA	No
					+1.5 dBA	No

¹ EXISTING GP CRITERIA - IN MAKING A DETERMINATION OF IMPACT UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA), A SUBSTANTIAL INCREASE WILL OCCUR IF AMBIENT NOISE LEVELS ARE INCREASED BY 10 DB OR MORE. AN INCREASE FROM 5-10 DB MAY BE SUBSTANTIAL. FACTORS TO BE CONSIDERED IN DETERMINING THE SIGNIFICANCE OF INCREASES FROM 5-10 DB INCLUDE:

- THE RESULTING NOISE LEVELS
- THE DURATION AND FREQUENCY OF THE NOISE
- THE NUMBER OF PEOPLE AFFECTED
- THE LAND USE DESIGNATION OF THE AFFECTED RECEPTOR SITES

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- PUBLIC REACTIONS/CONTROVERSY AS DEMONSTRATED AT WORKSHOPS/HEARINGS, OR BY CORRESPONDENCE
 - PRIOR CEQA DETERMINATIONS BY OTHER AGENCIES SPECIFIC TO THE PROJECT
- ² PROPOSED GP CRITERIA - IN MAKING A DETERMINATION OF IMPACT UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA), A SUBSTANTIAL INCREASE WILL OCCUR IF AMBIENT NOISE LEVELS ARE HAVE A SUBSTANTIAL INCREASE. GENERALLY, A 3 DB INCREASE IN NOISE LEVELS IS BARELY PERCEPTIBLE, AND A 5 DB INCREASE IN NOISE LEVELS IS CLEARLY PERCEPTIBLE. THEREFORE, INCREASES IN NOISE LEVELS SHALL BE CONSIDERED TO BE SUBSTANTIAL WHEN THE FOLLOWING OCCURS:
- WHEN EXISTING NOISE LEVELS ARE LESS THAN 60 DB, A 5 DB INCREASE IN NOISE WILL BE CONSIDERED SUBSTANTIAL;
 - WHEN EXISTING NOISE LEVELS ARE BETWEEN 60 DB AND 65 DB, A 3 DB INCREASE IN NOISE WILL BE CONSIDERED SUBSTANTIAL;
 - WHEN EXISTING NOISE LEVELS EXCEED 65 DB, A 1.5 DB INCREASE IN NOISE WILL BE CONSIDERED SUBSTANTIAL.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS AND SAXELBY ACOUSTICS. 2022.

Buildout of the General Plan may contribute to an exceedance of the City's transportation noise standards and/or result in significant increases in traffic noise levels at existing sensitive receptors. As indicated by Tables 3.12-15, the related traffic noise level increases under the proposed General Plan are predicted to increase between 0.2 to 9.1 dB versus Existing (2019) Plus Approved conditions.

In order to reduce these impacts, the use of sound walls or quiet pavements could be employed. Construction of new sound walls could be a feasible mitigation measure. However, many of the impacted residential uses along the roadway segments listed above are accessed directly via driveways off the main roadway or may even already have a sound wall. A new sound wall would require many driveway openings, resulting in partial noise barriers. These openings in the sound wall would substantially reduce the noise barrier performance. Additionally, raising the heights of sound walls, or construction of new noise barriers at would result in encroachment into private property. Such encroachment would require private property owners to allow permission to enter their property. Raising sound wall heights would likely require enlarging footings, thereby requiring demolition of existing sound walls. Therefore, use of new sound walls, or modifying existing sound walls is not considered to be practical.

Quiet pavements have been used to mitigate traffic noise and are typically assumed to provide a 3 to 5 dBA reduction. Assuming a minimum reduction of 3 dBA, quiet pavement placed along sensitive receptor areas on the impacted roadway segments could reduce traffic noise level increases. Many of the noise impacts outlined in the previous tables could potentially be reduced through the use of quiet pavement. However, not all of the impacted roadway segments could be mitigated through use of quiet pavements due to the magnitude of the traffic noise increases. Additionally, widespread repaving of city streets with quiet pavements would be expensive and impractical. Therefore, this would remain a **significant and unavoidable** impact.

General Plan Policies S-6.1 through S-6.4, S-6.7 through S-6.12, S-6.15 and Implementation measure S-5 identified below, are intended to minimize exposure to excessive noise, including noise associated with traffic. Specifically, Policies S-6.1, S-6.2, S-6.4, and S-6.7 support noise-compatible land uses in the vicinity of traffic noise sources and require that new development and infrastructure projects be reviewed for consistency with the noise standards established in Tables S-1. The proposed General Plan standards required under Policy S-6.4, for exposure to traffic noise shown in Tables 3.12-14 and 3.12-15, meet or exceed the noise level standards of the adopted General Plan shown in Table 3.12-8. Policy S-5.7 and Implementation measure S-5 would ensure that new development mitigates potential noise impacts through incorporating the noise control treatments necessary to achieve acceptable noise levels.

Implementation measure S-6d sets criteria for evaluating future increases in traffic noise levels. Implementation measure S-6c would ensure that the Municipal Code, including the updated noise ordinance, is consistent with the noise standards established in the General Plan. Action S-5i would encourage working with Caltrans to ensure that adequate noise studies are prepared and that noise mitigation measures are considered in State transportation projects. Implementation of the proposed policies and actions of the General Plan will reduce noise and land use compatibility impacts from vehicular traffic noise sources and would ensure that new development is designed to include noise-attenuating features. As shown in Tables 3.12-12 and 3.12-13, however, the traffic noise increases associated with the proposed General Plan exceed the applicable noise exposure criteria. Therefore, the proposed General Plan would have a **significant and unavoidable** impact relative to traffic noise on existing noise-sensitive uses in the City.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

POLICIES

S-6.1 Incorporate noise considerations into land use, transportation, and infrastructure planning decisions, and guide the location and design of noise-producing uses to minimize the effects of noise on adjacent noise-sensitive land uses, including residential uses and schools.

S-6.2 Ensure that Downtown noise levels remain acceptable and compatible with a pedestrian-oriented environment and higher density residential land uses.

S-6.3 Areas within Manteca exposed to existing or projected exterior noise levels from mobile noise sources exceeding the performance standards in Table S-1 shall be designated as noise-impacted areas.

S-6.4 Require residential and other noise-sensitive development projects to satisfy the noise level criteria in Tables S-1 and S-2.

S-6.7 Where the development of residential or other noise-sensitive land use is proposed for a noise-impacted area or where the development of a stationary noise source is proposed in the vicinity of noise-sensitive uses, an acoustical analysis is required as part of the development review process so that noise mitigation may be considered in the project design. The acoustical analysis shall:

- Be the responsibility of the applicant.*
- Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.*
- Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources.*
- Estimate existing and projected (20 years) noise levels in terms of the standards of Table S-1 or Table S-2, and compare those levels to the adopted policies of the Noise Element.*
- Recommend appropriate mitigation measures to achieve compliance with the adopted policies and standards of the Noise Element.*
- Estimate noise exposure after the prescribed mitigation measures have been implemented.*
- If necessary, describe a post-project assessment program to monitor the effectiveness of the proposed mitigation measures.*

S-6.12 For new residential development backing on to a freeway or railroad right-of-way, the developer

shall be required to incorporate appropriate noise attenuation measures to satisfy the performance standards in Table S-1.

S-6.13 It is recognized that the City and surrounding areas are considered to be urban in nature and rely upon both the industrial and agricultural economy of the area. Therefore, it is recognized that noise sources of existing uses may exceed generally accepted standards.

S-6.14 Carefully review and give potentially affected residents an opportunity to fully review any proposals for the establishment of helipads or heliports.

S-6.15 Recognizing that existing noise-sensitive uses may be exposed to increase noise levels due to circulation improvement projects associated with development under the General Plan and that it may not be feasible to reduce increased traffic noise levels to the criteria identified in Table S-1, the following criteria may be used to determine the significance of noise impacts associated with circulation improvement projects:

- Where existing traffic noise levels are less than 60 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +5 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant; and
- Where existing traffic noise levels range between 60 and 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +3 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant; and
- Where existing traffic noise levels are greater than 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a + 1.5 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant.

ACTIONS

S-6a Require an acoustical analysis that complies with the requirements of S-5.7 where:

- Noise sensitive land uses are proposed in areas exposed to existing or projected noise levels exceeding the levels specified in Table S-1 or S-2.
- Proposed transportation projects are likely to produce noise levels exceeding the levels specified in Table S-1 or S-2 at existing or planned noise sensitive uses.

S-6b Assist in enforcing compliance with noise emissions standards for all types of vehicles, established by the California Vehicle Code and by federal regulations, through coordination with the Manteca Police Department and the California Highway Patrol.

S-6c Update the City's Noise Ordinance (Chapter 9.52) to reflect the noise standards established in this Safety Element and proactively enforce the City's Noise Ordinance, including requiring the following measures for construction:

- Restrict construction activities to the hours of 7:00 a.m. to 7:00 p.m. on Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays. No construction shall be permitted outside of these hours or on Sundays or federal holidays, without a specific exemption issued by the City. No exemption shall be issued for construction within 200 feet of residential uses.
- A Construction Noise Management Plan shall be submitted by the applicant for construction projects that exceed ambient noise levels by more than 12dBA or produce perceptible vibrations at any off-site structures. The Construction Noise Management Plan shall include proper posting

of construction schedules, appointment of a noise disturbance coordinator, methods for assisting in noise reduction measures, and shall establish allowed truck routes to access the site that minimize exposure of residential areas to heavy truck traffic.

- *Noise reduction measures shall include, but are not limited to, the following:*
 - a. *Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds) wherever feasible.*
 - b. *Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. This muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available. This would achieve a reduction of up to 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.*
 - c. *Temporary power poles or zero-emission power sources shall be used instead of generators where feasible.*
 - d. *Stationary noise sources shall be located as far from adjacent properties as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City to provide equivalent noise reduction.*
 - e. *The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.*
 - f. *Delivery of materials shall observe the hours of operation described above.*
 - g. *Truck traffic shall avoid residential areas to the greatest extent feasible.*

S-6d In making a determination of impact under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels are have a substantial increase. Generally, a 3 dB increase in noise levels is barely perceptible, and a 5 dB increase in noise levels is clearly perceptible. Therefore, increases in noise levels shall be considered to be substantial when the following occurs:

Transportation Noise

- *When existing noise levels are less than 60 dB, a 5 dB increase in noise will be considered substantial;*
- *When existing noise levels are between 60 dB and 65 dB, a 3 dB increase in noise will be considered substantial;*
- *When existing noise levels exceed 65 dB, a 1.5 dB increase in noise will be considered substantial.*

Non-Transportation Noise

- *An 5dB increase in noise will be considered substantial.*

Construction Noise

- *An increase in 12dBA in noise will be considered substantial.*

S-6e Control noise at the source through use of insulation, berms, building design and orientation, buffer space, staggered operating hours, and similar techniques. Where such techniques would not be sufficient to meet acceptable noise levels, use noise barriers to attenuate noise associated with new noise sources to acceptable levels.

S-6f Require that all noise-attenuating features, including soundwalls and quieter pavements, are designed to be attractive and to minimize maintenance.

S-6g Evaluate new transportation projects, such as truck routes, rail or public transit routes, and transit stations, using the standards contained in Table S-1. However, noise from these projects may be allowed to exceed the standards contained in Table S-1, if the City Council finds through the CEQA process that there are overriding considerations.

S-6h Work with the Federal Rail Authority and passenger and freight rail service providers to establish a Quiet Zone and/or Wayside Horns at at-grade crossings in the City. Where new development would be affected by the train and rail noise, require project applicants to fund a fair-share of: a) studies associated with the application for a Quiet Zone and/or Wayside Horns, and b) alternative safety measures associated with the Quiet Zone (including, but not limited to signage, gates, lights, etc.).

S-5i Work in cooperation with Caltrans, the Union Pacific Railroad, San Joaquin Regional Rail Commission, and other agencies where appropriate to maintain noise level standards for both new and existing projects in compliance with Table S-1.

Impact 3.12-2: General Plan implementation may result in exposure to excessive railroad noise sources (Less than Significant)

Table 3.12-4 indicates that the 60 dB Ldn railroad noise contours for railroad lines may extend up to 833 feet from railroad centerlines. Future development located along these railroad lines could therefore be exposed to unacceptable exterior noise levels, and General Plan buildout could result in an increase in railroad noise.

Policies S-6.1 through S-6.4 and S-6.7 through S-6.9, S-6.12, S-6.16 and Implementation Measure S-5 identified below, are intended to minimize exposure to excessive noise, including noise associated with railroad operations. Specifically, Policies S-6.1, S-6.2, S-6.4, and S-6.7 support noise-compatible land uses in the vicinity of railroad noise sources and require that new development and infrastructure projects be reviewed for consistency with the noise standards established in Tables S-1. The proposed General Plan standards required under Policy S-6.4, for exposure to railroad noise shown in Table 3.12-4, meet or exceed the noise level standards of the adopted General Plan shown in Table 3.12-8. Policy S-6.7 and Implementation measure S-6 would ensure that new development mitigates potential noise impacts through incorporating the noise control treatments necessary to achieve acceptable noise levels.

Implementation of these General Plan policies and actions would ensure that development allowed under the proposed General Plan is not exposed to noise levels associated with railroad operations in excess of the City's established standards. This is a **less than significant** impact.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

POLICIES

S-6.1 Incorporate noise considerations into land use, transportation, and infrastructure planning decisions, and guide the location and design of noise-producing uses to minimize the effects of noise on adjacent noise-sensitive land uses, including residential uses and schools.

S-6.2 Ensure that Downtown noise levels remain acceptable and compatible with a pedestrian-oriented environment and higher density residential land uses.

S-6.3 Areas within Manteca exposed to existing or projected exterior noise levels from mobile noise sources exceeding the performance standards in Table S-1 shall be designated as noise-impacted areas.

S-6.4 Require residential and other noise-sensitive development projects to satisfy the noise level criteria in Tables S-1 and S-2.

S-6.7 Where the development of residential or other noise-sensitive land use is proposed for a noise-impacted area or where the development of a stationary noise source is proposed in the vicinity of noise-sensitive uses, an acoustical analysis is required as part of the development review process so that noise mitigation may be considered in the project design. The acoustical analysis shall:

- Be the responsibility of the applicant.*
- Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.*
- Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources.*
- Estimate existing and projected (20 years) noise levels in terms of the standards of Table S-1 or Table S-2, and compare those levels to the adopted policies of the Noise Element.*
- Recommend appropriate mitigation measures to achieve compliance with the adopted policies and standards of the Noise Element.*
- Estimate noise exposure after the prescribed mitigation measures have been implemented.*
- If necessary, describe a post-project assessment program to monitor the effectiveness of the proposed mitigation measures.*

S-6.12 For new residential development backing on to a freeway or railroad right-of-way, the developer shall be required to incorporate appropriate noise-attenuation measures to satisfy the performance standards in Table S-1.

S-6.16 Work with the Federal Railroad Administration and passenger and freight rail operators to reduce exposure to rail and train noise, including establishing train horn “quiet zones” and/or wayside horns consistent with the federal regulations.

IMPLEMENTATION MEASURES

S-6a Require an acoustical analysis that complies with the requirements of S-5.7 where:

- Noise sensitive land uses are proposed in areas exposed to existing or projected noise levels exceeding the levels specified in Table S-1 or S-2.*

- *Proposed transportation projects are likely to produce noise levels exceeding the levels specified in Table S-1 or S-2 at existing or planned noise sensitive uses.*

S-6e Control noise at the source through use of insulation, berms, building design and orientation, buffer space, staggered operating hours, and similar techniques. Where such techniques would not meet acceptable levels, use noise barriers to attenuate noise associated with new noise sources to acceptable levels.

S-6f Require that all noise-attenuating features, including soundwalls and quieter pavements, are designed to be attractive and to minimize maintenance.

S-6h Work with the Federal Rail Authority and passenger and freight rail service providers to establish a Quiet Zone and/or Wayside Horns at at-grade crossings in the City. Where new development would be affected by the train and rail noise, require project applicants to fund a fair-share of: a) studies associated with the application for a Quiet Zone and/or Wayside Horns, and b) alternative safety measures associated with the Quiet Zone (including, but not limited to signage, gates, lights, etc.).

S-6i Work in cooperation with Caltrans, the Union Pacific Railroad, San Joaquin Regional Rail Commission, and other agencies where appropriate to maintain noise level standards for both new and existing projects in compliance with Table S-1.

Impact 3.12-3: Implementation of the General Plan could result in the generation of excessive stationary noise sources (Less than Significant)

Implementation of the General Plan could result in the future development of land uses that generate noise levels in excess of applicable City noise standards for non-transportation noise sources. Such land uses may include commercial area loading docks, industrial uses, HVAC equipment, car washes, daycare facilities, auto repair, and recreational uses. While the General Plan does not specifically propose any new noise generating uses, the Land Use Map includes industrial land use designations, which may result in new noise sources. The proposed Land Use Map includes new industrial uses in the southeast and northeast portions of the Planning Area. Specific uses that would be located in the City are not known at this time. Additionally, noise from existing stationary sources, as identified in the background section of this chapter, will continue to impact noise-sensitive land uses in the vicinity. New projects which may include stationary noise sources such as automotive and truck repair facilities, tire installation centers, car washes, loading docks, corporation yards, parks, and play fields may create noise levels in excess of the City's standards.

While no specific projects are proposed under the General Plan Update, changes in land use may allow for more intensive noise-generating uses in closer proximity to noise-sensitive uses. Where this occurs, Policy S-6.7 requires that detailed noise studies would be required to ensure that noise control measures are implemented into the project design. Such measures could include facing loading docks of industrial buildings away from sensitive uses, construction of sound walls or berms between loading docks and sensitive uses, using buildings to create additional buffer distance and screening, or other site design measures to ensure that non-transportation (stationary) noise sources do not cause exterior noise levels to exceed allowable standards at sensitive receptors.

For example, a typical busy loading dock for a warehouse might generate noise levels of approximately 66 dBA L_{eq} at a distance of 100 feet, as shown in Table 3.12-5. This would exceed the City's proposed

stationary noise standards of 55 dBA L_{eq} (daytime) and 45 dBA L_{eq} (nighttime). Construction of a 12-foot-tall sound wall would reduce loading dock noise levels to approximately 53 dBA L_{eq} (Appendix D-1). For a daytime use loading dock, this would be sufficient to meet the City's 55 dBA L_{eq} daytime noise standard. For a loading dock which requires nighttime operation, a sound wall would not be sufficient to achieve the 45 dBA L_{eq} nighttime noise standard. To achieve the nighttime noise standard, the distance from the loading dock would need to be increased to 250 feet for the 12-foot-tall wall to achieve the 45 dBA L_{eq} nighttime standard (Appendix D-2). Alternatively, the loading docks could face internal to the project site and the industrial building could be used to screen loading dock noise. In this case the loading dock could be located 150 feet from a sensitive receptor, assuming it was screened by a 20-foot-tall building (Appendix D-3). This would achieve the City's 45 dBA L_{eq} nighttime noise standard. While this is just a theoretical scenario, it illustrates that use of site design measures, screening walls, etc. can be sufficient to achieve compliance with the City's stationary noise standards, even when more intensive uses are proposed in closer proximity to sensitive receptors.

The General Plan includes policies and actions that are intended to reduce noise associated with stationary sources (listed below). Specifically, Policies S-6.4, S-6.5, S-6.7, S-6.8 and Implementation measure S-5 would reduce noise associated with stationary sources. Implementation of the proposed policies and actions of the General Plan will reduce noise impacts from stationary noise sources to a ***less than significant*** level.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

POLICIES

S-6.4 *Require residential and other noise-sensitive development projects to satisfy the noise level criteria in Tables S-1 and S-2.*

S-6.5 *Require new stationary noise sources proposed adjacent to noise sensitive uses to incorporate noise attenuating measures so as to not exceed the noise level performance standards in Table S-2, or a substantial increase in noise levels established through a detailed ambient noise survey.*

S-6.7 *Where the development of residential or other noise-sensitive land use is proposed for a noise-impacted area or where the development of a stationary noise source is proposed in the vicinity of noise-sensitive uses, an acoustical analysis is required as part of the development review process so that noise mitigation may be considered in the project design. The acoustical analysis shall:*

- *Be the responsibility of the applicant.*
- *Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.*
- *Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources.*
- *Estimate existing and projected (20 years) noise levels in terms of the standards of Table S-1 or Table S-2, and compare those levels to the adopted policies of the Noise Element.*
- *Recommend appropriate mitigation measures to achieve compliance with the adopted policies and standards of the Noise Element.*
- *Estimate noise exposure after the prescribed mitigation measures have been implemented.*
- *If necessary, describe a post-project assessment program to monitor the effectiveness of the*

3.12 NOISE

proposed mitigation measures.

S-6.8 Apply noise level criteria applied to land uses other than residential or other noise-sensitive uses consistent with noise performance levels of Table S-1 and Table S-2.

ACTIONS

S-6a Require an acoustical analysis that complies with the requirements of S-5.7 where:

- Noise sensitive land uses are proposed in areas exposed to existing or projected noise levels exceeding the levels specified in Table S-1 or S-2.
- Proposed transportation projects are likely to produce noise levels exceeding the levels specified in Table S-1 or S-2 at existing or planned noise sensitive uses.

S-6e Control noise at the source through use of insulation, berms, building design and orientation, buffer space, staggered operating hours, and similar techniques. Where such techniques would not meet acceptable levels, use noise barriers to attenuate noise associated with new noise sources to acceptable levels.

S-6f Require that all noise-attenuating features, including soundwalls and quieter pavements, are designed to be attractive and to minimize maintenance.

Impact 3.12-4: General Plan implementation may result in an increase in construction noise sources (Less than Significant)

New development, maintenance of roadways, and installation of public utilities and infrastructure generally require construction activities. These activities include the use of heavy equipment and impact tools. Table 3.12-16 provides a list of the types of equipment which may be associated with construction activities, and their associated noise levels.

TABLE 3.12-16: CONSTRUCTION EQUIPMENT NOISE

TYPE OF EQUIPMENT	PREDICTED NOISE LEVELS, LMAX DB				DISTANCES TO NOISE CONTOURS (FEET)	
	NOISE LEVEL AT 50'	NOISE LEVEL AT 100'	NOISE LEVEL AT 200'	NOISE LEVEL AT 400'	70 dB LMAX CONTOUR	65 dB LMAX CONTOUR
Backhoe	78	72	66	60	126	223
Compactor	83	77	71	65	223	397
Compressor (air)	78	72	66	60	126	223
Concrete Saw	90	84	78	72	500	889
Dozer	82	76	70	64	199	354
Dump Truck	76	70	64	58	100	177
Excavator	81	75	69	63	177	315
Generator	81	75	69	63	177	315
Jackhammer	89	83	77	71	446	792
Pneumatic Tools	85	79	73	67	281	500

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006. SAXELBY ACOUSTICS 2020.

Construction activities would occur with it without the proposed General Plan Update. Activities involved in construction would typically generate maximum noise levels ranging from 85 to 90 dB at a distance of

50 feet. Construction could result in periods of significant ambient noise level increases and the potential for annoyance. However, construction noise would be temporary, intermittent, and would vary depending on the nature of the construction activities being performed. Buildout of the proposed General Plan would also occur over a period of many years. The proposed General Plan includes policies and actions that are intended to reduce noise associated with construction noise (listed below). Specifically, Policy S-6.6 and Implementation Measure S-5c would reduce noise associated with construction noise. Implementation of the proposed policies and actions of the General Plan will reduce noise impacts from construction noise to a **less than significant** level.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

POLICY

***S-6.6** Regulate construction-related noise to reduce impacts on adjacent uses to the criteria identified in Table S-2 or, if the criteria in Table S-2 cannot be met, to the maximum level feasible using best management practices and complying with the MMC Chapter 9.52.*

ACTION

***S-6c** Update the City's Noise Ordinance (Chapter 9.52) to reflect the noise standards established in this Safety Element and proactively enforce the City's Noise Ordinance, including requiring the following measures for construction:*

- *Restrict construction activities to the hours of 7:00 a.m. to 7:00 p.m. on Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays. No construction shall be permitted outside of these hours or on Sundays or federal holidays, without a specific exemption issued by the City. No exemption shall be issued for construction within 200 feet of residential uses.*
- *A Construction Noise Management Plan shall be submitted by the applicant for construction projects that exceed ambient noise levels by more than 12dBA or produce perceptible vibrations at any off-site structures. The Construction Noise Management Plan shall include proper posting of construction schedules, appointment of a noise disturbance coordinator, methods for assisting in noise reduction measures, and shall establish allowed truck routes to access the site that minimize exposure of residential areas to heavy truck traffic.*
- *Noise reduction measures shall include, but are not limited to, the following:*
 - h. Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds) wherever feasible.*
 - i. Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. This muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available. This would achieve a reduction of up to 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.*
 - j. Temporary power poles or zero-emission power sources shall be used instead of*

generators where feasible.

- k. Stationary noise sources shall be located as far from adjacent properties as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City to provide equivalent noise reduction.*
- l. The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.*
- m. Delivery of materials shall observe the hours of operation described above.*
- n. Truck traffic shall avoid residential areas to the greatest extent feasible.*

Impact 3.12-5: General Plan implementation may result in construction vibration (Less than Significant)

Construction activities facilitated by either the existing General Plan or the proposed General Plan may include demolition of existing structures, site preparation work, excavation of below grade levels, foundation work, pile driving, and new building erection. Demolition for an individual site may last several weeks and at times may produce substantial vibration. Excavation for underground levels may also occur on some project sites and vibratory pile driving could be used to stabilize the walls of the excavated area. Piles or drilled caissons may also be used to support building foundations.

Heavy tracked vehicles (e.g., bulldozers or excavators) can generate distinctly perceptible groundborne vibration levels when this equipment operates within approximately 25 feet of sensitive land uses. Impact pile drivers can generate distinctly perceptible groundborne vibration levels at distances up to about 100 feet, and may exceed building damage thresholds within 25 feet of any building, and within 50-100 feet of a historical building, or building in poor condition. Other construction activities, such as caisson drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may also potentially generate substantial vibration in the immediate vicinity.

Depending on the proximity of existing structures to each construction site, the structural soundness of the existing buildings, and the methods of construction used, vibration levels may be high enough to damage existing structures. Given the scope of the General Plan and the close proximity of many existing structures, groundborne vibration impacts would be potentially significant.

As with any type of construction, vibration levels may at times be perceptible. However, construction phases that have the highest potential of producing vibration (pile driving and use of jackhammers and other high-power tools) would be intermittent and would only occur for short periods of time for any individual project site.

Section 17.58.070 of the City's Municipal Code outlines the following requirements:

Uses that generate vibrations that may be considered a public nuisance or hazard on any adjacent property shall be cushioned or isolated to prevent generation of vibrations. Uses shall be operated in compliance with the following provisions:

- A. No vibration shall be produced that is transmitted through the ground and is discernible without the aid of instruments at the points of measurement specified in Section 17.58.030 (Points of Measurement) of this Chapter, nor shall any vibration produced exceed 0.002g peak at up to 50 CPS frequency, measured at the point of measurement specified in Section 17.58.030 (Points of Measurement) of this Chapter, using either seismic or electronic vibration measuring equipment. Vibrations occurring at higher than 50 CPS frequency of a periodic vibration shall not induce accelerations exceeding 0.001g. Single impulse periodic vibrations occurring at an average interval greater than five minutes shall not induce accelerations exceeding 0.01g.
- B. Uses, activities, and processes shall not generate vibrations that cause discomfort or annoyance to reasonable persons of normal sensitivity or which endanger the comfort, repose, health, or peace of residents whose property abuts the property line of the parcel.
- C. Uses shall not generate ground vibration that interferes with the operations of equipment and facilities of adjoining parcels.
- D. Vibrations from temporary construction/demolition and vehicles that leave the subject parcel (e.g., trucks, trains, and aircraft) are exempt from the provisions of this Section. (Ord. 1501 § 1, 2011)

General Plan Implementation Measure S-6c would ensure administrative controls such as notifying neighbors of scheduled construction activities and scheduling construction activities with the highest potential to produce perceptible vibration to hours with the least potential to affect nearby businesses, in order to ensure that perceptible vibration can be kept to a minimum, and as such would not result in a significant impact with respect to perception. Therefore, the potential for significant impacts associated with construction vibration is ***less than significant***.

GENERAL PLAN ACTION THAT MINIMIZES THE POTENTIAL FOR IMPACTS

ACTIONS

S-6c *Update the City's Noise Ordinance (Chapter 9.52) to reflect the noise standards established in this Safety Element and proactively enforce the City's Noise Ordinance, including requiring the following measures for construction:*

- *Restrict construction activities to the hours of 7:00 a.m. to 7:00 p.m. on Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays. No construction shall be permitted outside of these hours or on Sundays or federal holidays, without a specific exemption issued by the City. No exemption shall be issued for construction within 200 feet of residential uses.*
- *A Construction Noise Management Plan shall be submitted by the applicant for construction projects that exceed ambient noise levels by more than 12dBA or produce perceptible vibrations at any off-site structures. The Construction Noise Management Plan shall include proper posting of construction schedules, appointment of a noise disturbance coordinator, methods for assisting in noise reduction measures, and shall establish allowed truck routes to access the site that minimize exposure of residential areas to heavy truck traffic.*
- *Noise reduction measures shall include, but are not limited to, the following:*

- o. Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds) wherever feasible.*
- p. Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. This muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available. This would achieve a reduction of up to 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.*
- q. Temporary power poles or zero-emission power sources shall be used instead of generators where feasible.*
- r. Stationary noise sources shall be located as far from adjacent properties as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City to provide equivalent noise reduction.*
- s. The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.*
- t. Delivery of materials shall observe the hours of operation described above.*
- u. Truck traffic shall avoid residential areas to the greatest extent feasible.*

Impact 3.12-6: General Plan implementation may result in exposure to groundborne vibration (Less than Significant)

Development facilitated by the proposed General Plan could expose existing or future sensitive uses to excessive groundborne vibration levels attributable to trains or heavy trucks. However, this likelihood is slim, especially for vibration generated by trucking operations. According to Caltrans, truck vibrations have never been measured to exceed 2.0 mm/s (0.08 in/s) at distances of 5 m (16.4 ft) from the centerline of the nearest travel lane. This amplitude coincides with the maximum recommended “safe amplitude” for ruins and ancient monuments. (Caltrans, Transportation and Construction Vibration Guidance Manual, September 2013).

The proposed locations of new buildings that would be developed under the General Plan Update and their specific sensitivity to vibration are not known at this time. However, such uses located in close proximity to railroad tracks or truck routes could be exposed to ground vibration levels exceeding FTA guidelines. Additionally, as noted in the previous impact discussion, Section 17.58.070 of the City’s Municipal Code includes provisions for vibrations, including trains.

The proposed General Plan includes Implementation Measure S-5j which requires that individual development projects address potential vibration impacts associated with railroad or trucking operations. Future building development would also be subject to the California Building Code requirements, which

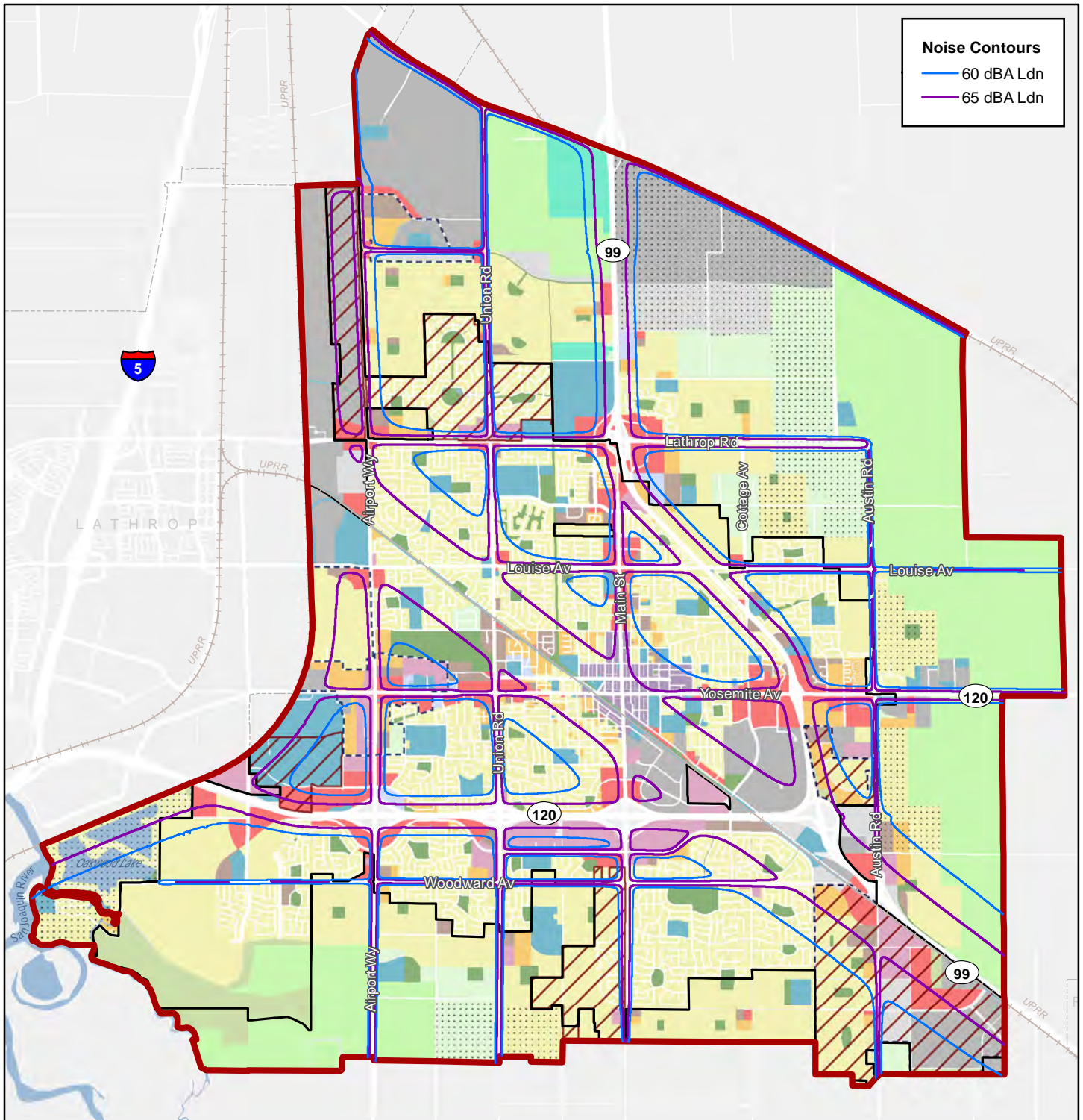
contain standards related to instability and groundborne vibrations from earthquake risk. The implementation of this policy would limit potential groundborne vibrations to a ***less than significant*** level.

GENERAL PLAN ACTION THAT MINIMIZES POTENTIAL IMPACTS

ACTIONS

5-6j *The City shall require new residential projects located adjacent to major freeways, truck routes, hard rail lines, or light rail lines to follow the FTA screening distance criteria to ensure that groundborne vibrations to do not exceed acceptable levels.*

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Noise Contours

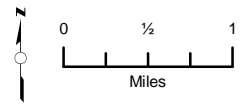
- 60 dBA Ldn
- 65 dBA Ldn

Legend

City of Manteca	VLDR - Very Low Density Residential
Manteca Planning Area	LDR - Low Density Residential
Master/Specific Plan Overlay	MDR - Medium Density Residential
Policy Area	HDR - High Density Residential
Urban Reserve Overlay	BIP - Business Industrial Park
AI - Agricultural Industrial	BP - Business Professional
AG - Agriculture	I - Industrial
C - Commercial	OS - Open Space
CMU - Commercial Mixed Use	P - Park
DW - Downtown	PQP - Public/Quasi-Public

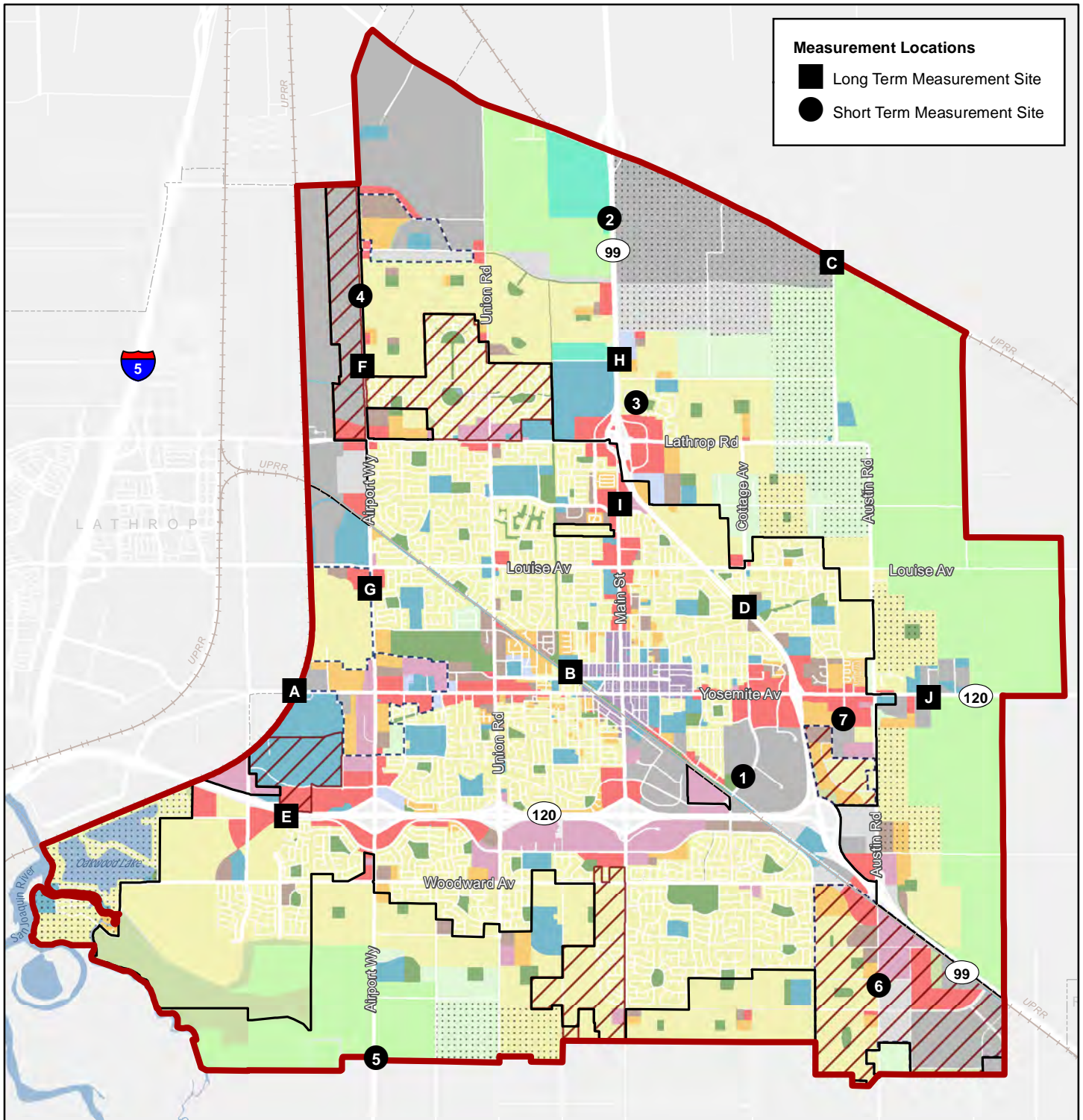
CITY OF MANTECA GENERAL PLAN

Figure 3.12-1. Existing Transportation Noise Contours



Sources: City of Manteca; San Joaquin County. Map date: August 26, 2022.

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Measurement Locations

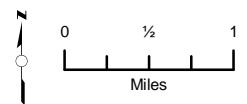
- Long Term Measurement Site
- Short Term Measurement Site

Legend

- | | |
|---|--|
| <ul style="list-style-type: none"> □ City of Manteca ■ Manteca Planning Area ▨ Master/Specific Plan Overlay ▤ Policy Area ▧ Urban Reserve Overlay ■ AI - Agricultural Industrial ■ AG - Agriculture ■ C - Commercial ■ CMU - Commercial Mixed Use ■ DW - Downtown | <ul style="list-style-type: none"> ■ VLDR - Very Low Density Residential ■ LDR - Low Density Residential ■ MDR - Medium Density Residential ■ HDR - High Density Residential ■ BIP - Business Industrial Park ■ BP - Business Professional ■ I - Industrial ■ OS - Open Space ■ P - Park ■ PQP - Public/Quasi-Public |
|---|--|

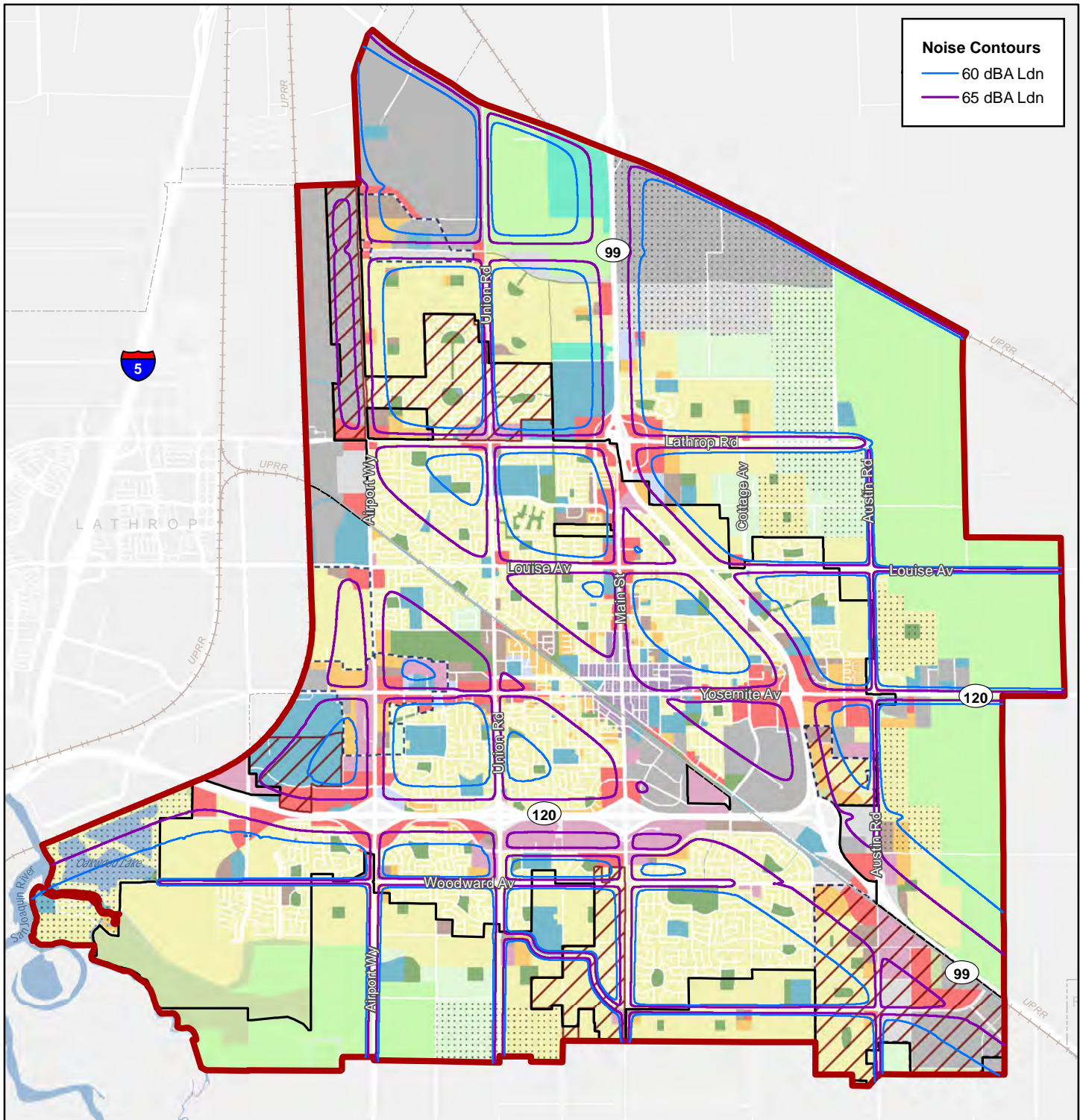
CITY OF MANTECA GENERAL PLAN

Figure 3.12-2. Noise Measurement Locations



Sources: City of Manteca; San Joaquin County. Map date: August 26, 2022.

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Noise Contours

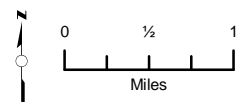
- 60 dBA Ldn
- 65 dBA Ldn

Legend

- | | |
|------------------------------|-------------------------------------|
| City of Manteca | VLDR - Very Low Density Residential |
| Manteca Planning Area | LDR - Low Density Residential |
| Master/Specific Plan Overlay | MDR - Medium Density Residential |
| Policy Area | HDR - High Density Residential |
| Urban Reserve Overlay | BIP - Business Industrial Park |
| AI - Agricultural Industrial | BP - Business Professional |
| AG - Agriculture | I - Industrial |
| C - Commercial | OS - Open Space |
| CMU - Commercial Mixed Use | P - Park |
| DW - Downtown | PQP - Public/Quasi-Public |

CITY OF MANTECA GENERAL PLAN

Figure 3.12-3. Future Transportation Noise Contours



Sources: City of Manteca; San Joaquin County. Map date: August 26, 2022.

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Public services such as fire and police protection are vital to maintaining a safe and healthy community. Educational services serve as a foundation for providing citizens with the skills and resources to excel today and in the future. There are many other public services that are important to a community, such as parks and recreational opportunities, libraries, museums, hospitals, and other healthcare facilities.

This section provides a background discussion and analysis of fire protection services, police services, schools, parks and recreational facilities, libraries, and other community facilities and services. This section is organized with an existing setting, regulatory setting, and impact analysis.

Utilities services, including water, sewer, stormwater and drainage, and solid waste disposal, are addressed in Chapter 3.15 (Utilities and Service Systems) of this Draft EIR.

No comments were received during the NOP comment period regarding this environmental topic.

3.13.1 EXISTING CONDITIONS

FIRE PROTECTION SERVICES

Manteca Fire Department

The Manteca Fire Department is responsible for the primary provision of fire service and emergency medical response for the City of Manteca and its residents. The Manteca Fire Department serves approximately 72,000 residents throughout over 17 square miles within the City limits (see Figure 3.13-1). The Manteca Fire Department operates out of five facilities that are strategically located in the City of Manteca. The Manteca Fire Department is headquartered in Station 242 located at 1154 S. Union Road. This building serves as the Fire Department headquarters and the Fire Prevention Bureau. Fire training and emergency medical services are managed out of Station 241. Apparatus includes three engines, three reserve engines, one ladder truck, one medium rescue unit, one USAR rescue trailer, eight staff vehicles, two pick-up trucks, and a public education trailer.

The Manteca Fire Department maintains a goal for the initial company of three firefighters to arrive on scene for fire and emergency medical service (EMS) incidents within five minutes 90% of the time (Response Effectiveness). In 2016, the Department averaged a response time for Code 3 emergencies such as fires, medical calls or auto accidents at 4:20 minutes City-wide. In 2017, the Department averaged a 4:22 response time City-wide. In 2017, the MFD on an average handled 7,579 emergency calls and 6,737 in 2016. In 2021, the MFD handled 10,490 calls. The Department is currently meeting the Response Effectiveness goal.

ISO RATING

The Insurance Services Office (ISO) Public Protection Classification Program currently rates the Fire Department as a 2 on a scale of 1 to 10, with 1 being the highest possible protection rating and 10 being the lowest. The ISO rating measures individual fire protection agencies against a Fire Suppression Rating Schedule, which includes such criteria as facilities and support for handling and

3.13 PUBLIC SERVICES AND RECREATION

dispatching fire alarms, first-alarm response and initial attack, and adequacy of local water supply for fire-suppression purposes. The ISO ratings are used to establish fire insurance premiums. The City's current ISO rating is 2.

FIRE STATIONS

The Manteca Fire Department currently operates five fire stations within its service area, as shown on Figure 3.13-1 and listed below.

- Station 241 - 290 S. Powers Ave. Manteca CA 95336 (operational)
- Station 242 - 1154 S. Union Road Manteca CA 95337 (operational)
- Station 243 - 399 W. Louise Ave. Manteca CA 95336 (operational)
- Station 244 - 1465 W. Lathrop Rd. Manteca CA 95336 (operational)
- Station 245, 1675 E. Woodward Ave. Manteca CA 95337 (operational)

Lathrop-Manteca Fire District

The Lathrop-Manteca Fire District provides fire protection services to the City of Lathrop and the surrounding rural area, as well as most of Manteca's SOI. The Lathrop-Manteca Fire District staffs four fire stations with career personnel as well as volunteer firefighters. As shown in Figure 3.13-1, three of these stations are located in the vicinity of the Planning Area. The District has developed into a proactive fire and emergency response organization that covers almost 100 square miles and over 30,000 residents.

Ripon Consolidated Fire Department

The Ripon Consolidated Fire District provides fire protection and emergency medical services to the City of Ripon and surrounding area. The Ripon Consolidated Fire Department's service area includes the most southeastern portion of the City of Manteca and the eastern portions of Manteca's Planning Area (see Figure 3.13-1).

POLICE PROTECTION SERVICES

Manteca Police Department

The Manteca Police Department (MPD) provides law enforcement and police protection services throughout the city. The MPD operates out of its headquarters located at 1001 W. Center Street. In 2022, the MPD had 76 sworn officers. The Manteca Police Station is shown on Figure 3.13-1.

ORGANIZATION

The MPD is organized into two divisions: Operations and Services. Additionally, the MPD operates a Public Affairs Unit. For budgeting purposes, the MPD is organized into the following programs: administration, patrol, investigations, support services, dispatch, code enforcement, jail services, and animal services.

OPERATIONS DIVISION

The Operations Division is the largest division of the Department. It includes all uniformed officers and their support teams. The units included in the Operations Division are patrol, traffic, community service officers, SWAT, crisis response team, mounted patrol, canine, and bomb squad.

SERVICES DIVISION

The Services Division includes all the teams and units that support the line police function of the MPD. These teams include Dispatch, Records, Property and Evidence, Crime Analysis, and Animal Services, as well as Detectives, School Resource Officers, Gang Unit, and Manteca's Street Crimes Unit (SCU), which is the department's proactive narcotic and street crime suppression unit.

The MPD also has several very active volunteer groups. The Police Explorers, Citizen's Police Academy graduates, Police Reserves, and the SHARPs allow members of the community of all ages and experience to give back to the community through volunteering.

PUBLIC AFFAIRS UNIT

The MPD's Public Affairs Officer (PAO) works directly with the Chief of Police on issues that affect the MPD and community. In addition to being a community liaison, the PAO works with the public in providing current information regarding issues effecting Manteca. This is done by working with local news media outlets, issuing information bulletins and conducting neighborhood meetings, and by using the local government channel for a program called StreetBeat. In addition to assisting the Chief of Police, the PAO also coordinates several crime prevention programs to include the Citizen Police Academy, Drug Awareness Education, and various workplace-training programs such as Workplace Violence Prevention. The PAO also coordinates with other city offices special projects and does site plan reviews for new commercial and residential projects using a process called CPTED (Crime Prevention through Environmental Design).

POLICE RESPONSE TIMES

Response times are an important benchmark of police service. Response times can vary greatly depending on the size of the city and department, geographical location, and levels of crime. Smaller cities usually have faster response times, due simply to the geography. Calls for service are prioritized into three general categories.

The department classifies calls for service as Priority 1, Priority 2 or Priority 3. Priority 1 calls are calls where a threat is posed to life or a crime of violence. Priority 2 calls are calls for service where there is an urgency or suspicious behavior. Priority 3 calls are calls for service where no emergency or serious problem is involved. In 2021, there were 127 Priority 1 calls, 26,693 Priority 2 calls, 9,145 Priority 3 calls, and 9,996 Officer Initiated calls, totaling 45,961 calls. The averages for the department's response times in 2021 for the 3 priorities are listed below.

- Priority 1 calls: 2021, 1 minute and 12 seconds.
- Priority 2 calls: 2021, 13 minutes and 6 seconds.
- Priority 3 calls: 2021, 27 minutes and 07 seconds.

3.13 PUBLIC SERVICES AND RECREATION

CRIMES BY CATEGORY IN MANTECA

Statistics on the number of crimes by category of crime in Manteca during each year from 2017 to 2020, as reported by the Federal Bureau of Investigation (FBI) Criminal Justice Information Services Division, are shown in Table 3.13-1 below.

TABLE 3.13-1: MANTECA POLICE DEPARTMENT CRIME STATISTICS (2017-2020)

CATEGORY/CRIME	2017	2018	2019	2020
Total Violent Crimes	256	256	199	217
Homicide	4	0	3	3
Rape	18	18	27	16
Robbery	89	97	66	68
Assault	145	141	103	112
Total Property Crimes	2,240	2,288	1,848	1,429
Burglary	302	386	239	180
Motor Vehicle Theft	322	380	282	247
Larceny	1,616	1,522	1,327	1,002
Arson	14	15	18	23

SOURCES: FBI CRIME STATISTICS ([HTTPS://UCR.FBI.GOV/](https://ucr.fbi.gov/)) AND CITY OF MANTECA WEBSITE ([HTTPS://WWW.CI.MANTECA.CA.US/POLICE/PAGES/CRIME-STATISTICS.ASPX?ROOTFOLDER=%2Fpolice%2Fcrime%20statistics%2F2020%20crime%20statistics&folderctid=0x0120009da69561c535cc459eda0ec363bc704a&view=%7B28B7D73B%2D67E4%2D4BBD%2DADF7%2D399B92288015%7D](https://www.ci.manteca.ca.us/police/pages/crime-statistics.aspx?rootfolder=%2Fpolice%2Fcrime%20statistics%2F2020%20crime%20statistics&folderctid=0x0120009da69561c535cc459eda0ec363bc704a&view=%7B28B7D73B%2D67E4%2D4BBD%2DADF7%2D399B92288015%7D)).

As shown in the table, the majority of crimes committed in Manteca consist of property crimes, primarily larceny. Additionally, in 2018, there were no homicides reported in Manteca.

MISCELLANEOUS PUBLIC SAFETY

Multi-Jurisdictional Local Government Emergency Response

The San Joaquin County Office of Emergency Services (OES) is the single coordinating center for major emergency activities. In cooperation with others, OES maintains and oversees the Multi-Hazard Functional Plan, which is the Countywide disaster preparedness program. OES also provides training for first responders, businesses, and other governmental agencies.

Community Emergency Response Team

The Community Emergency Response Team (CERT) Program educates people about disaster preparedness for hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. Using the training learned in the classroom and during exercises, CERT members can assist others in their neighborhood or workplace following an event when professional responders are not immediately available to help. CERT members also are encouraged to support emergency response agencies by taking a more active role in emergency preparedness projects in their community.

The Manteca Fire Department offers CERT training for those community members interested in this type of community service. The training covers many topics of preparedness including:

- Disaster preparedness;
- Disaster fire suppression;
- Disaster medical operations;
- Disaster psychology and team organization; and
- Disaster simulation.

PARKS AND RECREATIONAL FACILITIES

The City of Manteca Parks and Recreation Department serves thousands of individuals, including toddlers, youth, teens, and adults throughout the greater Manteca area. The department offers programs and services that foster health, wellness, and human development, strengthen families, and provide recreational opportunities for the purpose of positively affecting the quality of life for all involved. The Department oversees more than 600 acres of neighborhood and community parks, maintenance districts, urban forest, the Tidewater Bikeway, skate park, swimming pool, senior center, library services, and an 18-hole golf course.

Types of Parks

COMMUNITY PARKS

Community parks are generally 15 to 25 acres in size and include areas for active sports as well as space for family and group activities, such as picnicking. Community parks are larger in size than neighborhood parks and serve to fulfill the active and passive recreational needs of multiple neighborhoods. The community park serves the needs of local neighborhoods by providing a close to home site for more active recreation that is not typically suitable or physically possible in a neighborhood park (i.e., formal sports fields and courts with night lighting). Community parks and sports parks are where most organized activities provided by the Parks and Recreation Department and various league sports are intended to occur.

The City of Manteca has six developed Community Parks, totaling approximately 78 acres.

NEIGHBORHOOD PARKS

Neighborhood parks serve as the focal point of neighborhood communities, the hub for both physical and social activities in a recreational setting that should be primarily passive. Appropriately designed neighborhood parks act as “pulse points” within the city. They are spaces that develop a sense of place while at the same time evolve to reflect the neighborhood they represent. Neighborhood parks act as critical building blocks of the city’s image and assist in developing an overall sense of community and security. They also serve as critical nodes and access points in the city-wide green space network. Neighborhood parks are generally 5 to 7 acres. Amenities at neighborhood parks may include ball fields, basketball, volleyball, bocce ball, and tennis courts, small picnic areas, playground equipment, restroom facilities, water play features, and barbeques.

The City of Manteca has 50 Neighborhood Parks, totaling approximately 216 acres.

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SPECIAL USE PARKS

The Special Use Parks allow for flexibility in providing recreational resources throughout the city-wide park space network. This classification is intended to accommodate special circumstances, unique site characteristics, etc. in park, trail, and recreation resources. These types of resources add diversity to the park network and accommodate a variety of non-traditional recreation amenities beyond the standard neighborhood, and community, park classifications.

The City of Manteca has 10 Special Use Parks/Facilities totaling approximately 91 acres, including a major multi-use recreation trail that covers over 3.5 miles of terrain.

City Parks

The City currently manages more than 483 acres of parks, facilities, trails and recreation lands, including 405 acres of community, neighborhood, and special use parks and the 101-acre Manteca Park Golf Course. The location of parks within the City is shown on Figure 3.13-2. Table 3.13-2 summarizes the City's park facilities by category.

TABLE 3.13-2: SUMMARY OF PARKS AND RECREATION FACILITIES

<i>PARK TYPE</i>	<i>NUMBER</i>	<i>ACREAGE</i>	<i>GOAL (ACRES PER 1,000 RESIDENTS)</i>	<i>CURRENT RATIO (ACRES PER 1,000 RESIDENTS)</i>
Neighborhood Parks	55 sites	251.85	3	3.02
Community Parks	6 sites	78.46	1	0.93
Special Use Facilities	10 sites	90.94	1	1.08
Total	71 sites	421.25	5	4

SOURCE: CITY OF MANTECA PUBLIC WORKS DEPARTMENT, PARKS DIVISION, 2022.

When the acreage is broken down into functional categories, the City currently has 251.85 acres of Neighborhood Park land which exceeds the City's goal of 3 acres per 1,000 population. In the category of Community Park acreage, the current quantity of 78.46 acres exceeds the city's goal of one acre per 1,000 population. In the category of Special Use Facility/Parks, the City's 90.94 acres of park lands for special uses exceeds the City's goal of one acre per 1,000 population.

In addition, the City's Parks and Recreation Master Plan identified additional facility needs required by year 2035. A cumulative total of approximately 130 acres of Neighborhood Park land development would be required, as well as a total of approximately 38.5 acres of Community Park land, and 26 acres of Special Use Facility/Park lands. This amount is approximate and could be met by a combination of utilizing existing undeveloped parkland and acquiring new parkland to develop.

Parks and Recreation amenities include several baseball and softball diamonds, sports fields, picnic areas, barbecues, playgrounds and tot lots, over 3 miles of Class 1 bike and pedestrian path, lighted tennis courts, a BMX bicycle track, a skate park, an 18-hole municipal golf course, and a public swimming pool (with tot pool).

Existing rental facilities include:

- Northgate: Full Picnic Shelter; Half Picnic Shelter
- Lincoln Picnic Shelter
- Woodward: Full Picnic Shelter; Half Picnic Shelter
- Library Park Gazebo
- Lincoln Pool
- Sports Fields

On a regional scale, the City is located in the Sacramento-San Joaquin Delta (Delta), which contains several recreational areas and facilities, primarily for water-based recreation. Regional County parks near the City include the 9.85-acre Dos Reis Regional Park and the 3.7-acre Mossdale Crossing Regional Park, both located along the San Joaquin River. Mossdale Crossing Park is located on the west side of Interstate 5. Each of these parks includes boat launch ramps, picnic/barbeque areas, and children’s play areas. Dos Reis Regional Park also has camping facilities. Also in the vicinity is the Haven Acres Marina, a private marina located on the San Joaquin River north of Dos Reis Regional Park. This facility provides river access to the San Joaquin River and includes parking areas, a boat ramp, and 10 boat berths.

SCHOOLS

The Manteca Unified School District (MUSD) provides school services for grades K through 12 within the communities of Manteca, Lathrop, Stockton, and French Camp. The District is approximately 113 square miles and serves more than 23,500 students. Within the City of Manteca, there are 14 schools serving elementary age and middle school students (grades K-8), one K-6 school, four high schools (grades 9-12), one community day school (grades 7-12), and one vocational high school (grades 11-12). Table 3.13-3 lists MUSD schools in Manteca and the most recent enrollment for each school.

A small portion of the southeast planning area is served by the Ripon Unified School District (RUSD). District-wide RUSD Schools has a total enrollment of 4,663 students for the 2019-2020 school year, with the majority of students served outside of the planning area. Figure 3.13-3 shows schools and school district boundaries within the City of the Manteca.

TABLE 3.13-3: PUBLIC SCHOOLS SERVING MANTECA

<i>SCHOOL</i>	<i>GRADES SERVED</i>	<i>ADDRESS</i>	<i>ENROLLMENT 2019-2020 SCHOOL YEAR</i>
<i>ELEMENTARY AND MIDDLE SCHOOLS</i>			
George McParland Elementary School	K-8	1601 Northgate Dr	1,163
Stella Brockman Elementary School	K-8	763 Silverado Dr	813
Brock Elliott Elementary School	K-8	1110 Stonum Ln	838
French Camp Elementary	K-8	241 4th Street	584
Golden West Elementary School	K-8	1031 North Main St	536
Joshua Cowell Elementary School	K-8	740 Pestana Ave	651
Lincoln Elementary School	K-8	750 E Yosemite Ave	651
Manteca Community Day	K-6	737 W Yosemite Ave	15
Neil Hafley Elementary School	K-8	849 Northgate Dr	752

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SCHOOL	GRADES SERVED	ADDRESS	ENROLLMENT 2019-2020 SCHOOL YEAR
New Haven Elementary School	K-8	14600 Austin Rd	535
Nile Garden Elementary School	K-8	5700 E Nile Rd	726
Sequoia Elementary School	K-8	710 Martha St	815
Shasta Elementary School	K-8	751 E Edison St	772
Veritas Elementary School	K-8	1600 Pagola Ave	932
Walter Woodward Elementary School	K-8	575 Tannehill Dr	910
HIGH SCHOOLS			
Calla High School	9-12	130 S Austin Rd	162
East Union High School	9-12	1700 N Union Rd	1,614
Manteca Community Day School	7-12	737 W Yosemite Ave	50
Manteca High School	9-12	450 E Yosemite Ave	1,686
Sierra High School	9-12	1700 Thomas St	1,471
Manteca Unified Vocational Academy (be.tech)	11-12	2271 W. Louise Ave	127

SOURCE: CALIFORNIA DEPARTMENT OF EDUCATION EDUCATIONAL DEMOGRAPHICS UNIT ENROLLMENT FOR 2018-19

As shown in Table 3.13-3, the schools serving the City had a total enrollment of approximately 15,803 students, of which 10,693 were enrolled in elementary and middle school (grades K – 8) and 5,110 were enrolled in high school (grades 9 – 12).

District-wide MUSD Schools has a total enrollment of 23,834 students for the 2019-2020 school year. Table 3.13-4 provides a summary of the public school enrollment by grade within Manteca.

TABLE 3.13-4: ENROLLMENT BY GRADE MUSD (2019-2020)

MANTECA UNIFIED	GRADE LEVEL													TOTAL 2019-2020
	K	1	2	3	4	5	6	7	8	9	10	11	12	
Total	1,931	1,645	1,692	1,740	1,740	1,716	1,811	1,883	2,002	2,002	1,859	1,907	1,931	23,834

SOURCE: CALIFORNIA DEPARTMENT OF EDUCATION EDUCATIONAL DEMOGRAPHICS UNIT ENROLLMENT FOR 2019-2020

OTHER PUBLIC FACILITIES

Library Services

The Manteca Branch Library, a branch library of the Stockton - San Joaquin County Library system, is located at 320 West Center Street. The library offers a circulating collection of books, magazines, CDs, and DVDs in both English and Spanish, and carries a number of local regional and national newspapers.

Computer workstations are available for general and Internet use. Free Wi-Fi is also available for patrons with laptops and mobile devices. The library offers black & white and color printing, as well as a copy machine and typewriter. A microfilm reader/printer is available, which includes an

extensive collection of archives from the Manteca Bulletin. A non-circulating collection of reference materials is also available for help with research.

The Manteca Branch Library offers two weekly storytime programs beginning at 10:30 AM. On Tuesdays, a program geared for children aged 6 months to 2 years and on Thursdays the library has preschool storytime, primarily for children aged 2 to 4 years.

Manteca Senior Center

The Manteca Senior Center located at 295 Cherry Lane is a 10,000-plus square-foot, multi-purpose Senior Center serving and involving adults and seniors age 50 and above throughout the greater Manteca area. There are no membership fees to participate at the center; however, some classes and activities have nominal fees.

Manteca Hospital and Medical Facilities

Health care facilities within Manteca encompass Doctor's Hospital of Manteca, Kaiser Permanente Manteca Medical Center, residential care facilities, as well as private physicians and other medical practitioners.

Doctor's Hospital of Manteca, provides acute care service for Manteca and the surrounding community. The hospital is located at 1205 east North Street in the City of Manteca. Doctor's Hospital of Manteca offers Comprehensive diagnostic and surgical services, Intensive care unit, Breast healthcare, including mammography, behavioral health care, a 67-bed adult inpatient psychiatric treatment center, expanded imaging services, hip and knee surgery, back pain treatment and surgery, bariatric (weight-loss) surgery. Kaiser Permanente Manteca Medical Center also provides acute care service for Manteca and the surrounding community. The hospital is located at 1777 West Yosemite Avenue. Residents typically travel to other facilities, for certain specialized services including severe trauma and psychiatric care.

The San Joaquin County Public Health Services provides maternal and child health care programming, California Children's Services, child health and disability programs, vaccinations and general public health nursing to the community. Alcohol & drug programs are also organized under the County Health Services and provide residential treatment, out-patient counseling, perinatal programs and community education and information.

3.13.2 REGULATORY SETTING

FEDERAL

There are no Federal regulations applicable to the environmental topics of public services and recreation.

STATE AND LOCAL

Fire Protection and Emergency Response

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

In accordance with California Code of Regulations Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment" the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all fire fighting and emergency medical equipment.

EMERGENCY RESPONSE/EVACUATION PLANS

The State passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

FIRE PROTECTION

The California Fire Code contains regulations relating to construction and maintenance of buildings and the use of premises. Topics addressed in the Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to protect and assist first responders, industrial processes, and many other general and specialized fire safety requirements for new existing buildings and premises.

CALIFORNIA FIRE CODE

The 2019 California Fire Code contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the California Fire Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The Fire Code contains specialized technical regulations related to fire and life safety.

CALIFORNIA HEALTH AND SAFETY CODE

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code. This includes regulations for building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

NFPA 1710

The National Fire Protection Association (NFPA) 1710 Standards are applicable to urban areas and where staffing is comprised of career Firefighters. According to these guidelines, a career fire department needs to respond within six minutes, 90 percent of the time with a response time measured from the 911 call to the time of arrival of the first responder.

The standards are divided as follows:

- Dispatch time of one minute or less for at least 90 percent of the alarms;
- Turnout time of one minute or less for EMS calls (80 seconds for fire and special operations response);
- Fire response travel time of four minutes or less for the arrival of the first arriving engine company at a fire incident and eight minutes or less travel time for the deployment of an initial full alarm assignment at a fire incident;
- Eight minutes or less travel time for the arrival of an advanced life support (ALS) (4 minutes or less if provided by the fire department).

CITY OF MANTECA MUNICIPAL CODE

The City of Manteca Municipal Code, Fee Schedule VI Development Fee includes development impact fees to fund public facilities, including the San Joaquin County Facilities Fee to fund police services.

Parks and Recreation

QUIMBY ACT

The Quimby Act (California Government Code Section 66477) states that “the legislative body of a city or county may, by ordinance, require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative or parcel map.” Requirements of the Quimby Act apply only to the acquisition of new parkland and do not apply to the physical development of new park facilities or associated operations and maintenance costs. The Quimby Act seeks to preserve open space needed to develop parkland and recreational facilities; however, the actual development of parks and other recreational facilities is subject to discretionary approval and is evaluated on a case-by-case basis with new residential development. The City has adopted park fees as allowed by the Quimby Act, as described in greater detail below.

MANTECA MUNICIPAL CODE

The City of Manteca Municipal Code, Fee Schedule VI Development Fee includes development impact fees to fund public facilities, including parks.

MANTECA PARKS AND RECREATION MASTER PLAN

The City of Manteca adopted a Parks and Recreation Master Plan in 2016. The Master Plan evaluates the parks and recreation needs of the community and develop strategies, policies, and actions that

reflect those needs to create better places to recreate within Manteca. This document provides the City's Parks and Recreation Department with precise direction and be a realistic guide for the next ten to twenty years.

Schools

CALIFORNIA CODE OF REGULATIONS

The California Code of Regulations, Chapter 4.9, Payment of Fees, Charges, Dedications, or Other Requirements Against a Development Project. *Section 65995-65998 (h)* The payment or satisfaction of a fee, charge, or other requirement levied or imposed pursuant to Section 17620 of the Education Code in the amount specified in Section 65995 and, if applicable, any amounts specified in Section 65995.5 or 65995.7 are hereby deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization as defined in Section 56021 or 56073, on the provision of adequate school facilities.

CALIFORNIA DEPARTMENT OF EDUCATION

The California Department of Education (CDE) School Facilities Planning Division (SFPD) prepared a School Site Selection and Approval Guide that provides criteria for locating appropriate school sites in the State of California. School site and size recommendations were changed by the CDE in 2000 to reflect various changes in educational conditions, such as lowering of class sizes and use of advanced technology. The expanded use of school buildings and grounds for community and agency joint use and concern for the safety of the students and staff members also influenced the modification of the CDE recommendations.

Specific recommendations for school size are provided in the School Site Analysis and Development Guide. This document suggests a ratio of 1:2 between buildings and land. CDE is aware that in a number of cases, primarily in urban settings, smaller sites cannot accommodate this ratio. In such cases, the SFPD may approve an amount of acreage less than the recommended gross site size and building-to-ground ratio.

Certain health and safety requirements for school site selection are governed by state regulations and the policies of the SFPD relating to:

- Proximity to airports, high-voltage power transmission lines, railroads, and major roadways;
- Presence of toxic and hazardous substances;
- Hazardous facilities and hazardous air emissions within one-quarter mile;
- Proximity to high-pressure natural gas lines, propane storage facilities, gasoline lines, pressurized sewer lines, or high-pressure water pipelines;
- Noise;
- Results of geological studies or soil analyses; and
- Traffic and school bus safety issues.

THE KINDERGARTEN-UNIVERSITY PUBLIC EDUCATION FACILITIES BOND ACT OF 2002 (PROP 47)

This act was approved by California voters in November 2002 and provides for a bond issue of \$13.05 billion to fund necessary education facilities to relieve overcrowding and to repair older schools. Funds will be targeted at areas of greatest need and must be spent according to strict accountability measures. Funds will also be used to upgrade and build new classrooms in the California Community Colleges, the California State University, and the University of California in order to provide adequate higher education facilities to accommodate growing student enrollment.

LEROY F. GREENE SCHOOL FACILITIES ACT OF 1998 (SB 50)

The “Leroy F. Greene School Facilities Act of 1998,” also known as Senate Bill 50 or SB 50 (Chapter 407, Statutes of 1998), governs a school district’s authority to levy school impact fees. This comprehensive legislation, together with the \$9.2 billion education bond act approved by the voters in November 1998 known as “Proposition 1A”, reformed methods of school construction financing in California. SB 50 instituted a new school facility program by which school districts can apply for state construction and modernization funds. It imposed limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provided the authority for school districts to levy fees at three different levels:

- Level I fees are the current statutory fees allowed under Education Code 17620. This code section provides the basic authority for school districts to levy a fee against residential and commercial construction for the purpose of funding school construction or reconstruction of facilities. These fees vary by district for residential construction and commercial construction and are increased biannually.
- Level II fees are outlined in Government Code Section 65995.5, allowing school districts to impose a higher fee on residential construction if certain conditions are met. These conditions include having a substantial percentage of students on multi-track year-round scheduling, having an assumed debt equal to 15–30 percent of the district’s bonding capacity (percentage is based on revenue sources for repayment), having at least 20 percent of the district’s teaching stations housed in relocatable classrooms, and having placed a local bond on the ballot in the past four years which received at least 50 percent plus one of the votes cast. A Facility Needs Assessment must demonstrate the need for new school facilities for unhoused pupils is attributable to projected enrollment growth from the construction of new residential units over the next five years.
- Level III fees are outlined in Government Code Section 65995.7. If State funding becomes unavailable, this code section authorizes a school district that has been approved to collect Level II fees to collect a higher fee on residential construction. This fee is equal to twice the amount of Level II fees. However, if a district eventually receives State funding, this excess fee may be reimbursed to the developers or subtracted from the amount of state funding.

3.13.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on public services and recreation if it would result in:

- Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
 - Fire Protection;
 - Police Protection;
 - Schools;
 - Parks; and
 - Other public facilities.
- An increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- If it includes recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

IMPACTS AND MITIGATION MEASURES

Impact 3.13-1: General Plan implementation would not result in adverse physical impacts on the environment associated with the need for new governmental facilities or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts (Less than Significant)

Development accommodated under the General Plan would result in additional residents and businesses in the City, including new residential, industrial, office, and commercial uses. As described in Chapter 2.0, the General Plan is expected to accommodate up to 38,103 new residential dwelling units and up to 28,713,612 square feet of non-residential building space within the city limits at full buildout.

This new growth within the City limits would increase the City's population by up to 121,168 residents and would include approximately 27,448 new jobs. The full development of the new non-residential uses shown in Chapter 2.0 (Project Description), Table 2.0-2.

Development and growth facilitated by the General Plan would result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. The General Plan includes policies and actions to ensure that public services are provided at acceptable levels and that the City will maintain and implement public facility master

plans, in collaboration with appropriate outside service providers and other agencies, to ensure compliance with appropriate regional, state, and federal laws and to provide efficient public facilities and services to Manteca.

As the demand for services increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., office, maintenance, and administrative buildings and facilities, schools, parks, fire facilities, libraries, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth in the city.

Existing facilities may be expanded at their current location. New facilities may also be constructed. The Public/Quasi-Public, Park, and Open Space land use designations would accommodate the majority of new public facilities necessary to provide community services. There would likely be environmental impacts associated with the construction or expansion of the facilities needed to provide public services.

The General Plan does not propose or approve actual development projects, or the physical expansion of public facilities. As future development and infrastructure projects (including new governmental facilities) are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Such development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Any future expansion of public facilities required by growth in the City would be required to be reviewed for site-specific impacts.

As previously stated, new facilities will be needed to serve growth contemplated in the General Plan. The environmental effect of providing the public services is associated with the physical impacts of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the General Plan does not propose or authorize development nor does it designate specific projects for new or expanded public facilities. However, new and expanded facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the governmental facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. These impacts are described in the relevant chapters (Chapters 3.1 through 3.12, 3.14 through 3.16 and 4.0) of this Draft EIR. As discussed in Chapters 3.1 through 3.12 and 3.14 through 3.16 and 4.0, the proposed General Plan includes policies and actions that are specifically designed to reduce or avoid environmental impacts of construction and development, which includes public facilities. There are no additional significant impacts related to construction of governmental and public facilities, consistent with the General Plan land use designation and Land Use Map, beyond the impacts that are analyzed throughout this EIR. Any future development, including new and expanded governmental facilities, under the General Plan would be subject to project-level review, would be required to comply with regulations, policies, and standards included in the General Plan, and would be reviewed for compliance with CEQA, including analysis of project-level impacts and mitigation measures as appropriate.

3.13 PUBLIC SERVICES AND RECREATION

The General Plan includes a range of policies and actions (listed below) to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the City and appropriate service agency, and that new development funds its fair share of services. Therefore, impacts related to the provisions and need for public facilities are ***less than significant***.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

CF-1.1: Encourage the implementation of new and sustainable techniques and technologies to provide the best available level of community services in a cost-effective manner.

CF-1.2: Ensure that new growth and development participates in the provision and expansion of essential community services and facilities, including parks, fire and police facilities, schools, utilities, roads, and other needed infrastructure, does not exceed the City's ability to provide services, and does not place an economic or environmental burden on existing residents.

CF-1.5: Require public improvements and facilities to enhance, rather than degrade, the natural environment.

CF-1.6: Encourage comprehensive development of public facilities and services rather than incremental, single projects.

CF-1.7: Plan and develop public services and facilities to support economic development and residential growth.

CF-2.1: Prioritize public safety through ensuring adequate staffing, implementing best available technologies, capital investments in public safety, and organizing and utilizing community volunteers.

CF-2.2: Ensure that the Police Department has adequate funding, staff, and equipment to accommodate existing and future growth in Manteca, while striving to provide a minimum of 1.0 officer per 1,000 population.

CF-2.5: Endeavor through adequate staffing and patrol arrangements to maintain the minimum feasible police response times for police calls.

CF-2.6: Ensure crime-reduction and public safety features are incorporated into the design of new development projects through implementation of Crime Prevention Through Environmental Design (CPTED) techniques.

CF-2.7: Emphasize the use of CPTED to ensure that physical site planning is an effective means of preventing crime. Residential, commercial, industrial, and open spaces land uses shall incorporate, landscaping, sidewalks, parking lots, parks, play areas, and other public spaces that are designed with maximum feasible visual and aural exposure to community residents.

CF-2.7: Promote coordination between land use planning, urban design, and CPTED through consultation and coordination with the Police Department during the review of new development applications.

CF-3.1: Through adequate staffing and station locations, maintain a maximum five-minute travel response time 90% of the time for fire and emergency calls and an overall fire insurance (ISO) rating of 2 or better for all developed areas within the City, and a minimum staffing of 3 personnel for all fire stations.

CF-3.2: Provide fire services to serve the existing and projected population.

CF-3.5: Ensure the water system and supply is adequate to meet the needs of existing and future development and is utilized in a sustainable manner.

CF-4.8: Consider the effects of new development on parks, trails, and recreation facilities, programs, and services, and condition new development appropriately to ensure that the City maintains an adequate inventory and network of facilities and resources.

CF-4.10: Actively promote and participate in regional coordination and planning efforts to provide quality parks, trails, and recreation facilities throughout Manteca and the surrounding areas. The City should emphasize regional coordination to leverage funding, maintenance, and/or resources to develop a diverse range of regional recreational opportunities.

CF-5.2: Continue to work with local school districts to develop criteria for the designation of school sites and ensure that adequate sites are designated and facilities are planned to accommodate new residential development, with a focus on providing neighborhood schools. Criteria should address the following:

- *School locations are encouraged to be sited to relate well to adjacent and nearby uses, including neighborhood focal areas and park sites.*
- *School sites and school enrollment sizes should contribute to the neighborhood character and provide opportunities for joint-use, including capacity to accommodate a broad range of programs and services and augment neighborhood parks and recreation facilities.*
- *School districts are encouraged to comply with City standards in the design and landscaping of school facilities.*

It is noted that school site locations can be adjusted if the school district chooses not to locate in the area and the land will be designated Medium Density Residential.

CF-6.1: Ensure the water system and supply is adequate to meet the needs of existing and future development and is utilized in a sustainable manner.

CF-6.5: Prohibit extension of City water services to unincorporated areas except in extraordinary circumstances. Existing commitments for City water service outside the City limits shall continue to be honored.

CF-6.6: Limit development of private water wells to occur only if the City makes a finding that it cannot feasibly provide water service. Such systems shall only be allowed to be used until such time as City water service becomes available.

CF-6.7: Ensure that all new development provides for and funds a fair share of the costs for adequate water distribution, including line extensions, easements, and plant expansions.

3.13 PUBLIC SERVICES AND RECREATION

CF-7.1: Ensure adequate wastewater collection and treatment infrastructure to serve existing and future development and the safe disposal of wastes.

CF-7.2: Develop new sewage treatment and trunk line capacity as necessary to serve new development. The City shall incorporate current technologies into the design and operation of these facilities.

CF-7.3: Only extend sewer services to unincorporated areas under extraordinary circumstances. Existing commitments for sewer service outside the city limits shall continue to be honored.

CF-7.4: Only allow the development of individual septic systems where it is not feasible to provide public sewer service. Such systems shall only be used until such time as City sewer service becomes available and meet the minimum standards of the San Joaquin County Health Department.

CD-11.1: Strengthen the public understanding of the important role that physical design plays in helping reduce the incidence and fear of crime to promote the development of a safe and healthy city.

CD-11.2: Consider adopting Crime Prevention through Environmental Design (CPTED) standards to ensure that the built environment supports Manteca as the “The Family City” by applying safer design principles to development projects.

CD-11.3: Review projects in accordance with the four overlapping principles of CPTED of: 1) Natural Surveillance; 2) Natural Access Control; 3) Territorial Reinforcement; and, 4) Maintenance.

CD-11.4: Develop review processes that take into account CPTED principles that can be applied to address specific sites and situations.

ACTIONS

CF-1a: Require new development to demonstrate that the City’s existing or planned community services and facilities can accommodate the increased demand prior to or at completion of the project.

CF-1b: Require new development to offset or mitigate impacts to community services and facilities, including fair-share contribution of the costs of required public infrastructure and services, to ensure that service levels for existing users are not degraded or impaired.

CF-1c: Consider the creation of and/or the participation in Enhanced Infrastructure Financing Districts (EIFD) in all areas of the city to generate tax increment funding for community facilities of communitywide significance that support new and infill development.

CF-1d: Periodically review the fee schedules for water and sewer connections, city facilities and major equipment, and development impact fees and revise fees as necessary to cover the cost of services and facilities.

CF-1e: Cooperate with other jurisdictions, agencies, and utility providers where appropriate to achieve timely and cost-effective provision of public facilities and services.

CF-2c: As part of the development review process, consult with the Police Department in order to ensure that the project design facilitates adequate police services and that the project addresses its impacts on police services.

CF-2d: Require new development, if appropriate, to provide a funding mechanism to support and maintain Manteca's high level of police services.

CF-2f: Monitor new development projects in the unincorporated parts of the Manteca Planning Area that would require law enforcement services from the City.

CF-6a: Update the Public Facilities Implementation Plan, regarding water supply and distribution, every five years. The update shall reflect the most recent adopted groundwater studies that establish a safe yield for the groundwater basin and/or establish maximum extraction from the basin. The update shall be reviewed annually for adequacy and consistency with the General Plan.

CF-6c: Develop new water sources, storage facilities, and major distribution lines as necessary to serve new development.

CF-6e: Continue to assess a water development fee on all new commercial, industrial, and residential development sufficient to fund system-wide capacity improvements. The water development fee schedule shall be periodically reviewed and revised as necessary.

CF-6g: Require, as a condition of project approval, dedication of land and easements, or payment of appropriate fees and exactions, to help offset municipal costs of expansion of water treatment facilities and delivery systems.

CF-7a: Update the Public Facilities Implementation Plan regarding wastewater collection and treatment every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

CF-7b: Require new development to provide for and fund a fair share of the costs for adequate sewer distribution, including line extensions, easements, and plant expansions.

CD-11a: Encourage development projects to incorporate Crime Prevention through Environmental Design (CPTED) techniques and defensible space design concepts.

LU-2h: Coordinate with the cities of Lathrop and Ripon in implementing the respective Memorandums of Understanding regarding future land use and public services and facilities in mutually agreed upon areas of common interest.

LU-7d: Regularly contact the school districts to request identification of planned school sites and update the Land Use Map as necessary.

Impact 3.13-2: General Plan implementation would not result in adverse physical impacts associated with the deterioration of existing parks and recreation facilities or the construction of new parks and recreation facilities (Less than Significant)

Growth accommodated under the General Plan would include a range of uses that would increase the population of the City and also attract additional workers and tourists to the City. Such growth would result in increased demand for parks and recreation facilities. It is anticipated that over the life of the General Plan, use of parks, trails, and recreation facilities would increase, due to new residents and businesses. The additional demand on existing parks and recreational facilities would increase the need for maintenance and improvements. These improvements could have environmental impacts, although the exact impacts cannot be determined since the potential improvements are unknown.

The provision of new parks and recreation facilities would reduce the potential for adverse impacts and physical deterioration of existing parks and recreation facilities, by providing additional facilities to accommodate the demand for parks and recreation facilities. These new facilities would be provided at a pace and in locations appropriate to serve new development, as required to maintain the City adopted standard for park space acreage at 5.0 acres for every 1,000 residents (as required by General Plan Policy CF-4.4). Development under the General Plan would indirectly lead to the construction of new parks and recreation facilities to serve new growth and to meet existing parks and recreation needs. The General Plan supports the creation of new parks and recreation facilities, including new parks and trails, to accommodate a wide range of activities for all age groups. These new parks and recreation facilities would be spread throughout areas proximate to new development in and around existing neighborhoods. Neighborhood and community parks and trails would generally be accommodated in the Public/Quasi-Public, Park, and Open Space Land use designations.

General Plan Policy CF-4.4 establishes a citywide ratio of five acres of parkland per 1,000 residents. The City currently provides approximately 5.01 acres of parkland for every 1,000 people in addition to the recreational opportunities available in the Dos Reis Regional Park, Mossdale Crossing Park, private parks, and other nearby regional parks.

As shown in Table 2.0-2, the projected total buildout population (which excludes existing plus projected population growth) is 121,168. At a ratio of five acres of parkland per 1,000 residents, buildout of the General Plan within the City limits would result in a demand for approximately 605 acres of developed parklands, if the City's population levels were to reach the buildout population potential of the proposed General Plan.

The projected additional population (which includes existing population) as a result of buildout of the General Plan land use map (as detailed in Chapter 2.0) is 20,891. At a ratio of five acres of parkland per 1,000 residents, buildout of the General Plan within the City limits would result in a demand for approximately 104.5 acres of developed parkland. It should be noted that new development would be required to fund its fair share for required parkland but would not make up for existing system deficiencies.

The General Plan does not specifically propose any development projects, including parks. As a result, site-specific physical impacts of future park development and construction cannot be determined until future projects are brought forward for review. As future parks and recreation projects are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Parks and recreation projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

In addition to ensuring that new and expanded parks and recreation facilities are provided to accommodate new growth, the General Plan includes policies and actions to ensure that parks and recreation facilities are adequately maintained and improved to serve both existing and planned growth.

The General Plan does not propose or approve any development nor does it designate specific projects for new or expanded parks and recreational facilities. The General Plan includes a range of policies and actions (listed below) to ensure that parks and recreational facilities are adequately funded, and that new development funds its fair share of services needed to meet General Plan objectives. New development is required to participate in the provision and expansion of public services, recreational amenities, and facilities, and is also required to demonstrate that the City's public services and facilities can accommodate the increased demand for said services and facilities associated with future projects during the entitlement process.

The General Plan does not propose or approve the construction or expansion of parks or recreational facilities. Any new or expanded parks or recreational facilities that may be constructed in the future would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the parks and recreational facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. These impacts are described in the relevant chapters (Chapters 3.1 through 3.12, 3.14 through 3.16, and 4.0) of this Draft EIR. As discussed in Chapters 3.1 through 3.12 and 3.14 through 3.16 and 4.0, the proposed General Plan includes policies and actions that are specifically designed to reduce or avoid environmental impacts of construction and development, which includes parks and recreational facilities. There are no additional significant impacts related to construction of parks and recreational facilities, consistent with the General Plan land use designation and Land Use Map, beyond the impacts that are analyzed throughout this EIR. Any future development under the General Plan would be required to comply with regulations, policies, and standards included in the General Plan, and would be reviewed for compliance with CEQA, including analysis of project-level impacts and mitigation measures as appropriate.

Therefore, impacts related to the provisions and need for park and recreational facilities are ***less than significant***.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

CF-4.1: Ensure the provision of sufficient parks, trails, and recreation facilities that are well distributed and interconnected throughout the community.

3.13 PUBLIC SERVICES AND RECREATION

CF-4.2: *Expand, renovate, and maintain high quality parks, trails, and recreation facilities, programs, and services to accommodate existing and future needs that address traditional and non-traditional recreation, active and passive recreation, wellness, historical, cultural arts, environmental education, conservation, accessibility, inclusion, diversity, safety, and new technology.*

CF-4.3: *Uphold design, construction, implementation, and maintenance standards to ensure high quality parks, trails, and recreation facilities, programs, and services, now and into the future.*

CF-4.4: *Maintain an overall minimum ratio of 5 acres of developed neighborhood and community parkland per 1,000 residents within the city limits, requiring new development to contribute to its fair share of park and recreation needs. The distribution of land between park types and guidelines for park types shall be determined within the Parks and Recreation Master Plan.*

CF-4.5: *Develop new parks, trails, and recreation facilities through developer fees in areas which are accessible and convenient to the community, prioritizing areas that are lacking these facilities.*

CF-4.6: *Endeavor to develop one or more community parks as defined in the Parks and Recreation Master Plan, with a focus on accommodating community-wide events.*

CF-4.7: *As part of the next Parks and Recreation Master Plan update, address opportunities to create a nature-based park, with priority to a park developed as part of a conservation program for natural resource lands. Priority should be given to City-owned site that could provide opportunities for hiking and fishing.*

CF-4.8: *Consider the effects of new development on parks, trails, and recreation facilities, programs, and services, and condition new development appropriately to ensure that the City maintains an adequate inventory and network of facilities and resources.*

CF-4.9: *Cooperate with the school districts in opportunities for joint-use of school and park and recreational facilities.*

CF-4.10: *Actively promote and participate in regional coordination and planning efforts to provide quality parks, trails, and recreation facilities throughout Manteca and the surrounding areas. The City should emphasize regional coordination to leverage funding, maintenance, and/or resources to develop a diverse range of regional recreational opportunities.*

CF-4.11: *Emphasize and prioritize public outreach and educational programs that inform the community of available parks, trails, and recreation facilities, programs, and services available in order to increase and enhance community use of these facilities, programs, and services.*

CF-4.12: *Encourage the expansion of private commercial recreational facilities.*

CF-4.13: *Develop a convenient system of pedestrian sidewalks and pathways and multiuse trails, linking City parks, major open space areas, and the downtown core.*

CF-4.14: *Support recreational activities, events, organized sports leagues, and other programs that serve broad segments of the community.*

CF-4.15: *Allow parks as a permitted use in all residential land use designations.*

ACTIONS

CF-4a: Continuously monitor the condition of parks, trails, and recreation facilities throughout the community and prioritize the rehabilitation of existing facilities that serve the greatest number of residents.

CF-4b: Bi-annually review the City's Parks and Recreation Master Plan to ensure that parks and recreation needs are adequately identified and prioritized, to update cost estimates for park acquisition and development and remaining development potential based on the General Plan and to ensure that the City maintains a minimum overall ratio of 5 acres of parkland for every 1,000 residents.

CF-4c: As part of the next Parks and Recreation Master Plan Update, prepare the plan through an open and engaging process inclusive of community residents and stakeholders that assesses the quality and distribution of existing parks, facilities, and community centers throughout the city relative to the population served and their needs and consider the community needs identified during the General Plan process, including a community park and a combined or separate facility to accommodate community-wide events, a nature-based park, bicycle and pedestrian improvements necessary to improve access to park and recreation facilities, methods to increase physical activity opportunities in the community, and increased joint use of facilities with the school districts. Based on this information, identify and prioritize park and community recreation projects and identify funding means and timelines.

CF-4d: Investigate and pursue a diverse range of funding opportunities for parks, trails, and recreation facilities, including but not limited to, grants, joint use/management strategies, user fees, private sector funding, assessment districts, homeowners' associations, non-profit organizations, funding mechanisms for the maintenance of older parks, and management assistance through Federal, State, and regional partnerships.

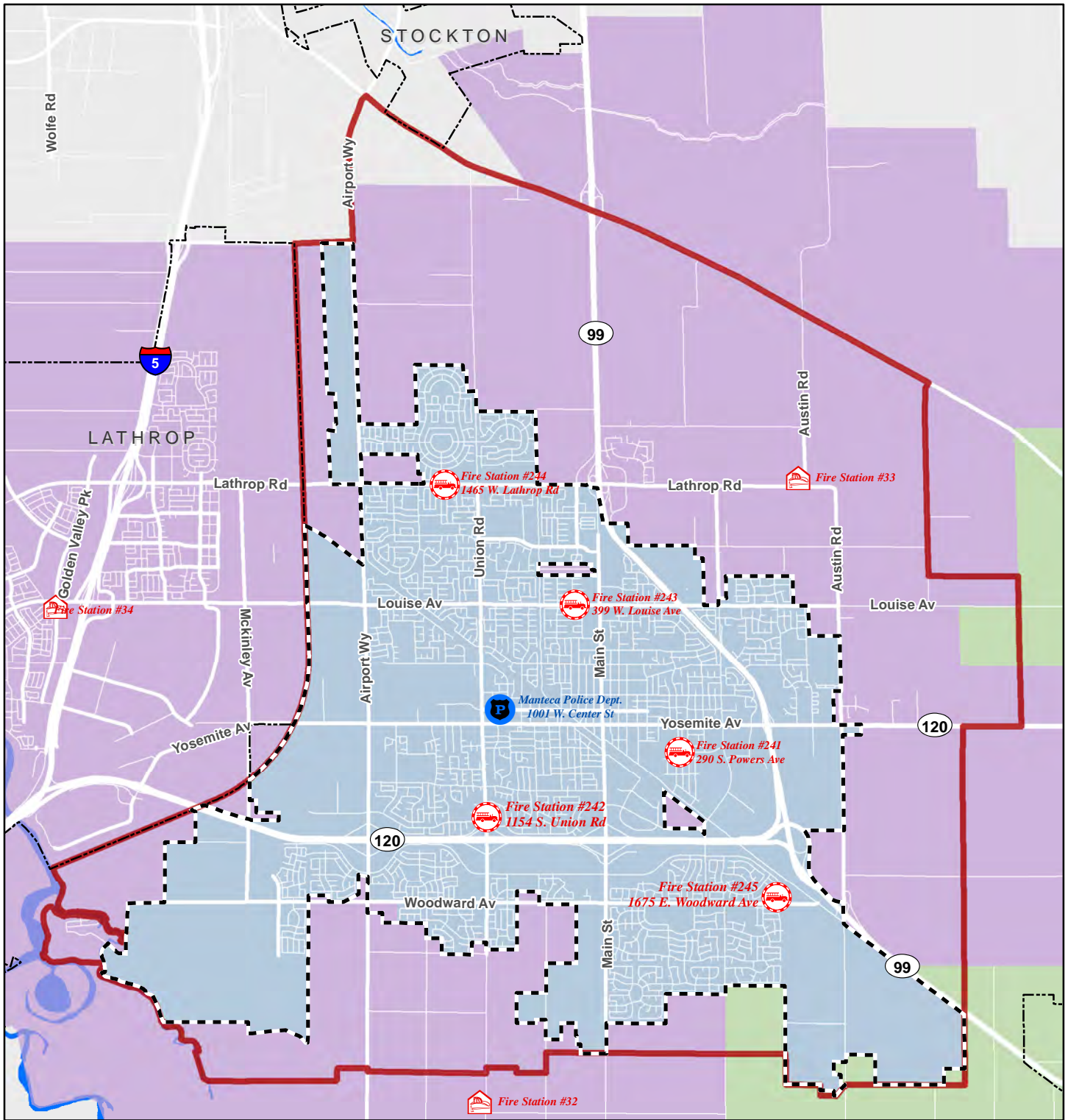
CF-4e: Periodically review, and if necessary, update the Parks and Recreation development impact fees in order to ensure that the City's parks and recreation needs are adequately identified and prioritized and that new development continues to provide a fair-share contribution towards parks, trails, and recreation facilities.

CF-4f: Implement a wide range of public outreach programs, including the City's website, newsletters, other emerging communications technologies, and partnerships with community organizations to keep the public informed about available parks, trails, and recreation facilities, programs, and services.

CF-4g: Continue to pursue joint-use of schools and detention facilities to supplement the parks, trails, and recreation needs of the community.

CF-4h: Through conditions of approval and/or development agreements, ensure that new development provides for its fair-share of park and recreation facilities, including connections to adjacent facilities, and that the development of new parks, trails, and recreation facilities occurs during the infrastructure construction phase of new development projects so that they are open and available to the public prior to completion of the project.

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Legend

- Manteca City Limits
- Other Incorporated
- Manteca Planning Area

Police and Fire Stations

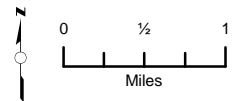
- Police Station - City of Manteca
- Fire Station- City of Manteca
- Fire Station - Lathrop-Manteca Fire Protection District

Fire Districts

- Manteca Fire Department
- Lathrop-Manteca Fire District
- Ripon Consolidated Fire District

CITY OF MANTECA GENERAL PLAN

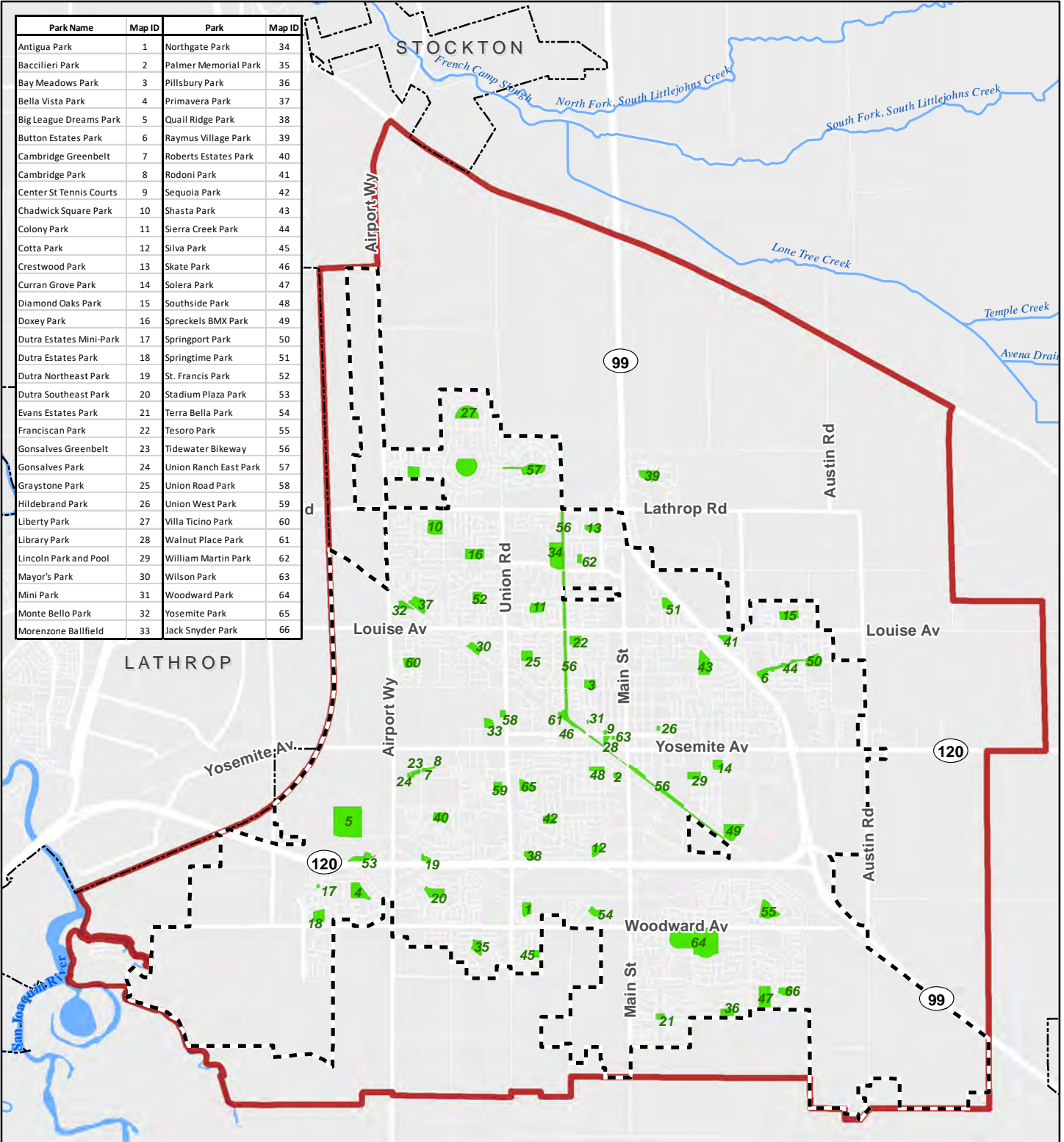
Figure 3.13-1: Fire and Police Stations



Sources: Google Maps; City of Manteca; San Joaquin County. Map date: October 4, 2017. Revised: August 24, 2022.

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Park Name	Map ID	Park	Map ID
Antigua Park	1	Northgate Park	34
Baccileri Park	2	Palmer Memorial Park	35
Bay Meadows Park	3	Pillsbury Park	36
Bella Vista Park	4	Primavera Park	37
Big League Dreams Park	5	Quail Ridge Park	38
Button Estates Park	6	Raymus Village Park	39
Cambridge Greenbelt	7	Roberts Estates Park	40
Cambridge Park	8	Rodoni Park	41
Center St Tennis Courts	9	Sequoia Park	42
Chadwick Square Park	10	Shasta Park	43
Colony Park	11	Sierra Creek Park	44
Cotta Park	12	Silva Park	45
Crestwood Park	13	Skate Park	46
Curran Grove Park	14	Solera Park	47
Diamond Oaks Park	15	Southside Park	48
Doxey Park	16	Spreckels BMX Park	49
Dutra Estates Mini-Park	17	Springport Park	50
Dutra Estates Park	18	Springtime Park	51
Dutra Northeast Park	19	St. Francis Park	52
Dutra Southeast Park	20	Stadium Plaza Park	53
Evans Estates Park	21	Terra Bella Park	54
Franciscan Park	22	Tesoro Park	55
Gonsalves Greenbelt	23	Tidewater Bikeway	56
Gonsalves Park	24	Union Ranch East Park	57
Graystone Park	25	Union Road Park	58
Hildebrand Park	26	Union West Park	59
Liberty Park	27	Villa Ticino Park	60
Library Park	28	Walnut Place Park	61
Lincoln Park and Pool	29	William Martin Park	62
Mayor's Park	30	Wilson Park	63
Mini Park	31	Woodward Park	64
Monte Bello Park	32	Yosemite Park	65
Morezone Ballfield	33	Jack Snyder Park	66

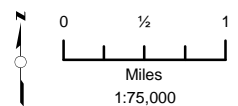


Legend

- Manteca City Limits
- Manteca Planning Area
- Other Incorporated Area
- Park Site

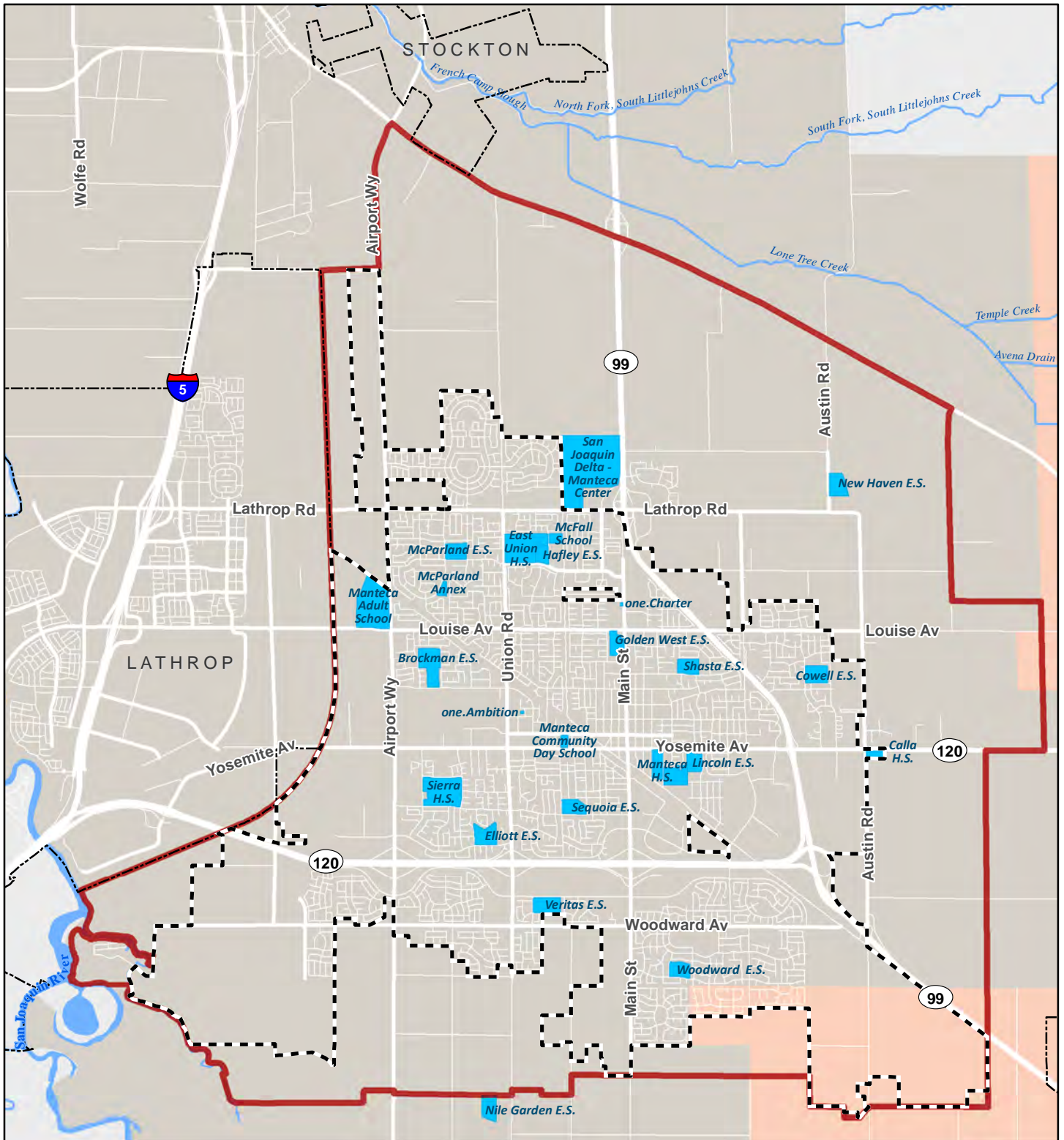
CITY OF MANTECA GENERAL PLAN

Figure 3.13-2. Parks



Source: City of Manteca; San Joaquin County.
Map date: October 7, 2016. Revised: August 26, 2022.

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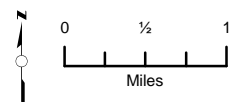


Legend

- Manteca City Limits
- Other Incorporated Area
- Manteca Planning Area
- Public Educational Facility
- Manteca Unified School District
- Ripon Unified School District

CITY OF MANTECA GENERAL PLAN

Figure 3.13-3. Schools and School Districts



Source: San Joaquin County GIS.
Map date: December 14, 2020. Revised: August 26, 2022.

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This chapter describes the potential impacts to the multi-modal transportation system associated with the proposed General Plan. The impact analysis examines the vehicular, transit, bicycle, and pedestrian components of the City's transportation system. To provide context for the impact analysis, this chapter begins with a discussion of the environmental setting, which is a description of the existing physical and operational conditions for the transportation system. Following the setting is the regulatory framework influencing the transportation system and providing the basis for impact significance thresholds used in the impact analysis. The chapter concludes with the impact analysis findings and recommended mitigation measures.

With the implementation of Senate Bill (SB) 743, local agencies may no longer rely on vehicular delay or capacity-based analyses for California Environmental Quality Act (CEQA) impact determination. Instead, agencies must analyze transportation impacts utilizing vehicle miles traveled (VMT), a measure of the total distance traveled by vehicles for trips beginning or ending in Manteca on a typical weekday. VMT impacts are calculated and assessed using an efficiency metric (e.g., VMT per household for residential projects or per employee for commercial projects). This is a change from the prior method of analyzing transportation impacts, which measured level of service (LOS) at intersections and roadway segments, using grades from LOS A to LOS F. While SB 743 does not allow LOS to be used to measure transportation impacts under CEQA, it may still be included in goals and policies in a local agency's general plan. Therefore, in addition to the transportation analysis conducted under the requirements of CEQA, roadway segment operations associated with General Plan implementation were analyzed to address the City's General Plan LOS policies, and results are provided in Appendix D.

Transportation-related comments were received during the public review period or scoping meeting for the Notice of Preparation (January 6, 2020) for an EIR from the California Department of Transportation (Caltrans) (January 27, 2020). Additionally, transportation-related comments were received during the public review period for the Draft EIR (released March 22, 2021) from the City of Lathrop Community Development Department (April 29, 2021), Terra Land Group, LLC (May 3, 2021), Shute Mihaly & Weinberger, LLP (June 10, 2021), Catholic Charities of the Diocese of Stockton (May 4, 2021), Luis Fernandez (June 7, 2021), Kenneth Fujimoto (June 1, 2021), Doug Fraser (April 30, 2021), Ann Gibson (June 4, 2021), Robyn Mendoza (March 26, 2021), Matt Madzier (May 6, 2021), Sally Hopson (April 26, 2021), Amita Kotecha (June 9, 2021), Joe Mendes (June 14, 2021), Debra Hacker (April 15, 2021), Marian Rawlins (June 14, 2021), Marian Rawlins (May 25, 2021), and Pauline Rodriguez (June 3, 2021). The proposed General Plan Circulation Element policies support this objective. Full comments received are included in Appendix A.

3.14.1 ENVIRONMENTAL SETTING

This section provides a contextual background to the City's existing transportation system, representing conditions prior to the onset of the COVID-19 pandemic, which has had enormous impacts on travel behavior. The General Plan addresses the overall planning and development of the circulation system for residents and visitors in a multi-modal framework. Transportation system components include the roadway network, public transportation system, bicycle and pedestrian system, and goods movement.

The automobile is the most widely used mode of transportation in Manteca. According to the U.S. Census Bureau, 2018 American Community Survey 5-Year Estimate, about 91 percent of City of Manteca residents that work commute by car, truck, or van. About two percent of workers take public transportation to work, two percent walk to work, and less than one percent bicycle to work. About one percent utilize a motorcycle, taxicab, or other means, and nearly five percent work at home.

Data from the 2018 American Community Survey 5-Year Estimate also shows the amount of time commuters take to get to work. Based on the data, about 55 percent of workers living in Manteca traveled to work in 29 minutes or less, 19 percent traveled to work in 30 to 59 minutes, and 26 percent traveled to work in 60 minutes or more. Average travel time to work was estimated to be 38 minutes. Commute times for Manteca workers are longer than for the state, where 57 percent travel to work in 29 minutes or less and the average travel time to work is 29 minutes.

ROADWAY SYSTEM

This section describes the physical characteristics of Manteca's existing roadway network. Figure 3.14-1 shows the roadway classification system in Manteca. Figure 3.14-2 shows the number of lanes on arterials and collectors.

State Highways

Two highways operated and maintained by Caltrans pass through Manteca, State Route (SR) 99 and SR 120.

SR 99 is a six-lane north-south freeway running through the eastern portion of the City. SR 99 is a primary route, along with I-5, connecting the City of Manteca to the Cities of Stockton and Sacramento to the north. SR 99 is the primary route connecting the City of Manteca to the Cities of Modesto and Fresno to the south. SR 99 has interchanges at the following City streets:

- Lathrop Road
- Yosemite Avenue
- Austin Road

SR 120 is an east-west freeway running through the southern and eastern portions of the City. SR 120 begins at I-5 in the City of Lathrop at its west terminus approximately 1.5 miles west of the city limit and extends six miles easterly to SR 99. It is coincidental with SR 99 for the short distance from the SR 99/120 interchange to the SR 99/Yosemite Avenue interchange, and then extends easterly beyond Manteca toward Yosemite National Park and the Sierra Nevada Mountains. SR 120 has interchanges at the following City of Manteca streets:

- Airport Way
- Union Road
- Main Street

Arterials

Arterial streets are designed to serve through traffic and major local traffic generators such as residential, commercial, industrial, and institutional uses. (Traffic volumes provided for each segment below are based on counts collected by National Data and Surveying Services on October 25 and 26 or November 9 and 10, 2016, unless noted otherwise.)

Manteca's north-south arterials described below generally connect from Stockton to the north to rural San Joaquin County to the south:

Airport Way is primarily a two-lane road within the City. Outside Manteca, the facility operates as a two-lane rural highway, passing primarily through rural residential and agricultural uses. North of SR 120, Airport Way carries approximately 17,300 vehicles per day.

Union Road is primarily a four-lane street within the City. Outside Manteca, the facility operates as a two-lane rural highway, passing primarily through rural residential and agricultural uses. North of SR 120, Airport Way carries approximately 20,000 vehicles per day.

Main Street begins at Lathrop Road and continues south through the City into rural San Joaquin County. Main Street is primarily a four-lane street within the City, with sections of two-lane street near Lathrop Road, downtown, and SR 120. Outside Manteca, the facility operates as a two-lane rural highway, passing primarily through rural residential and agricultural uses. North of SR 120, Main Street carries approximately 26,600 vehicles per day.

Spreckels Avenue begins at Lathrop Road and continues south through the City until it becomes Industrial Park Drive at the intersection of Moffat Boulevard. Spreckels Avenue is a four-lane street north of Yosemite Avenue and a two-lane street south of Yosemite Avenue. Between Yosemite Avenue and Moffat Boulevard, Spreckels Avenue carries approximately 15,300 vehicles per day.

Van Ryn Avenue begins at Industrial Park Drive and continues south until it terminates at Woodward Avenue. The street has two lanes and carries approximately 7,700 vehicles per day.

Austin Road is primarily a two-lane road within the City. Outside Manteca, the facility operates as a two-lane rural highway, passing primarily through rural residential and agricultural uses. South of Yosemite Avenue, Austin Road carries approximately 3,900 vehicles per day.

Manteca's east-west arterials described below generally connect from Lathrop to the west to rural San Joaquin County to the east:

Roth Road is a two-lane road which extends west of Airport Way into Lathrop. At the City limit, Roth Road carries approximately 8,800 vehicles per day (based on April 2018 counts).

Lathrop Road is primarily a two-lane street, with sections of four-lane street west of Union Road and near Main Street. West of Union Road, Lathrop Road carries approximately 19,300 vehicles per day.

Louise Avenue is primarily a four-lane street, with some sections of two-lane street east of Main Street and other short sections throughout. Between Union Road and Main Street, Louise Avenue carries approximately 17,300 vehicles per day.

Yosemite Avenue is primarily a four-lane street, with some sections of two lanes near downtown and five lanes (three westbound and two eastbound) near SR 99. Between Airport Way and Union Road, Yosemite Avenue carries approximately 20,000 vehicles per day.

In addition to these arterials, McKinley Avenue is a collector which provides an important north-south link and Daniels Street, Atherton Drive, and Woodward Avenue are collectors which provide important east-west links in the City.

Traffic Volumes

Count data was collected for 44 study segments identified as those most critical to Manteca's local circulation system and its connectivity to the regional transportation network. Data was collected on October 25 and 26 or November 9 and 10, 2016, while schools were in session. No unusual traffic conditions were observed, and weather conditions were generally dry.

Figure 3.14-3 shows the existing average daily traffic (ADT) volumes for roadways within the City. ADT represents the total volume passing a point or along a segment of roadway, in both directions, on an average weekday.

Vehicle Miles Traveled

By definition, one vehicle mile traveled (VMT) occurs when one vehicle (regardless of number of occupants) is driven on a roadway for one mile. For the purposes of this EIR, VMT is estimated and projected for a typical weekday when schools are in session. VMT values in this analysis represent the full length of a given trip and are not truncated at jurisdiction boundaries. Additionally, these VMT values are for trips beginning or ending in the City (i.e., are associated with Manteca land uses). Trips passing through the City without stopping are not included in these VMT estimates, as the City has little or no control over such trips.

VMT is used to measure performance of the existing transportation network and to evaluate potential transportation impacts. Although the absolute amount of VMT is typically reported, impact analysis is typically based on VMT expressed as an efficiency metric. VMT efficiency metrics, such as VMT per resident, VMT per employee, or VMT per dwelling unit, allow the VMT performance of different-sized projects to be compared. Such metrics provide a measure of travel efficiency and help depict whether people are traveling by vehicle more or less over time, across different areas, or across different planning scenarios. A per-dwelling-unit or per-employee decline in VMT compared to a baseline condition indicates that the transportation network is operating more efficiently.

The Manteca travel forecasting model, a trip-based model, was used to estimate VMT in the General Plan planning area (Figure 2.0-2). Table 3.14-1 shows the major land uses in the model for the 2016 conditions that reflect initial data collection and the 2019 baseline, which reflects modeling to incorporate development through 2019.

TABLE 3.14-1: EXISTING CONDITIONS MODEL MAJOR LAND USE

LAND USE	UNITS	2019 BASELINE	2016 MODEL
Single family	Dwelling Units	21,226	19,356
Multi family	Dwelling Units	4,788	4,613
Age restricted	Dwelling Units	2,236	1,905
Restaurant	Employees	730	726
Industrial	Employees	4,721	3,886
Office	Employees	1,291	1,246
Retail	Employees	4,831	4,801

SOURCE: FEHR & PEERS, 2020

It is noted that inherent potential limitations exist when using a future year travel demand model is applied for purpose as changes in travel behavior and transportation systems are expected to occur in response to emerging trends, new technologies, and evolving user preferences. Some of these new travel options and technologies are discussed below. Additionally, information about how technology is affecting travel is accumulating over time. Some of these emergent changes that could influence future travel forecasts include:

- Substitution of internet shopping and home delivery for some shopping or meal-related travel.
- Substitution of telework for commute travel.
- New travel modes and choices. Transportation networking companies (TNCs, such as Uber and Lyft), have increased the travel options available to travelers and have contributed to changes in traditional travel demand relationships. Additional options such as car share, bike share, scooter share, and on-demand micro transit are also emerging.
- Automated and connected vehicles.

Like most models, the Manteca travel demand model does not explicitly capture the above-mentioned new modes of travel and emerging trends in travel behavior. Significant uncertainties exist at the present time that prevent explicit modeling of these new modes and emerging trends for the analysis of the General Plan. However, since VMT is a “relative efficiency” metric, to the extent that these trends could cause systematic changes across the City and beyond, they effectively cancel each other out when comparing VMT efficiency for a given horizon period.

Two measures of VMT are used in this analysis:

- **VMT per dwelling unit, for residential land uses.** Includes VMT for trips produced by a dwelling unit’s residents, such as to work, school, or shop, and with one end of the trip at the home, on a typical weekday.

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- VMT per employee, for non-residential land uses.** Includes all trips with one end at the land use, including employees, customers, and deliveries, on a typical weekday. (Note that this ratio is different than the VMT generated by each employee, as the latter only includes trips made by employees).

VMT per dwelling unit is used because the model uses dwelling units as an input. VMT per resident estimates can be made based on estimates of residents per household.

VMT estimates for the 2019 baseline and the 2016 modelled conditions are shown in Table 3.14-2. In addition to the two metrics presented above, additional metrics are reported for information.

With respect to the residential uses, it is reasonable to expect that multi-family would generate about three-quarters of the VMT as single-family, as the ratio of their daily trip generation rates is in that range. Additionally, socioeconomic characteristics likely play a role, with single-family units having a propensity for longer distance commute trips.

Regarding the non-residential uses, the most common use types are shown including retail, office, industrial, and restaurants. Although schools, churches, parks, etc. are also present within Manteca, proposals for new construction are relatively rare and should be evaluated on a case-by-case basis as is described later. The VMT per employee does not necessarily reflect the actual amount of travel by each employee but is rather a ratio of that land use's total amount of travel (by all users) divided by employees.

TABLE 3.14-2: VMT, EXISTING CONDITIONS

<i>LAND USE</i>	<i>UNITS</i>	<i>2019 BASELINE</i>	<i>2016 EXISTING CONDITIONS</i>
Single family residential	VMT per dwelling unit	103.8	97.6
Multi-family residential	VMT per dwelling unit	78.6	74.3
Age restricted residential	VMT per dwelling unit	44.1	41.8
Restaurant	VMT per employee ¹	186.0	186.1
Industrial	VMT per employee	75.3	76.2
Office	VMT per employee	32.4	32.3
Retail	VMT per employee	118.9	119.4
All residential	VMT per dwelling unit	94.8	89.4
All residential	VMT per resident ²	29.8	28.1
All employment	VMT per employee	82.2	82.5
All land uses	VMT per service population ^{2,3}	36.7	36.7
Total VMT	VMT	3,755,100	3,337,400

NOTES: ¹VMT PER EMPLOYEE RATIOS INCLUDE ALL TRIPS BY EMPLOYEES, CUSTOMERS, AND DELIVERIES

²BASED ON 3.18 RESIDENTS/DWELLING UNIT (CALIFORNIA DEPARTMENT OF FINANCE, E-5 CITY/COUNTY POPULATION AND HOUSING ESTIMATES, 1/1/2020)

³SERVICE POPULATION INCLUDES RESIDENTS AND EMPLOYEES

⁴VMT INCLUDES FULL LENGTH OF ALL TRIPS WITH EITHER AN ORIGIN OR DESTINATION WITHIN THE PLANNING AREA.

SOURCE: FEHR & PEERS, 2020

Safety

Collision history data for injury collisions in the study area, excluding freeways, was retrieved for the years 2016-2020 inclusive. Table 3.14-3 displays this data by year for all injury collisions and those involving pedestrians, bicyclists, or trucks. History of collisions involving killed or seriously injured (KSI) victims is presented in Table 3.14-4. Collision heatmaps for all collisions and KSI collisions are shown in Figures 3.14-4 and 3.14-5. Maps of collisions involving pedestrians, bicyclists, or trucks are shown in Figures 3.14-6 to 3.14-8. As shown, most collisions occur on arterials.

TABLE 3.14-3: INJURY COLLISIONS, 2016-2020

YEAR	ALL	PEDESTRIAN	BICYCLIST	TRUCK
2016	243	19	16	10
2017	216	18	16	7
2018	261	19	29	6
2019	279	21	20	6
2020	232	20	20	9
<i>Total</i>	1,231	97	101	38

SOURCE: UC BERKELEY TRAFFIC INJURY AND MANAGEMENT SYSTEM, 2022

NOTE: 2020 DATA PRELIMINARY

TABLE 3.14-4: KILLED OR SERIOUS INJURY COLLISIONS, 2016-2020

YEAR	ALL	PEDESTRIAN	BICYCLIST	TRUCK
2016	17	3	2	3
2017	23	4	1	2
2018	22	4	2	0
2019	19	4	2	0
2020	17	4	2	1
<i>Total</i>	98	19	9	6

SOURCE: UC BERKELEY TRAFFIC INJURY AND MANAGEMENT SYSTEM, 2022

NOTE: 2020 DATA PRELIMINARY

Over the period shown, an average of 246 injury collisions and 20 KSI collisions per year within the study area (excluding freeways) were reported. Of the baseline weekday VMT presented in Table 3.14-2, about 2,187,800 occurred within the planning area. These collisions equate to approximately 0.00000043 annual injury collision and 0.00000035 KSI collision per mile of driving. In other words, one injury collision could be expected for every 2.3 million miles of driving. This ratio emphasizes that injury collisions are relatively infrequent when viewed in the context of total driving in the city.

About 20 percent of all pedestrian collisions and 9 percent of all bicyclist collisions resulted in severe injuries or fatalities. For comparison purposes, within all of San Joaquin County (excluding State highways), KSI collision comprised about 24 percent of pedestrian collisions and 16 percent of bicyclist collisions. Thus, the severity of collisions involving bicyclists and pedestrians in the City is somewhat lower than in the county, perhaps due to slower travel speeds and more frequent bicycle and pedestrian facilities within the city. As shown in the figures, pedestrian collisions, although

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occurring in many areas of the City, are more concentrated on Main Street and Yosemite Avenue. Bicycle collisions are similarly more concentrated on these streets, especially in Downtown.

Table 3.14-5 displays the primary collision factors associated with this history. For injury collisions, unsafe speed and automobile right-of-way violations were the top two factors. For killed or serious injury collisions, unsafe speed and driving under the influence of alcohol or drugs were the top two.

TABLE 3.14-5: PRIMARY COLLISION FACTOR, 2016-2020

PRIMARY COLLISION FACTOR	ALL INJURY COLLISIONS		KILLED OR SERIOUS INJURY COLLISIONS	
	NUMBER	SHARE	NUMBER	SHARE
Unsafe Speed	326	26%	25	26%
Automobile Right of Way	275	22%	7	7%
Improper Turning	135	11%	8	8%
Traffic Signals and Signs	129	10%	5	5%
Driving or Bicycling Under the Influence of Alcohol or Drug	106	9%	23	23%
Wrong Side of Road	48	4%	7	7%
Pedestrian Violation	33	3%	8	8%
Pedestrian Right of Way	27	2%	1	1%
Following Too Closely	25	2%		0%
Other	127	10%	14	14%
<i>Total</i>	1231	100%	98	100%

SOURCE: UC BERKELEY TRAFFIC INJURY AND MANAGEMENT SYSTEM, 2022

NOTE: 2020 DATA PRELIMINARY

PUBLIC TRANSPORTATION SYSTEM

The public transportation system in Manteca includes bus transit, taxi and ride sharing services, and rail transit.

Bus Transit Operations

Manteca Transit provides most bus service within the City. The San Joaquin Regional Transit District also provides connections from Manteca to Stockton and Ripon.

MANTECA TRANSIT

Manteca Transit is the primary transit provider in the City; it provides regularly scheduled fixed-route service to major activity centers and transit hubs within the City limits. Four routes provide hourly service weekdays from 6 AM to 7 PM and three of these routes also provide hourly service Saturday from 9 AM to 4 PM. An exhibit showing weekday bus routes is provided in Figure 3.14-9.

Route 1 is primarily an east-west route traveling along Yosemite Avenue. Stops include Stadium Shopping Center, Kaiser Permanente Hospital, Save Mart, City Hall, the Senior Center, Manteca High School, Doctors Hospital, Target, and Laurel Glen Apartments.

Route 2 serves a clockwise loop in the southern portion of the City, between Yosemite Avenue and Woodward Avenue. Stops include Mission Ridge Shopping Center, Woodward Community Park,

Brock Elliot School, Sierra High School, Manteca Shopping Center, City Hall, and Mission Ridge Shopping Center.

Route 3 serves a counterclockwise loop around the norther portion of the City, between Lathrop Road and Yosemite Avenue. Stops include Boy's and Girl's Club of Manteca, Prestige Assisted Living, Save Mart, Vista Verde Apartments, East Union High School, Raley's, McParland School, Stella Brockman School, and City Hall.

Route 4, operating weekdays only, serves a clockwise loop around the western portion of the City between Airport Way and Main Street. Stops include Mission Ridge Shopping Center, Sierra High School, Stella Brockman School, McParland School, East Union High School, Vista Verde Apartments, Walgreens, and Boy's and Girl's Club of Manteca.

Front loading bicycle racks, which typically accommodate two bicycles, are provided on all fixed route transit buses. Bicycle rack spaces are available on a first come, first served basis.

The City has a multimodal transit center near downtown Manteca at the corner of Main Street and Moffat Boulevard. All Manteca Transit routes serve this center, which also connects to the Tidewater Bike Path. The transit center could also serve future passenger rail service along the adjacent Union Pacific Railroad corridor if such service is developed.

SAN JOAQUIN REGIONAL TRANSIT DISTRICT

Route 91 connects Manteca to Stockton and Ripon with service weekdays between 6 AM and 8:30 PM. The Manteca stop is at the Manteca Transit Center.

Route 95 connects Manteca to Stockton and Escalon with service weekdays between 7:15 AM and 6:30 PM. Manteca stops are at the Manteca Transit Center and Main Street at Northgate Drive.

Route 97 connects Manteca to Lathrop and Tracy with service weekdays between 5:40 AM and 9:00 PM. The Manteca stop is at the Manteca Transit Center.

The San Joaquin Regional Transit District has mounted exterior bicycle racks on all fixed route interregional buses.

DIAL-A-RIDE AND ADA PARATRANSIT SERVICES

Manteca Transit provides paratransit services for people who are unable to independently use the transit system due to a physical or mental disability. Paratransit operators are required by the ADA to service areas within three-quarters of a mile of their respective, public fixed-route service. Service hours are Monday through Friday from 6 AM to 7 PM and Saturday from 9 AM to 4 PM. Ride reservations can be scheduled daily.

Taxi Services

Taxi service in Manteca is provided by private operators that serve the City and the greater San Joaquin County area. Taxi service is available 24 hours a day, seven days a week by calling in a service request.

Ride Sharing Services

Lyft and Uber provide connections to local and regional destinations. Availability varies depending on driver availability, and service may always not be available. Service is requested by smartphone apps for each provider.

Altamont Corridor Express Rail Transit

The Altamont Corridor Express (ACE) rail service connects Manteca to San Jose and the Bay Area and connects Stockton to Manteca. Weekdays, two westbound train serve Manteca at 4:39 AM and 5:54 AM and two eastbound trains serve Manteca between 5:23 PM and 7:23 PM. The Lathrop/Manteca station is located on Shideler Parkway just north of Yosemite Avenue west of the city limit. ACE trains allow bicycles in bike cars and regular coach cars.

The Amtrak Thruway Bus service also provides connections weekdays from the ACE station to the Stockton Amtrak station. Most buses require storing the bicycle in the baggage storage compartment underneath the bus.

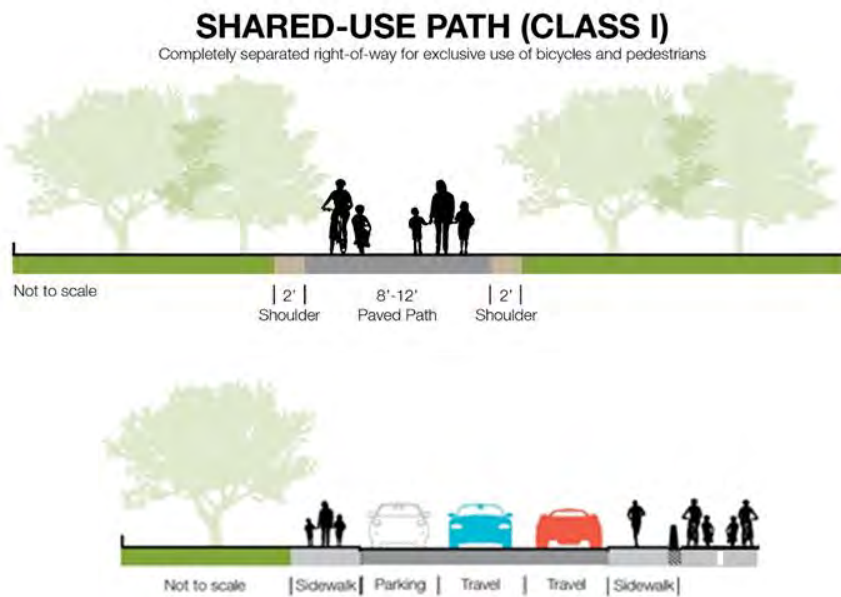
BICYCLE AND PEDESTRIAN SYSTEM

This section describes the bicycle and pedestrian network in Manteca.

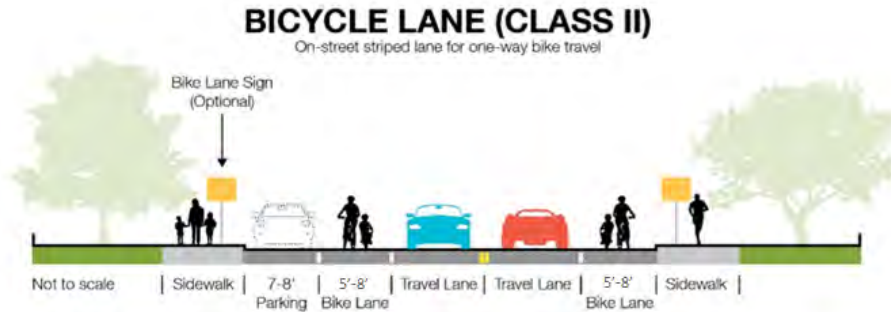
Bicycle Facilities

Bicycle facilities are categorized into four types as described and depicted in illustrations below. Note that while the graphics include typical widths for the various facilities, the exact configuration of a bike facility may vary depending on its location.

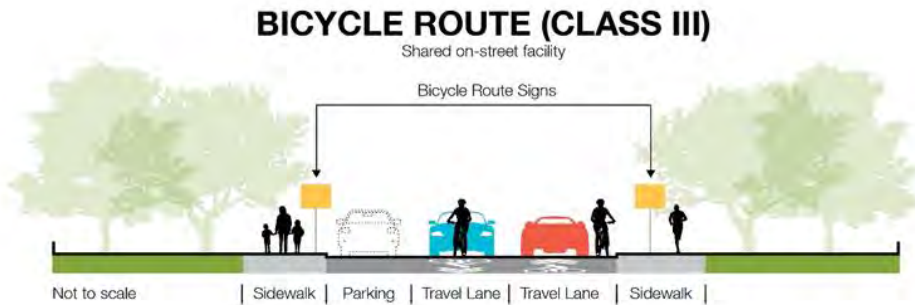
- Class I Bikeway (Bike Path):** Also known as a shared-use path or multi-use path, a bike path is a paved right-of-way for bicycle travel that is completely separate from any street or highway.



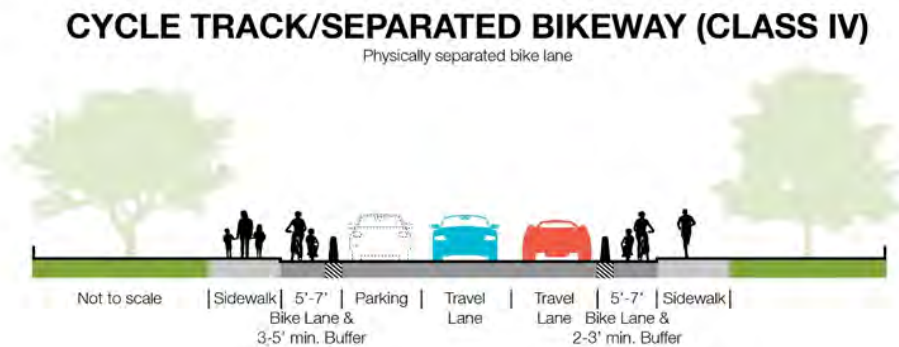
- Class II Bikeway (Bike Lane):** A striped and stenciled lane for one-way bicycle travel on a street or highway. This facility could include a buffered space between the bike lane and vehicle lane and the bike lane could be adjacent to on-street parking.



- Class III Bikeway (Bike Route):** A signed route along a street where the bicyclist shares the right-of-way with motor vehicles. This facility can also be designated using a shared-lane marking (sharrow).



- Class IV Bikeway (Separated Bikeway or Cycle Track):** A bikeway for the exclusive use of bicycles including a separation required between the separated bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.



Bicycle circulation in Manteca is supported by an existing network of multi-use off-street (Class I) paths, on-street (Class II) bike lanes, and bicycle routes (Class III). The most notable City bicycle facility is the Tidewater Bikeway (Class I), which serves as the backbone of Manteca’s bicycle network. The Tidewater Bikeway begins north of Lathrop Road and continues south to the Union

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Pacific Railroad corridor, where it turns southeast and continues to Spreckels Avenue where it meets the Spreckels Bike Path (Class I). The Spreckels Bike Path connects from Yosemite Avenue south to Atherton Drive where it ends at the Atherton Bike Path. Additional multi-use paths, bike lanes, and bike routes connect to destinations around the City. The City's existing bikeways from the City's 2020 Active Transportation Plan (ATP) are shown in Figure 3.14-10.

In general, most Manteca schools, parks, and public buildings are equipped with bike racks for short-term bicycle parking. City of Manteca Municipal Code Section 17.52.110 specifies bicycle parking requirements, including number of spaces and locations.

Pedestrian Facilities

Pedestrian facilities include multi-use off-street (Class I) paths, sidewalks, crosswalks, pedestrian signal infrastructure, curb ramps, and streetscape amenities. Most developed arterial streets in Manteca provide sidewalk coverage, accessible curb ramps, and marked crosswalks.

Sidewalks and a variety of pedestrian amenities are provided throughout the downtown including accessible pedestrian ramps, decorative paving and crosswalk treatments, curb extensions, benches, and street trees. Sidewalks are also provided in most of Manteca's single-family residential neighborhoods, in multi-family residential developments, and in commercial developments.

The existing pedestrian facilities from the ATP are shown in Figure 3.14-11. While the pedestrian network is generally well developed in Manteca, there are some locations where gaps in the sidewalk network can be found. In general, facilities along developing arterials vary depending on the level of development along the street. In some locations where adjacent parcels have not been developed, the street is not fully built-out and hence sidewalks have not been constructed.

GOODS MOVEMENT

The Surface Transportation Assistance Act (STAA) of 1982 defines a network of state facilities as truck routes which accommodate large trucks. STAA routes have specific signage and are designed with street widths, curb return radii, and other features to accommodate STAA trucks, which have longer wheelbases than other trucks. The Manteca STAA route starts on Main Street at SR 120, continues onto Industrial Park Drive then Spreckels Avenue, then continues onto Yosemite Avenue to Vasconcellos Avenue, then continues south to the end of Vasconcellos Avenue (City of Manteca, undated).

Additionally, goods movement in Manteca and the region is supported by the Union Pacific Railroad which passes through the City and has an intermodal facility within the planning area, between Roth Road and Lathrop Road just west of the City limit.

At-grade railroad crossings exist on the following City streets.

1. Airport Way south of Northgate Drive
2. Louise Avenue at west city limit
3. Yosemite Avenue at west city limit
4. Louise Avenue west of Philips Drive
5. Union Road south of Alameda Street

6. Walnut Avenue south of Jackolyn Drive
7. Center Street west of Elm Avenue
8. Yosemite Avenue at Manteca Avenue
9. Main Street south of Moffat Boulevard
10. Spreckels Avenue south of Moffat Boulevard
11. Moffat Boulevard east of Spreckels Avenue
12. Woodward Avenue west of Moffat Boulevard
13. Austin Road south of Moffat Boulevard

Additionally, at-grade crossings exist on the following streets outside the current City limits but in the study area.

14. French Camp Road east of Union Road
15. SR 99 West Frontage Road south of French Camp Road
16. SR 99 East Frontage Road south of French Camp Road
17. Castle Road south of French Camp Road
18. Austin Road south of French Camp Road
19. Prescott Road south of French Camp Road

Except for Castle Road, all of the aforementioned crossings include advanced signage, flashing signals, and crossing gates. Louise Avenue west of Philips Drive, Union Road, and Main Street all also have center medians up to the railroad tracks to physical restrict vehicles from crossing the tracks when arms are down. Spreckels Avenue also has pedestrian crossing gates. The Castle Road crossing has advanced signage and yield signs attached to the crossbuck railroad signs. The other public street at-grade railroad crossings along this segment of French Camp Road have crossing gates, and signals, and advanced signage. Future development in this area would likely trigger an upgrade in equipment at the Castle Road at-grade railroad crossing.

Safety

Collision history for injury collisions involving trucks is presented in the Roadway System section. As shown in Table 3.14-3, an average of eight collisions per year involving trucks were reported from 2016 through 2020, inclusive. Of those collisions, an average of about 1.2 per year was serious in nature. Two collisions over that five-year period resulted in fatalities, resulting in slightly less than one fatality every two years.

Collision history data for at-grade railroad crossings in the study area was retrieved from the Federal Railroad Administration Office of Safety Analysis for the years 2016-2020, inclusive. Four total collisions were reported.

- Three collisions involved pedestrians who were killed, one at Yosemite Avenue (2016) and two at Main Street (2018 and 2020).
- One collision was with an automobile at Airport Way (2020) and was property damage only (no injuries).
- No collisions involving large trucks were reported.

When considering the substantial volume of traffic traveling across each of these 19 crossing per year and given that only one collision over the five-year period involved a vehicle, the rate of collisions involving vehicles is extremely low.

3.14.2 REGULATORY SETTING

The General Plan, along with a variety of City, regional, State, and Federal plans, legislation, and policy directives provide guidelines for the safe operation of streets and transportation facilities in Manteca. While the City has primary responsibility for the maintenance and operation of local transportation facilities in its jurisdiction, Manteca staff works on a continual basis with responsible regional, State, and Federal agencies including County of San Joaquin, the San Joaquin Council of Governments, the California Department of Transportation (Caltrans), the Federal Highway Administration, and others to maintain, improve, and balance the competing transportation needs of the community and the region.

FEDERAL

Americans With Disabilities Act

The Americans with Disabilities Act (ADA) of 1990 provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equality of opportunity, full participation, independent living, and economic self-sufficiency. To implement this goal, the United States Access Board has created accessibility guidelines for public rights-of-way. The guidelines address various issues, including roadway design practices, slope and terrain issues, pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way.

STATE

OPR General Plan Guidelines

The Governor's Office of Planning and Research (OPR) publishes General Plan Guidelines as for cities and counties developing their general plans. OPR released its updated guidelines in 2017, which includes legislative changes, new guidance, policy recommendations, external links to resource documents, and additional resources. For each general plan element, the guidelines discuss statutory requirements in detail, provide recommended policy language, and include examples of city and county general plans that have adopted similar policies.

Assembly Bill 32, Senate Bill 32, and Senate Bill 375

Assembly Bill (AB) 32, also known as the Global Warming Solutions Act of 2006, committed California to reducing greenhouse gas (GHG) emissions to 1990 levels by 2020. In 2016, Senate Bill (SB) 32 added a new target: reducing statewide emissions to 40 percent below 1990 levels by 2030.

SB 375 provides guidance for curbing emissions from cars and light trucks to help California comply with AB 32. There are five major components to SB 375:

- ARB will guide the adoption of GHG emission targets to be met by each Metropolitan Planning Organization (MPO) in the state. The MPO for Manteca is the San Joaquin Council of Governments (SJCOG).
- MPOs are required to create a Sustainable Communities Strategy (SCS) that provides a plan for meeting these regional targets. The SCS must be consistent with the Regional Transportation Plan (RTP).
- Regional housing elements and transportation plans must be synchronized on eight-year schedules. Also, the SCS and Regional Housing Needs Assessment (RHNA) must be consistent with each other.
- CEQA is streamlined for preferred development types such as mixed-use projects and transit-oriented developments (TODs) if they meet specific requirements.
- MPOs must use transportation and air emission modeling methodologies consistent with California Transportation Commission (CTC) guidelines.

Senate Bill 743

SB 743, passed in 2013, resulted in several statewide CEQA changes. It required the California Governor's Office of Planning and Research (OPR) to establish new metrics for determining the significance of transportation impacts of projects within transit priority areas (TPAs) and allows OPR to extend use of the metrics beyond TPAs. OPR selected VMT as the preferred transportation impact metric and applied their discretion to require its use statewide. This legislation also established that aesthetic and parking effects of a residential, mixed-use residential, or employment center projects on an infill site within a TPA are not significant impacts on the environment. The revised CEQA Guidelines that implement this legislation became effective on December 28, 2018, and state that vehicle LOS and similar measures related to delay shall not be used as the sole basis for determining the significance of transportation impacts for land use projects, and that as of July 1, 2020, this requirement shall apply statewide, but that until that date, lead agencies may elect to rely on VMT rather than LOS to analyze transportation impacts.

The OPR "Technical Advisory on Evaluating Transportation Impacts in CEQA" (December 2018) includes specifications for VMT methodology and recommendations for significance thresholds, screening of project that may be presumed to have less than significant impacts, and mitigation.

Screening criteria include:

- **Small projects:** The Technical Advisory concludes that, absent any information to the contrary, projects that generate 110 trips per day or less may be assumed to cause a less-than-significant transportation impact.
- **Projects near transit stations:** Projects located within ½ mile of an "existing major transit stop" or an "existing stop along a high-quality transit corridor" would have a less-than-significant impact on VMT.
- **Affordable residential development:** Projects consisting of a high percentage of affordable housing may be assumed to cause a less-than-significant transportation impact on VMT because they may improve jobs-housing balance and/or otherwise generate less VMT than market-based units.

- **Redevelopment projects:** If a proposed redevelopment project leads to a net overall decrease in VMT (when compared against the VMT of the existing land uses), the project would lead to a less-than-significant transportation impact.
- **Local-serving retail:** Trip lengths may be shortened and VMT reduced by adding “local-serving” retail opportunities that improve retail destination proximity. Page 17 of the Technical Advisory generally describes retail development including stores less than 50,000 square feet as local-serving. In May 2020, OPR staff indicated during online webinars that any retail building that is 50,000 square feet or less may be considered local-serving.

Other key guidance includes:

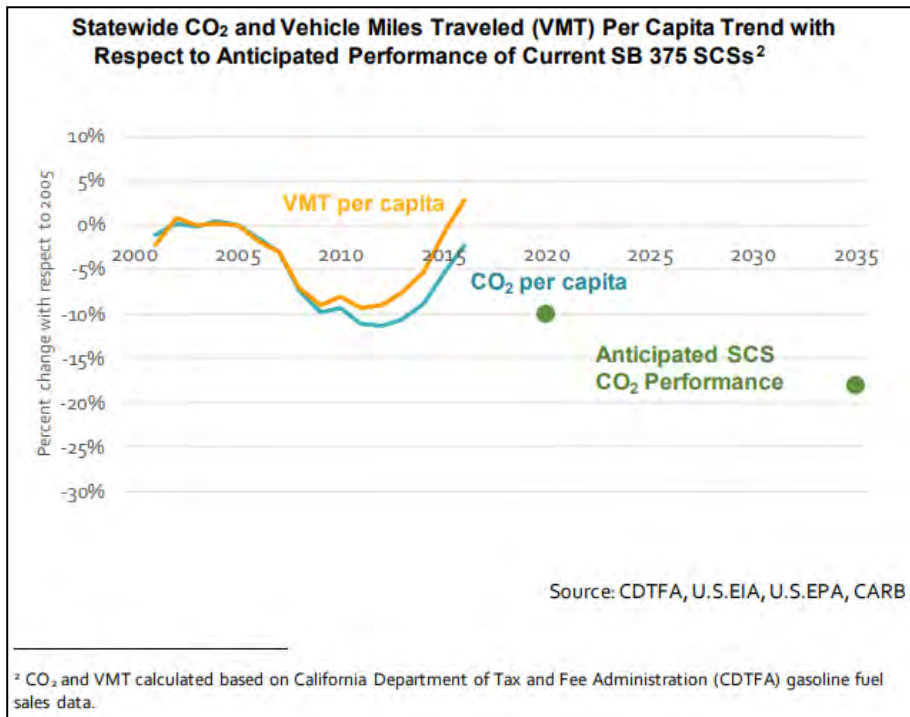
- VMT is the most appropriate metric to evaluate a project’s transportation impact.
- OPR recommends tour- and trip-based travel models to estimate VMT, but ultimately defers to local agencies to determine the appropriate tools.
- OPR recommends measuring VMT for residential and office projects on a “per rate” basis. Specifically, OPR recommends VMT per capita for residential projects and VMT per employee for office projects.
- OPR recommends that a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable threshold (page 10). In other words, an office project that generates VMT per employee that is more than 85 percent of the regional VMT per employee could result in a significant impact. OPR notes that this threshold is supported by evidence that connects this level of reduction to the State’s emissions goals (pages 10-11).
- For retail projects, OPR recommends measuring the net decrease or increase in VMT in the planning area with and without the project. The recommended impact threshold is any increase in total VMT.
- Lead agencies ultimately have the discretion to set or apply their own significance thresholds, provided they are based on significant evidence.
- Cities and counties still have the ability to use measures of delay such as LOS for other plans, studies, or network monitoring. However, according to CEQA section 15064.3, Determining the Significance of Transportation Impacts, “effect on automobile delay shall not constitute a significant environmental impact.”

California Air Resources Board Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals

ARB has specific guidance for VMT thresholds in the ARB 2017 “Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals” (January 2019). This document provides recommendations for VMT reduction thresholds that would be necessary to achieve the state’s GHG reduction goals and acknowledges that the SCS targets alone are not sufficient to meet climate goals. ARB concluded that a 14.3-percent reduction in total VMT per capita and a 16.8 percent reduction in light-duty VMT per capita (over current conditions; 2015-2018) was needed to meet these goals. The Manteca travel forecasting model is trip-based and includes all vehicle trips, thus the total VMT per capita metric is applicable. Additionally, the OPR “Technical Advisory” cites this document as support for the 15-percent reduction threshold.

California Air Resources Board 2018 Progress Report, California's Sustainable Communities and Climate Protection Act, California Air Resources Board

In the "2018 Progress Report, California's Sustainable Communities and Climate Protection Act" (November 2018), ARB charts recent VMT per capita trends and shows VMT per capita increasing in recent years. This trend is inconsistent with RTP/SCS projections across the state forecasting declines.



SOURCE: 2018 PROGRESS REPORT CALIFORNIA'S SUSTAINABLE COMMUNITIES AND CLIMATE PROTECTION ACT, CALIFORNIA AIR RESOURCES BOARD, 2018

Assembly Bill 417

In October 2013, AB 417 created a statutory CEQA exemption for bicycle plans in urbanized areas. Before the passage of this bill, cities and counties that prepared bicycle plans were required to carry out a CEQA review. AB 417 exempts the following types of bicycle projects in an urbanized area:

- Restriping of streets and highways
- Bicycle parking and storage
- Signal timing to improve intersection operations
- Signage for bicycles, pedestrians, and vehicles

However, not all bicycle plans are exempt if certain conditions are met (e.g., a new Class I bicycle trail through a sensitive natural area).

Assembly Bill 43

In October 2021, AB 43 created greater freedom for local authorities to reduce speed limits to improve safety. Previously, speed limits were generally required to be based on 85th percentile observed speeds. Caltrans is now developing guidance for the implementation of the bill.

Caltrans Vehicle Miles Traveled-Focused Transportation Impact Study Guide

The Caltrans “Vehicle Miles Traveled-Focused Transportation Impact Study Guide” (TISG), dated May 20, 2020, was prepared to provide guidance to Caltrans districts, lead agencies, tribal governments, developers, and consultants regarding Caltrans’ review of VMT impact analysis for land use projects and land use plans. Caltrans seeks to reduce single occupancy vehicle trips, provide a safe transportation system, reduce per capita VMT, increase accessibility to destinations via cycling, walking, carpooling, and transit, and reduce greenhouse gas (GHG) emissions. The TISG notes that, for land use projects and plans, automobile delay is no longer considered a significant impact on the environment under CEQA. Caltrans’ primary review focus for a land use project’s transportation impacts is now VMT. The TISG generally endorses the OPR “Technical Advisory,” including the thresholds in that document. Caltrans may review VMT thresholds, methodology, and mitigations.

Caltrans Interim Land Development and Intergovernmental Review (LDIGR) Safety Review Practitioners Guidance

The Interim LDIGR Safety Review Practitioners Guidance (July 2020) was developed to provide immediate direction about the safety review while final guidance is being developed. This interim guidance does not establish thresholds of significance for determining safety impacts under CEQA. The guidance notes that the significance of impacts should be determined with careful judgment on the part of a public agency and based, to the greatest extent possible, on scientific and factual data consistent with Caltrans’ CEQA guidance contained in Caltrans’ Standard Environmental Reference. The guidance notes that District traffic safety staff will use available data to determine if the proposed project may influence or contribute to locations identified by traffic safety Investigations generated by network screening or initiated by the district.

Caltrans Deputy Directive 64-R1: Complete Streets – Integrating the Transportation System and Assembly Bill 1358: Complete Streets Act of 2008

In 2001, Caltrans adopted Deputy Directive (DD) 64, a policy directive related to non-motorized travel throughout the state. In October 2008, DD 64 was strengthened to reflect changing priorities and challenges. DD 64-R1 states:

The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system.

The Department develops integrated multimodal projects in balance with community goals, plans, and values. Addressing the safety and mobility needs of bicyclists, pedestrians, and

transit users in all projects, regardless of funding, is implicit in these objectives. Bicycle, pedestrian, and transit travel is facilitated by creating “complete streets” beginning early in system planning and continuing through project delivery and maintenance and operations. Developing a network of “complete streets” requires collaboration among all Department functional units and stakeholders to establish effective partnerships.

Providing safe mobility for all users, including motorists, bicyclists, pedestrians, and transit riders, contributes to the Department's vision: "Improving Mobility Across California."

Successful long-term implementation of this policy is intended to result in more options for people to go from one place to another, less traffic congestion and greenhouse gas emissions, more walkable communities (with healthier, more active people), and fewer barriers for older adults, children, and people with disabilities.

Economically, complete streets can help revitalize communities, and they can give families the option to lower transportation costs by using transit, walking, or bicycling rather than driving to reach their destinations. The Department is actively engaged in implementing its complete streets policy in all planning, programming, design, construction, operations, and maintenance activities and products on the State Highway System.

In 2008, the State of California enacted Assembly Bill 1358, the Complete Streets Act of 2008. This law requires cities and counties, when updating their general plans, to ensure that local streets and roads meet the needs of all users, including bicyclists, pedestrians, transit riders, children, seniors, persons with disabilities and motorists. The law took effect in January 2011, when the OPR issued new proposed General Plan guidelines that reflect Complete Streets planning principles. As described by OPR, complete streets should be designed and constructed to serve all users of streets, roads, and highways, regardless of their age or ability, or whether they are driving, walking, bicycling, or taking transit.

Caltrans Director’s Policy 22 (DP-22), Director’s Policy on Context Sensitive Solutions

Director’s Policy 22, a policy regarding the use of “Context Sensitive Solutions” on all state highways, was adopted by Caltrans in November of 2001. The policy reads:

The Department uses “Context Sensitive Solutions” as an approach to plan, design, construct, maintain, and operate its transportation system. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Context sensitive solutions are reached through a collaborative, interdisciplinary approach involving all stakeholders.

The context of all projects and activities is a key factor in reaching decisions. It is considered for all State transportation and support facilities when defining, developing, and evaluating options. When considering the context, issues such as funding feasibility, maintenance feasibility, traffic demand, impact on alternate routes, impact on safety, and relevant laws, rules, and regulations must be addressed.

The policy recognizes that “in towns and cities across California, the State highway may be the only through street or may function as a local street,” that “these communities desire that their main street be an economic, social, and cultural asset as well as provide for the safe and efficient movement of people and goods,” and that “communities want transportation projects to provide opportunities for enhanced non-motorized travel and visual quality.” The policy acknowledges that addressing these needs will assure that transportation solutions meet more than just traffic and operational objectives.

Executive Order N-79-20

Executive Order N-79-20 requires that 100 percent of in-state sales of new passenger cars and trucks be zero-emission by 2035, establishes the goal that 100 percent of medium- and heavy-duty vehicles in the State be zero-emission by 2045 for all operations, where feasible, and by 2035 for drayage trucks, and the goal to transition to 100 percent zero-emission off-road vehicles and equipment by 2035, where feasible.

REGIONAL

San Joaquin Council of Governments Regional Transportation Plan and Sustainable Community Strategy

The current Regional Transportation Plan and Sustainable Community Strategy (RTP/SCS) produced by SJCOG was adopted in 2018. The RTP/SCS sets forth regional transportation policy and provides capital program planning for all regional, state, and federally funded projects. The RTP/SCS also demonstrates how land use development and transportation can work together to meet greenhouse gas emission reduction targets for cars and light trucks. The RTP can be considered the San Joaquin region’s “statement of priorities” for the future transportation system. The RTP/SCS states that it “recognizes the significant impact the transportation network has on the region’s public health, mobility, and economic vitality” and “serves as a guide for achieving public policy decisions that will result in balanced investments for a wide range of multimodal transportation improvements.”

San Joaquin County Regional Congestion Management Program

As the designated Congestion Management Agency (CMA) for San Joaquin County, the San Joaquin Council of Governments (SJCOG) is responsible for updating County’s Regional Congestion Management Program (RCMP) and monitoring its implementation. The RCMP network includes the following roadways in the City:

- SR 99
- SR 120
- Airport Way
- Union Road
- Main Street
- Cottage Avenue
- Austin Road
- Roth Road

- Lathrop Road
- Louise Avenue
- Yosemite Avenue
- Woodward Road

San Joaquin Valley Air Pollution Control District (SJVAPCD)

SJVAPCD has implemented Rule 9410, Employer Based Trip Reduction. The purpose of this rule is to reduce VMT from private vehicles used by employees to commute to and from their worksites to reduce emissions of NO_x, ROG, and particulate matter (PM₁₀ and PM_{2.5}). The rule applies to employers with at least 100 employees. Employers are required to implement an Employer Trip Reduction Implementation Plan (ETRIP) for each worksite with 100 or more eligible employees to meet applicable targets specified in the rule. Employers are required to facilitate the participation of the development of ETRIPs by providing information to its employees explaining the requirements and applicability of this rule. Employers are required to prepare and submit an ETRIP for each worksite to the District. The ETRIP must be updated annually. Under this rule, employers shall collect information on the modes of transportation used for each eligible employee's commutes both to and from work for every day of the commute verification period, as defined in using either the mandatory commute verification method or a representative survey method. Annual reporting includes the results of the commute verification for the previous calendar year along with the measures implemented as outlined in the ETRIP and, if necessary, any updates to the ETRIP.

Measure K: San Joaquin County Local Transportation Improvement Plan

Measure K, the San Joaquin County Local Transportation Improvement Plan, was passed by San Joaquin County voters in November 1990 and renewed in November 2006. Measure K assesses a half-cent sales tax on purchases made throughout the County to provide direct funding for local transportation projects. The funds are dedicated to the specific programs and projects specified in the Measure K expenditure plan, including improved highways and local streets, new passenger rail service, regional and interregional bus routes, park-and-ride lots, new bicycle facilities, and railroad crossings. The renewal of Measure K is estimated to generate \$2.552 billion for these transportation programs in the region through the year 2041. Funding from Measure K is being used to construct interchange improvements on SR 120 at Union Road, McKinley Avenue, Airport Way, and Main Street, among other projects.

LOCAL

Manteca General Plan

The Manteca General Plan is a long-range comprehensive planning document required by state law to set policy and guide future growth, development, and conservation of resources. The Plan was adopted by the City in 2003 and amended most recently in 2016. The following 2011 General Plan Circulation Element are particularly relevant.

3.14 TRANSPORTATION AND CIRCULATION

GOALS

Goal C-1. Provide for a circulation system that allows for the efficient movement of people, goods, and services within and through Manteca while minimizing public costs to build and maintain the system.

Goal C-2. Provide complete streets designed to serve a broad spectrum of travel modes, including automobiles, public transit, walking, and bicycling.

Goal C-3. Develop attractive streetscapes that include landscaping, street trees, planted berms, and landscaped medians.

Goal C-4. Support the development of a Downtown area that is highly accessible to all modes of travel, focusing primarily on pedestrians, bicyclists, and transit riders.

Goal C-5. Balance the level of service for all modes so that residents and visitors have a variety of transportation choices.

Goal C-6. Maintain a safe transportation system for all modes.

Goal C-7. Accommodate truck and freight movements by developing city-wide truck routes and encouraging the development of freight and warehousing centers near existing rail lines and spurs.

Goal C-8. Establish reasonable parking requirements (minimum and maximum rates for uses) that limit parking encroachment while minimizing the amount of land consumed by parking lots.

Goal C-9. Provide a safe, secure, and convenient bicycle route system that connects to retail, employment centers, public facilities, and parks.

Goal C-10. Provide for safe and convenient pedestrian circulation.

Goal C-11. Maintain a coordinated, efficient bus service that provides both an effective alternative to automobile use and serves members of the community that cannot drive.

Goal C-12. Support and encourage regional transit connections that link Manteca to other cities.

POLICIES

Policies in the Circulation Element are organized by topic. Policies for each topic most relevant to this report are summarized below.

Level of Service: Policies C-P-1 through CP-3 promote balanced levels of service (LOS) across all modes and vehicular LOS of D or better, except in downtown and certain other locations where other goals predominate.

Street System: Policies C-P-8 through C-P-11 and C-P-17 promote access and connectivity for all modes. Policy C-P-12 promotes use of roundabouts.

Transportation Safety: Policies C-P-20 through C-P-22 promote hazard reduction, maintenance of sight distances, and development of landscape separated sidewalks, respectively.

Parking: Policy C-P-23 notes that future growth in traffic volumes may require removal of on-street parking.

Bikeways and Pedestrian Facilities: Policies C-P-29 through C-P-40 promote development of safe and complete bicycle and pedestrian networks across the city.

Public Transportation: Policies C-P-41 through C-P-43 promote interregional bus and rail connections. Policy C-P-44 promotes intermodal connectivity. Policy C-P-45 and C-P-46 promote ridesharing. Policy C-P-48 promotes inclusion of transit on future roadways.

Goods Movement: Policies C-P-50 and C-P-52 promote truck access where appropriate. Policy C-P-51 promotes rail access within the City.

Transportation Demand Management: Policies C-P-53 through C-P-56 support programs which encourage alternatives to reduce the number and length of automobile trips.

Manteca Public Facilities Implementation Plan

The 2013 Manteca Public Facilities Implementation Plan (PFIP), with 2018 Transportation Element update, is the implementing program for public infrastructure policies identified in the City's General Plan Policy Document. The purpose of the PFIP is to ensure that water, wastewater, storm drainage, and transportation facilities within the City are sufficient to support the City's growth in accordance with its General Plan. The PFIP also helps ensure that infrastructure is constructed in a timely manner and financed equitably, in proportion to the demands placed on the new facilities. In most cases, developers pay their proportionate share to reimburse the City for the cost to finance and construct the infrastructure.

Manteca Active Transportation Plan

The 2020 Manteca Active Transportation Plan (ATP) was developed as a blueprint for the future bicycle and pedestrian networks in the City. The envisioned system builds upon existing on-street and off-street facilities throughout the City with enhancements to overall connectivity, support facilities, safety, and education programs. The Plan establishes bicycle goals, objectives, and policies; identifies future infrastructure projects; and promotes support and educational programs.

The plan includes the following goals.

1. Allow all users to move safely on City bicycle and pedestrian networks.
2. Develop convenient, low-stress bicycle and pedestrian networks that connect Manteca residents and visitors to destinations in the city and other jurisdictions.
3. Ensure bicycle and pedestrian networks are well-maintained.
4. Increase bicycling and walking in Manteca to support improved public health and reduced chronic diseases related to inactivity, increased economic activity along commercial corridors, improved air quality, and reduced greenhouse gas production.

The ATP includes important bicycle facility improvements such as extension of the Atherton Bike Path from the west city limit to the east city limit, connections across SR 99 and SR 120, and Class II bike lanes and Class III bike routes on other major connector roads in the city. The plan also includes a new separated bikeway (Class IV) along Yosemite Avenue. It also includes plans to complete

missing sidewalks and to add crossing improvements such as new marked crosswalks, rectangular rapid flashing beacons, and pedestrian hybrid beacons at locations across the City. The City's existing and planned bikeways and pedestrian facilities from the ATP are shown in Figure 3.14-12 and Figure 3.14-13, respectively.

Manteca Transit Short Range Transit Plan

The Short-Range Transit Plan (SRTP), April 2019, presents a blueprint for short-term operational, financial, and capital improvements for Manteca Transit. The SRTP, covering a ten-year horizon, includes strategies to increase service efficiency and effectiveness as well as how to finance implementation of those strategies. These strategies reflect findings from passengers and non-passengers (community) input as well as a review of transit system performance.

City of Manteca Proposed Truck Routes

The City conducted a study of truck routes and circulation from 2018 to 2020. This study included an assessment of truck patterns and routes, and it included five meetings (four in-person and one via video conference) for the public to provide input. In July 2020, the City developed a proposed truck route map including new STAA truck routes and California Legal truck routes. This map was not adopted.

Manteca Design and Construction Standards

The City's design and construction standards and specifications provide for coordinated and standardized development of City facilities, including roadways. The standards apply to, regulate, and guide the design and preparation of plans, and the construction of streets, highways, alleys, drainage, traffic signals, site access, and related public improvements. All public roadway infrastructure improvements must be designed and constructed in accordance with the city standards and Caltrans' Standard Specifications (Caltrans 2018). These standards and specifications relevant to transportation include (as of November 2020):

- Engineering Standard Plan
- Standard Specifications
- Streets Standard Plan

3.14.3 IMPACTS AND MITIGATION MEASURES

METHODS OF ANALYSIS

The transportation impact analysis assesses how the planning area's transportation system would operate with the implementation of the proposed General Plan. The potential impacts were identified based on a set of significance criteria based on the CEQA Guidelines. The transportation impact analysis methodology includes a combination of quantitative and qualitative evaluations of the roadway, bicycle, pedestrian, and transit components of the transportation system. All analysis presumes that future background travel options and behaviors remain similar to current conditions and do not explicitly account for potential changes associated with disruptive trends, emerging technologies, and changes in travel choices, which were discussed in 3.14.1.

Because SB 743 eliminated the use of LOS for CEQA impact analysis purposes, it is not included in this chapter. However, results of LOS analysis are provided in Appendix A for informational purposes.

Analysis Scenarios

The following scenarios were analyzed using the Manteca travel demand model. Table 3.14-6 summarizes the major land use in each scenario. Buildout of the existing General Plan was also analyzed in a separate scenario, as discussed in Chapter 5.0 and Appendix D.

- **2019 Baseline Plus Development Projects.** This scenario is provided for informational purposes to identify transportation changes that are anticipated to occur with implementation of various development projects.
- **Proposed General Plan Buildout.** Buildout of the land use development in the proposed General Plan.

TABLE 3.14-6: SCENARIO MAJOR LAND USE

<i>LAND USE</i>	<i>UNITS</i>	<i>2019 BASELINE</i>	<i>BASELINE PLUS APPROVED PROJECTS</i>	<i>PROPOSED GENERAL PLAN BUILDOUT</i>	<i>INCREASE (PROPOSED GENERAL PLAN VS. 2019 BASELINE)</i>
Single family	Dwelling units	21,226	28,060	41,666	96%
Multi family	Dwelling units	4,788	6,035	21,924	358%
Age restricted	Dwelling units	2,236	2,741	2,741	23%
Restaurant	Employees	730	1,125	2,311	217%
Industrial	Employees	4,721	7,972	15,458	227%
Office	Employees	1,291	3,631	5,833	352%
Retail	Employees	4,831	7,421	15,053	212%

SOURCE: FEHR & PEERS, 2022

The City is expected to grow considerably between existing 2019 to full future buildout conditions. The General Plan Update anticipates development of pending, approved, and under construction development projects that are generally consistent with the General Plan Update. Development associated with these development projects is included in the net growth projections and includes 7,291 single family units, 1,295 multifamily units, and 8,647,145 non-residential square feet, including 3,052,187 s.f. of commercial uses, 1,114,694 s.f. of office uses, 4,438,868 s.f. of industrial uses, and 41,396 s.f. of other uses. These development projects would result in a population of approximately 27,303 and 8,775 new jobs, as described in Chapter 2.0, Project Description. Planned growth in the City is mostly on the periphery, specifically north of Lathrop Road, south of SR 120, east of SR 99, and west of Airport Way. The growth results in a change in the balance between jobs and housing in Manteca. In the future, fewer residents are expected to leave the City for employment, but more employees and customers are expected to travel to employment centers. The ratio of employment (all land uses, including major land uses above) to households dwelling units is expected to increase from 0.58 in the 2019 baseline scenario to 1.02 in the proposed General Plan buildout, an approximately 50 percent increase.

3.14 TRANSPORTATION AND CIRCULATION

Reasonably foreseeable development surrounding the planning area was also assumed for general plan scenarios modeled as part of this effort. Namely, development in the City of Lathrop and the City of Ripon per their general plans was assumed.

The proposed General Plan Circulation Element's circulation map is shown in Figure 3.14-14. It includes roadways serving new development and financially constrained roadway projects from the City PFIP and 2018 SJCOG RTP/SCS. Key additions include:

- New roadways including Raymus Parkway, completion of Atherton Drive, extension of Roth Road, and extension of Daniels Street
- New interchanges at SR 99 and Roth Road, SR 99 and Raymus Parkway, and SR 120 and McKinley Avenue
- Various widenings of existing roadways and new roadways resulting in an approximately 31 percent increase in total lane miles on planning area roadways, based on the travel demand model
- New freeway general purpose lanes on SR 120 and HOV lanes on I-5 and SR 99

Vehicle Miles Traveled

The Manteca travel demand model was used to estimate VMT for the City. Two measures of VMT are used in this analysis:

- **VMT per dwelling unit, for residential land uses.** Includes VMT for trips produced by a dwelling unit's residents, such as to work, school, or shop, and with one end of the trip at the home, on a typical weekday.
- **VMT per employee, for non-residential land uses.** Includes all trips with one end at the land use, including trips by both employees, customers, and deliveries, on a typical weekday.

Additional VMT-related measures are also provided for informational purposes:

- **Total VMT.** Includes all trips with at least one end in the planning area on a typical weekday.
- **VMT per resident.** Calculated based on the VMT per dwelling unit described above and the January 1, 2020 California Department of Finance estimate of residents per household.
- **VMT per service population.** Includes all trips with at least one end in the planning area. The service population consists of residents (based on the number of households and the January 1, 2020 California Department of Finance estimate of residents per household) and employees.

Note that the number of residents per household will likely vary in the future due to changes in the demographics of City residents and the mix of housing types. Thus, these estimates are provided for informational purposes only.

THRESHOLDS OF SIGNIFICANCE

For the purposes of this EIR, adoption and/or implementation of the proposed General Plan would result in significant impacts under CEQA, if any of the following would occur:

- Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Result in inadequate emergency access

Vehicle Miles Traveled

Based on Appendix G of the CEQA Guidelines, the General Plan would result in a significant transportation impact if it would conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)(1), which states for land use projects, “Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact.” CEQA Guidelines § 15064.3, subdivision (b)(4) states, “A lead agency has discretion to choose the most appropriate methodology to evaluate a project’s vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project’s vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence.”

The City has selected to measure VMT by land use type:

- VMT per single-family dwelling unit
- VMT per multi-family dwelling unit
- VMT per age-restricted dwelling unit
- VMT per office employee
- VMT per industrial employee
- VMT per retail employee
- VMT per restaurant employee

The 14.3 percent reduction in total VMT per capita identified as necessary to meet State goals in the ARB 2017 “Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals” is supported by substantial evidence. Additionally, this document updated data used to develop the OPR “Technical Advisory.” The “Technical Advisory” supports “per rate” reductions of 15 percent compared to existing conditions (page 10). The “Technical Advisory” has been endorsed by Caltrans in their TISG.

With these considerations, the City has selected a threshold of 15 percent below City-wide baseline VMT per dwelling unit (for residential land uses) or employee (employment-related land uses) by land use type. Therefore, if any of the VMT metrics above under General Plan conditions exceeded 85 percent of the same value under 2019 Baseline Conditions, VMT impacts on transportation may be considered significant. VMT thresholds by land use type are shown in Table 3.14-7.

3.14 TRANSPORTATION AND CIRCULATION

TABLE 3.14-7: VMT THRESHOLD DEVELOPMENT

LAND USE	UNITS	2019 BASELINE	85 PERCENT OF BASELINE
Single family	VMT per dwelling unit	103.8	88.2
Multi family	VMT per dwelling unit	78.6	66.8
Age restricted	VMT per dwelling unit	44.1	88.2
Restaurant	VMT per employee	186.0	158.1
Industrial	VMT per employee	75.3	64.0
Office	VMT per employee	32.4	27.5
Retail	VMT per employee	118.9	101.1

NOTE: VMT PER EMPLOYEE RATIOS INCLUDE ALL TRIPS BY EMPLOYEES, CUSTOMERS, AND DELIVERIES.

SOURCE: FEHR & PEERS, 2020

Transit, Bicycles, and Pedestrians

Appendix G of the CEQA Guidelines indicates that impacts may be significant if a project conflicts with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. The proposed General Plan would have a significant impact on transit, bicycles, or pedestrians if it would conflict with adopted policies, plans, or programs regarding these systems, or create or exacerbate disruptions to the performance or safety of these systems.

Hazards and Emergency Access

Appendix G of the CEQA Guidelines indicates that impacts may be significant if a project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). Impacts may also be significant if a project results in inadequate emergency access. The proposed General Plan would have a significant impact on the transportation system if it would increase hazards due to a design feature, incompatible uses, or inadequate emergency access.

Roadway System Level of Service

The existing General Plan includes a policy within the Transportation Element which requires maintenance of a level of service (LOS) D standard on City roadways, with some exceptions. Because LOS is no longer a CEQA significance metric, an analysis of LOS is provided in Appendix D for informational purposes only.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-1: General Plan implementation may result in VMT per dwelling unit and VMT per employee increases that are greater than 85 percent of Baseline conditions (Significant and Unavoidable)

Table 3.14-8 shows the VMT measures per dwelling unit, per employee, per resident, and per service population for General Plan buildout conditions, as well as for the baseline condition plus development projects. As shown in the table, the proposed General Plan would result in decreased VMT per dwelling unit for residential land uses, flat VMT per employee for industrial uses, and

increased VMT per employee for other employment-generating land uses as compared to the existing (baseline) condition.

TABLE 3.14-8: VMT PER DWELLING UNIT AND PER EMPLOYEE FOR EXISTING CONDITION, BASELINE PLUS PROJECTS, AND PROPOSED GENERAL PLAN

LAND USE	UNITS	EXISTING CONDITION (2019 BASELINE)	THRESHOLD (85 PERCENT OF BASELINE)	BASELINE PLUS DEVELOPMENT PROJECTS ⁶	PROPOSED GENERAL PLAN ⁶	PROPOSED GENERAL PLAN VS. EXISTING CONDITION
Single family	VMT per dwelling unit	103.8	88.2	100.2	78.3	-25%
Multi family	VMT per dwelling unit	78.6	66.8	74.7	59.4	-24%
Age restricted	VMT per dwelling unit	44.1	37.5	40.5	29.9	-32%
Restaurant	VMT per employee ¹	186.0	158.1	179.5	226.1	22%
Industrial	VMT per employee	75.3	64.0	62.8	75.2	-0.1%
Office	VMT per employee	32.4	27.5	35.0	41.7	29%
Retail	VMT per employee	118.9	101.1	130.0	207.6	75%
All residential	VMT per dwelling unit	94.8	NA ⁵	91.6	70.0	-26%
All residential	VMT per resident ²	29.8	NA	28.8	22.0	-26%
All employment	VMT per employee	82.2	NA	82.5	122.0	48%
All land uses	VMT per service population ^{2,3}	36.7	NA	38.3	39.9	5%
Total VMT	VMT	3,755,100	NA	4,957,000	9,376,561	150%

NOTES: ¹VMT PER EMPLOYEE RATIOS INCLUDE ALL TRIPS BY EMPLOYEES, CUSTOMERS, AND DELIVERIES

²BASED ON 3.18 RESIDENTS/DWELLING UNIT (CALIFORNIA DEPARTMENT OF FINANCE, E-5 CITY/COUNTY POPULATION AND HOUSING ESTIMATES, 1/1/2020)

³SERVICE POPULATION INCLUDES RESIDENTS AND EMPLOYEES

⁴VMT INCLUDES FULL LENGTH OF ALL TRIPS WITH EITHER AN ORIGIN OR DESTINATION WITHIN THE PLANNING AREA

⁵NA = NOT APPLICABLE, METRIC FOR INFORMATIONAL PURPOSES ONLY

⁶**BOLD** = EXCEEDS THRESHOLD

SOURCE: FEHR & PEERS, 2022

Although not part of the formal impact significance criterion, Table 3.14-8 shows the total VMT generation under existing conditions and with the proposed General Plan. As indicated by footnote 4 in this table, this total VMT calculation considers the full length of travel generated by all land uses in the planning area. It shows an expected 150 percent increase in total VMT generation. The reasonableness of this increase can be evaluated by comparing increases in land use. As shown in Table 3.14-6, residential is expected to increase by 135 percent, restaurant/retail is expected to increase by 227 percent, industrial is expected to increase by 227 percent, and office is expected to increase by 352 percent. The 150 percent increase in VMT, which includes travel both inside and outside the planning area consistent with the “Technical Advisory”, falls within that range. VMT within the study area will increase slightly more slowly, 136 percent. It is also noted that the proposed roadway improvements within the planning area would result in a 31 percent increase in lane-miles.

3.14 TRANSPORTATION AND CIRCULATION

Table 3.14-9 compares the VMT per dwelling unit and VMT per employee associated with proposed General Plan implementation with the threshold. As shown in the table, the proposed General Plan would exceed VMT thresholds. While the proposed General Plan is not expected to result in VMT per dwelling unit exceeding 85 percent of baseline for residential-related land uses, the proposed General Plan is expected to result in VMT per employee exceeding 85 percent of baseline for employment-related land uses.

TABLE 3.14-9: VMT ANALYSIS

<i>LAND USE</i>	<i>UNITS</i>	<i>THRESHOLD</i>	<i>PROPOSED GENERAL PLAN¹</i>	<i>REDUCTION NEEDED TO ACHIEVE THRESHOLD</i>
Single family	VMT per dwelling unit	88.2	78.3	-
Multi family	VMT per dwelling unit	66.8	59.4	-
Age restricted	VMT per dwelling unit	37.5	29.9	-
Restaurant	VMT per employee	158.1	226.1	30%
Industrial	VMT per employee	64.0	75.2	15%
Office	VMT per employee	27.5	41.7	34%
Retail	VMT per employee	101.1	207.6	51%

NOTES: ¹**BOLD** = EXCEEDS THRESHOLD

²VMT PER EMPLOYEE RATIOS INCLUDE ALL TRIPS BY EMPLOYEES, CUSTOMERS, AND DELIVERIES.

SOURCE: FEHR & PEERS, 2022

This result is due to the change in the balance between jobs and housing in Manteca, which is based upon the large increases in employment shown in Table 3.14-6. In the future, fewer residents are expected to leave the City for employment, reducing VMT per dwelling unit, but more employees and customers are expected to travel to employment centers, increasing VMT per employee. If such employment growth does not occur, actual VMT per dwelling unit could be higher, and VMT per employee could be lower, than estimated for General Plan buildout conditions.

As shown in Table 3.14-9, the proposed General Plan would result in VMT increases that exceed the threshold for employment-related land uses. Therefore, this impact is **significant**. As previously described, this result is due to the change in the balance between jobs and housing in Manteca, which is based upon the large increases in employment shown in Table 3.14-6. In the future, more employees and customers are expected to travel to employment centers, increasing VMT per employee.

The updated General Plan includes policies designed to reduce vehicle travel and vehicle miles traveled. The Circulation Element addresses providing adequate pedestrian, bicycle, and transit facilities and opportunities, promoting non-vehicle travel modes, requiring development projects that accommodate or employ 50 or more employees to implement TDM programs, and ensuring regional coordination on trip and VMT reduction efforts. General Plan policies and actions that contribute to VMT reductions are identified below. These policies and actions minimize VMT impacts to the greatest extent feasible.

Additionally, it should be noted that, as discussed in the Regulatory Setting, Governors Executive Order N-79-20 requires that 100 percent of in-state sales of new passenger cars and trucks be zero-emission by 2035. It shall be a further goal of the State that 100 percent of medium- and heavy-duty

vehicles in the State be zero-emission by 2045 for all operations, where feasible, and by 2035 for drayage trucks. It shall be further a goal of the State to transition to 100 percent zero-emission off-road vehicles and equipment by 2035, where feasible. Accordingly, the City of Manteca aims to develop a Zero Emissions Vehicle Market Development Strategy that ensures expeditious implementation of the systems of policies, programs and regulations necessary to achieve the order.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

CIRCULATION ELEMENT POLICIES

C-2.1 Promote development of a future roadway system as shown in the Major Streets Master Plan, Figure CI-1, with streets designed in accordance with the City's standard plans to provide multiple, direct, and convenient routes for all modes and to provide high-volume, multi-lane facilities with access controls, as needed, to preserve the through traffic carrying capacity of the facility.

C-2.4 Design street improvements to provide multiple, direct, and convenient routes for all modes.

C-6.3 Support regional freight planning efforts including regional improvement of logically networked STAA truck routes Roth Road, SR 99 Frontage Roads, and French Camp Road that minimize impacts to existing City residents.

C-7.1 Encourage employers to provide alternative mode subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting, and work-at-home programs employee education and preferential parking for carpools/vanpools.

C-7.2 Require development projects that accommodate or employ 50 or more full-time equivalent employees to establish transportation demand management (TDM) programs that meets or exceeds applicable standards, including Air District requirements.

C-7.3 Partner with SJCOG on the Dibs program, which is the regional smart travel program, including rideshare, transit, walking, and biking, operated by SJCOG.

C-7.4 Require proposed development projects that could have a potentially significant VMT impact to consider reasonable and feasible project modifications and other measures during the project design and environmental review stage of project development that would reduce VMT effects in a manner consistent with state guidance on VMT reduction.

C-7.5 Evaluate the feasibility of a local or regional VMT impact fee program, bank, or exchange. Such an offset program, if determined feasible, would be administered by the City or a City-approved agency, and would offer demonstrated VMT reduction strategies through transportation demand management programs, impact fee programs, mitigation banks or exchange programs, in-lieu fee programs, or other land use project conditions that reduce VMT in a manner consistent with state guidance on VMT reduction. If, through on-site changes, a subject project cannot eliminate VMT impacts, the project could contribute on a pro-rata basis to a local or regional VMT reduction bank or exchange, as necessary, to reduce net VMT impacts.

C-7.6 *Expand alternatives to driving by increasing opportunities to walk, bike, and use transit.*

CIRCULATION ELEMENT ACTIONS

C-2b *When planning roadway facilities, incorporate the concept of complete streets. Complete streets include design elements for more safe travel by all modes that use streets, including autos, transit, pedestrians, and bicycles. Complete streets shall be developed in a context-sensitive manner. For example, it may be more appropriate to provide a Class I bike path instead of bike lanes along a major arterial. Pedestrian districts like Downtown Manteca or areas near school entrances should have an enhanced streetscape (e.g., narrower travel lanes, landscape buffers with street trees, etc.) to better accommodate and encourage pedestrian travel.*

C-2f *Ensure that bicycle and pedestrian access is both provided and prioritized through providing openings to increase access where soundwalls and berms are located to minimize travel distances and increase the viability walking and bicycling.*

C-2g *To support the City's goals of reducing VMT, minimizing maintenance costs, and encouraging active transportation, any new or substantially modified roadway shall be as narrow as feasible while being consistent with LOS standards, goods movement policies, and safety best practices. In general, this implementation measure can be achieved by constructing narrower traffic lanes, although wider lanes may be necessary on certain truck routes.*

C-4a *Periodically update the Active Transportation Plan through a process inclusive of community members and stakeholders to include all areas envisioned for development by this General Plan and to address pedestrian and bicycle facilities needed to provide a complete circulation system that adequately meets the needs of pedestrians and bicyclists.*

C-5a *Periodically review transit needs in the city through a process inclusive of community members and stakeholders and adjust bus routes to accommodate changing land use and transit demand patterns. The City shall also periodically coordinate with the San Joaquin Regional Transit District to assess the demand for regional transit services.*

C-5b *Explore a transit connections study that would identify improvements to connections and access to the existing ACE station, the Manteca Transit Center, and future planned transit stations.*

C-7a *Provide information about transit services, ridesharing, vanpools, and other transportation alternatives to single occupancy vehicles at City Hall, the library, on the City website, and through other channels.*

C-7b *Develop TDM program requirements with consideration of addressing CEQA vehicle miles traveled impact analysis requirements (i.e., SB 743) in accordance with implementation measure C-1b. TDM programs shall include measures to reduce total vehicle miles traveled and peak hour vehicle trips. A simplified version of the Air District's Rule 9410 could be used to implement this measure.*

C-7c *Coordinate with the San Joaquin Council of Governments on a Congestion/Mobility Management Program to identify TDM strategies to reduce VMT and mitigate peak-hour congestion*

impacts. Strategies may include: growth management and activity center strategies, telecommuting, increasing transit service frequency and speed, transit information systems, subsidized and discount transit programs, alternative work hours, carpooling, vanpooling, guaranteed ride home program, parking management, addition of general purpose lanes, channelization, computerized signal systems, intersection or midblock widenings, and Intelligent Transportation Systems.

*C-7d Proposed development projects shall incorporate measure to reduce VMT, including consideration of the measures listed below. This list is not intended to be exhaustive, and not all measures may be feasible, reasonable, or applicable to all projects. The purpose of this list is to identify options for future development proposals, not to constrain projects to this list, or to require that a project examine or include all measures from this list. Potential measures, with possible ranges of VMT reduction for a project, include:**

- Increase density of development (up to 10.75 percent)*
- Increase diversity of land uses (up to 12 percent)*
- Implement car-sharing programs (up to 5 percent)*
- Implement parking management and pricing (up to 0.7 percent)*
- Implement subsidized or discounted transit program (up to 3 percent)*
- Implement commute trip reduction marketing and launch targeted behavioral interventions (up to 3 percent)*
- Participating in local or regional carpool matching programs***
- Providing preferential carpool and vanpool parking***
- Providing secure bicycle parking, showers, and lockers at work site***

**Note: VMT reduction ranges based on Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association (2010) and new research compiled by Fehr & Peers (2020). Additional engineering analysis is required prior to applying reductions to specific projects. Actual reductions will vary by project and project context.*

***Reduction determined at the project-level*

C-7e Partner with SJCOG, San Joaquin County, and neighboring cities to evaluate a potential regional VMT impact fee program, bank, or exchange.

C-7f Implement the Active Transportation Plan and other Bikeway and Pedestrian Systems goals and polices (C-4).

C-7g Expand transit service and increase transit frequency and implement Public Transit goals and policies (C-5).

RESOURCE CONSERVATION ELEMENT POLICIES

RC-4.2 Ensure that land use and circulation improvements are coordinated to reduce the number and length of vehicle trips.

RC-5.1 Coordinate with the San Joaquin Valley Air Pollution Control District (Air District), San Joaquin Council of Governments, and the California Air Resources Board (State Air Board), and other agencies

3.14 TRANSPORTATION AND CIRCULATION

to develop and implement regional and county plans, programs, and mitigation measures that address cross-jurisdictional and regional air quality impacts, including land use, transportation, and climate change impacts, and incorporate the relevant provisions of those plans into City planning and project review procedures. Also cooperate with the Air District, SJCOG, and State Air Board in:

- *Enforcing the provisions of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality.*
- *Identifying baseline air pollutant and greenhouse gas emissions.*
- *Encouraging zero emission or alternative fuel for city vehicle fleets, when feasible.*
- *Developing consistent procedures for evaluating and mitigating project-specific and cumulative air quality impacts of projects.*
- *Promoting participation of major existing and new employers in the transportation demand management (TDM) program facilitated by the San Joaquin Council of Governments.*

RESOURCE CONSERVATION ELEMENT ACTIONS

RC-5b Review development, land use, transportation, and other projects that are subject to CEQA for potentially significant climate change and air quality impacts, including toxic and hazardous emissions and require that projects provide adequate, appropriate, and cost-effective mitigation measures reduce significant and potentially significant impacts. This includes, but is not limited to, the following:

- *Use of the Air District “Guide for Assessing and Mitigating Air Quality Impacts”, as may be amended or replaced from time to time, in identifying thresholds, evaluating potential project and cumulative impacts, and determining appropriate mitigation measures;*
- *Contact the Air District for comment regarding potential impacts and mitigation measures as part of the evaluation of air quality effects of discretionary projects that are subject to CEQA;*
- *Require projects to participate in regional air quality mitigation strategies, including Air District-required regulations, as well as recommended best management practices when applicable and appropriate;*
- *Promote the use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
- *The use of energy efficient lighting (including controls) and process systems beyond Title 24 requirements shall be encouraged where practicable (e.g., water heating, furnaces, boiler units, etc.);*
- *The use of energy efficient automated controls for air conditioning beyond Title 24 requirements shall be encouraged where practicable; and*
- *Promote solar access through building siting to maximize natural heating and cooling, and landscaping to aid passive cooling and to protect from winds;*
- *The developer of a sensitive air pollution receptor shall submit documentation that the project design includes appropriate buffering (e.g., setbacks, landscaping) to separate the use from highways, arterial streets, hazardous material locations and other sources of air pollution or odor;*

- *Identify sources of toxic air emissions and, if appropriate, require preparation of a health risk assessment in accordance with Air District-recommended procedures; and*
- *Circulate the environmental documents for projects with significant air quality impacts to the Air District for review and comment.*

RC-5d Maintain adequate data to analyze cumulative land use impacts on air quality and climate change. This includes tracking proposed, planned, and approved General Plan amendments, development, and land use decisions so that projects can be evaluated for cumulative air quality impacts, including impacts associated with transportation and land use decisions.

COMMUNITY DESIGN ELEMENT POLICIES

CD-10.1 Orient building entrance toward the street and provide parking in the rear, when possible.

CD-10.2 Where a vertical mix of uses occurs, site retail, restaurants, and other active uses should be located on the ground floor, with residential and/or office uses above. Also, encourage architectural detailing that differentiates each use.

CD-10.3 Encourage context-sensitive transitions in architectural scale and character between new and existing residential development.

CD-10.4 Provide special building-form elements, such as towers and archways, and other building massing elements to help distinguish activity nodes and establish landmarks within the community and ensure that doing so does not separate low income, disadvantaged, and/or older neighborhoods from market-rate neighborhoods and amenities and services.

CD-10.5 Integrate pedestrian elements, including, but not limited to walkways, plazas, and terraces, with buildings to make the pedestrian experience comfortable and convenient, and to protect pedestrians from climatic conditions.

CD-10.6 Incorporate outdoor plazas or other common areas that provide space for special landscaping, public art, food service, outdoor retail sales, or seating areas for patrons in retail settings appropriate to such pedestrian activity. The plaza or other common area shall be appropriately scaled to the retail use and shall be directly connected to the primary walkway.

CD-10.7 Where practical, and in compliance with ADA standards, separate common areas that provide seating from the primary walkways by informal barriers, such as planters, bollards, fountains, low fences, and/or changes in elevation.

CD-10.8 Configure buildings to provide “outdoor rooms,” including, but not limited to courtyards, paseos, and promenades.

CONCLUSION

The VMT generated by buildout of the proposed General Plan would exceed the VMT threshold of 85 percent of baseline. Implementing the proposed General Plan policies and actions will help to reduce VMT through encouraging non-vehicle transportation modes, expanded transit services, deployment of affordable fueling/charging stations for zero emission vehicles, and developing TDM

program requirements including measures to reduce VMT associated with new development. These policies and actions which lead to a reduction in VMT would also result in an associated decrease in greenhouse gas emissions. The City will also use this EIR and CEQA Section 15183 to streamline VMT analysis for projects consistent with the updated General Plan. However, reductions in VMT per employee from 15 to 51 percent would be required to achieve thresholds as shown in Table 3.14-9. Additionally, the feasibility and effectiveness of a local or regional VMT impact fee program bank or exchange, as described in C-7.5, is unknown at this time and requires further evaluation. The City cannot demonstrate definitively at this time that implementation of these policies would achieve VMT reductions to meet the VMT per employee thresholds. This impact is **significant**.

The General Plan goals, policies, and implementation measures listed above will achieve meaningful reductions in VMT (and an associated decrease in greenhouse gas emissions) generated by land uses within the City. However, reductions in VMT per employee from 15 to 51 percent would be required to achieve thresholds as shown in Table 3.14-9. The City at this time cannot demonstrate that VMT will be reduced to the degree that it meets these thresholds. Although large changes in the proposed General Plan Land Use Map could potentially reduce VMT of the City further, those changes would also affect the achievement of other goals the City seeks to achieve with the General Plan, and would not meet the City's stated objectives for the General Plan Update. However, the reader is referred to the analysis of Alternative D in Chapter 5.0 for an analysis of an alternative Land Use Map, and the corresponding impact analysis on VMT. VMT reduction also depends on factors such as demographic change, household preferences for housing types and locations, the cost of fuel, and the competitiveness of regional transit relative to driving, which relates to congestion along vehicular commute routes that are not under the City's jurisdiction, as well as transit provided by agencies other than the City. The feasibility and effectiveness of a local or regional VMT impact fee program, bank or exchange is unknown at this time. Therefore, this impact is considered **significant and unavoidable**.

Impact 3.14-2: General Plan implementation may conflict with a program, plan, policy or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities (Significant and Unavoidable)

Implementation of the General Plan could lead to increases in the city's population and employment that would increase the demand for pedestrian and bicycle facilities and transit facilities and services.

The City adopted an ATP that establishes the City's goals and objectives for pedestrian and bicycle travel. The ATP identifies planned bicycle and pedestrian network facilities to address the City's bicycle and pedestrian needs. The Circulation Element developed as part of the proposed General Plan contains Policies C-4.1 and C-4.5, which support bicycle and pedestrian routes and facilities that are consistent with the Active Transportation Plan. Additionally, Goal C-1 states the following: Provide for a complete multimodal circulation system designed for the safe, balanced movement of all users, including children, persons with disabilities, seniors, underserved populations, goods, and services to destinations inside and outside of Manteca while minimizing VMT and public costs to build and maintain the system. The proposed General Plan contains additional policies and implementing actions that support access to and the performance of transit, bicycle, and pedestrian

facilities. These applicable policies and implementing actions are listed below. Further, the Plan includes mixed-use development that is supportive of non-automotive modes. The proposed General Plan includes policies and actions that support implementation of applicable bicycle and pedestrian plans and ensure new transportation infrastructure includes adequate bicycle and pedestrian facilities. The proposed General Plan includes implementation actions to promote roadway safety, including preparation of a Vision Zero Action Plan or Local Road Safety Plan that prioritizes systems-based approach to preventing traffic fatalities (Implementing Action 2n), updating the PFIP to address recommended safety improvements by the Vision Zero Action Plan or Local Road Safety Plan (Implementing Action 2o), and creation of an surveillance program of above average vehicle, bicyclist, and pedestrian collisions with an emphasis on early detection and correction of conditions that create safety issues for users (Implementing Action 2k).

The City's PFIP is also developed and periodically updated to provide funding for local roadway expansion and improvements, which include bicycle and pedestrian facilities.

While there are no established standards regarding transit levels of service that have been adopted by the City or transit agencies, including offered by Manteca Transit or the San Joaquin Regional Transit District, the proposed General Plan Policy C-5.1 states, "Encourage and plan for the expansion of regional bus service in the Manteca area." Policy C-5.11 also states, "As new areas and neighborhoods of the City are developed, fund transit expansion (including capital, operations, and maintenance) to provide service levels consistent with existing development." The General Plan includes implementation actions to plan for transit services, including reviewing transit needs and adjusting bus routes to serve changing land use and transit demand patterns, to identify improvements to increase access to local transit centers and stations, to work with the school districts to identify opportunities for shared transit systems, and to review and update the City's funding programs to ensure that adequate transit services are provided. Additionally, it is noted that the modal split for transit is expected to increase with the start of ACE service at the transit center in 2024.

The General Plan Update includes policies and actions that help make the circulation system, including transit, bicycle, and pedestrian facilities, consistent with applicable programs, plans, policies, and ordinances and address the needs of growth accommodated by the proposed General Plan.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

CIRCULATION ELEMENT POLICIES

***C-4.1** Through regular updates to the City's Active Transportation Plan inclusive of community members and stakeholders, establish a more safe and more convenient network of identified bicycle and pedestrian routes connecting residential areas with schools, recreation, shopping, and employment areas within the city, generally as shown in Figure CI-2). The City shall also strive to develop connections with existing and planned regional routes shown in the San Joaquin County Bicycle Master Plan.*

C-4.2 Improve safety conditions, efficiency, and comfort for bicyclists and pedestrians by providing native and drought-tolerant shade trees and controlling traffic speeds by implementing narrow lanes or other traffic calming measures in accordance with the City Neighborhood Traffic Calming Program on appropriate streets, in particular residential and downtown areas.

C-4.3 Provide a sidewalk and bicycle route system that serves all pedestrian and bicycle users and meets the latest guidelines related to the Americans with Disabilities Act (ADA).

C-4.4 Provide bicycle parking facilities at commercial, business/professional and light industrial uses in accordance with Part 11 of the California Building Standards Code.

C-4.5 Expand the existing network of off-street bicycle facilities as shown in the City's Active Transportation Plan to accommodate cyclists who prefer to travel on dedicated trails. Further, the City shall strive to develop: 1) a "city-loop" Class I bike path for use by both bicyclists and pedestrians that links Austin Road, Atherton Drive, Airport Way, and a route along or near Lathrop Road to the Tidewater bike path and its existing and planned extensions, and 2) an off-street bicycle trail extension between the Tidewater Bike Trail near the intersection of Moffat Boulevard and Industrial Park Drive to the proposed regional route between Manteca and Ripon.

C-4.6 Provide on-street Class II bike lanes, Class IV protected bike lanes, or off-street Class I bike paths along major collector and arterial streets whenever feasible.

C-4.7 Facilitate bicycle travel through residential streets through signage necessary to communicate the presence of Class III bicycle routes on residential streets that have sufficiently low volumes as to not require bike lanes or have narrower street cross sections that assist in calming traffic.

C-4.8 Provide sidewalks and/or walkways connecting to the residential neighborhoods, primary public destinations, major public parking areas, transit stops, and intersections with the bikeway system.

C-4.9 Provide sidewalks along both sides of all new streets in the City and add sidewalks to fill gaps on existing streets as identified in the Active Transportation Plan.

C-5.1 Encourage and plan for the expansion of regional bus service in the Manteca area.

C-5.2 Promote increased commuter and regional passenger rail service that will benefit the businesses and residents of Manteca. Examples include Amtrak, the Altamont Commuter Express (ACE), and high-speed rail.

C-5.3 Identify and implement means of enhancing the opportunities for residents to commute from residential neighborhoods to the ACE station or other transit facilities that may develop in the City.

C-5.4 Include primary locations where the transit systems will connect to the major bikeways and pedestrian ways and primary public parking areas in the Active Transportation Plan (see C-4a).

C-5.5 Encourage programs that provide ridesharing and vanpool opportunities and other alternative modes of transportation for Manteca residents.

C-5.6 Promote the development of park-and-ride facilities near I-5, SR 120, SR 99, and transit stations.

C-5.7 Maintain a working relationship between the City administration and the local management of the Union Pacific Railroad regarding expansion of freight and passenger rail service and economic development of the region.

C-5.8 Design future roadways to accommodate transit facilities, as appropriate. These design elements should include installation of transit stops adjacent to intersections and provision of bus turnouts and sheltered stops, where feasible.

C-5.9 Encourage land uses and site developments that promote public transit along fixed route public transportation corridors, with priority given to those projects that will bring the greatest increase in transit ridership.

C-5.10 Ensure that development projects provide adequate facilities to accommodate school buses, including loading and turn-out locations in multifamily and other projects that include medium and high density residential uses, and that the school districts are provided an opportunity to address specific needs associated with school busing.

C-5.11 As new areas and neighborhoods of the City are developed, fund transit and paratransit expansion (including capital, operations, and maintenance) to provide service levels consistent with existing development and increase service to support increasing demand across the system.

CIRCULATION ELEMENT ACTIONS

C-2b When planning roadway facilities, incorporate the concept of complete streets. Complete streets include design elements for more safe travel by all modes that use streets, including autos, transit, pedestrians, and bicycles. Complete streets shall be developed in a context-sensitive manner. For example, it may be more appropriate to provide a Class I bike path instead of bike lanes along a major arterial. Pedestrian districts like Downtown Manteca or areas near school entrances should have an enhanced streetscape (e.g., narrower travel lanes, landscape buffers with street trees, etc.) to better accommodate and encourage pedestrian travel.

C-2c Review and update the City's standard plans to ensure that the plans reflect the City's goals and policies for the circulation system, including cross-sections that provide for landscape-separated sidewalks along arterials and non-residential streets; best practices for safer travel by vehicles, bicycles, and pedestrians; and accommodate all users. Complete these updates within three years of adoption of this General Plan.

C-2f Ensure that bicycle and pedestrian access is both provided and prioritized through providing openings to increase access where soundwalls and berms are located to minimize travel distances and increase the viability walking and bicycling.

3.14 TRANSPORTATION AND CIRCULATION

C-2i Pursue funding to improve and address areas of traffic, bicycle, and pedestrian hazards and conflicts with vehicular traffic movements.

C-2k In conjunction with the creation of a Vision Zero Action Plan or Local Road Safety Plan, create an ongoing identification and surveillance program of above average vehicle, bicycle, and pedestrian collision locations, with emphasis on early detection and correction of conditions that create safety issues for users.

C-2n Create a Vision Zero Action Plan or Local Road Safety Plan that prioritizes systems-based approach to preventing traffic fatalities, focusing on the built environment, systems, and policies that influence behavior as well as messaging that emphasizes that these traffic losses are preventable. Complete this plan within four years of adoption of this General Plan.

C-2o Upon completion of a Vision Zero Action Plan or Local Road Safety Plan, update the PFIP to address recommended safety improvements for all modes, including vehicles, bicyclists, and pedestrians. Complete this update within two years of adoption of the Vision Zero Action or Local Road Safety Plan.

C-4a Ensure that bicycle and pedestrian access is both provided and prioritized through providing openings to increase access where soundwalls and berms are located to minimize travel distances and increase the viability walking and bicycling.

C-4b Utilize the standards set forth in the latest editions of the California MUTCD and American Association of State Highway and Transportation Officials (AASHTO) Green Book for improvement and re-stripping of appropriate major collector and arterial streets to accommodate Class II bike lanes or Class IV protected bikeways in both directions, where sufficient roadway width is available. This may include narrowing of travel lanes.

C-4c Increase bicyclist and pedestrian safety by:

- Providing and maintaining bicycle paths and lanes that promote bicycle travel.*
- Sweeping, repairing, and maintaining vegetation along bicycle lanes and paths on a continuing, regular basis.*
- Ensuring that bikeways are delineated and signed in accordance with the latest editions of the California MUTCD and AASHTO standards and lighting is provided, where feasible.*
- Ensuring that all new and improved streets have bicycle-safe drainage grates and eliminate uneven pavement, gravel, encroaching vegetation, and other conditions that may impede user safety, expectations, and convenience.*
- Providing and maintaining sidewalks and crosswalks.*

C-4d Add bicycle facilities whenever possible in conjunction with road rehabilitation, reconstruction, or re-stripping projects.

C-5a Periodically review transit needs in the city through a process inclusive of community members and stakeholders and adjust bus routes to accommodate changing land use and transit

demand patterns. The City shall also periodically coordinate with the San Joaquin Regional Transit District to assess the demand for regional transit services.

C-5b Explore a transit connections study that would identify improvements to connections and access to the existing ACE station, the Manteca Transit Center, and future planned transit stations.

C-5d Review and consider alternatives to conventional bus systems, such as smaller shuttle buses (i.e. micro-transit), on-demand transit services, or transportation networking company services that connect neighborhood centers to local activity centers with greater cost efficiency.

C-7a Provide information about transit services, ridesharing, vanpools, and other transportation alternatives to single occupancy vehicles at City Hall, the library, on the City website, and through other channels.

CONCLUSION

Although the General Plan Update policies and actions listed above and in Impact 3.14-3 help make the circulation system, including transit, bicycle, and pedestrian facilities, consistent with applicable programs, plans, policies, and ordinances and address the needs of growth accommodated by the proposed General Plan, the City cannot demonstrate definitively at this time that implementation of these policies would maintain the number of collisions for vehicles, pedestrians, and bicyclists at current or lower levels. Therefore, the plan may conflict with policies for safe travel, including by transit users, bicyclists, and pedestrians. This impact is **significant**.

The General Plan goals, policies, and implementation measures listed above and in Impact 3.14-3 are anticipated to achieve meaningful reductions in collisions within the City. However, the City at this time cannot demonstrate that collisions will be reduced to the degree that it meets the threshold of no conflict with a program, plan, policy or ordinance addressing the circulation system. Collision reduction also depends on factors such as user behavior, demographic change, household preferences for travel, the cost of fuel, and the competitiveness of other transportation modes relative to driving. Therefore, this impact is considered **significant and unavoidable**.

Impact 3.14-3: General Plan implementation may increase hazards due to a design feature, incompatible uses, or inadequate emergency access (Significant and Unavoidable)

Implementation of the proposed General Plan would result in increased development, which would result in new roadways and would increase the number of users on the city's transportation system. However, the number of lane miles in the City is expected to increase at a lower rate than VMT as described in Appendix D. As shown in Appendix D, at General Plan buildout ADT would increase on all but one of 44 studied roadway segments within the City. For example, ADT is estimated to increase at the following locations as shown below:

- Yosemite Avenue west of El Rancho Drive: 52,600
- Lathrop Avenue west of Airport Way: 41,700
- Lathrop Avenue west of Madison Grove Drive: 36,300
- Union Road south of SR 120: 32,300

3.14 TRANSPORTATION AND CIRCULATION

- Main Street south of Quintal Road: 33,400

It is noted that the Plan is a programmatic-level document, and hazards are typically assessed at the project-level. The proposed General Plan establishes policies and implementing actions to reduce hazards associated with roadway safety. Potential impacts associated with future projects, including development projects, roadway improvement projects, and infrastructure projects, would be analyzed and evaluated in detail based on the specific characteristics of individual projects through the entitlement and environmental review processes. The City's design and construction standards and specifications provide for coordinated and standardized development of City facilities, including roadways. The standards apply to, regulate, and guide the design and preparation of plans, and the construction of streets, highways, alleys, drainage, traffic signals, site access, and related public improvements.

Additionally, the Highway Safety Manual (American Association of State Highway and Transportation Officials, 2010) shows that fatal and injury crash frequencies generally decrease with decreasing speed. Thus, as congestion increases and vehicle speed decreases, collision rates and severity may decrease. However, there will be periods when the roads are not congested. Additionally, this relationship cannot be shown to hold true under all conditions, and there is a potential for total collisions, including collisions involving pedestrians and bicyclists, to increase. Similarly, collisions involving pedestrians and bicyclists may increase. Thus, new development will increase the number of vehicles on the roadway network, and the number of collisions in the City may increase for all modes.

There is also the potential for collisions involving trucks to increase— Industrial employment is estimated to increase 227 percent under General Plan buildout conditions as compared to the existing conditions. With the increase in industrial growth, about 25,800 daily truck trips are expected to be generated. Most industrial development will be further from downtown, which extends from the intersection of Yosemite Avenue and Main Street; the average distance of industrial employment from this intersection is expected to increase from about 2.3 to 3.0 miles, which may help reduce the incidence of collisions with pedestrians and bicyclists.

Approximately one annual injury collision and 0.15 annual killed or serious injury collision per thousand daily truck trips were estimated to be generated in the City under the existing (2019 baseline) condition as described in the Environmental Setting section. Using a constant collision rate per trip, approximately 25 annual injury collisions and 4.0 annual killed or serious injury collisions are estimated to be generated in the City under general plan buildout conditions.

Furthermore, new development will increase traffic at at-grade rail crossings, potentially increasing collisions, and funds have not been identified to implement grade separations. Additionally, the increased level of traffic and delays may increase emergency response times. New development will also result in more people living and working at greater distance from existing fire and police facilities, with potentially longer response times.

There will be a need to ensure that hazards are not increased and that adequate emergency access provisions are made to accommodate increased population and growth. As roadways are widened to accommodate increased ADT, accommodations will need to be made for all modes of travel, as part of the PFIP and other programs.

The Circulation Element developed as part of the proposed General Plan contains policies and actions in support of safe circulation by all modes, including requirements that roadways are designed consistent with City standards, designed to provide adequate emergency access and address safety concerns. The Circulation Element includes policies to pursue funding for grade separation and to update the PFIP Program to include funding for grade-separated crossings at existing roadways. These applicable policies are listed below.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

CIRCULATION ELEMENT POLICIES

C-1.1 Strive to balance levels of service (LOS) for all modes (vehicle, transit, bicycle, and pedestrian) to maintain a high level of access and mobility, while developing a safe, complete, and efficient circulation system. The impact of new development and land use proposals on VMT, LOS and accessibility for all modes should be considered in the review process.

C-2.3 Require new development to pay a fair share of the costs of street and other transportation improvements based on impacts to LOS and other modes in conformance with the goals and policies established in this Circulation Element and the Public Facilities Implementation Program (PFIP).

C-2.5 In areas adjacent to existing or planned residential development or sensitive receptors, include sound attenuation walls in the frontage improvements associated with freeway, highway, parkway, arterial, and major collector roadways in accordance with City adopted Street Standards and Specifications, as amended.

C-2.6 Align residential and collector street intersections with collector and arterial streets with other residential and collector streets, where feasible, to maintain a high degree of connectivity between neighborhoods, minimize circuitous travel, and to allow bicyclists and pedestrians to travel more conveniently and more safely from one neighborhood to another without using major streets.

C-2.7 Provide access for bicycles and pedestrians at the ends of cul-de-sacs, where right-of-way is available, to provide convenient access within and between neighborhoods and to encourage walking and bicycling to neighborhood destinations.

C-2.8 Signals, roundabouts, traffic circles, and other traffic management, calming and safety techniques shall be applied according to industry standards at residential and collector street intersections with collector and arterial streets in order to allow bicyclists and pedestrians to travel more conveniently and more safely from one neighborhood to another.

C-2.9 Where traffic congestion, pedestrian travel, collision history, or other factors warrant the installation of a traffic signal, the feasibility of a roundabout shall also be evaluated on a whole life cycle cost basis. In general, a roundabout should be installed at these locations unless right of way, cost, operational concerns, design limitations, or other issues preclude the installation of a roundabout.

3.14 TRANSPORTATION AND CIRCULATION

C-2.10 Development of private streets may be allowed in new residential projects that demonstrate the ability to facilitate police patrol, emergency access, and solid waste collection as well as fund on-going maintenance.

C-2.11 Promote infill development that closes gaps and bottlenecks in the circulation system, especially in disadvantaged and older neighborhoods.

C-2.12 Require new development to establish joint-use driveways and/or cross access easements to provide access when feasible and/or if: 1) located on street segments identified in C-1.2, 2) located on streets with intersections approaching not meeting LOS D, or 3) the shared access will reduce vehicle miles traveled as determined by the City's Community Development Department. The requirement is intended to preserve the movement function of the major thoroughfare system by requiring development of parallel roads or cross access easements to connect developments as they are permitted along major roads, providing more efficient connections to destinations, and reducing air emissions.

C-2.13 Require development projects to arrange streets in an interconnected block pattern, so that pedestrians, bicyclists, and drivers are not forced onto arterial streets for inter- or intra-neighborhood travel to support safer travel. This approach will also add redundancy to the street network, supporting more safe and more efficient movement of emergency responders and help reduce vehicle miles traveled within the community.

C-2.14 Residential subdivisions with lots fronting on an existing arterial street shall provide for separate roadway access for vehicles, pedestrians, and bicyclists to the maximum extent feasible, with access to residential lots provided from residential or collector streets. For those properties that currently front arterial streets, consideration should be given to providing separate roadway access where feasible as a condition of approval for any redevelopment or subdivision of the property.

C-2.15 Ensure that development and infrastructure projects are designed in a way that provides pedestrian and bicycle connectivity to adjacent neighborhoods and areas (such as ensuring that sound walls, berms, and similar physical barriers are considered and gaps or other measures are provided to ensure connectivity).

C-2.16 Aggressively pursue state and federal funding to augment the PFIP and implement the City's Circulation Element.

C-2.17 Coordinate with neighboring jurisdictions, including Caltrans, San Joaquin Council of Governments (SJCOG), San Joaquin County, the City of Lathrop, and the City of Ripon to pursue funding for the following regional facilities:

- *A new interchange at McKinley Avenue and SR 120;*
- *A new interchange at Austin Road/Raymus Parkway and SR 99;*
- *A new interchange on SR 99 between Lathrop Road and French Camp Road;*
- *An easterly extension of the SR 120 freeway towards Oakdale;*
- *Grade separated crossings of the Union Pacific Railroad line at Roth Road, Louise Avenue, Yosemite Avenue, and McKinley Avenue; and*

- *Regional bicycle lanes and bicycle paths.*

C-2.18 Prohibit the creation of traffic, bicycle, and pedestrian hazards and conflicts with vehicular traffic movements in new development, infill development, and redevelopment areas and pursue opportunities to improve conditions where there are existing conflicts to ensure that the pedestrian and bicycle network provides a direct and convenient route equal to or greater than vehicular routes in new development, infill, and redevelopment areas.

C-2.19 In the development of projects, ensure there are adequate corner-sight distances appropriate for the speed and type of facility, including intersections of city streets and private access drives and roadways.

C-2.20 Encourage the development of landscape-separated sidewalks along roadways (particularly arterials and non-residential streets) when feasible to discourage pedestrian/vehicle conflicts and be consistent with complete streets concepts.

C-2.21 Pursue funding for grade separation of the remaining at-grade railroad crossings within the City.

C-2.22 Incorporate emergency access, mountable medians, shoulders to bypass queued vehicles, emergency signal preemption, and other features into development and infrastructure projects to improve emergency response times as appropriate and feasible on new roadways and on existing roadways.

C-2.23 Construct new facilities for emergency services as new areas of the City are developed to maintain response time consistent with existing development.

C-4.1 Through regular updates to the City's Active Transportation Plan inclusive of community members and stakeholders, establish a more safe and more convenient network of identified bicycle and pedestrian routes connecting residential areas with schools, recreation, shopping, and employment areas within the city, generally as shown in Figure CI-2). The City shall also strive to develop connections with existing and planned regional routes shown in the San Joaquin County Bicycle Master Plan.

C-4.2 Improve safety conditions, efficiency, and comfort for bicyclists and pedestrians by providing native and drought-tolerant shade trees and controlling traffic speeds by implementing narrow lanes or other traffic calming measures in accordance with the City Neighborhood Traffic Calming Program on appropriate streets, in particular residential and downtown areas.

C-6.2 Develop and maintain a truck circulation network that connects Surface Transportation Assistance Act (STAA) trucks to industrial areas while balancing the safety needs of motorists in passenger vehicles and persons walking, biking, or riding a bus.

CIRCULATION ELEMENT ACTIONS

C-1a Maintain an up-to-date master list of multimodal conditions, including volume data for key intersections and roadway segments. This master list shall be updated regularly with traffic counts (for autos, transit, bicycles, and pedestrians) taken in conjunction with project traffic studies and by

special counts conducted by the City as necessary and shall include periodic evaluation of the mobility and access on major streets, including access and mobility issues faced by transit riders, bicyclists, and pedestrians.

C-2a Maintain the Major Street Master Plan (Figure CI-1) showing the existing and proposed ultimate right-of-way and street width for each road segment within the City's Sphere of Influence and Area of Interest. The Major Street Master Plan shall also indicate the necessary right-of-way to be acquired or dedicated and the expected method of financing roadway improvements (i.e., City-funded or property owner/developer-funded). The Major Street Master Plan shall be regularly updated.

C-2b When planning roadway facilities, incorporate the concept of complete streets. Complete streets include design elements for more safe travel by all modes that use streets, including autos, transit, pedestrians, and bicycles. Complete streets shall be developed in a context-sensitive manner. For example, it may be more appropriate to provide a Class I bike path instead of bike lanes along a major arterial. Pedestrian districts like Downtown Manteca or areas near school entrances should have an enhanced streetscape (e.g., narrower travel lanes, landscape buffers with street trees, etc.) to better accommodate and encourage pedestrian travel.

C-2c Review and update the City's standard plans to ensure that the plans reflect the City's goals and policies for the circulation system, including cross-sections that provide for landscape-separated sidewalks along arterials and non-residential streets; best practices for safer travel by vehicles, bicycles, and pedestrians; and accommodate all users. Complete these updates within three years of adoption of this General Plan.

C-2d Require new development to participate in the implementation of transportation improvements identified in the Major Street Master Plan. Participation shall include the construction of roadways, improvements to roadways, including grade-separated crossings of railroads, payment into the PFIP program, payment into other fee programs, or fair-share payments. In general, the infrastructure needs and methods of participation will be determined through an environmental impact report or transportation impact analysis.

C-2i Pursue funding to improve and address areas of traffic, bicycle, and pedestrian hazards and conflicts with vehicular traffic movements.

C-2j Identify and remove, as feasible, obstacles limiting corner-sight distances at existing street corners.

C-2k In conjunction with the creation of a Vision Zero Action Plan or Local Road Safety Plan, create an ongoing identification and surveillance program of above average vehicle, bicycle, and pedestrian collision locations, with emphasis on early detection and correction of conditions that create safety issues for users.

C-2l Require all new signs, roadway striping, and traffic signals to be consistent with the latest edition of the California Manual on Uniform Traffic Control Devices (MUTCD).

C-2m Through the development review process, require joint use access, cross access easements, emergency access, and access prohibitions wherever traffic patterns and physical features make it possible and ensure that proposed street networks are designed to balance local access needs with street capacity.

C-2n Create a Vision Zero Action Plan or Local Road Safety Plan that prioritizes systems-based approach to preventing traffic fatalities, focusing on the built environment, systems, and policies that influence behavior as well as messaging that emphasizes that these traffic losses are preventable. Complete this plan within four years of adoption of this General Plan.

C-2o Upon completion of a Vision Zero Action Plan or Local Road Safety Plan, update the PFIP to address recommended safety improvements for all modes, including vehicles, bicyclists, and pedestrians. Complete this update within two years of adoption of the Vision Zero Action or Local Road Safety Plan.

C-4c Increase bicyclist and pedestrian safety by:

- Providing and maintaining bicycle paths and lanes that promote bicycle travel.
- Sweeping, repairing, and maintaining vegetation growth along bicycle lanes and paths on a continuing, regular basis.
- Ensuring that bikeways are delineated and signed in accordance with the latest editions of the California MUTCD and AASHTO standards and lighting is provided, where feasible.
- Ensuring that all new and improved streets have bicycle-safe drainage grates and eliminate uneven pavement, gravel, encroaching vegetation, and other conditions that may impede user safety, expectations, and convenience.
- Providing and maintaining sidewalks and crosswalks.

C-6g Where intersections and roadway segments are modified to accommodate STAA truck movement, the City shall ensure that the design of such take into account the needs of all modes of transportation. Acceptable design solutions include, but are not limited to, features such as: shoulders for trailer tracking recovery; Class I and IV bicycle lanes; pedestrian and bicyclist shelter islands; and, longer crosswalk crossing phases at traffic signals.

C-6aa Update the PFIP program and other applicable programs to implement additional grade separations at existing and planned at-grade rail crossings in Manteca and to provide features to improve response time on new roadways and existing roadways.

CONCLUSION

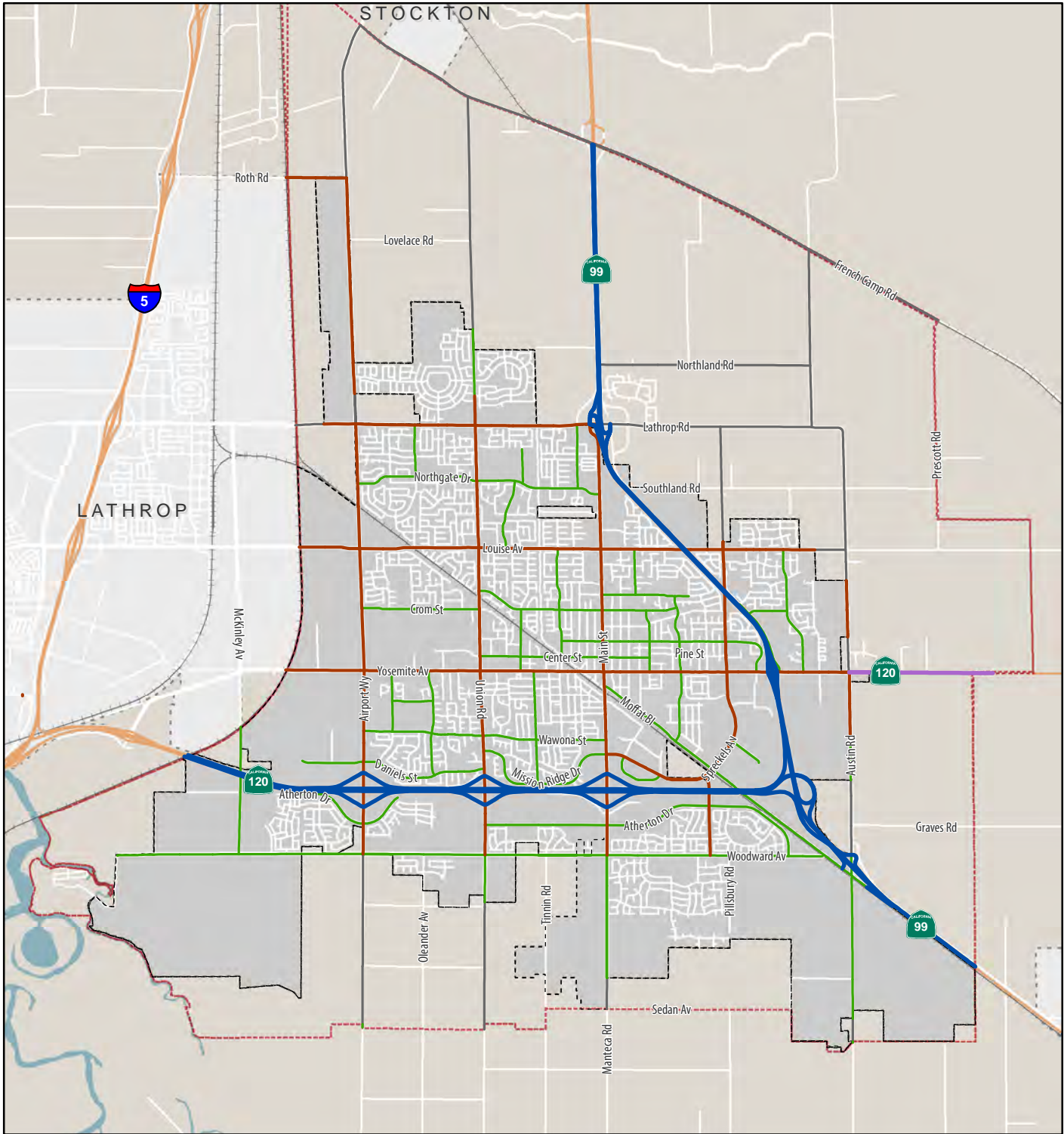
While traffic volumes would increase on most City roadways, implementation of the City's General Plan policies and implementation measures and the City's roadway design standards would improve safety and reduce impacts associated with hazards due to a design feature, incompatible uses, and inadequate emergency access. This would be accomplished by providing guidance on the planning and design of safe roadway, bicycle, and pedestrian facilities, consistent with state, federal and industry best-practices and regulations. Although the General Plan policies and actions related to

circulation, hazards, and emergency access would reduce the impacts to emergency circulation and access associated with implementation of the General Plan Update, increasing vehicle traffic may increase the number of collisions on Manteca roadways, and therefore result in an increase in hazards. The City cannot demonstrate definitively at this time that implementation of these policies would maintain the number of collisions for vehicles, pedestrians, and bicyclists at current or lower levels. This impact is *significant*.

Policy C-2.3 and Action C-2d require new development to participate in the implementation of transportation improvements identified in the Major Street Master Plan and PFIP. Policy 2.6 requires residential and collector street intersections to be well connected to allow bicyclists and pedestrians to travel more safely from one neighborhood to another without using major streets. Policy 2.8 requires traffic management, calming, and safety techniques to be applied according to industry standards at residential and collector street intersections to allow bicyclists and pedestrians to travel more safely from one neighborhood to another. Policy 2.13 requires development projects to organize streets into interconnected block patterns to minimize usage of arterial streets for local vehicle, bicycle, and pedestrian trips.. This policy adds redundancy to the street system to enable more efficient response times by emergency responders. Policy C-2.17 provides for regional coordination for specified grade-separated crossings and regional bicycle lanes and bicycle paths. Policy C-2.18 prohibits the creation of traffic, bicycle, and pedestrian hazards and prohibits conflicts with vehicular traffic movements, thereby ensuring that development and infrastructure projects are designed to avoid conflicting uses or design hazards that would result in traffic, bicycle, or pedestrian hazards. Policy C-2.19 requires adequate sight distance to be provided in new projects. Policy C-6.2 ensures emergency access is provided in development and infrastructure projects.

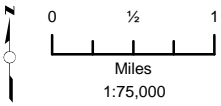
Action C-1a requires multimodal conditions to be identified and maintained, including evaluation of mobility and access issues on major streets and faced by transit riders, bicyclists, and pedestrians. Action C-2b requires roadway facilities to be designed to provide safe travel by all modes that use streets. Actions C-1k, C-2n, and C-2o require the preparation of a Vision Zero Action Plan or Local Road Safety Plan that focuses on prevention of traffic fatalities, with the plan to be completed within four years of General Plan adoption. These measures also include updating the PFIP to address recommended safety improvements, and ongoing identification, surveillance, and correction of high vehicle, bicycle, and pedestrian collision locations. Action C-4c increases bicyclist and pedestrian safety through maintaining sidewalks, crosswalks, and bicycle lanes and paths and associated vegetation. Implementation measure C-6q requires that where intersections and roadway segments are modified to accommodate STAA truck movement, that the design takes into account the needs of all modes of transportation.

While the General Plan goals, policies, and implementation measures listed above are anticipated to achieve meaningful reductions in collisions within the City, the City at this time cannot demonstrate that collisions will be reduced to the degree that it meets this threshold. Collision reduction also depends on factors such as user behavior, demographic change, household preferences for travel, the cost of fuel, and the competitiveness of other transportation modes relative to driving. Therefore, this impact is considered *significant and unavoidable*.

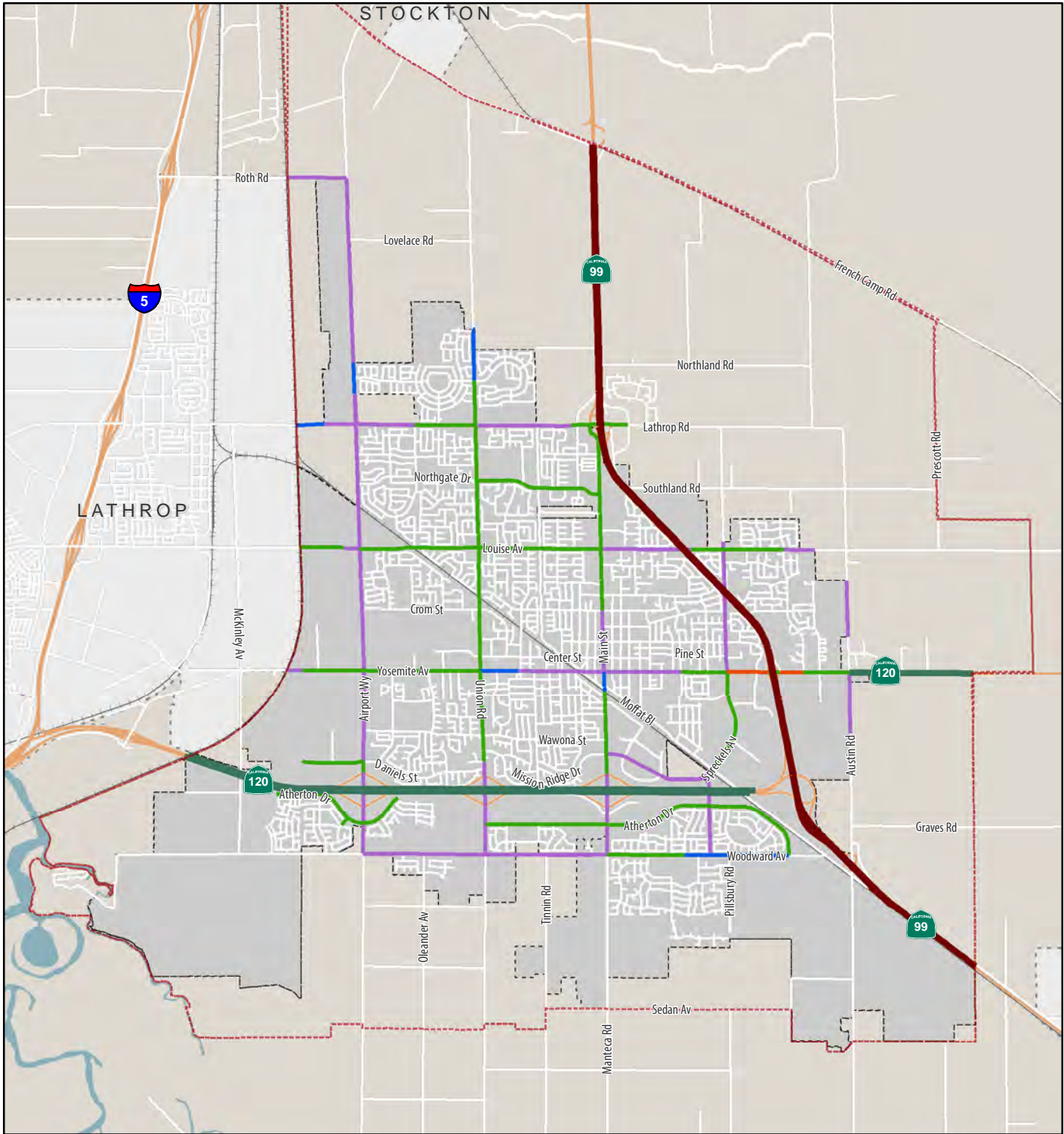


CITY OF MANTECA GENERAL PLAN
Figure 3.14-1: Roadway Network
Functional Classification

- | | | |
|----------------------------------|------------|---------------------|
| Functional Classification | Arterial | Manteca City Limits |
| Freeway/Ramps | Collector | Planning Area |
| Expressway | Rural Road | |



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Number of Lanes

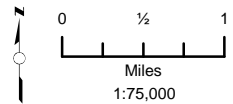
- 2
- 3
- 4
- 5
- 4-lane Freeway/Expressway
- 6-lane Freeway

- Manteca City Limits
- Planning Area

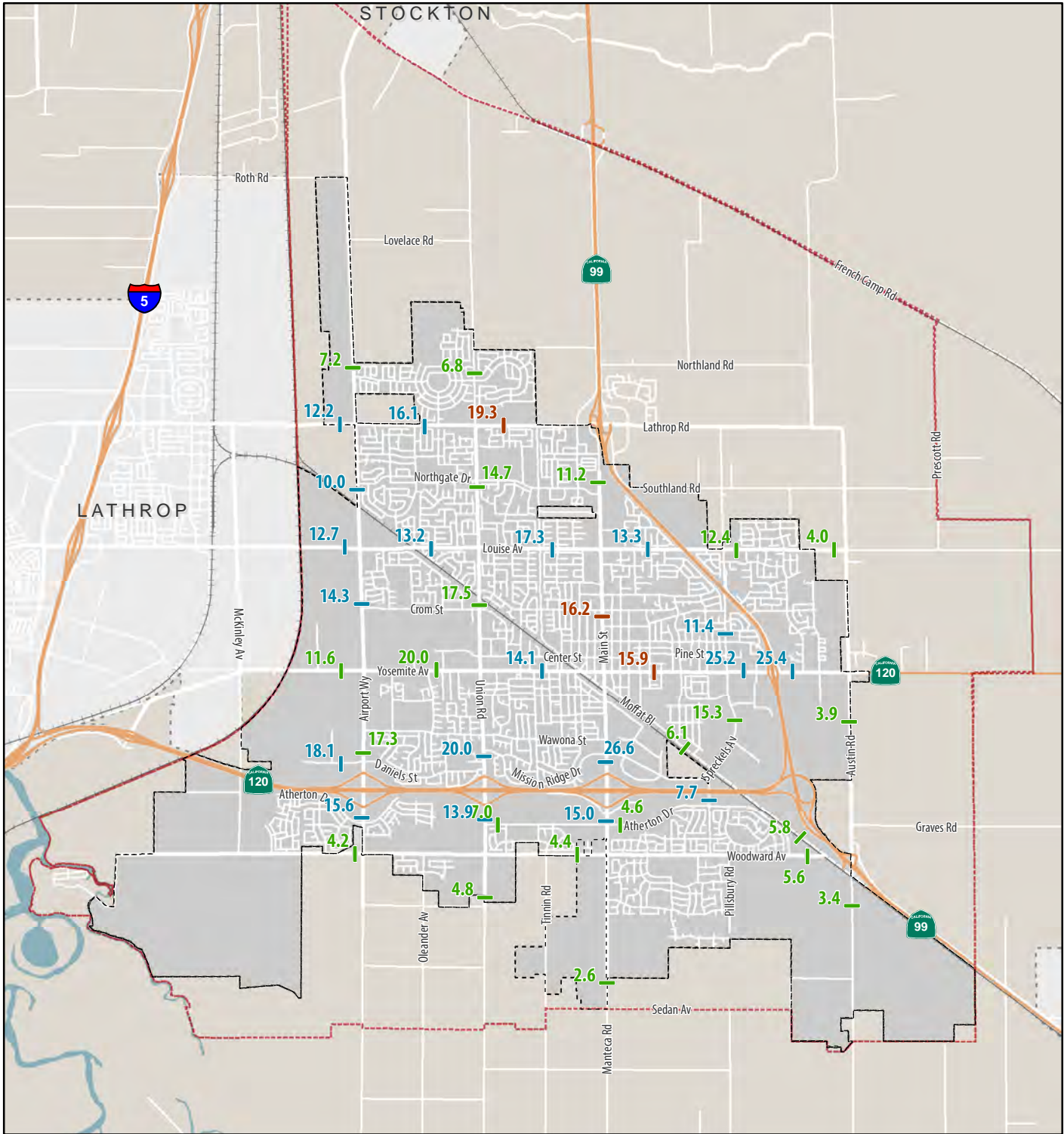
Note: Streets shown in white primarily residential.

CITY OF MANTECA GENERAL PLAN

Figure 3.14-2: Number of Lanes



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CITY OF MANTECA GENERAL PLAN
Figure 3.14-3: Existing Conditions Average Daily Traffic and Level of Service

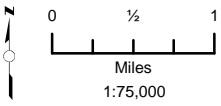
Level of Service LOS

- C
- D
- E

X.X Average Daily Traffic Volume (x 1,000) Rounded to nearest 100

Manteca City Limits

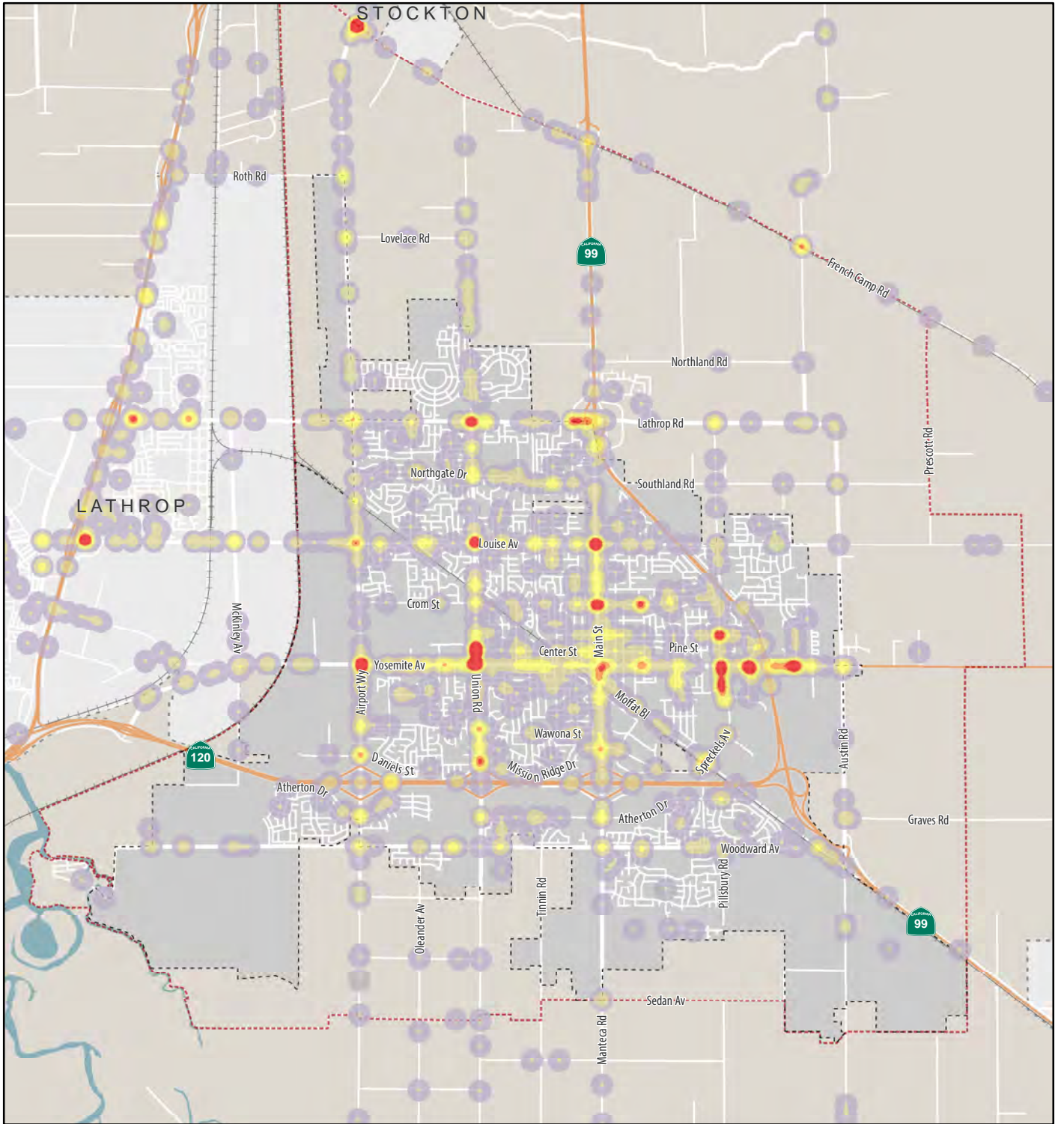
Planning Area



Note: Counts conducted on October 25th and 26th, and November 9th and 10th, 2016.

Sources: City of Manteca; San Joaquin County, Fehr & Peers
 Map date: 11/24/2020

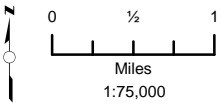
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CITY OF MANTECA GENERAL PLAN

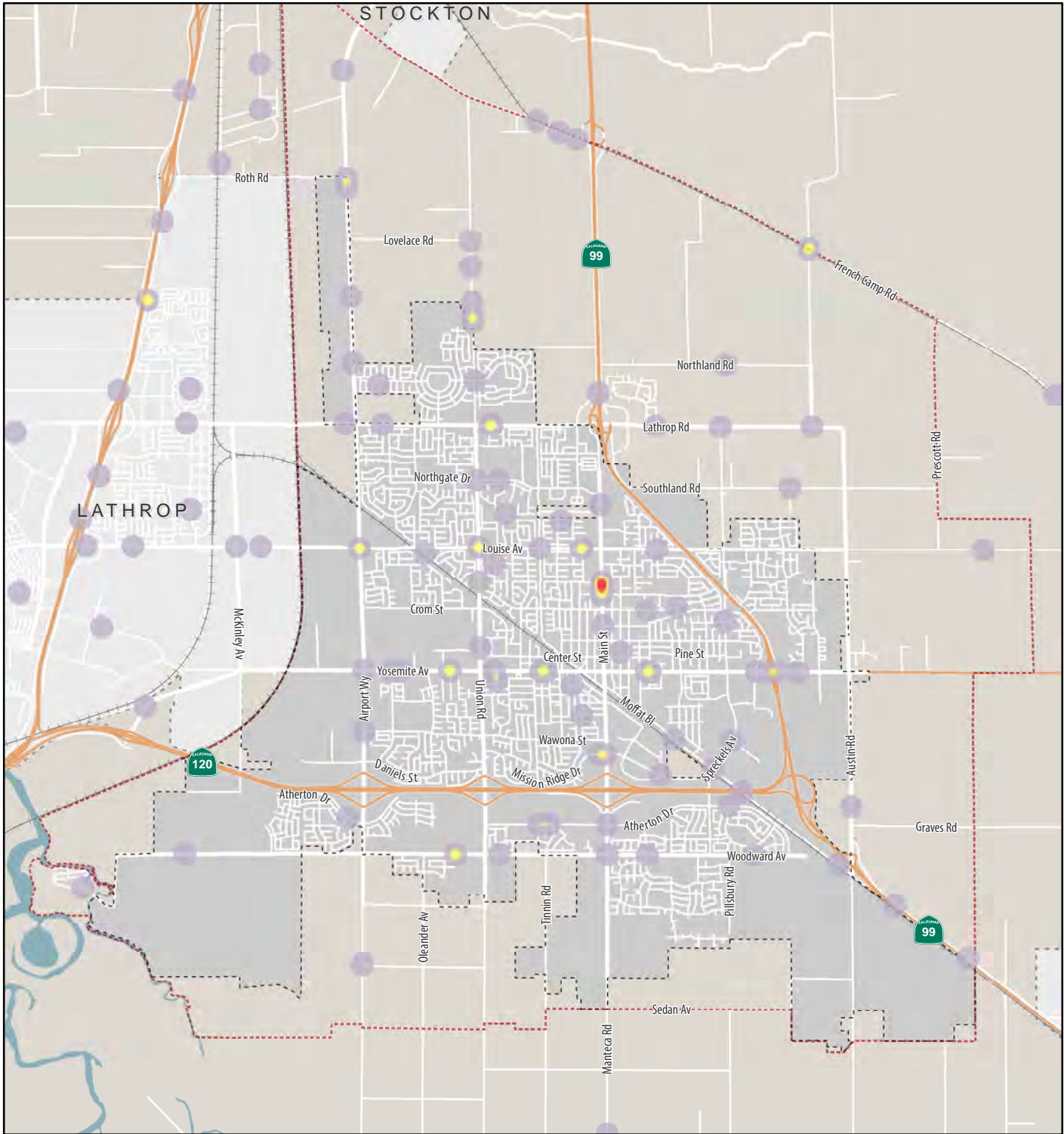
Figure 3.14-4: All Collisions Density

- Lower Concentration of Collisions
- Higher Concentration of Collisions
- Manteca City Limits
- Manteca Planning Area



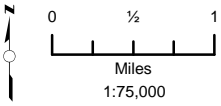
Sources: City of Manteca; San Joaquin County; TIMS
Map date: 1/28/2022

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CITY OF MANTECA GENERAL PLAN

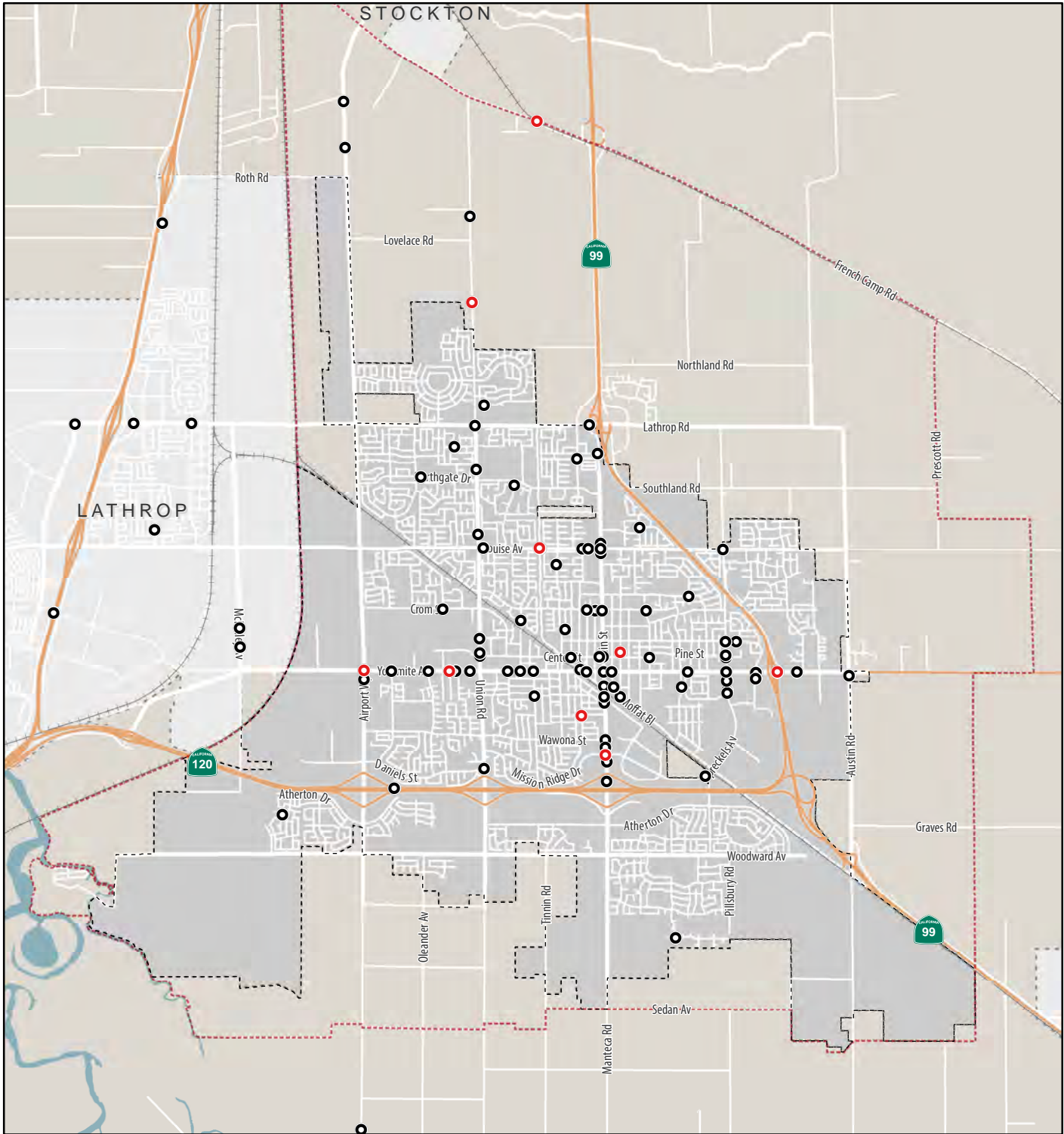
Figure 3.14-5: KSI Collision Density



- Lower Concentration of Collisions
- Higher Concentration of Collisions
- Manteca City Limits
- Manteca Planning Area

Sources: City of Manteca; San Joaquin County; TIMS
 Map date: 1/31/2022

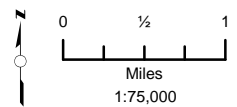
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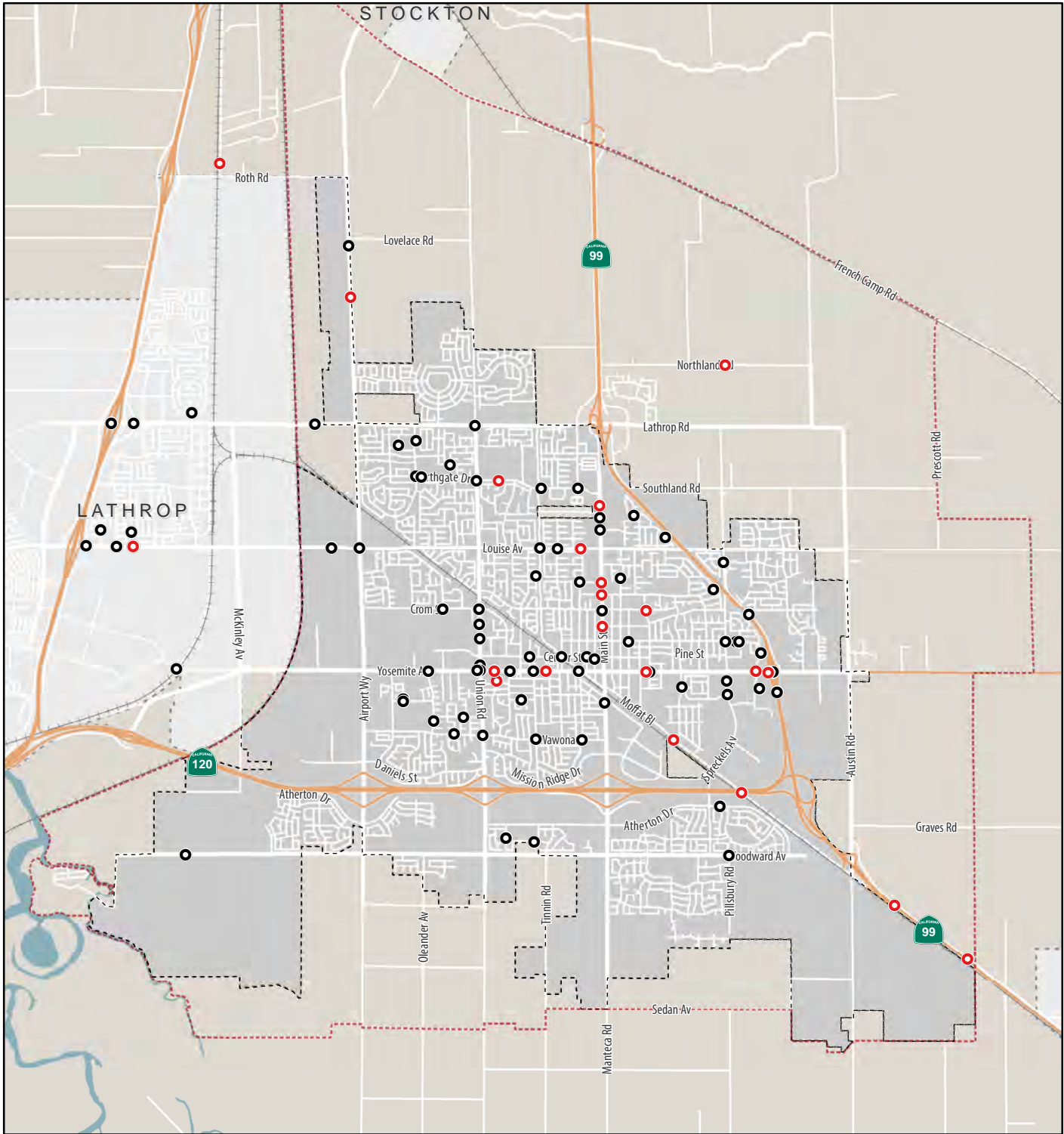
- KSI Bicyclist Collisions
- Non-KSI Bicyclist Collisions
- Manteca City Limits
- Manteca Planning Area

CITY OF MANTECA GENERAL PLAN

Figure 3.14-6: Bicycle Collisions



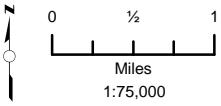
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CITY OF MANTECA GENERAL PLAN

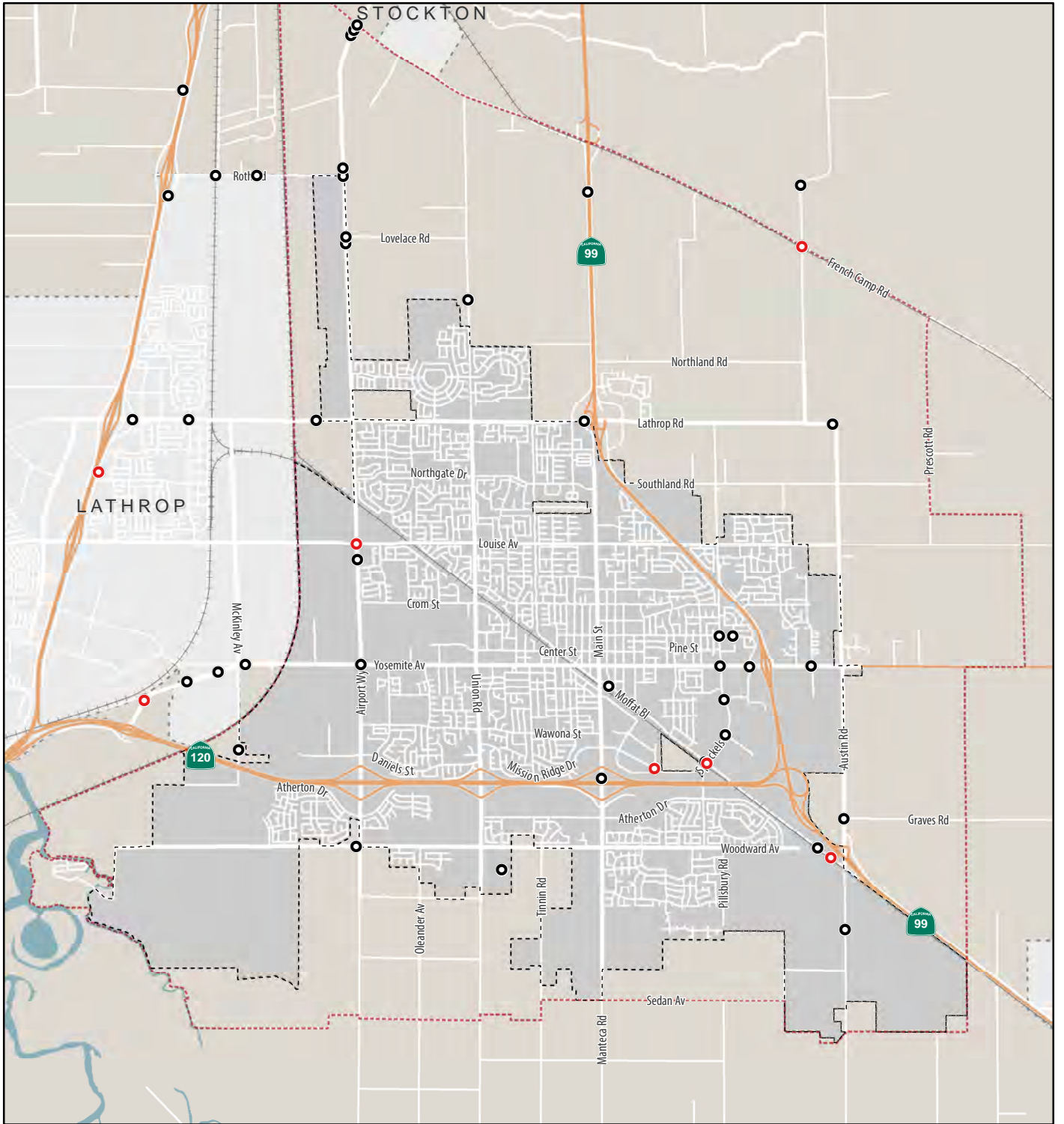
Figure 3.14-7: Pedestrian Collisions

- KSI Pedestrian Collisions
- Manteca City Limits
- Non-KSI Pedestrian Collisions
- Manteca Planning Area



Sources: City of Manteca; San Joaquin County; TIMS
Map date: 1/28/2022

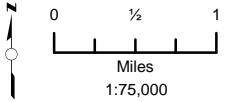
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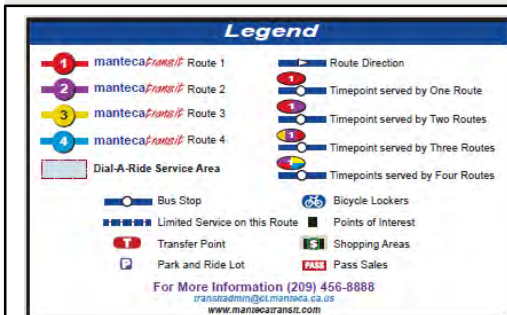
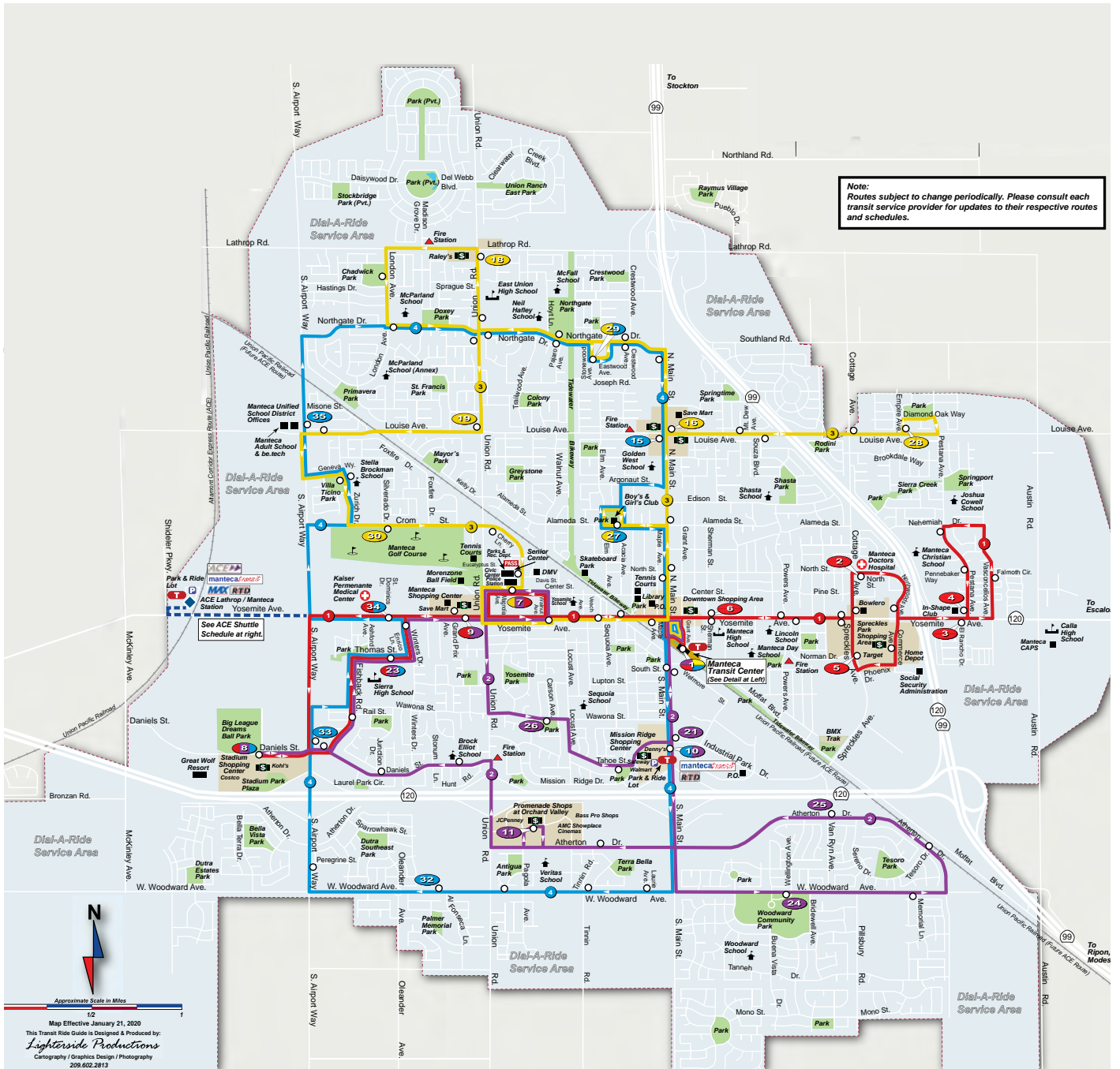
CITY OF MANTECA GENERAL PLAN

Figure 3.14-8: Truck Collisions

- KSI Truck Collisions
- Manteca City Limits
- Non-KSI Truck Collisions
- Manteca Planning Area

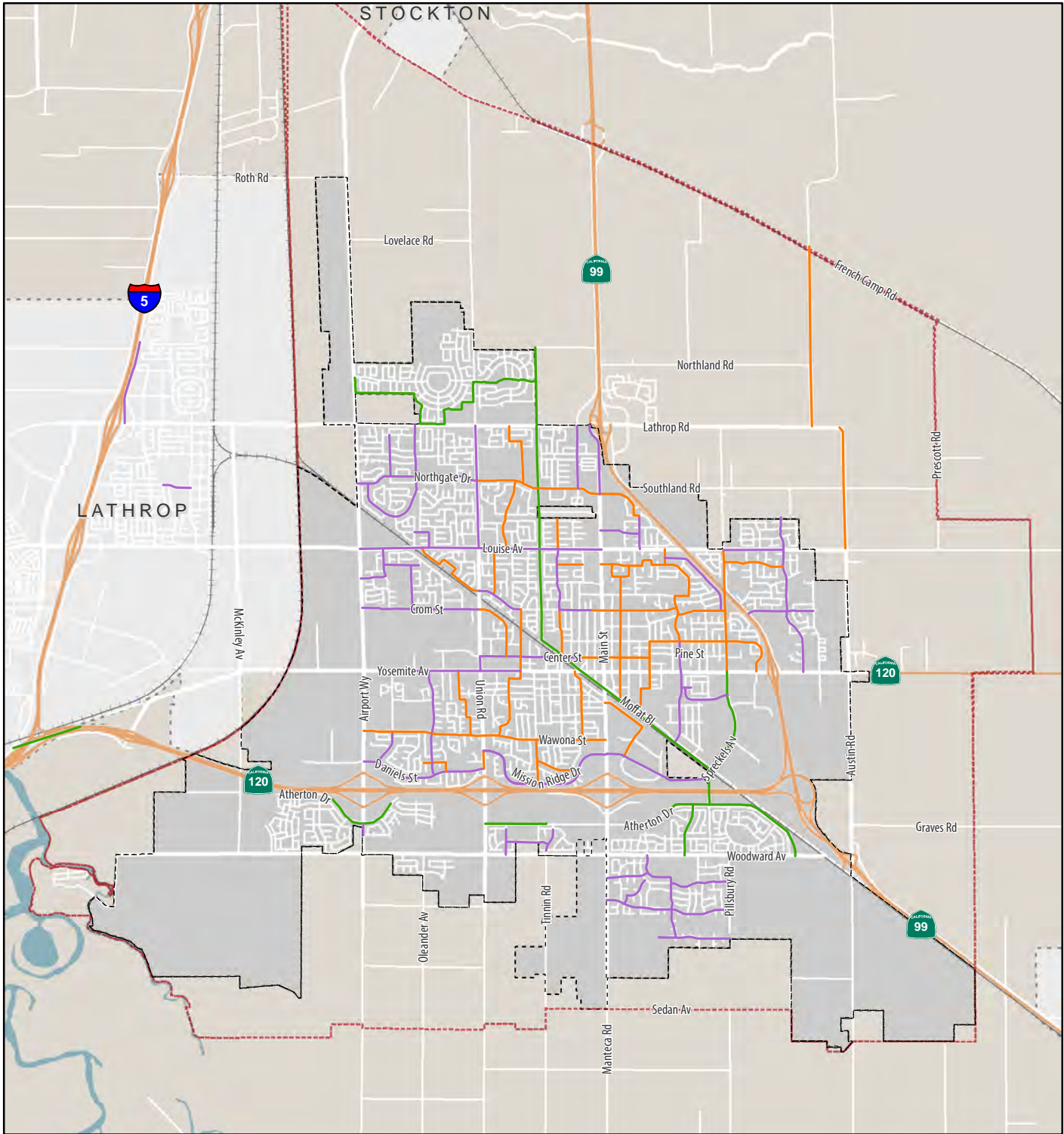


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CITY OF MANTECA GENERAL PLAN
 Figure 3.14-9: Manteca Transit System Map

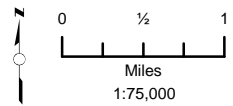
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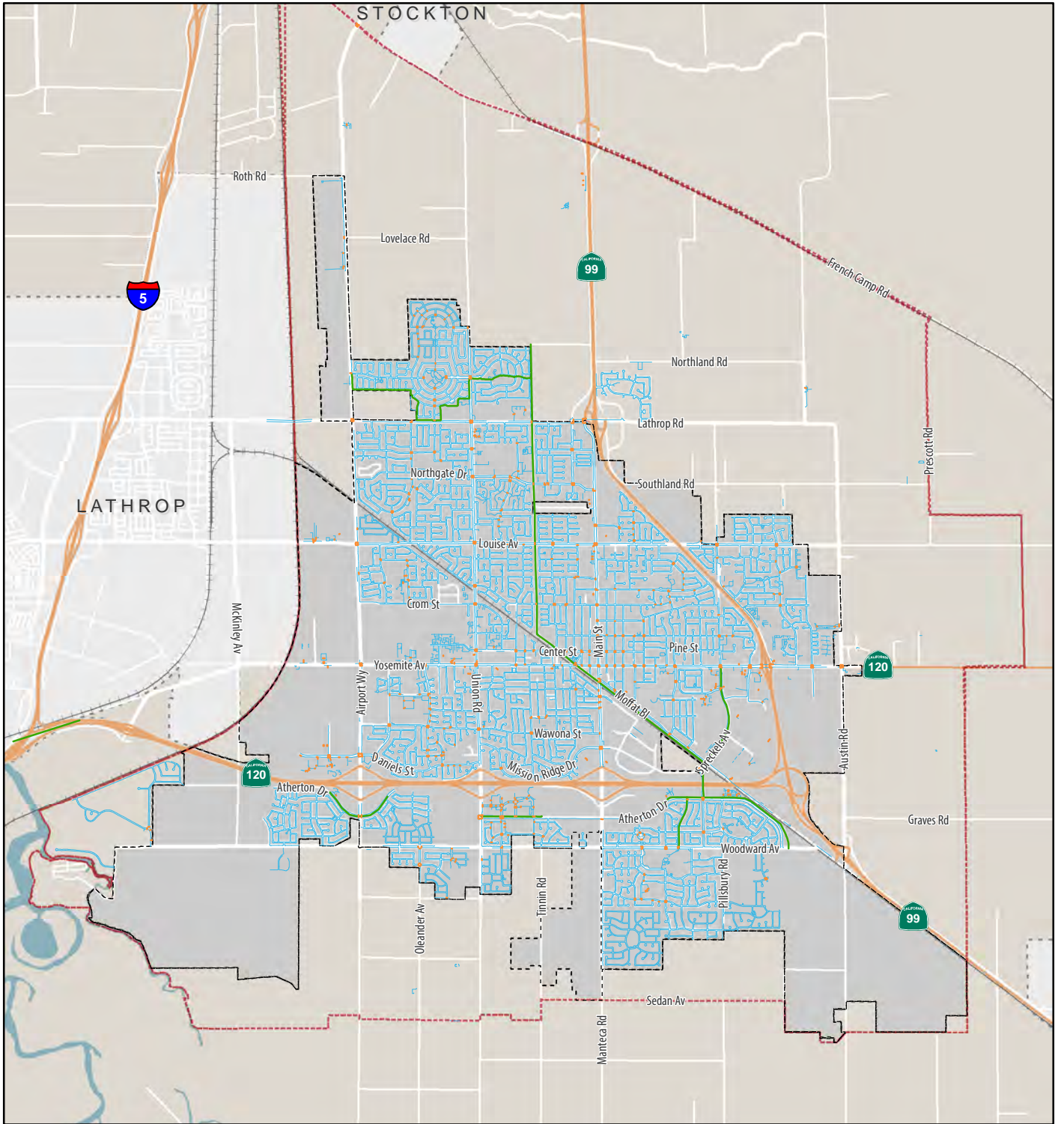
- Class I - Multi-Use Path
- Class II - Bicycle Lane
- Class III - Bicycle Route
- Manteca City Limits
- Planning Area

CITY OF MANTECA GENERAL PLAN

Figure 3.14-10: Bicycle Network



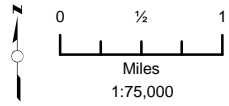
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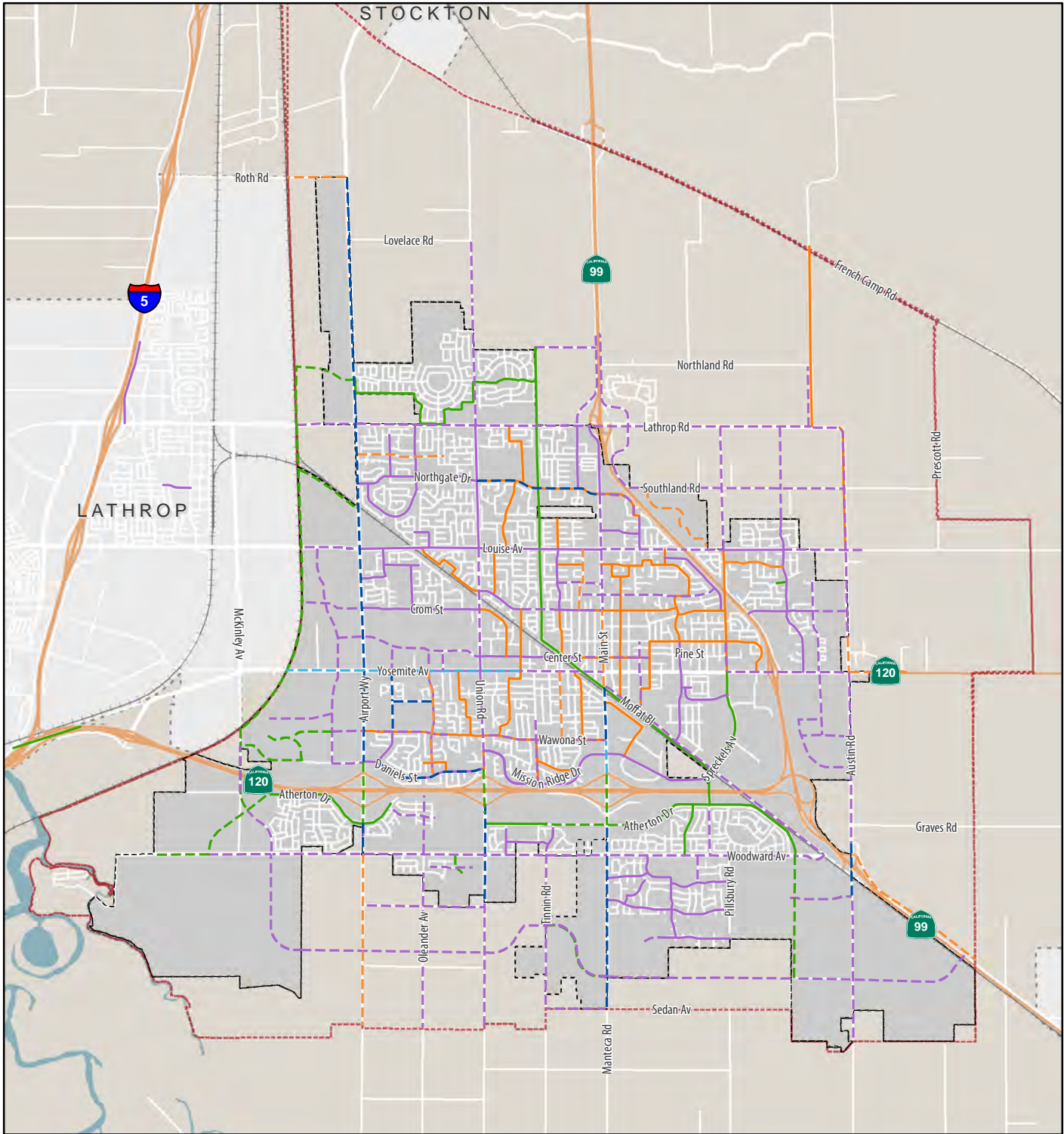
CITY OF MANTECA GENERAL PLAN

Figure 3.14-11: Pedestrian Network

- Existing Crosswalk
- Existing Sidewalk
- Class I - Multi-Use Path
- Manteca City Limits
- Planning Area



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Existing Bicycle Facilities

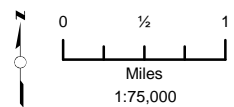
- Class I - Multi-Use Path
- Class II - Bicycle Lane
- Class III - Bicycle Route

Planned Bicycle Facilities

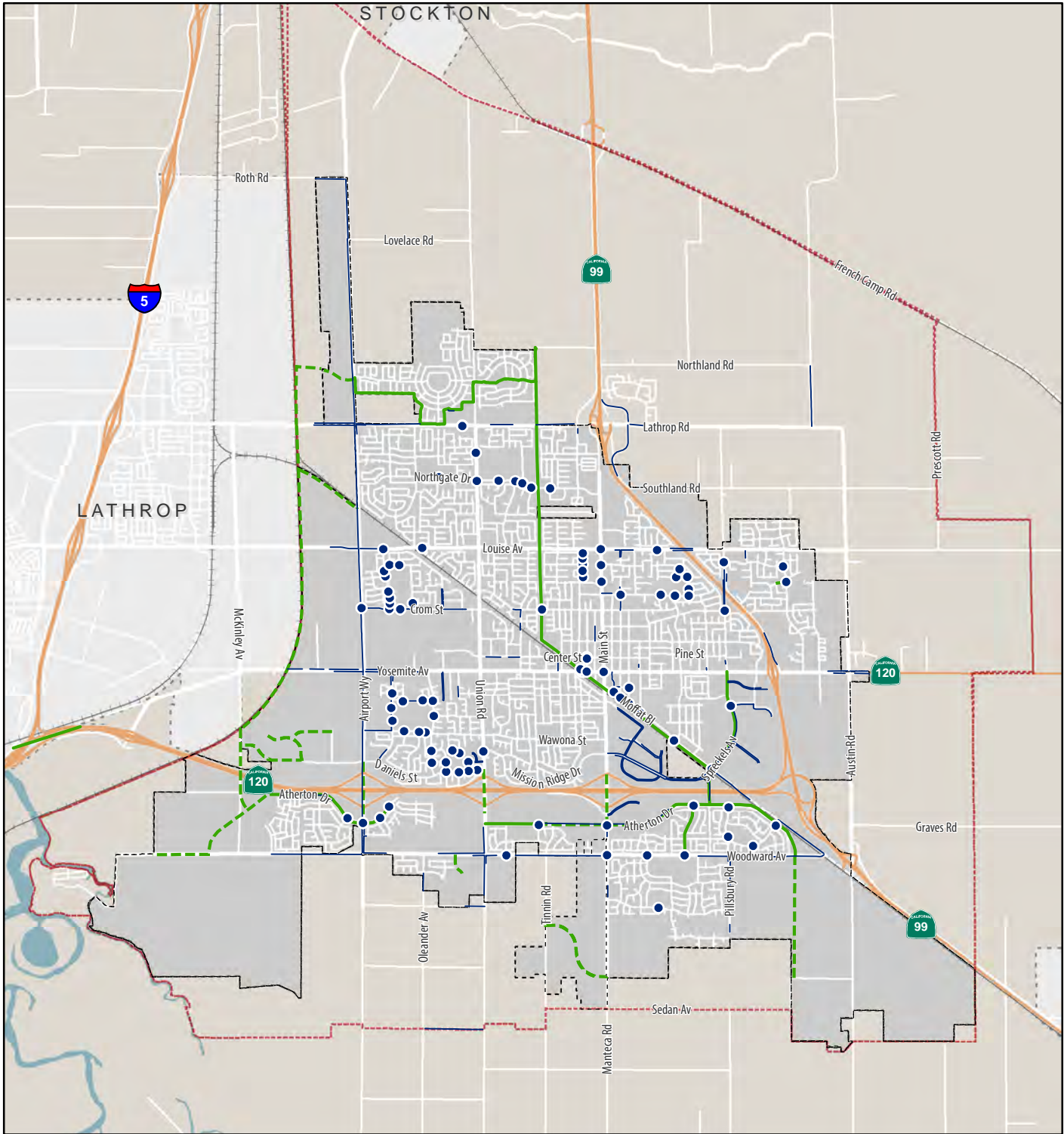
- - - Class I Bike Path
- - - Class II Bike Lanes
- - - Class II Buffered Bike Lanes
- - - Class III Bike Route
- - - Class IV Separated Bikeway

- Manteca City Limits
- Planning Area

CITY OF MANTECA GENERAL PLAN
Figure 3.14-12: Planned Bicycle Network

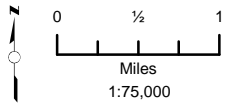


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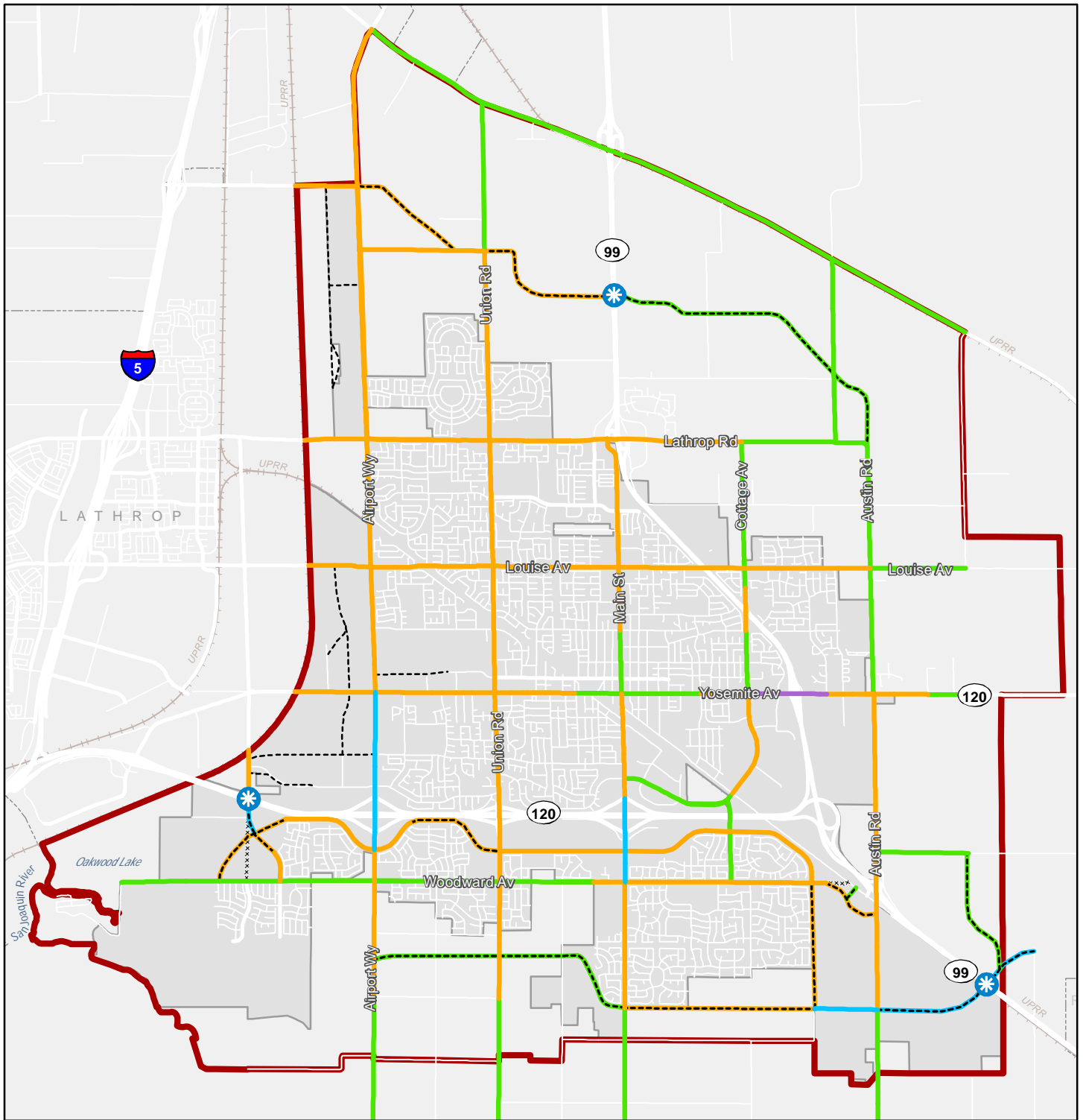


CITY OF MANTECA GENERAL PLAN
Figure 3.14-13: Planned Pedestrian Network

- Planned Crossing Improvement
- Planned Sidewalk
- Planned Class I Bike Path
- Existing Class I Bike Path
- Manteca City Limits
- Planning Area



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Legend

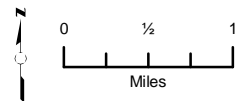
- City of Manteca
- Manteca Planning Area
- Future Interchange
- Future Road (Dashed)
- Roads to be Removed

Future Lanes

- 2-lane
- 4-lane
- 5-lane
- 6-lane

CITY OF MANTECA GENERAL PLAN

Figure 3.14-14. Major Street Circulation Plan



Sources: City of Manteca; San Joaquin County; Map date: November 18, 2022.

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Utilities are critical to providing safe drinking water, disposal and treatment of wastewater, stormwater drainage, and solid waste disposal. This section provides a background discussion of the utility systems in Manteca including water supplies, wastewater collection and treatment, storm drainage, and solid waste. This section is organized with an existing setting, regulatory setting, and impact analysis.

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the Central Valley Regional Water Quality Control Board (CVRWQCB) and Pacific Gas & Electric (PG&E) Company. Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

3.15.1 WATER SUPPLIES

KEY TERMS

AB: Assembly Bill

Acre-foot (AF): The volume of one acre of water to a depth of one foot. Each acre-foot of water is equal to approximately 325,851.4 gallons.

AFY: Acre-feet per year

CCR: California Code of Regulations

CII: commercial, industrial, and institutional

CVRWQCB: Central Valley Regional Water Quality Control Board

CWC: California Water Code

Disinfected tertiary: A filtered and subsequently disinfected wastewater that meets defined chlorine contact requirements, inactivation/removal of pathogens, and does not exceed prescribed total coliform targets.

DWR: Department of Water Resources

ESJ: Eastern San Joaquin

ESJGWA: Eastern San Joaquin Groundwater Authority

GPD: Gallons per day

Groundwater: Water that is underground and below the water table, as opposed to surface water, which flows across the ground surface. Water beneath the earth's surface fills the spaces in soil, gravel, or rock formations. Pockets of groundwater are often called "aquifers" and are the source of drinking water for a large percentage of the population in the United States. Groundwater is often extracted using wells which pump the water out of the ground and up to the surface. Groundwater

is naturally replenished by surface water from precipitation, streams, and rivers when this recharge reaches the water table.

GSA: Groundwater Sustainability Agency

GSP: Groundwater Sustainability Plan

MG: Million gallons

MGD: Million gallons per day

Non-potable: Water that is not suitable for drinking

PG&E: Pacific Gas & Electric Company

Potable: Water that is safe to drink

Raw Water: Untreated water found in the environment

RWFMP: Reclaimed Water Facilities Master Plan

SCWSP: South County Water Supply Program

SB: Senate Bill

SGMA: Sustainable Groundwater Management Act

SRF: State Revolving Fund

SSJID: South San Joaquin Irrigation District

State Water Board: State Water Resources Control Board

Surface water: Water collected on the ground or from a stream, river, lake, wetland, or ocean. Surface water is replenished naturally through precipitation but is lost naturally through evaporation and seepage into soil.

UWMP: Urban Water Management Plan

UWMP Act: Urban Water Management Planning Act

WQCF: City of Manteca Water Quality Control Facility

WTP: Nick C. DeGroot Water Treatment Plant

POTABLE WATER SYSTEM

The City's water service area is contiguous with City limits. In 2015, the City served approximately 21,600 connections, and total potable water use was 11,235 acre-feet/year (AFY), which equates to an average daily use of 10 million gallons per day (MGD) (Kennedy/Jenks Consultants, 2016).

The City’s potable water distribution water system is shown on Figure 3.15-1. The City’ distribution system is supplied by surface water from South San Joaquin Irrigation District’s (SSJID’s) South County Water Supply Program (SCWSP) and local groundwater wells. Four turnouts deliver surface water from SSJID to the City system, designated M1, M2, M3 and M4. Seventeen potable groundwater wells (15 active and 2 standby) supply the distribution system, and 31 non-potable wells provide on-site irrigation supply to parks and other irrigated areas (Manteca, 2017). The system has a single pressure zone with approximately 250 miles of water system pipeline. There are three ground-level storage tanks: the tank at the SSJID M2 turnout on Lathrop Road (1 MG), the tank at the SSJID M3 turnout on West Yosemite Avenue (1 MG), and the Atherton Drive water storage tank (3.7 MG). The M2 and M3 tanks are used to balance the difference between SSJID deliveries and City use, while the Atherton Drive tank balances the difference between City supply and demand.

The 2015 Urban Water Management Plan (UWMP) projected the City’s total water demand (potable and raw water) to increase from 12,844 in 2015 to 27,530 in 2040, as shown in Table 3.15-1 below.

TABLE 3.15-1: EXISTING AND PROJECTED TOTAL WATER DEMAND IN NORMAL YEARS, AFY

	2015 (ACTUAL)	2020	2025	2030	2035	2040
Potable and Raw Water Demand	12,844	19,350	21,480	23,880	25,960	27,530
Recycled Water Demand ^(A)	1,463	900	480	290	740	2,240
Total Water Demand	14,307	20,250	21,960	24,170	26,700	29,770

SOURCE: CITY OF MANTECA 2015 UWMP, TABLE 4-3 TOTAL WATER DEMANDS

(A) CURRENT RECYCLED WATER USE IS LIMITED TO UNDISINFECTED SECONDARY EFFLUENT USED TO IRRIGATE FODDER CROPS ON LANDS ADJACENT TO THE CITY’S WASTEWATER TREATMENT PLANT, TERTIARY EFFLUENT USED FOR ORNAMENTAL IRRIGATION AT THE GREAT WOLF LODGE, AND TERTIARY EFFLUENT USED FOR DUST CONTROL AT CONSTRUCTION SITES.

The 2015 actual demand of 12,844 AFY was adjusted to reflect the estimated demand of 388 AFY from development occurring from 2016 through 2019, as shown in Table 3.15-2 below, resulting in an estimate of potable water demand in Manteca of approximately 13,232 AFY in 2020.

TABLE 3.15-2: WATER DEMAND FOR DEVELOPMENT FROM 2016 THROUGH 2019

PROPOSED LAND USE	AREA, ACRES ^(A)	WATER DEMAND FACTOR, GPD PER ACRE	WATER DEMAND, AFY
Low Density Residential	129	2,240	323
Medium Density Residential	0.3	2,800	1
Industrial	108	240	29
Business Professional ^(B)	1	1,760	2
Commercial	8	1,200	
<i>Subtotal</i>	246	-	366
Unaccounted-for Water ^(C)	-	-	22
Total	246		388

SOURCE: WEST YOST, 2021

(A) LAND USE FROM DE NOVO PLANNING GROUP, MANTECA PROJECTIONS - LU MAP, SEPTEMBER 2020.

(B) ASSUMED BASED ON SIMILAR LAND USE TYPES.

(C) AVERAGE UNACCOUNTED-FOR WATER FOR 2016-2020 IS 6 PERCENT OF WATER DEMAND.

WATER SYSTEM SUPPLIES

As noted above, the City's two primary supply sources are surface water, purchased from the SSJID SCWSP, and local groundwater. The City also uses recycled water for irrigation and dust control. The City's 2015 UWMP indicates that, on an annual basis, the City's goal is to limit groundwater use to between 47 and 53 percent of total water supply.

Surface Water Supply

In 2005, SSJID commissioned the Nick C. DeGroot Water Treatment Plant (WTP) for the SCWSP to provide treated surface water from the Stanislaus River to several cities in south San Joaquin County. The Cities of Manteca, Lathrop, Escalon, and Tracy have agreements to purchase treated surface water from the SCWSP, but only Manteca, Lathrop and Tracy currently receive treated surface water (Provost & Pritchard Consulting Group, 2016).

The SCWSP provides treated surface water from the Stanislaus River under a 300,000 AFY entitlement. However, the entitlement is dependent on New Melones Reservoir inflow and is subject to curtailment in dry years. Normal water deliveries are provided when the New Melones inflows exceed 600,000 AFY. When inflows are less than 600,000 AFY, the available supply is shared equally between SSJID and Oakdale Irrigation District, which also holds a 300,000 AFY entitlement. The SCWSP participants' agreement with SSJID requires that municipal and agricultural users share surface water reductions equally.

An examination of estimated New Melones Inflow from 1885 to 2010, included in SSJID's 2015 UWMP, indicated that the full entitlement to SSJID has been available approximately 80 percent of the time. The average reduction in dry years between 1885 and 2010 was 11 percent, and the lowest supply on record was 225,000 AF in both 2014 and 2015 (Provost & Pritchard Consulting Group, 2016).

The City has a current Phase 1 allotment of 11,500 AFY of surface water through the SCWSP, but it has not historically used its full allotment due to system constraints and State and SSJID supply limits in response to drought conditions. In 2015, the City purchased a total of 5,596 acre-feet (AF) of supply from SSJID (Kennedy/Jenks Consultants, 2016).

Future expansion of the SCWSP will increase the City's maximum Phase 2 allotment to 18,500 AFY, but implementation of Phase 2 has not yet been initiated (Kennedy/Jenks Consultants, 2016).

The projected surface water deliveries available to the City during a normal year, single dry year, and multiple dry years, as documented in the City's 2015 UWMP, are presented in Table 3.15-3. It is noted that the recent Bay Delta Water Quality Control Plan may have negative impacts on SSJID water supply reliability in dry years; updated projections of SSJID water supply reliability are currently being developed as part of the 2020 UWMP, but the final versions of the City's and SSJID's 2020 UWMP updates were not available at the time this General Plan Update was adopted.

TABLE 3.15-3: SCWSP SURFACE WATER DELIVERIES TO THE CITY OF MANTECA DURING HYDROLOGIC NORMAL, SINGLE-DRY, AND MULTIPLE-DRY YEARS IN 2040

<i>HYDROLOGIC CONDITION</i>	<i>PERCENT OF NORMAL SUPPLY</i>	<i>PROJECTED WATER DELIVERY, AFY</i>
Normal Year	100	18,500
Single Dry Year	75	13,875
Multiple Dry year 1	87	16,095
Multiple Dry year 2	89	16,465
Multiple Dry year 3	84	15,540

SOURCE: CITY OF MANTECA 2015 UWMP, TABLE 7-1 BASIS OF WATER YEAR DATA

Groundwater Supply

The City owns and operates 17 potable groundwater wells and 31 irrigation wells, ranging in depth from 190 feet to 400 feet. The shallower wells have more nitrogen contamination and are thus typically used for irrigation. The City completed construction of two new potable water wells, Wells 28 and 29, in 2019.

The City’s annual potable groundwater production increased with demand until 2005, reaching a peak of 14,900 AFY in 2004. Commissioning of the WTP in 2005 decreased groundwater use considerably. In addition, the City has shifted from using potable groundwater wells to irrigation wells wherever possible to reduce potable water demand and groundwater treatment costs. In 2015, the City’s annual groundwater production was 7,249 AFY, of which 5,639 AFY was for potable use and 1,610 AFY for irrigation use (Kennedy/Jenks Consultants, 2016).

The City’s 2015 UWMP indicates that the City’s goal is to limit groundwater use to between 47 to 53 percent of total water supply. With this goal in mind, it is assumed that the City will limit groundwater use to approximately 18,500 AFY, equal to the City’s normal year surface water supply (West Yost, 2021). The estimated safe yield of the groundwater basin is 1 AFY/acre (Kennedy/Jenks Consultants, 2016). The City’s total maximum available groundwater supply is shown in Table 3.15-4.

TABLE 3.15-4: PROJECTED GROUNDWATER SUPPLY DURING HYDROLOGIC NORMAL, SINGLE-DRY, AND MULTIPLE-DRY YEARS IN 2040 ^(A)

	<i>PROJECTED GROUNDWATER SUPPLY, AFY</i>
City Limits	11,577
Roads, Waterways, and Other Unincorporated Areas	2,160
Planning Area	13,300
Roads, Waterways, and Other Unincorporated Areas	470
Maximum Total Supply	27,507
Assumed Groundwater Supply ^(B)	18,500

SOURCE: WEST YOST, 2021

(A) BASED ON ASSUMPTION THAT 1 AFY OF GROUNDWATER IS AVAILABLE PER ACRE OF CITY SURFACE AREA FROM SECTION 6.2 OF THE CITY’S 2015 UWMP. CITY SURFACE AREA IS FROM CHAPTER 2.0, PROJECT DESCRIPTION.

(B) ASSUMES THE CITY WILL LIMIT GROUNDWATER USE TO APPROXIMATELY 18,500 AFY, EQUAL TO THE CITY’S NORMAL YEAR SURFACE WATER SUPPLY (SEE TABLE 3.15-3). THIS ASSUMPTION IS BASED ON THE CITY’S GOAL TO LIMIT GROUNDWATER USE TO BETWEEN 47 AND 53 PERCENT OF TOTAL WATER SUPPLY. THE RESULTING ASSUMED GROUNDWATER SUPPLY IS APPROXIMATELY 0.74 AFY/ACRE.

3.15 UTILITIES AND SERVICE SYSTEMS

It is important to note that the City's 2015 UWMP did not assume any increase in available groundwater supply through 2040. Table 6-11 of the City's 2015 UWMP indicates the City's assumed available groundwater supply would remain at 10,060 AFY through 2040. The value of 10,060 AFY accounts for the area within City limits less estimated groundwater pumping by others within City limits. The groundwater supply shown in Table 3.15-4 assumes the City's available groundwater supply will increase as land is incorporated and annexed into City limits since the available groundwater supply is based on the safe yield of 1 AFY/acre.

Wells currently in operation within the City service area, but not owned by the City, include private domestic wells, agricultural wells, wells for school irrigation owned by the Manteca Unified School District, and irrigation wells owned by SSJID, among others. California Department of Water Resources (DWR) well completion reports, cited in the City's 2015 UWMP, indicate that approximately 1,000 groundwater wells have been constructed within the General Plan area since recordkeeping began in the 1960's, but it is not clear which, if any, of these are still in service (Kennedy/Jenks Consultants, 2016).

Groundwater within the City's service area is supplied from the Eastern San Joaquin (ESJ) Subbasin of the San Joaquin Valley Groundwater Basin. According to DWR, the groundwater basin is critically overdrafted, with historical declines averaging 1.7 feet per year. Past estimates of safe groundwater yield from the basin have indicated that pumping at or below 1 AFY/acre of City land is sustainable. The City targets this sustainable yield, but it is important to note that the total groundwater pumping occurring within City boundaries includes City-owned municipal and park irrigation wells, as well as irrigation and domestic wells owned and operated by others. While all of the City's municipal wells have historically been metered, the irrigation wells were not all metered until 2015 and groundwater pumping data for other wells is incomplete. Therefore, the available safe yield for the City's wells includes some uncertainty. With the introduction of surface water supplies, as discussed above, and implementation of conservation measures, withdrawals have declined, stabilizing groundwater levels in the Manteca area (Kennedy/Jenks Consultants, 2016).

In 2014, State legislature enacted the Sustainable Groundwater Management Act (SGMA) in response to continued overdraft of the State's groundwater resources. The SGMA requires the development of a Groundwater Sustainability Plan (GSP) for each basin in order to achieve sustainable groundwater use in the basin by 2040. The SGMA defines sustainable groundwater management as "management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results." In response to the SGMA, in 2017, the Eastern San Joaquin Groundwater Authority (ESJGWA) was formed through a joint powers agreement comprised of 16 Groundwater Sustainability Agencies (GSAs) including the City. In 2019, the ESJGWA completed its first GSP which presents the projected path to achieve sustainable groundwater management within 20 years of the plan's adoption.

Recycled Water

Recycled water is produced at the City's Wastewater Quality Control Facility (WQCF). The City currently uses undisinfected secondary effluent to irrigate fodder crops in the land adjacent to the WQCF, disinfected tertiary effluent conveyed through a pipeline for irrigation at the Great Wolf

Lodge and distributed through a fill station at the entrance of the WQCF for dust control at construction sites. The City is in the process of developing a Reclaimed Water Facilities Master Plan (RWFMP) to establish a plan to systematically develop and implement the use of recycled water from the WQCF with phased development/implementation over the next 20-25 years.

PROJECTED WATER SUPPLIES

Available water supply projected at buildout of the General Plan (2040) is shown in in Table 3.15-5 (West Yost, 2021). These quantities include potable and raw water, but do not include recycled water.

TABLE 3.15-5: CITY OF MANTECA PROJECTED WATER SUPPLIES (AFY)

HYDROLOGIC CONDITION	PROJECTED AVAILABLE POTABLE AND RAW WATER SUPPLY, AFY
	2040
Normal Year	37,000
Single Dry Year	32,375
Multiple Dry Year 1	34,595
Multiple Dry Year 2	34,965
Multiple Dry Year 3	34,040

SOURCE: WEST YOST, 2021

The City’s 2015 UWMP used population estimates from the State of California Department of Finance, which indicate that the population of the City was just over 72,000 people in 2015. The population relying on the City’s water supply was projected to increase to over 127,700 people by 2040, with a corresponding projected water use of 31,203 AFY in a normal hydrologic year.

Water supplies available to meet future demands include surface water purchased from SSIID, City produced groundwater, and recycled water. The City’s available water supply is projected to increase by about 37 percent from 2015 to 2040, primarily due to implementation of Phase 2 of the SCWSP. Future City groundwater pumping is estimated based on the safe yield considering all groundwater pumping within the City’s planning area. Recycled water demand projections included in the 2015 UWMP assume decreased use for fodder crop irrigation as the lands surrounding the WQCF are developed and increased use for construction and irrigation purposes through 2040.

REGULATORY SETTING – WATER SUPPLIES

State

STATE WATER RESOURCES CONTROL BOARD (STATE WATER BOARD)

The State Water Resources Control Board (State Water Board), Division of Drinking Water, oversees the Drinking Water Program. The Drinking Water Program regulates public water systems and certifies drinking water treatment and distribution operators. It provides support for small water systems and for improving their technical, managerial, and financial capacity. It provides subsidized funding for water system improvements under the State Revolving Fund (SRF) and Proposition 50 programs. The Drinking Water Program also oversees water recycling projects, permits water

treatment devices, supports and promotes water system security, and oversees the Drinking Water Treatment and Research Fund for methyl tertiary butyl ether (MTBE) and other oxygenates.

CALIFORNIA CODE OF REGULATIONS RELATED TO DRINKING WATER

California Code of Regulations (CCR) Title 17 addresses the need to protect water systems from potential cross-contamination and touches on the permitting guidance for water supply reservoirs for recreational use. Title 22 addresses permitting, certification and licensing, domestic water quality and monitoring regulations for primary and secondary standards including bacteriological quality; inorganic chemicals; organic chemicals; radioactivity; and disinfectant residuals, precursors, and byproducts. Title 22 also addresses the Surface Water Treatment Rule, the Groundwater Rule, and the Lead and Copper Rule. The regulations detail the maximum contaminant levels for the various contaminants, the best available treatment technologies available to treat those contaminants, and the public notification requirements in the event of a detection. The California Water Works Standards are also contained within Title 22.

CALIFORNIA WATER WORKS STANDARDS

CCR Title 17, Chapter 16 is the California Waterworks Standards. These standards detail the permitting requirements and amendments for public water systems; the basis for determining and documenting source capacity; permitting requirements for construction of new water supply wells; materials and installation of water mains and appurtenances; requirements for design and construction of distribution reservoirs; disinfection of water mains, wells, and reservoirs; distribution system operation, and general recordkeeping requirements.

URBAN WATER MANAGEMENT PLANNING ACT

The objective of the Urban Water Management Planning Act (UWMP Act) is to facilitate the management of urban water demands and the efficient use of urban water supplies. Under its provisions, every urban water supplier is required to prepare and adopt a UWMP. An “urban water supplier” is defined as a public or private water supplier that provides water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 AF of water annually. The plan must identify and quantify the existing and planned sources of water available to the supplier, quantify the projected water use for a period of 20 years, and describe the supplier’s water demand management measures. The urban water supplier is to make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, single dry, and multiple dry years. The DWR must receive a copy of every adopted UWMP.

SENATE BILL (SB) 610 AND ASSEMBLY BILL (AB) 901

The State Legislature passed SB 610 and AB 901 in 2001, both modifying the UWMP Act.

SB 610 requires additional information in a UWMP if groundwater is identified as a source of water available to an urban water supplier. It also requires that the plan include a description of all water supply projects and programs that may be undertaken to meet total projected water use. SB 610 requires a city or county that determines a project is subject to CEQA to identify any public water system that may supply water to the project and to request identified public water systems to

prepare a specified water supply assessment (WSA). The WSA must include, among other information, an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and water received in prior years pursuant to these entitlements, rights, and contracts.

AB 901 requires a UWMP to include information, to the extent practicable, relating to the quality of existing sources of water available to an urban water supplier over given time periods. AB 901 also requires information on the manner in which water quality affects water management strategies and supply reliability. The bill requires a description of plans to supplement a water source that may not be available at a consistent level of use, to the extent practicable. Additional findings and declarations relating to water quality are required.

SENATE BILL (SB) 221

SB 221 adds Government Code Section 66455.3, requiring that the local water agency be sent a copy of any proposed residential subdivision application of more than 500 dwelling units within five days of the subdivision application being accepted as complete for processing by the city or county. It also adds Government Code Section 66473.7, establishing detailed requirements for determining whether a “sufficient water supply” exists to support any proposed residential subdivisions of more than 500 dwelling units, including any such subdivision involving a development agreement. When approving a qualifying subdivision tentative map, the city or county must include a condition requiring availability of a sufficient water supply. The applicable public water system must provide proof of availability. If there is no public water system, the city or county must undertake the analysis described in Government Code Section 66473.7, and the analysis must include consideration of effects on other users of water and groundwater.

EXECUTIVE ORDER B-37-16

In May 2016, Governor Edmund G. Brown, Junior, signed Executive Order B-37-16 (Executive Order), Making Water Conservation a California Way of Life. The Executive Order directed five State Agencies (the State Water Board, Department of Water Resources, California Department of Food and Agriculture, California Public Utilities Commission, and the California Energy Commission) to establish a long-term water conservation framework that builds on the momentum created during drought, provides a clear path forward to making conservation a California way of life, and better positions the State to withstand future droughts. This conservation framework, called the “Making Water Conservation a California Way of Life Implementing Executive Order B-37-16,” was released on April 7, 2017. The framework includes recommendations to establish long-term water conservation standards and improved agricultural and urban water management planning to better prepare for more frequent and severe droughts. These actions will help achieve a top priority of the California Water Action Plan - to improve long-term drought preparedness and “Make Conservation a California Way of Life.”

ASSEMBLY BILL (AB) 1668 AND SENATE BILL (SB) 606-MAY 31, 2018

AB 1668 and SB 606 build on Governor Brown’s ongoing efforts to make water conservation a way of life in California and create a new foundation for long-term improvements in water conservation and drought planning. SB 606 and AB 1668 establish guidelines for efficient water use and a framework for the implementation and oversight of the new standards, which must be in place by

2022. The two bills strengthen the state’s water resiliency in the face of future droughts with provisions that include: establishing water use objectives and long-term standards for efficient water use that apply to urban retail water suppliers comprised of indoor residential water use, outdoor residential water use, commercial, industrial and institutional (CII) irrigation with dedicated meters, water loss, and other unique local uses; providing incentives for water suppliers to recycle water; identifying small water suppliers and rural communities that may be at risk of drought and water shortage vulnerability and provide recommendations for drought planning; and requiring both urban and agricultural water suppliers to set annual water budgets and prepare for drought.

Local

CITY OF MANTECA URBAN WATER MANAGEMENT PLAN (2015)

The purpose of the 2015 UWMP is to ensure efficient use of urban water supplies in the City of Manteca and promote conservation. The UWMP discusses not only the availability of water but also water use, reclamation, and water conservation activities. The 2015 UWMP complies with the UWMP Act (California Water Code [CWC] Section 10610 et seq.). The City’s 2020 UWMP is in development, but it was not available at the time of adoption of this General Plan Update. The 2020 UWMP assesses the City’s water supply and demand under five consecutive dry years in five-year increments, whereas past UWMPs were only required to assess three consecutive dry years in five-year increments.

CITY OF MANTECA WATER MASTER PLAN (2005)

The City’s 2005 Water Master Plan includes a summary of the City’s system-wide water demands, the planning criteria used to determine water system demands, the City’s water distribution system model, an analysis of the City’s water system, and a summary of existing and future water system facilities.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact on the environment associated with Utilities and Service Systems if it will:

- Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects; and/or
- Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, single dry and multiple dry years.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-1: General Plan implementation would result in sufficient water supplies available to serve the City and reasonably foreseeable future development during normal, dry, and multiple dry years (Less than Significant)

Implementation of the General Plan would result in increased population and employment growth within the Planning Area, and a corresponding increase in the demand for additional water supplies.

West Yost projected water demand associated with the proposed General Plan in the City of Manteca General Plan Update Water Supply Report memo dated February 3, 2022. As shown in Table 3.15-6, the projected potable and raw water demand at buildout of the General Plan is 36,118 AFY (16,253 AFY existing plus 19,865 AFY projected).

TABLE 3.15-6. PROJECTED WATER DEMAND OF FUTURE LAND USES AT BUILDOUT OF THE GENERAL PLAN

<i>PROPOSED LAND USE</i>	<i>AREA, ACRES</i>	<i>WATER DEMAND FACTOR, GPD PER ACRE</i>	<i>WATER DEMAND, AFY</i>
Very Low Density Residential	254.1	1,360	387
Low Density Residential	4,492.6	2,240	11,272
Medium Density Residential	445.7	2,800	1,398
High Density Residential	353.8	5,200	2,061
Agricultural	332.7	-- ^(A)	0
Agricultural Industrial	184.2	-- ^(A)	0
Business Industrial Park	392.0	240	105
Business Professional	67.2	1,760 ^(B)	132
Commercial	811.5	1,200 ^(C)	1,091
Commercial Mixed-Use	658.8	1,760	1,299
Downtown	21.1	1,760 ^(B)	42
Industrial	1,505.4	240	405
Park	53.2	3,600	215
Open Space	43.1	3,600	174
Public/Quasi-Public	344.2	240	93
<i>Subtotal</i>	<i>9,959.6</i>	<i>--</i>	<i>18,673</i>
Unaccounted-for Water ^(D)	-	-	1,192
Total	-	-	19,865

SOURCE: WEST YOST, 2022.

(A) ASSUMED TO NOT BE IRRIGATED WITH CITY WATER SUPPLIES.

(B) ASSUMED TO USE WATER LIKE THE NEIGHBORHOOD COMMERCIAL AND COMMERCIAL MIXED-USE LAND USES.

(C) ASSUMED TO USE WATER LIKE THE GENERAL COMMERCIAL LAND USE.

(D) SIX PERCENT OF WATER DEMAND PER THE CITY'S 2015 UWMP.

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Water supplies to meet the City’s existing and future water demands include surface water purchased from SSJID, City produced groundwater, and recycled water. The City’s water supply is projected to increase by about 37 percent from 2015 to 2040, primarily due to implementation of Phase 2 of the SCWSP. Projected available groundwater supply is based on the safe yield for all groundwater pumping within the City’s planning area, including estimated groundwater pumping by other users. Recycled water demand projections included in the 2015 UWMP assume decreased use for fodder crop irrigation and increased use for construction and irrigation purposes through 2040.

Table 3.15-7 below presents the projected surface water deliveries available to the City in 2045, four or five years before estimated buildout of the General Plan. These projections are based on SSJID’s estimated water use for the City in 2045 and the impact of hydrologic conditions on SSJID’s supplies. It is assumed that any delivery reductions to the City would be proportional to overall reductions in SSJID’s supplies. For example, if SSJID had 85 percent of normal supplies in a single dry year, then SSJID would deliver 85 percent of normal supplies to the City.

TABLE 3.15-7. PROJECTED SSJID SURFACE WATER DELIVERIES TO THE CITY OF MANTECA IN 2045

<i>HYDROLOGIC CONDITION</i>	<i>PERCENT OF NORMAL SUPPLY</i>	<i>PROJECTED WATER DELIVERY, AFY</i>
Normal Year	100	18,500
Single Dry Year	85	15,671
Multiple Dry Year 1	100	18,500
Multiple Dry Year 2	100	18,500
Multiple Dry Year 3	85	15,671
Multiple Dry Year 4	85	15,671
Multiple Dry Year 5	100	18,500

SOURCE: WEST YOST, 2022.

The ESJGS-GSP estimates the sustainable yield of the Eastern San Joaquin Subbasin at approximately 1 AFY/acre (715,000 AFY plus or minus 10 percent over the subbasin area of 1,195 square miles, an average of 0.935 AFY/acre). As shown in Table 3.15-8, West Yost assumes the City will limit groundwater production to approximately 24,404 AFY, based on the projected City area at buildout of the General Plan Planning Area. The groundwater supply shown in Table 3.15-8 assumes the City would increase groundwater pumping as land is incorporated and removed from agricultural production.

TABLE 3.15-8. PROJECTED GROUNDWATER PRODUCTION AT GENERAL PLAN BUILDOUT

<i>PLANNING AREA</i>	<i>AREA, ACRES</i>	<i>PROJECTED GROUNDWATER PRODUCTION, AFY^(A)</i>
Current City Limits	11,583	11,583
Additional Future Planning Area	12,821 ^(B)	12,821
Maximum Groundwater Supply		24,404

SOURCE: WEST YOST, 2022.

(A) BASED ON ASSUMPTION THAT 1 AFY OF GROUNDWATER IS AVAILABLE PER ACRE OF CITY SURFACE AREA FROM THE EASTERN SAN JOAQUIN GROUNDWATER SUBBASIN GROUNDWATER SUSTAINABILITY PLAN (NOVEMBER 2019).

(B) CITY AREA AT BUILDOUT OF THE GENERAL PLAN PLANNING AREA PROVIDED BY DE NOVO PLANNING GROUP IN JANUARY 2022.

Table 3.15-9 presents the City’s total potable and raw water supply at buildout of the General Plan. The City’s potable water supplies consist of surface water deliveries and treated groundwater (i.e., municipal wells), while its raw water consists of untreated groundwater only (i.e., irrigation wells). Although SSJID only projected surface water deliveries to 2045, West Yost assumes that SSJID’s surface water deliveries to the City will remain the same from 2045 through buildout of the General Plan.

TABLE 3.15-9. SUMMARY OF PROJECTED POTABLE AND RAW WATER SUPPLY AT GENERAL PLAN BUILDOUT

<i>HYDROLOGIC CONDITION</i>	<i>SURFACE WATER DELIVERY, AFY^(A)</i>	<i>GROUNDWATER PRODUCTION, AFY^(B)</i>	<i>TOTAL POTABLE AND RAW WATER SUPPLY, AFY</i>
Normal Year	18,500	24,404	42,904
Single Dry Year	15,671	24,404	40,075
Multiple Dry Year 1	18,500	24,404	42,904
Multiple Dry Year 2	18,500	24,404	42,904
Multiple Dry Year 3	15,671	24,404	40,075
Multiple Dry Year 4	15,671	24,404	40,075
Multiple Dry Year 5	18,500	24,404	42,904

SOURCE: WEST YOST, 2022.

(A) SEE TABLE 3.15-7. SURFACE WATER DELIVERIES ARE ASSUMED TO REMAIN THE SAME FROM 2045 THROUGH BUILDOUT OF THE GENERAL PLAN.

(B) SEE TABLE 3.15-8.

The General Plan indicates that the City does not intend to expand recycled water use at this time. The City currently uses undisinfected secondary effluent to irrigate fodder crops adjacent to the City’s wastewater treatment plant. However, there is no infrastructure in place to deliver tertiary-treated recycled water to retail customers. Although a Recycled Water Master Plan is being prepared with the intent that the City would use recycled water to offset potable water demands for outdoor uses in the future, recycled water infrastructure is not planned to be constructed in time to serve the buildout of the General Plan. Therefore, it is assumed that recycled water is not an available water supply.

Table 3.15-10 compares the available water supply and projected demands at buildout of the General Plan. Based on the assumptions presented in this report, Table 3.15-10 indicates that the City would have sufficient water supplies to serve development of the proposed land uses through buildout of the General Plan.

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TABLE 3.15-10. SUMMARY OF POTABLE AND RAW WATER DEMAND VERSUS SUPPLY AT GENERAL PLAN BUILDOUT

HYDROLOGIC CONDITION	AVAILABLE POTABLE AND RAW WATER SUPPLY, AFY ^(A)	TOTAL WATER DEMAND, AFY ^(B)	POTENTIAL SURPLUS (DEFICIT), AFY	SUPPLY SHORTFALL, PERCENT OF DEMAND
Normal Year	42,904	36,118	6,786	--
Single Dry Year	40,075	36,118	3,957	--
Multiple Dry Year 1	42,904	36,118	6,786	--
Multiple Dry Year 2	42,904	36,118	6,786	--
Multiple Dry Year 3	40,075	36,118	3,957	--
Multiple Dry Year 4	40,075	36,118	3,957	--
Multiple Dry Year 5	42,904	36,118	6,786	--

SOURCE: WEST YOST, 2022.

(A) SEE TABLE 5.0-24.

(B) EXISTING (16,253 AFY IN 2020) PLUS PROJECTED DEMAND (19,865 AFY PER TABLE 5.0-20).

The proposed General Plan Update includes a range of policies designed to ensure an adequate water supply for development and to minimize the potential adverse effects of increased water use. As detailed above, projected water demands associated with General Plan buildout would not exceed the projected available water supplies, and the proposed General Plan Update includes a comprehensive set of goals, policies, and actions to ensure an adequate and reliable source of clean potable water. Therefore, impacts associated with sufficient water supplies to serve future development during normal, single dry, and multiple dry years are **less than significant**. The policies and actions listed below would further assist in ensuring that adequate water supplies are available to serve new growth projected under the proposed General Plan.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

CF-6.1: *Ensure the water system and supply is adequate to meet the needs of existing and future development and is utilized in a sustainable manner.*

CF-6.2: *Ensure safe drinking water standards are met throughout the community.*

CF-6.3: *Pursue additional water supply agreements to supplement the City's existing system in order to meet projected demand and to reduce the City's reliance on groundwater resources.*

CF-6.4: *Ensure that the City's water supply provides for and supports a balance of jobs and housing in future development.*

CF-6.5: *Prohibit extension of City water services to unincorporated areas except in extraordinary circumstances. Existing commitments for City water service outside the City limits shall continue to be honored.*

CF-6.6: Limit development of private water wells to occur only if the City makes a finding that it cannot feasibly provide water service. Such systems shall only be allowed to be used until such time as City water service becomes available.

CF-6.7: Ensure that all new development provides for and funds a fair share of the costs for adequate water distribution, including line extensions, easements, and plant expansions.

CF-6.8: Continue efforts to reduce potable water use, increase water conservation, and establish water reuse and recycling systems.

CF-6.9: Evaluate opportunities for the use of recycled water for industrial uses and landscape irrigation where feasible, within the parameters of State and County Health Codes and standards.

CF-6.10: Consider the effect of incremental increases in the demands on groundwater supply and water quality when reviewing development applications.

ACTIONS

LU-5g: Require proposed major industrial development to provide the City with an engineering report of the anticipated potable water and wastewater demand. Additional review will be required for proposed industrial uses with a high potable water and wastewater demand.

CF-6a: Update the Public Facilities Implementation Plan, regarding water supply and distribution, every five years. The update shall reflect the most recent adopted groundwater studies that establish a safe yield for the groundwater basin and/or establish maximum extraction from the basin. The update shall be reviewed annually for adequacy and consistency with the General Plan.

CF-6b: Continue to rely groundwater resources, while participating in the regional efforts to secure surface water to augment the City's groundwater supply in the mid and long term.

CF-6c: Develop new water sources, storage facilities, and major distribution lines as necessary to serve new development.

CF-6d: Regularly review and update the City's water conservation measures to be consistent with current best management practices for water conservation, considering measures recommended by the State Department of Water Resources, the California Urban Water Conservation Council, and the San Joaquin County Flood Control and Water Conservation District.

CF-6e: Continue to assess a water development fee on all new commercial, industrial, and residential development sufficient to fund system-wide capacity improvements. The water development fee schedule shall be periodically reviewed and revised as necessary.

CF-6f: Continuously monitor water flows through the City's water system to identify areas of potential water loss and instances of under billing for water service and make improvements to the system and billing assessments as necessary.

CF-6g: Require, as a condition of project approval, dedication of land and easements, or payment of appropriate fees and exactions, to help offset municipal costs of expansion of water treatment facilities and delivery systems.

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CF-6h: Retain a water conservation ordinance requiring the installation of low-flush toilets, low-flow showerheads, and similar features in all new development.

CF-6i: Institute a remote monitoring program for the city's water system and replace faulty meters in the system as necessary. Continue the practice of identifying and replacing faulty meters at service connections on an ongoing basis.

CF-6j: Regularly monitor water quality in the water system and wells and take necessary measures to prevent contamination and reduce known contaminants to acceptable levels.

CF-6k: Evaluate the viability of expanding the use of recycled water to offset potable demands through both indirect potable reuse and expansion of non-potable reuse.

Impact 3.15-2: General Plan implementation would not require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (Less than Significant)

Development and growth in the City under the proposed General Plan would result in increased demand for water supplies, including water conveyance and treatment infrastructure. The proposed General Plan includes policies and actions to ensure that water supplies are provided at acceptable levels and to ensure that development and growth does not outpace the provision of available water supplies.

As described under Impact 3.15-1, the projected 2040 water supplies are adequate to meet demand that would be generated by buildout of the General Plan. As such, implementation and buildout of the General Plan is not anticipated to result in the need to construct or expand water treatment facilities that have not already been described and accounted for in the Districts' relevant water planning efforts, which include the 2005 Water Master Plan and the 2015 UWMP (2020 UWMP is in progress).

It is anticipated that water supply infrastructure will need to be extended to serve future development. Future development in the Planning Area would be required to connect to existing water distribution infrastructure in the vicinity of each site, pay the applicable water system fees, and pay the applicable water usage rates. Future projects may be required to implement site specific and limited off-site improvements to the water distribution system in order to connect new project sites to the existing water infrastructure network.

The City will be updating its water, sewer, recycled water, and storm water master plans in the near future to identify necessary infrastructure to meet the needs of population growth and new development.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the General Plan Update, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. The specific impacts of providing new and expanded water distribution infrastructure cannot be determined at this time,

as the General Plan Update does not propose or authorize any specific development projects or include details on any future development projects.

However, any future improvements to the existing water distribution infrastructure would be primarily provided on sites with land use designations that allow for urbanized land uses, and the environmental impacts of constructing and operating the new water distribution infrastructure (meeting the most current standards and regulations), are anticipated to be similar to those associated with new development, redevelopment, and infrastructure projects under the proposed General Plan, as discussed in Chapters 3.1 through 3.14, 3.16, and 4.0 of this Draft EIR. Therefore, this impact is considered *less than significant* and no additional mitigation is necessary.

3.15.2 WASTEWATER

This section describes the City of Manteca’s wastewater infrastructure, wastewater flows, treatment plant permit requirements, and previous infrastructure planning. Wastewater service is provided by the City of Manteca via their network of collection infrastructure and the Wastewater Quality Control Facility (WQCF), which is located at 2450 West Yosemite Avenue. The WQCF provides services to the City of Manteca, City of Lathrop, and Raymus Village in San Joaquin County.

KEY TERMS

Effluent: Effluent is an outflowing of water from a natural body of water, or from a man-made structure. Effluent in the man-made sense is generally considered to be water pollution, such as the outflow from a sewage treatment facility or the wastewater discharge from industrial facilities. In the context of waste water treatment plants, effluent that has been treated is sometimes called secondary effluent, or treated effluent.

NPDES: Water pollution degrades surface waters making them unsafe for drinking, fishing, swimming, and other activities. As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

WWTP: Wastewater treatment plant. Treatment of wastewater may include the following processes: screening to remove large waste items; grit removal to allow sand, gravel, and sediment to settle out; primary sedimentation where sludge can settle out of the wastewater; secondary treatment to substantially degrade the biological content of the sewage; tertiary treatment to raise the quality of the effluent before it is discharged; and, discharge.

WASTEWATER SYSTEM

The City’s sewer service area is contiguous with City limits, and is divided into north, south and central sewer sheds. The municipal wastewater collection system includes 242 miles of sewer mains and 19 pump stations (City of Manteca, 2017). The collection system includes gravity flow pipes ranging from 6-inch to 60-inch diameter, and force mains from 6-inch to 24-inch diameter.

The existing collection system generally serves the developed portions of the City, with major trunk sewers located in the core of the City (the central sewer shed), approximately bounded by State Route 120 to the south, Austin Road to the east, Lathrop Road to the north, and Airport Way to the west. The City’s sewer system is shown on Figure 3.15-2.

WASTEWATER QUALITY CONTROL FACILITY

Municipal wastewater is treated at the City's Wastewater Quality Control Facility (WQCF), which treats municipal sanitary sewage from the City of Manteca, portions of Lathrop, and Raymus Village, just northeast of Manteca.

The WQCF is located southwest of downtown Manteca on 22 acres owned by the City. The WQCF treats municipal wastewater from the City of Manteca and the City of Lathrop, and seasonally accepts industrial food processing waste effluent from Eckert Cold Storage (Nolte, 2007). Per contractual agreement, 8.42 mgd of plant capacity is allocated to the City of Manteca and 1.45 mgd is allocated to the City of Lathrop (EDAW, 2007). The WQCF treats an average dry weather flow (ADWF) of about 7.2 mgd and had an original average dry weather design capacity of 9.87 mgd. However, historic water use reductions in the community combined with population growth have drastically increased the concentration of biological oxygen demand (BOD) and total Kjeldahl nitrogen (TKN) in the influent wastewater. This essentially makes the incoming wastewater higher strength and makes the overall biological and nitrogen loading on the plant higher even with lower wastewater flows. As a result of these changes, the actual plant capacity is limited by biological and nitrogen loading and equates to an influent flow capacity substantially less than 9.87 mgd. Since wastewater loading to the WQCF is directly related to the population served, independent of actual water flow, the total population planned to be served by the original Phase III expansion is unchanged due to the sewer strength issue. Development that occurred up through 2021 has used the Phase III capacity. In order to provide WQCF capacity for the growing population until the Phase IV expansion is completed, interim improvements are currently underway to improve plant operations which will provide temporary additional capacity. The facility's current NPDES permit is currently shared between the City and Dutra Farms, Inc. and is effective until April 2026 (CA RWQCB, 2021). The anticipated buildout ADWF within areas served by the WQCF was originally 27 mgd (EDAW, 2007) but may be adjusted downward in future wastewater master plans to account for higher sewer strength.

The City has been aware of historical reductions in water usage combined with population growth increasing the biological and nitrogen load at the WQCF since 2014 and has been working with engineers to monitor and plan for capacity needs under these changed conditions. Interim projects such as the Aeration Basin Efficiency projects completed in 2015 for the North Plant and 2019 for the South plant have improved the City's ability to treat the higher loadings in a reliable and more efficient manner. Other interim projects needed to treat the higher loadings until the Phase IV plant expansion is completed are currently being planned and developed. The City is starting the planning process for the Phase IV expansion and a new wastewater master plan in 2021. These proactive efforts ensure the City will be able to reliably treat the wastewater as the community expands its population up to and through the next plant expansion.

The WQCF is an activated sludge tertiary treatment plant. The facility includes an influent pump station, and primary, secondary and tertiary treatment facilities. Primary treatment at the WQCF consists of aerated grit removal and primary sedimentation. Secondary treatment at the facility consists of nitrification and denitrification in activated sludge aeration basins and subsequent secondary sedimentation. Undisinfected secondary effluent is either stored for agricultural use in a

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15-milliongallon pond or blended with food processing waste and applied directly on the agricultural fields owned by the City (126 acres) (CA RWQCB, 2021).

Secondary effluent not used for crop demands undergoes tertiary treatment, including rapid mixing, flocculation, cloth media filtration, and ultraviolet light (UV) disinfection. Treated tertiary effluent is either pumped to a truck fill station for construction vehicles to receive recycled water for construction purposes or discharged year-round through a 36-inch diameter pipe into the San Joaquin River (CA RWQCB, 2021). As the practice of discharging to fields is gradually phased out due to land development, effluent will increasingly be diverted to the River (City of Manteca, 2016).

The City is planning to expand the facility from the currently permitted 9.87 mgd to 27 mgd by buildout. The various WQCF facilities are designed to be expanded in phases, based on future growth. Proposed treatment improvements identified in the 2006 WQCF Master Plan Update include expansion of the primary, secondary, and tertiary treatment facilities, expansion of the solids handling systems and expansion of the co-generation system to generate electricity from methane produced during the treatment process (EDAW, 2007). Methane generation is no longer used to produce electricity and has now been converted to fueling City garbage trucks.

The WQCF is recently completed expansions to the solids handling streams to provide increased capacity to meet permitted requirements and new State regulations. Improvements include new facilities for receiving Fats, Oils, and Greases (FOGs), and receiving food waste separated from the solid waste streams. The separation of these materials is required by State regulations and is anticipated to provide transportation fuel for City garbage trucks (City of Manteca, 2016). Because of high nitrogen loadings at the WQCF the City has paused directing food waste to the WQCF until sufficient nitrogen treatment capacity is in place at the WQCF.

CURRENT AND PROJECTED WASTEWATER FLOWS

Historically, wastewater flows to the Manteca WQCF have increased as the population and commercial and industrial activity has grown. ADWF was 4 mgd in 1991, 5.81 mgd in 2003, and 6 mgd in December 2005 (EDAW, 2007). Since 2007, average daily influent flow to the WQCF has remained relatively constant, ranging from a low of 6.1 mgd (2008) to a high of 6.3 mgd (2011) (City of Manteca, 2017b). In 2020, the average annual wastewater flow was 7.2 mgd.

The 2006 WQCF Master Plan update reported wastewater flow projections for the City of Manteca of 19.5 mgd by 2023 and 23 mgd by buildout (Nolte Associates, 2006). Projections were based on wastewater generation factors developed from historical studies, and developed based on different household densities for different residential land use categories. Assuming a similar level of development as anticipated in the 2006 WQCF Master Plan update, future wastewater projections are anticipated to be lower than those estimated in the 2006 WQCF Master Plan update because of existing and pending water use efficiency regulations that will reduce indoor water use and wastewater flows. This lower water usage effect has already been experienced by the City as noted above. According to the City's NPDES permit, current permitted average dry weather flow at the WQCF is 9.87 million gallons per day (MGD). Once the Phase IV expansion and other projects at the facility are completed, the average dry weather flow at the WQCF is permitted to be 17.5 MGD.

REGULATORY SETTING - WASTEWATER

Federal

CLEAN WATER ACT (CWA) / NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS

The CWA is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

The CWA regulates discharges from "non-point source" and traditional "point source" facilities, such as municipal sewage plants and industrial facilities. Section 402 of the Act creates the NPDES regulatory program which makes it illegal to discharge pollutants from a point source to the waters of the United States without a permit. Point sources must obtain a discharge permit from the proper authority (usually a state, sometimes EPA, a tribe, or a territory). NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than one acre, mining operations, and animal feedlots and aquaculture facilities above certain thresholds.

Permit requirements for treatment are expressed as end-of-pipe conditions. This set of numbers reflects levels of five key parameters: (1) biochemical oxygen demand (BOD), (2) total suspended solids (TSS), (3) pH acid/base balance, (4) Ammonia and (5) Nitrate. These levels can be achieved by well-operated sewage plants employing "secondary" treatment with denitrification. Primary treatment involves screening and settling, while secondary treatment uses biological treatment in the form of "activated sludge." Denitrification uses the activated sludge process to remove nitrogen from the wastewater.

All so-called "indirect" dischargers are not required to obtain NPDES permits. An indirect discharger is one that sends its wastewater into a city sewer system, so it eventually goes to a sewage treatment plant. Although not regulated under NPDES, "indirect" discharges are covered by another CWA program called pretreatment. "Indirect" dischargers send their wastewater into a city sewer system, which carries it to the municipal sewage treatment plant, through which it passes before entering surface water.

State

STATE WATER RESOURCES CONTROL BOARD/REGIONAL WATER QUALITY CONTROL BOARD

In California, all wastewater treatment and disposal systems fall under the overall regulatory authority of the State Water Resources Control Board (SWRCB) and the nine California Regional Water Quality Control Boards (RWQCBs), who are charged with the responsibility of protecting beneficial uses of State waters (ground and surface) from a variety of waste discharges, including

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wastewater from individual and municipal systems. The City of Manteca falls within the jurisdiction of the Central Valley Regional Water Quality Control Board.

The RWQCB's regulatory role often involves the formation and implementation of basic water protection policies. These are reflected in the individual RWQCB's Basin Plan, generally in the form of guidelines, criteria and/or prohibitions related to the siting, design, construction, and maintenance of on-site sewage disposal systems. The RWQCB's role has historically been one of providing overall direction, organizational and technical assistance, and a communications link to the State legislature.

The RWQCBs may waive or delegate regulatory authority for on-site sewage disposal systems to counties, cities or special districts. Although not mandatory, it is commonly done and has proven to be administratively efficient. In some cases, this is accomplished through a Memorandum of Understanding (MOU), whereby the local agency commits to enforcing the Basin Plan requirements or other specified standards that may be more restrictive. The RWQCBs generally elect to retain permitting authority over large and/or commercial or industrial on-site sewage disposal systems, depending on the volume and character of the wastewater.

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter-Cologne Water Quality Control Act is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State is required to adopt policies, plans, and objectives that will protect the State's waters for the use by and enjoyment of Californians. In California, the State Water Resources Control Board (SWRCB) has the authority and responsibility for establishing policy related to the State's water quality. Regional authority is delegated by the SWRCB to a Regional Water Quality Control Board (RWQCB). The Porter-Cologne Act authorizes the SWRCB and RWQCB to issue NPDES permits.

Under the Central Valley Regional Water Quality Control Board (CVRWQCB) NPDES permit system, all existing and future municipal and industrial discharges to surface water within the city would be subject to regulation. NPDES permits are required for operators of municipal separate storm sewer systems, construction projects, and industrial facilities. These permits contain limits on the amount of pollutants that can be contained in each facility's discharge

Local

MANTECA MUNICIPAL CODE

The City of Manteca Municipal Code, Title 13 (Public Services) Chapter 13.12 (Sewer Connection Charges), Chapter 13.14 (Sewer Capacity Charges), and Chapter 13.16 (Sewer Service Charges) contain regulations associated with sewer management.

Title 13 (Public Services), Chapter 13.38 (Public Facilities Implementation Program Fees), Section 13.38.050 (Establishment of a Sewer Fee) requires developers of property to pay a sewer facility development fee.

UTILITY MASTER PLANS

The City of Manteca maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: *Wastewater Collection System Master Plan (2012)*, *Wastewater Quality Control Facility (WQCF) Master Plan Update (2006)*, and a *Sewer Rate Study (2008)*. This City is planning to start the next WQCF and sewer master plan and rate study in 2021.

ORDER R5-2021-0003 NPDES NO. CA0081558

The NPDES permit program addresses water pollution by regulating point sources that discharge pollutants to waters of the United States. Created in 1972 by the Clean Water Act, the NPDES permit program is authorized to state governments by the EPA to perform many permitting, administrative, and enforcement aspects of the program. The City of Manteca WQCF is subject to waste discharge requirements under Order R5-2021-0003 NPDES NO. CA0081558 by the Regional Water Quality Control Board.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with Utilities and Service Systems if it would:

- Require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects; and/or
- Result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-3: General Plan implementation would not have the potential to result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments (Less than Significant)

The City's sewer service area is contiguous with City limits, and is divided into north, south and central sewer sheds. The municipal wastewater collection system includes 242 miles of sewer mains and 19 pump stations (City of Manteca, 2017). The collection system includes gravity flow pipes ranging from 6-inch to 60-inch diameter, and force mains from 6-inch to 24-inch diameter (EDAW, 2007). Municipal wastewater is treated at the City's WQCF, which treats municipal sanitary sewage from the City of Manteca, portions of Lathrop, and Raymus Village, northeast of Manteca. The WQCF treated an average dry weather flow (ADWF) of about 7.2 mgd in 2020 and had an original Phase III average dry weather design capacity of 9.87 mgd. Per contractual agreement, 8.42 mgd of plant capacity is allocated to the City of Manteca and 1.45 mgd is allocated to the City of Lathrop (EDAW,

3.15 UTILITIES AND SERVICE SYSTEMS

2007). As discussed above, historic reductions in water usage combined with population growth have changed the actual capacity of the WQCF from a flow based rating to a biological and nitrogen loading based rating.

As Manteca continues to develop in the future, there will be an increased need for water and wastewater services, potentially including a reliable source of water and recycled water. Future needs of wastewater processing have been addressed in the WQCF master plan and will require that the city continue to implement phased improvements to some pump stations, sewer mains, and the various wastewater treatment plants when triggered by growth.

The Manteca WQCF is an activated sludge plant with denitrification. The WQCF consists of an influent pump station, aerated grit tanks, primary sedimentation basins, fine-bubble activated sludge aeration basins, secondary clarifiers, secondary effluent equalization pond, tertiary filters, UV disinfection and effluent pumping station. Secondary effluent is land applied during the spring and summer. Tertiary filtered and UV disinfected water is discharged to the San Joaquin River during the winter.

The 2006 Wastewater Master Plan Update projected a capacity requirement of 27 mgd ADWF at buildout for the WQCF at buildout. Expansion of the WQCF to buildout would occur in multiple phases, which would increase the ADWF capacity to 17.5 mgd, then to 27 mgd. The Wastewater Master Plan projected a potential reclaimed water use of 3.28 mgd. The 2005 Urban Water Management Plan projected a reclaimed water usage of 2 mgd by 2030. All of these flows may be adjusted based on historical reductions in water usage as part of a new Wastewater Master Plan which will start in 2021 and finish in 2023.

The projected wastewater demand at General Plan buildout is shown in Table 3.15-11. As shown, General Plan buildout under reduced water usage may result in a total demand for approximately 16.1 mgd compared to the original 27 mgd. This total demand of 16.1 mgd, which includes demand associated with existing development, is well within the planned capacity of the WQCF with Phase IV and Phase V expansion completed.

The projected flows of the proposed General Plan for the WQCF are not expected to exceed the treatment capacity available for treatment with the interim improvements and the Phase IV and V expansions completed. While full buildout of the development contemplated in the proposed General Plan would slightly increase the existing treatment demand at the districts' treatment plants, the proposed General Plan includes a range of policies designed to ensure an adequate wastewater treatment capacity for development. As described above, the City must also periodically review and update their Wastewater and WQCF Master Plans, and as growth continues to occur within the Planning Area, the City will identify necessary system upgrades and capacity enhancements to meet growth.

TABLE 3.15-11. PROJECTED WASTEWATER DEMAND AT BUILDOUT

LAND USE TYPE	WASTEWATER GENERATION (GPD/AC)			TOTAL PROPOSED ACRES	BUILDOUT DEMAND (APPLIED X TOTAL GENERAL PLAN ACRES)
	EXISTING ¹	NEW ¹	APPLIED ²		
Residential Very Low	320	530	425	492	209,100
Residential Low	808	1,338	1,073	8,274	8,878,002
Residential Medium	1,346	2,183	1,765	679	1,198,435
Residential High	2,337	3,789	3,063	470	1,439,610
Commercial Mixed Use ³	2,473	2,473	2,473	833	2,060,009
General Commercial ⁴	750	750	750	842	631,500
Neighborhood Commercial ⁴	1,120	1,120	1,120	361	404,320
Industrial	1,000	1,000	1,000	0	0
Public/Quasi-Public	425	425	425	1,344	571,200
Park	400	400	400	726	290,400
Agriculture	0	0	0	4,004	0
Open Space	0	0	0	471	0
Business Industrial Park ⁵	1,200	1,200	1,200	378	453,600
TOTAL					16,136,176 gpd (16.1 mgd)

NOTES: ¹ CITY OF MANTECA 2012 WASTEWATER COLLECTION SYSTEM MASTER PLAN UPDATE, TABLE 3-1.

² APPLIED RATE IS AN AVERAGE OF THE EXISTING AND NEW RATE. THIS ONLY APPLIES TO RESIDENTIAL DEVELOPMENT; THE EXISTING AND NEW RATES ARE THE SAME FOR NON-RESIDENTIAL USES.

³ INCLUDES COMMERCIAL MIXED USE AND DOWNTOWN LAND USE DESIGNATIONS.

⁴ ASSUMES 30% OF THE COMMERCIAL LAND USE DESIGNATION IS DEVELOPED WITH NEIGHBORHOOD COMMERCIAL USES AND 70% IS DEVELOPED WITH GENERAL COMMERCIAL USES.

⁵ INCLUDES BUSINESS INDUSTRIAL PARK AND BUSINESS PROFESSIONAL LAND USE DESIGNATIONS.

SOURCE: DE NOVO PLANNING GROUP, 2022.

Given that projected wastewater generation volumes associated with General Plan buildout would not exceed the projected wastewater generation volumes described in the WQCF Master Plan, this impact would be **less than significant**, and no mitigation is required.

However, the proposed General Plan includes a comprehensive set of goals, policies, and actions to ensure an adequate and reliable wastewater collection and treatment system. The policies and actions listed below would further assist in ensuring that adequate wastewater treatment and conveyance infrastructure is available to serve new growth projected under the proposed General Plan.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

CF-7.1: *Ensure adequate wastewater collection and treatment infrastructure to serve existing and future development and the safe disposal of wastes.*

3.15 UTILITIES AND SERVICE SYSTEMS

CF-7.2: Develop new sewage treatment and trunk line capacity as necessary to serve new development. The City shall incorporate current technologies into the design and operation of these facilities.

CF-7.3: Only extend sewer services to unincorporated areas under extraordinary circumstances. Existing commitments for sewer service outside the city limits shall continue to be honored.

CF-7.4: Only allow the development of individual septic systems where it is not feasible to provide public sewer service. Such systems shall only be used until such time as City sewer service becomes available and meet the minimum standards of the San Joaquin County Health Department.

CF-7.5: Maintain the ability to handle peak discharge flow while meeting State Regional Water Quality Control Board Standards as established in the current NPDES Permit.

CF-7.6: Maintain the existing wastewater system on a regular basis to increase the lifespan of the system and ensure public health and safety.

ACTIONS

LU-5g: Require proposed major industrial development to provide the City with an engineering report of the anticipated potable water and wastewater demand. Additional review will be required for proposed industrial uses with a high potable water and wastewater demand.

CF-7a: Update the Public Facilities Implementation Plan regarding wastewater collection and treatment every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

CF-7b: Require new development to provide for and fund a fair share of the costs for adequate sewer distribution and treatment, including line extensions, easements, and plant expansions.

CF-7c: Require all sewage generators within the City's service area to connect to the City's system, except those areas where on-site treatment and disposal facilities are deemed appropriate.

CF-7d: Require an industrial pretreatment program for business parks and other industrial uses when deemed necessary in accordance with state and federal requirements.

CF-7e: Investigate methods of improving the quality of the effluent from the City wastewater treatment plant and options for reuse of treated wastewater including direct potable reuse. The recycled wastewater will be used for irrigation of public recreation lands, restoration of wetland areas, irrigation of landscaped areas, dust control, fire protection, and soil compaction.

CF-7f: Promote reduced wastewater system demand through efficient water use by:

- *Requiring water conserving design and equipment in new construction,*
- *Encouraging retrofitting with water conserving devices,*
- *Designing wastewater systems to minimize inflow and infiltration to the extent economically feasible; and*
- *Maintaining a Citywide map of all sewer collection system components and monitoring the condition of the system on a regular basis.*

Impact 3.15-4: General Plan implementation may require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects (Less than Significant)

Development contemplated under the proposed General Plan would result in increased wastewater flows, resulting in the need for additional or expanded wastewater treatment facilities and conveyance infrastructure.

The City has planned for the expansion of the WQCF. The NPDES Permit Order R5-2021-0003 NPDES NO. CA0081558 allows an increase discharge flow to 17.5 mgd conditional upon compliance with permit limitations and completion of the Facility Phase IV expansion and other projects. The City of Manteca developed and submitted an antidegradation analysis for proposed WQCF discharge modifications that provides a complete antidegradation analysis following the guidance provided by State Water Board APU 90-004. Pursuant to the guidelines, the Antidegradation Analysis evaluated whether changes in water quality resulting from the capacity increase (17.5 mgd year-round tertiary treated discharge) are consistent with the maximum benefit to the people of the state, will not unreasonably affect beneficial uses, will not cause water quality to be less than water quality objectives, and that the discharge provides protection for existing in-stream uses and water quality necessary to protect those uses.

During the planned Phase IV expansion, the City is proposing to increase the permitted wastewater discharge capacity of the WQCF to 17.5 mgd (ADWF) and construct new trunk sewers to accommodate growth contained in the City's General Plan (City of Manteca, 2003). Subsequent phases are planned to increase the permitted discharge capacity to 27 mgd. The project includes treatment plant improvements for both river and land-based wastewater effluent disposal based on current and future probable water quality discharge requirements and projected flows. The City proposes to accommodate the increase in capacity by using the City's long-term effluent disposal strategy that includes land application, urban landscape irrigation, and river discharge. The proposed project would also include the incremental construction of new trunk sewers and improvements to the existing collection system. Subsequent expansion of the wastewater treatment and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. As such, this impact would be less than significant, and no additional mitigation is required.

The proposed General Plan includes policies and actions designed to ensure adequate wastewater treatment capacity is available to serve development and to minimize the potential adverse effects of wastewater treatment. These policies and actions are listed below.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

CF-7.1: Ensure adequate wastewater collection and treatment infrastructure to serve existing and future development and the safe disposal of wastes.

CF-7.2: Develop new sewage treatment and trunk line capacity as necessary to serve new development. The City shall incorporate current technologies into the design and operation of these facilities.

CF-7.3: Only extend sewer services to unincorporated areas under extraordinary circumstances. Existing commitments for sewer service outside the city limits shall continue to be honored.

CF-7.4: Only allow the development of individual septic systems where it is not feasible to provide public sewer service. Such systems shall only be used until such time as City sewer service becomes available and meet the minimum standards of the San Joaquin County Health Department.

CF-7.5: Maintain the ability to handle peak discharge flow while meeting State Regional Water Quality Control Board Standards as established in the current NPDES Permit.

CF-7.6: Maintain the existing wastewater system on a regular basis to increase the lifespan of the system and ensure public health and safety.

ACTIONS

CF-7a: Update the Public Facilities Implementation Plan regarding wastewater collection and treatment every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

CF-7b: Require new development to provide for and fund a fair share of the costs for adequate sewer distribution and treatment, including line extensions, easements, and plant expansions.

CF-7c: Require all sewage generators within the City's service area to connect to the City's system, except those areas where on-site treatment and disposal facilities are deemed appropriate.

CF-7d: Require an industrial pretreatment program for business parks and other industrial uses when deemed necessary in accordance with state and federal requirements.

CF-7e: Investigate methods of improving the quality of the effluent from the City wastewater treatment plant and options for reuse of treated wastewater including direct potable reuse. The recycled wastewater will be used for irrigation of public recreation lands, restoration of wetland areas, irrigation of landscaped areas, dust control, fire protection, and soil compaction.

CF-7f: Promote reduced wastewater system demand through efficient water use by:

- *Requiring water conserving design and equipment in new construction,*
- *Encouraging retrofitting with water conserving devices,*
- *Designing wastewater systems to minimize inflow and infiltration to the extent economically feasible; and*

- *Maintaining a Citywide map of all sewer collection system components and monitoring the condition of the system on a regular basis.*

3.15.3 STORMWATER DRAINAGE

The information in this section focuses on the potential for the General Plan to result in the demand for new or expanded stormwater drainage facilities. Section 3.9 (Hydrology and Water Quality) includes an expanded analysis of water quality, flooding, and other stormwater related issues.

STORMWATER

The City of Manteca operates and maintains a storm drain system to control stormwater and protect residents and business from flooding and stormwater damage. The City system includes approximately 150 miles of pipelines, 52 pump stations and 54 detention basins (City of Manteca, 2017). SSJID owns a complex network of irrigation laterals and drains that run within the City limits to which the City pumps stormwater, which is conveyed to the San Joaquin River either directly or via the French Camp Outlet Canal. Figure 3.15-3 shows the City and SSJID systems.

An agreement between the City and SSJID requires that the City monitor stormwater discharges to SSJID facilities to make sure that facilities capacities are not exceeded. The City is also required to control stormwater quality to meet applicable regulations. The agreement has been in place since 1975, and was most recently amended in 2006 (City of Manteca, 2013).

The detention basins are used to detain stormwater to attenuate peak flows before pumping drainage flows into SSJID facilities. Where required, to meet NPDES permit requirements, stormwater is treated prior to release to natural water bodies within the area. Treatment is provided at detention basin sites, or by on-site source control. Most of the City's pump stations pump from detention basins into the SSJID laterals and drains. The City system also includes 10 water level monitoring stations that are used to obtain real-time water level measurements at critical low points in the system, to prevent flooding. The storm drain system is monitored and controlled remotely through SCADA (City of Manteca, 2013).

The City's stormwater detention basins are designed based on a 10-year, 48-hour duration storm for urbanized areas and a 10-year, 24-hour duration storm for rural areas. Detention basins are required to be emptied over a 96-hour period (City of Manteca, 2013).

REGULATORY SETTING - STORMWATER DRAINAGE

Federal

CLEAN WATER ACT (CWA)

The Clean Water Act (CWA) regulates the water quality of all discharges into waters of the United States including wetlands, perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for "any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." Section 404, Title 33, Section 1344 of the CWA in part authorizes the U.S. Army Corps of Engineers to:

- Set requirements and standards pertaining to such discharges: subparagraph (e); Issue permits “for the discharge of dredged or fill material into the navigable waters at specified disposal sites”: subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if “the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas”: subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual State or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such State or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain Federal or State projects from regulation under this Section: subparagraph (r); and,
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).
- Section 401 certification is required prior to final issuance of Section 404 permits from the U.S. Army Corps of Engineers.

The California State Water Resources Control Board and RWQCBs enforce State of California statutes that are equivalent to or more stringent than the Federal statutes. RWQCBs are responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters including the San Joaquin River, and other waters in the Manteca Planning Area. In the Manteca Planning Area the RWQCB is responsible for protecting surface and groundwater from both point and non-point sources of pollution. Water quality objectives for all of the water bodies within the Manteca Planning Area were established by the RWQCB and are listed in its Basin Plan.

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

San Joaquin County is a participant in the National Flood Insurance Program (NFIP), a Federal program administered by FEMA. Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

3.15 UTILITIES AND SERVICE SYSTEMS

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti-degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

A new Phase II Small Municipal Separate Storm Sewer (MS4) General Permit was adopted by the State Water Resources Control Board on April 17, 2015 became effective June 1, 2015. The Permit has numerous new components and the City is required to implement these components in stages over the five-year period of the Permit.

State

DEPARTMENT OF WATER RESOURCES

The Department of Water Resources' (DWR) major responsibilities include preparing and updating the California Water Plan to guide development and management of the State's water resources, planning, designing, constructing, operating, and maintaining the State Water Resources Development System, protecting and restoring the Sacramento-San Joaquin Delta, regulating dams, providing flood protection, assisting in emergency management to safeguard life and property, educating the public, and serving local water needs by providing technical assistance. In addition, the DWR cooperates with local agencies on water resources investigations; supports watershed and river restoration programs; encourages water conservation; explores conjunctive use of ground and surface water; facilitates voluntary water transfers; and, when needed, operates a State drought water bank.

CALIFORNIA WATER CODE

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resource Control Board (SWRCB) and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water

Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region the regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

(a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:

(1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.

(2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.

(3) A person operating, or proposing to construct, an injection well.

(b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.

(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

WATER QUALITY CONTROL PLAN (BASIN PLAN) FOR THE CENTRAL VALLEY REGION

The Water Quality Control Plan for the Central Valley Region (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

3.15 UTILITIES AND SERVICE SYSTEMS

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

STATE WATER RESOURCE CONTROL BOARD (STATE WATER BOARD) STORM WATER STRATEGY

The Storm Water Strategy is founded on the results of the Storm Water Strategic Initiative, which served to direct the State Water Board's role in storm water resources management. The Storm Water Strategy developed guiding principles to serve as the foundation of the storm water program; identified issues that support or inhibit the program from aligning with the guiding principles; and proposed and prioritized projects that the Water Boards could implement to address those issues. The State Water Board staff created a strategy-based document called the Strategy to Optimize Management of Storm Water (STORMS). STORMS includes a program vision, missions, goals, objectives, projects, timelines, and consideration of the most effective integration of project outcomes into the Water Board's Storm Water Program.

Regional

MUNICIPAL STORM WATER PROGRAM

The discharge of storm water within the City of Manteca is regulated by the SWRCB Water Quality Order No. 2013-0001-DWQ NPDES General Permit, WDRs for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4), collectively referred to as the Phase II Small MS4 General Permit. The City of Manteca is a Phase II MS4 permittee under the NPDES General Permit.

The City's Engineering Department oversees the Municipal Storm Water Program and works in conjunction with the Planning and Public Works Departments to implement requirements of the Phase II Small MS4 General Permit. Engineering and Planning Department staff review new and re-development projects for compliance with State and Regional Water Board requirements for storm water management and control. The Cities of Lathrop, Lodi, Manteca, Patterson, and Tracy, and County of San Joaquin collaborated to prepare the Multi-Agency Post-Construction Stormwater Standards Manual (Stormwater Standards Manual), dated June 2015. The Stormwater Standards Manual establishes post-construction standards to address stormwater quality for regulated new development and redevelopment projects in compliance with the requirements of Order No. 2013-0001-DWQ.

Local

MANTECA MUNICIPAL CODE

Title 13 Chapter 13.28 Storm Water Management Discharges. The purpose of this chapter is to establish minimum storm water management requirements and controls to protect and safeguard

the general health, safety and welfare of the public residing in watersheds within the city of Manteca. This chapter seeks to meet that purpose through the following objectives:

- A. Minimize increases in storm water runoff from any development in order to reduce flooding, siltation and stream bank erosion and maintain the integrity of drainage channels;
- B. Minimize increases in non-point source pollution caused by storm water runoff from development that would otherwise degrade local water quality;
- C. Minimize the total annual volume of surface water runoff that flows from any specific site during and following development to not exceed the pre-development hydrologic regime to the maximum extent practicable; and
- D. Reduce storm water runoff rates and volumes, soil erosion and non-point source pollution wherever possible, through storm water management controls and to ensure that these management controls are properly maintained and pose no threat to public safety. (Ord. 1253 § 1, 2004)

Title 13 Chapter 13.28 Section 13.28.060 Discharges in violation of industrial or construction activity NPDES storm water discharge permit.

- A. Any person subject to an industrial NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the director upon inspection of the facility, during any enforcement proceeding or action or for any other reasonable cause.
- B. Any person subject to a construction activity NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the director prior to or as a condition of a subdivision map, site plan, building permit or development or improvement plan; upon inspection of the facility; during any enforcement proceeding or action; or for any other reasonable cause. Prior to issuance of a construction permit a copy of the Notice of Intent (NOI) and the Storm Water Pollution Prevention Plan (SWPPP) shall be submitted to the city. (Ord. 1253 § 1, 2004).

Utility Master Plans

The City of Manteca maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. This includes the City's *Storm Drain Master Plan (2013)*.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with Utilities if it would:

- Require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-5: General Plan implementation would not require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects (Less than Significant)

Development under the proposed General Plan would result in increased areas of impervious surfaces throughout the Planning Area, resulting in the need for additional or expanded stormwater drainage, conveyance, and retention infrastructure. The infrastructure and facilities necessary to serve new growth would involve development of some facilities on-site within new development projects, some facilities off-site on appropriately designated land, and may also involve improvements to existing facilities and disturbance of existing rights-of-way. The specific impacts of providing new and expanded drainage facilities cannot be determined at this time, as the General Plan does not propose or approve any specific development project nor does it designate specific sites for new or expanded public facilities.

Stormwater drainage and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan as discussed throughout this Draft EIR, including in Chapters 3.1 through 3.14 and 3.16 through 4.0

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. As such, this is a ***less than significant*** impact and no mitigation is required.

The policies and actions listed below would further ensure that there is adequate stormwater drainage and flood control infrastructure to serve future development under the General Plan, and would ensure that future drainage and flood control infrastructure projects do not result in adverse environmental impacts.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

CF-8.1: Maintain and improve Manteca's storm drainage facilities.

CF-8.2: Require all development projects to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development

review process and as required by the City's NPDES Municipal Regional Permit. Project applicants shall mitigate any drainage impacts as necessary and shall demonstrate that the project will not result in any increase in off-site runoff during rain and flood events.

CF-8.3: Continue to allow dual-use detention basins for parks, ball fields, and other uses where appropriate.

CF-8.4: Incorporate recreational trails and parkway vegetation design where open stormwater facilities are appropriate and ensure that vegetation does not reduce channel capacity.

CF-8.5: Maintain drainage channels in a naturalized condition where appropriate, incorporating recreational trails, parkway vegetation, and other amenities and ensuring that vegetation does not reduce channel capacity, and consistent with the Resource Conservation Element.

CF-8.6: Continue to work cooperatively with outside agencies such as the San Joaquin Area Flood Control Agency and South San Joaquin Irrigation District regarding storm drainage and flood control management issues.

ACTIONS

CF-8a: Update the Storm Drainage Master Plan and Public Facilities Implementation Plan every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

CF-8b: Continue to complete gaps in the drainage system in areas of existing and future development.

CF-8c: Identify which storm water and drainage facilities are in need of repair and address these needs through the City's Capital Improvement Program.

CF-8d: Continue to review development projects to identify potential stormwater and drainage impacts and require development to include measures to ensure that off-site runoff is not increased as a during rain and flood events.

3.15.4 SOLID WASTE

The City of Manteca Solid Waste Division (SWD) provides solid waste hauling service for the City of Manteca. SWD's services include residential and commercial trash pick-up, residential and commercial recycling pick-up, green waste pick-up, and hazardous waste collections. Solid waste from Manteca is primarily landfilled at the Forward Sanitary Landfill, located northeast of Manteca. Other landfills used include Foothill Sanitary and North County.

KEY TERMS

Class I landfill: A landfill that accepts for disposal 20 tons or more of municipal solid waste daily (based on an annual average); or one that does not qualify as a Class II or Class III municipal solid waste landfill.

Class II landfill: A landfill that (1) accepts less than 20 tons daily of municipal solid waste (based on an annual average); (2) is located on a site where there is no evidence of groundwater pollution caused or contributed by the landfill; (3) is not connected by road to a Class I municipal solid waste landfill, or, if connected by road, is located more than 50 miles from a Class I municipal solid waste landfill; and (4) serves a community that experiences (for at least three months each year) an interruption in access to surface transportation, preventing access to a Class I landfill, or a community with no practicable waste management alternative.

Class III landfill: A landfill that is not connected by road to a Class I landfill or a landfill that is located at least 50 miles from a Class I landfill. Class III landfills can accept no more than an average of one ton daily of ash from incinerated municipal solid waste or less than five tons daily of municipal solid waste.

Transfer station: A facility for the temporary deposition of some wastes. Transfer stations are often used as places where local waste collection vehicles will deposit their waste cargo prior to loading into larger vehicles. These larger vehicles will transport the waste to the end point of disposal or treatment.

Waste Management Plan: A Waste Management Plan (WMP) is a completed WMP form, approved by the City for the purpose of compliance with Chapter 8.40 of the Manteca Municipal Code, submitted by the applicant for any covered project. Prior to project start, the WMP shall identify the types of construction and demolition (C&D) debris materials that will be generated for disposal and recycling. A completed WMP contains actual weight or volume of the material disposed recycled receipts.

WASTE COLLECTION SERVICES

The City of Manteca Public Works Department, Solid Waste Division provides solid waste collection services for the Manteca area. The Solid Waste Department works to meet commercial and residential demands in a low cost and environmentally conscious manor. The Department's team of drivers, yard personnel, superintendent, and office staff helps residents and businesses reduce

waste generation and utilize diversion techniques. Manteca provides the following solid waste services:

- Residential recycling picked up on a bi-weekly schedule
- Residential bi-weekly curbside pickup of compost materials
- Residential weekly curbside pickup of trash
- Leaf and Christmas tree pick up
- Oil collection containers picked up on a weekly basis
- Commercial recycling
- Household Hazardous Waste collection

Residential trash is collected every week, while recycle and yard waste are collected every other week on an alternating basis. Residential collection service fees depend on the garbage cart size and customers can choose from 32 gallon, 64 gallon, or 96 gallon carts. The City will collect up to three 32-gallon bags of extra garbage in addition to the refuse cart if each bag has an “extra refuse” sticker. These stickers are available at the City’s Solid Waste Office and Finance Office. Special collection for large amounts of waste can be arranged through the Solid Waste Department. Fees for this service are determined on site. Non-scheduled pickup services are available for an additional charge.

Commercial-size and drop-box containers are available for rental by residents and businesses. Commercial containers range from two to six cubic yards and drop-box containers range from ten to forty cubic yards. These containers can be located on-property or curbside.

After the waste is collected, Lovelace Transfer Station is used to process and ship the material to its final destination. The Lovelace Transfer Station is owned and operated by San Joaquin County and also serves most of south San Joaquin County. Recyclables are transported to a small Transfer Station adjacent to Forward Landfill where they are loaded onto larger trucks and taken to Sacramento Recycling. The majority of Manteca’s solid waste is landfilled at the Forward Sanitary Landfill, located north of French Camp Road. Foothill Sanitary Landfill and North County landfill are also employed, but to a much lesser degree.

As part of a food to energy project, Manteca’s food waste will soon be transported to a biogas conversion facility. A “turbo separator” will be installed at the Lovelace Transfer station to mechanically separate food waste from municipal solid waste. Trucks will ship the separated food waste to the Wastewater Quality Control Facility where it will be conveyed to digesters. The food waste will then be composted and the natural gas from the decomposition process will be used to power Manteca’s solid waste collection trucks. This project is still in the planning phase but once completed, it is expected to increase diversion rates, decrease Manteca’s diesel usage, and keep long term municipal service rates low.

WASTE DISPOSAL FACILITIES

Forward Sanitary Landfill

Forward Sanitary Landfill, owned by Forward Incorporated/Allied Waste North America, is located on a 567-acre property off of Austin Road. The current Forward Landfill was created in 2002 by joining the former Forward, Inc. Class II landfill with the adjacent Austin Road Class III Sanitary Landfill previously owned by the City of Stockton. Combining the two landfills was accomplished by filling in the air space between the landfills, employing lower base grades, and expanding the hours of operation.

The current Forward Landfill site includes a materials recovery facility and transfer station. The materials recovery composts food waste and process wood waste for diversion purposes. The transfer station receives Manteca's recycling and loads it onto larger trucks to be transported to Sacramento Recycling. Forward, Inc. also operates a landfill gas-to-energy (LFGTE) plant on the northwest portion of the site to control air pollution and mitigate fire hazard from the methane gas released by anaerobic microorganisms during the decomposition process. PG&E purchases 760 kilowatts per hour of electrical power generated by Forward Landfill under a long term contract.

The support facilities at Forward Landfill include scale houses, water production wells, a groundwater extraction and treatment system, sedimentation and detention ponds, and leachate evaporation basins.

Forward landfill is the only Class II facility in San Joaquin County designed to accept both designated wastes such as contaminated soil as well as inert municipal solid waste. The facility is closed to the general public and all waste deliveries are scheduled in advance and pre-screened. Accepted wastes include green materials, sludge (biosolids), asbestos, tires, industrial, and mixed municipal.

Although the total acreage of the site is 567, the allotted disposal footprint is 355 acres to allow for a boundary between the facility and surrounding developments. The current constructed Waste Management Unit scope is 288 acres and the remaining allotted land is used for other landfill activities such as soil borrow and storage until it is converted to Waste Management Units. Natural land elevations at the site are 30 to 40 feet above mean sea level and the landfill is permitted reach heights up to 210 feet above mean sea level.

Forward landfill is projected to close in 2020 at current acceptance rates due to reaching its permitted size parameters. To increase the lifespan of the landfill, Forward, Inc. is planning to expand its disposal footprint from about 355 acres to 366 acres. This expansion would involve the relocation of 3,200 feet of the South Branch of the South Fork of Little Johns Creek and increasing the current landfill capacity from about 20 million CY (as of February 2014) to about 27.7 million CY.

A 17.3-acre expansion was approved in January of 2020 inside the landfill's existing boundaries along Austin Road east of Stockton Metropolitan Airport. The lifespan of the landfill will extend from 2030 to 2036 and an additional 8.2 million cubic yards of waste will be processed on two sites, an 8.7-acre parcel in the northeast corner and an 8.6-acre parcel on the south end of the property. The new

operations will not infringe the adjacent 184-acre Brochinni parcel acquired by Republic Forward Services Inc. & Austin Road Landfills in 2011 and proposed in 2012.

Lovelace Materials Recovery Facility and Transfer Station

Lovelace Materials Recovery Facility and Transfer Station is a 15-acre site in Manteca that is owned and operated by San Joaquin County. The waste received by Lovelace is transported to Foothill Sanitary Landfill on large trucks that can each hold up to 22 tons of material. Lovelace is permitted to receive 1,300 tons of waste per day and have a traffic volume of 1,280 vehicles per day but the average daily tonnage received is less than half of this amount.

This station accepts waste from the general public in the form of agricultural waste, cabover campers, camper shells, dismantled camper trailers less than 25 feet in length, commercial and household waste, construction/demolition waste, tires, and white goods such as refrigerators, freezers, and air conditioning units. The transfer station is not permitted to accept any liquid waste sludge, any waste requiring special handling, designated wastes, or hazardous wastes. These items must be taken to San Joaquin County Hazardous Waste Facility located at the Stockton Airport.

San Joaquin County Hazardous Waste Facility

The San Joaquin County Hazardous Waste facility is located on a 2-acre site at 7850 R A Bridgeford Street in Stockton. The hazardous waste facility is available for public drop-off of hazardous wastes on Thursday through Sunday with the exception of conditionally exempt small quantity generators, which are accepted by appointment only. The facility is free of charge; however, some conditions do apply. Hazardous wastes accepted by this facility include paint, oil, antifreeze, pool chemicals, fertilizers, batteries, cleaning products, medical sharps, and medicines.

In February 2006, it became illegal for residents and small businesses to dispose of universal waste in the trash due to a decision by the Department of Toxic Substance Control and the California Integrated Waste Management Control. Universal waste is a type of hazardous waste containing mercury or other heavy metals that can release neurotoxins into the environment if not disposed of properly. Almost any product with a circuit board is considered universal waste. Other universal waste items include batteries, motor oil, mercury thermostats, fluorescent lights, cathode ray tube devices (computer monitors, televisions), and mercury thermometers. These items are banned from landfills and require special handling. Most of these items are accepted at both Lovelace Transfer Station and the County Hazardous waste facility. E-waste not accepted by these two facilities consists of computers, TVs, and printers, which must be taken to the City of Manteca Solid Waste Office.

California limits the transportation of hazardous wastes to 15 gallons or 125 pounds per vehicle but the number of trips made per day is not regulated. Single containers cannot be over 5 gallons. Manteca provides residents with free 5-quart motor oil collection containers upon request. They can be left out curbside next to trash carts on collection days to be picked up for no extra charge.

3.15 UTILITIES AND SERVICE SYSTEMS

SOLID WASTE GENERATION RATES AND VOLUMES

The California Department of Resources Recycling and Recovery (CalRecycle) tracks and monitors solid waste generation rates on a per capita basis. Per capita solid waste generation rates and total annual solid waste disposal volumes for the City of Manteca between 2010 and 2018 are shown in Table 3.15-12.

TABLE 3.15-12: SOLID WASTE GENERATION RATES

YEAR	WASTE GENERATION RATE (LBS/PERSON/DAY)	POPULATION	TOTAL DISPOSAL TONNAGE (TONS/YEAR)
2010	4.9	66,749	59,206
2011	4.6	68,410	57,462
2012	4.5	69,815	57,467
2013	4.6	71,164	59,537
2014	4.7	72,880	61,696
2015	5.0	74,721	67,089
2016	5.4	76,692	73,050
2017	5.5	78,738	80,277
2018	5.9	80,829	87,478

SOURCE: CAL RECYCLE. ACCESSED AUGUST 2019

NOTES: 2019 DATA NOT AVAILABLE

As shown in the Table 3.15-12, the per capita waste generation rate increased from 4.9 to 5.9 lbs/person/day over the 8-year (2010-2018) period. The average disposal rate was 5.0 lbs/person/day. In addition, the total annual disposal tonnage in Manteca increased by 28,272 tons over the 2010 to 2018 time span. With the passage of SB 1016, per capita disposal rate is used to determine the diversion progress of a city and not the jurisdictional diversion rates. Therefore, a population increase resulting in the generation of more overall city waste does not affect the jurisdiction's ability to meet its waste goals. The City's waste disposal rate targets are shown in Table 3.15-13.

TABLE 3.15-13: CITY OF MANTECA WASTE DISPOSAL RATE TARGETS (POUNDS/DAY)

YEAR	POPULATION		EMPLOYMENT	
	TARGET	ANNUAL	TARGET	ANNUAL
2010	5.6	4.9	22.5	22.5
2011	5.6	4.6	21.1	20.6
2012	5.6	4.5	21.1	19.9
2013	5.6	4.6	21.1	19.6
2014	5.6	4.7	21.1	19.1
2015	5.6	5.0	21.1	19.7
2016	5.6	5.4	21.1	20.7
2017	5.6	5.5	21.1	21.8
2018	5.6	5.9	21.1	23.6
2019	5.6	6.0	21.1	24.1

SOURCE: CAL RECYCLE. ACCESSED AUGUST 2019.

The City’s target rate on the above table represents a 50% diversion rate. In accordance with AB 939, which required municipalities to aggressively pursue MSW source reduction and recycling, the City continues to meet and exceed all AB 939 goals. The various solid waste management actions adopted by the City include, but are not limited to, recycling and yard waste programs for residents and businesses, public education and public outreach awareness events, and school recycling and composting.

LANDFILL CAPACITY

Currently, the City takes solid waste to the Lovelace Materials Recovery Facility and Transfer Station; then, the County manages and assigns solid waste to either the Forward Landfill, Foothill Landfill, or North County Facility.

Forward Landfill is permitted to accept 46,080 tons of solid waste per week, not to exceed 8,668 tons per day. The average daily disposal is 620 tons per day. The allotted disposal area is 354.5 acres, and it is designed to hold 51,040,000 cubic yards of inert or designated wastes. The maximum depth of the landfill is 7 feet below mean sea level and the permitted height is no greater than 210 feet above mean sea level. According to CalRecycle, the remaining capacity (not accounting for the expansion, noted below) is 23.7 million cubic yards, which is expected to be filled by 2020. At that time, the City can utilize the Foothill Landfill as a location for solid waste disposal. The City’s solid waste per capita generation has decreased since 2007 due to the waste diversion efforts of the City. The City of Manteca landfills are summarized in Table 3.15-14.

TABLE 3.15-14: CITY OF MANTECA LANDFILL SUMMARY

<i>LANDFILL</i>	<i>LOCATION</i>	<i>MAXIMUM DAILY THROUGHPUT (TONS/DAY)</i>	<i>REMAINING CAPACITY (CUBIC YARDS)</i>	<i>ANTICIPATED CLOSURE DATE</i>
Forward Sanitary	Manteca	8,668	22.1 million	2036
Foothill Sanitary	Linden	1,500	125.0 million	2054
North County	Victor	825	35.4 million	2035

SOURCE: CAL RECYCLE. ACCESSED FEBRUARY 2021.

A 17.3-acre expansion was approved in January of 2020 inside the landfill’s existing boundaries along Austin Road east of Stockton Metropolitan Airport. The lifespan of the landfill will extend from 2030 to 2036 and an additional 8.2 million cubic yards of waste will be processed on two sites, an 8.7-acre parcel in the northeast corner and an 8.6-acre parcel on the south end of the property.

FUNDING

The City’s solid waste collection services operate as an enterprise fund. An enterprise fund establishes a separate accounting and financial reporting mechanism for municipal services for which a fee is charged in exchange for goods or services. Under enterprise accounting, the revenues and expenditures of services are separated into funds with their own financial statements, rather than commingled with the revenues and expenses of all other government activities. The City’s General Fund is not used for solid waste collection service costs. The revenues generated from service collection fees adequately fund the operation of the City’s fair share at the County transfer

station and Solid Waste Division operations, including solid waste collections. The General Plan contains policies requiring that new developments pay an equal proportion of municipal service costs so that the economic burden is not placed on existing residents. Additionally, trash trucks and trash separators will be required to manage solid waste in the future.

REGULATORY SETTING – SOLID WASTE

Federal

RESOURCE CONSERVATION AND RECOVERY ACT

The Resource Conservation and Recovery Act (RCRA) was enacted in 1976 to address the huge volumes of municipal and industrial solid waste generated nationwide. After several amendments, the current Act governs the management of solid and hazardous waste and underground storage tanks (USTs). RCRA was an amendment to the Solid Waste Disposal Act of 1965. RCRA has been amended several times, most significantly by the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA is a combination of the first solid waste statutes and all subsequent amendments. RCRA authorizes the Environmental Protection Agency (EPA) to regulate waste management activities. RCRA authorizes states to develop and enforce their own waste management programs, in lieu of the Federal program, if a state's waste management program is substantially equivalent to, consistent with, and no less stringent than the Federal program.

State

CALIFORNIA INTEGRATED WASTE MANAGEMENT ACT (AB 939 AND SB 1322)

The California Integrated Waste Management Act of 1989 (AB 939 and SB 1322) requires every city and county in the state to prepare a Source Reduction and Recycling Element to its Solid Waste Management Plan that identifies how each jurisdiction will meet the mandatory state waste diversion goals of 25% by 1995 and 50% by 2000. The purpose of AB 939 and SB 1322 is to “reduce, recycle, and re-use solid waste generated in the state to the maximum extent feasible.” The term “integrated waste management” refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. The Act has established a waste management hierarchy, as follows: Source Reduction; Recycling; Composting; Transformation; and Disposal.

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD MODEL ORDINANCE

Subsequent to the Integrated Waste Management Act, additional legislation was passed to assist local jurisdictions in accomplishing the goals of AB 939. The California Solid Waste Re-use and Recycling Access Act of 1991 (§42900-42911 of the Public Resources Code) directs the California Integrated Waste Management Board (CIWMB) to draft a “model ordinance” relating to adequate areas for collecting and loading recyclable materials in development projects. The model ordinance requires that any new development project, for which an application is submitted on or after September 1, 1994, include “adequate, accessible, and convenient areas for collecting and loading recyclable materials.” For subdivisions of single family detached homes, recycling areas are required to serve only the needs of the homes within that subdivision.

CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN)

CALGreen requires the diversion of at least 50 percent of the construction waste generated during most new construction projects (CALGreen Sections 4.408 and 5.408) and some additions and alterations to nonresidential building projects.

CALIFORNIA MANDATORY COMMERCIAL RECYCLING LAW (AB 341)

Assembly Bill (AB) 341 directed CalRecycle to develop and adopt regulations for mandatory commercial recycling. CalRecycle initiated formal rulemaking with a 45-day comment period beginning Oct. 28, 2011. The final regulation was approved by the Office of Administrative Law on May 7, 2012. The purpose of AB 341 is to reduce GHG emissions by diverting commercial solid waste to recycling efforts and to expand the opportunity for additional recycling services and recycling manufacturing facilities in California.

Beginning on July 1, 2012, businesses have been required to recycle, and each jurisdiction has implemented programs that include education, outreach, and monitoring. Jurisdictions were required to start reporting on their 2012 Electronic Annual Report (due August 1, 2013) on their initial education, outreach, and monitoring efforts, and, if applicable, on any enforcement activities or exemptions implemented by the jurisdiction.

In addition to Mandatory Commercial Recycling, AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020. This is not written as a 75 percent diversion mandate for each jurisdiction. The 50 percent disposal reduction mandate still stands for cities, counties, and State agencies (including community colleges) under AB 939. CalRecycle continues to evaluate program implementation as it has in the past through the Annual Report review process for entities subject to either AB 939.

ASSEMBLY BILL 1826 MANDATORY COMMERCIAL ORGANICS RECYCLING

In October 2014 Governor Brown signed AB 1826, requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units (please note, however, that multi-family dwellings are not required to have a food waste diversion program). Organic waste (also referred to as organics) means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. This law phases in the mandatory recycling of commercial organics over time, while also offering an exemption process for rural counties. In particular, the minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

Starting on January 1, 2019, businesses that generate 4 cubic yards or more of commercial solid waste per week shall arrange for organic waste recycling services. By Summer/Fall 2021, if CalRecycle determines that the statewide disposal of organic waste in 2020 has not been reduced by 50 percent of the level of disposal during 2014, the organic recycling requirements on businesses

3.15 UTILITIES AND SERVICE SYSTEMS

will expand to cover businesses that generate 2 cubic yards or more of commercial solid waste per week. Additionally, certain exemptions may no longer be available if this target is not met.

SB 1374 (CONSTRUCTION AND DEMOLITION WASTE MATERIALS DIVERSION)

Senate Bill 1374 (SB 1374), Construction and Demolition Waste Materials Diversion Requirements, requires that jurisdictions summarize their progress realized in diverting construction and demolition waste from the waste stream in their annual AB 939 reports. SB 1374 required the CIWMB to adopt a model construction and demolition ordinance for voluntary implementation by local jurisdictions.

AB 2176 (MONTANEZ, CHAPTER 879, STATUTES OF 2004)

This law requires the largest venue facilities and events (as defined) in each city and county to plan and implement solid waste diversion programs, and annually report the progress of those upon the request of their local government. In turn, local jurisdictions must report to the CIWMB waste diversion information for the top 10 percent of venues and events by waste generation.

A large event is defined as:

1. Serves an average of more than 2,000 individuals per day of operation (both people attending the event and those working at it—including volunteers—are included in this number); and
2. Charges an admission price or is run by a local agency.

The bill specifically includes public, nonprofit, or privately owned parks, parking lots, golf courses, street systems, or other open space when being used for an event, including, but not limited to, a sporting event or a flea market in addition to events that meet both of the above.

A large venue is defined as:

- A permanent facility that annually seats or serves an average of more than 2,000 individuals within the grounds of the facility per day of operation (both people attending the event and those working at it—including volunteers too—are included in this number).

Venues include, but are not limited to airports, amphitheaters, amusement parks, aquariums, arenas, conference or civic centers, fairgrounds, museums, halls, horse tracks, performing arts centers, racetracks, stadiums, theaters, zoos, and other public attraction facilities.

SENATE BILL 1383 SHORT-LIVED CLIMATE POLLUTANTS: ORGANIC WASTE METHANE EMISSIONS REDUCTIONS

In September 2016, Governor Brown signed SB 1383, establishing methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants (SLCP) in various sectors of California's economy. The bill codifies the California Air Resources Board's Short-Lived Climate Pollutant Reduction Strategy, established pursuant to SB 605, in order to achieve reductions in the statewide emissions of short-lived climate pollutants. Actions to reduce short-lived climate

pollutants are essential to address the many impacts of climate change on human health, especially in California’s most at-risk communities, and on the environment.

As it pertains to solid waste, SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025.

Local

MANTECA MUNICIPAL CODE, CHAPTER 13.02: SOLID WASTE COLLECTION AND DISPOSAL

Chapter 8.12 of the Municipal Code regulates the management of garbage, recyclables, and other wastes. Chapter 8.12 sets forth solid waste collection, disposal, and diversion requirements for residential, commercial, industrial, and other uses and addresses yard waste, hazardous materials, recyclables, and other forms of solid waste.

MANTECA MUNICIPAL CODE, CHAPTER 13.02.090: MANDATORY MULTIFAMILY RECYCLING

Owners of multifamily complexes are obligated to utilize Manteca’s recycling service and allow for the convenient location of recycling containers. The location of recycling containers must be approved by the Office of the Director of Public Works and the containers must remain in the agreed upon location excluding scheduled waste collection dates.

MANTECA MUNICIPAL CODE, CHAPTER 13.02.100: COMMERCIAL BUSINESS RECYCLING

Commercial businesses that produce two or more cubic yards of recyclable or green waste items per week must utilize Manteca’s waste collection services. The placement of recycle and green waste containers require approval by the Office of the Director of Public Works.

MANTECA MUNICIPAL CODE, CHAPTER 13.02.120: CONSTRUCTION AND DEMOLITION RECYCLING

The Manteca Municipal Code Construction and Demolition Recycling Section applies to all contractors on all city construction and demolition projects. It mandates that all concrete, clean wood waste, brick, asphalt, and scrap metal be recycled when the total area of the project surpasses five thousand square feet. The recyclable items must be separated on site and stored in recycling containers to be retrieved by the City of Manteca Solid Waste Division or a permitted resource recovery collector. Construction recycling containers must only contain recyclable material. Failing to properly separate wastes at the source is unlawful and could result in a misdemeanor. All resource recovery collectors providing waste transfer services for construction or demolition related projects within Manteca must claim the types and quantity of materials transported to landfills or transfer stations as well as provide certified weigh-master receipts.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with Utilities if it would:

- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; and/or
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-6: General Plan implementation would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, would not generate solid waste in excess of State or local standards or otherwise impair the attainment of solid waste reduction goals, and would not exceed of the capacity of local infrastructure (Less than Significant)

The development of future land uses under the proposed General Plan would increase solid waste disposal needs and could have the potential to require the construction of new landfill facilities, or expansion of existing facilities.

Future development of projects as contemplated under the proposed General Plan may increase the population within the Planning Area to approximately 121,168 persons. As shown in the Table 3.15-9, the per capita waste generation rate increased from 4.9 to 5.9 lbs/person/day over the 8-year (2010-2018) period. The average disposal rate was 5.0 lbs/person/day. Assuming the average disposal rate remains constant throughout the life of the General Plan, the new growth under General Plan buildout would result in an increase of approximately 605,840 lbs/day of solid waste, which equals 302.9 tons per day or 110,559 tons of solid waste per year.

As noted previously, the City takes solid waste to the Lovelace Materials Recovery Facility and Transfer Station; then, the County manages and assigns solid waste to either the Forward Landfill, Foothill Landfill, or North County Facility.

Forward Landfill was projected to close in 2020 at current acceptance rates due to reaching its permitted size parameters. To increase the lifespan of the landfill, Forward, Inc. is planning to expand its disposal footprint. The City's projected increase in solid waste generation associated with future buildout of the proposed General Plan is within the permitted capacity of the Forward Sanitary Landfill expansion. As noted previously, the vast majority of landfill disposed from the City

of Manteca went to Forward Sanitary Landfill.¹ Other landfills that received waste from the City of Manteca include:

- Lovelace Materials Recovery Facility and Transfer Station
- San Joaquin County Hazardous Waste
- Foothill Sanitary Landfill
- North County

Forward Sanitary Landfill has a remaining capacity of 23,700,000 cubic yards, and has a current maximum permitted throughput of 8,668 tons per day. This landfill originally had a cease operation date in the year 2020. A 17.3-acre expansion was approved in January of 2020 inside the landfill's existing boundaries along Austin Road east of Stockton Metropolitan Airport. The lifespan of the landfill will extend from 2030 to 2036 and an additional 8.2 million cubic yards of waste will be processed on two sites, an 8.7-acre parcel in the northeast corner and an 8.6-acre parcel on the south end of the property.

The City's solid waste per capita generation has decreased since 2007 due to the waste diversion efforts of the City. The additional solid waste generation associated with the proposed General Plan, approximately 47.7 tons per day at total buildout, to the Forward Landfill would not exceed the landfill's remaining and additional capacity until landfill closure in 2036. The City will need to secure a new location or expand existing facilities when the Forward Landfill is ultimately closed. There are several options that the City will have to consider for solid waste disposal at that time which is estimated to be 2036, including the construction of new facilities or expansion of existing facilities.

At the closure of the Forward Landfill, the City can potentially utilize the Foothill Landfill and the North County Landfill as locations for solid waste disposal. The permitted maximum disposal at the Foothill Landfill is 1,500 tons per day and the North County Landfill is 825 tons per day. The remaining capacity of these landfills include 125 million cubic yards of solid waste at the Foothill Landfill, with an estimated cease operation date of 2054, and 35.4 million cubic yards of solid waste at the North County Landfill, which has an estimated cease operation date of 2035. The addition of solid waste associated with the proposed project to the Foothill Landfill and North County Landfill would not exceed the combined landfills' remaining capacity of 160.4 cubic yards. Between the three landfills, there is capacity to manage the foreseeable solid waste generated by the land uses in the proposed General Plan Update.

While there are no plans for landfill construction or expansion associated with the proposed General Plan, development of new solid waste disposal facilities could result in environmental effects in areas such as traffic, hydrology, biology, air quality, greenhouse gases, and noise. Any future construction projects in would be required to conduct environmental review pursuant to CEQA prior to approval. As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations associated with solid waste. Subsequent development and infrastructure

¹ Note: data provided by CalRecycle, based on information provided by County disposal reports.

3.15 UTILITIES AND SERVICE SYSTEMS

projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The proposed General Plan includes actions to further minimize the project's potential for impact on solid waste services, as identified below. As such, this impact would be *less than significant*, and no mitigation is required.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

POLICIES

CF-11.1: Continue to require mandatory refuse collection throughout the city.

CF-11.2: Ensure adequate solid waste collection infrastructure to serve existing and future development and the safe disposal of waste.

CF-11.3: Implement and enforce the provisions of the City's Source Reduction and Recycling Program and update the program as necessary to meet or exceed the State waste diversion requirements.

CF-11.4: Reduce municipal waste generation by increasing recycling, on-site composting, and mulching, where feasible, at municipal facilities, as well as using resource efficient landscaping techniques in new or renovated.

CF-11.5: Encourage residential, commercial, and industrial recycling and reuse programs and techniques.

CF-11.6: Coordinate with and support other local agencies and jurisdictions in the region to develop and implement effective waste management strategies and waste-to-energy technologies.

CF-11.7: Support the continued use of the Lovelace Transfer Station on Lovelace Road, between Union Road and Airport Way, for the processing and shipping of solid waste materials.

ACTIONS

CF-11a: Regularly monitor the level of service provided by garbage and recycling collection contractors to ensure that service levels are adequate.

CF-11b: Implement recycling and waste reduction education programs for City employees. The education program will disseminate information on what and how much is recycled by the City.

CF-11c: Expand the provision of recycling collection containers and services to all City facilities, including parks.

CF-11d: Include standard language in requests for services and in City agreements requiring contractors to use best management practices to maximize diversion of waste from the landfill.

CF-11e: Coordinate with San Joaquin County concerning the City's use of the Lovelace Landfill and its capacity projections.

CF-11f: Encourage recycling, reuse, and appropriate disposal of hazardous materials, including the following:

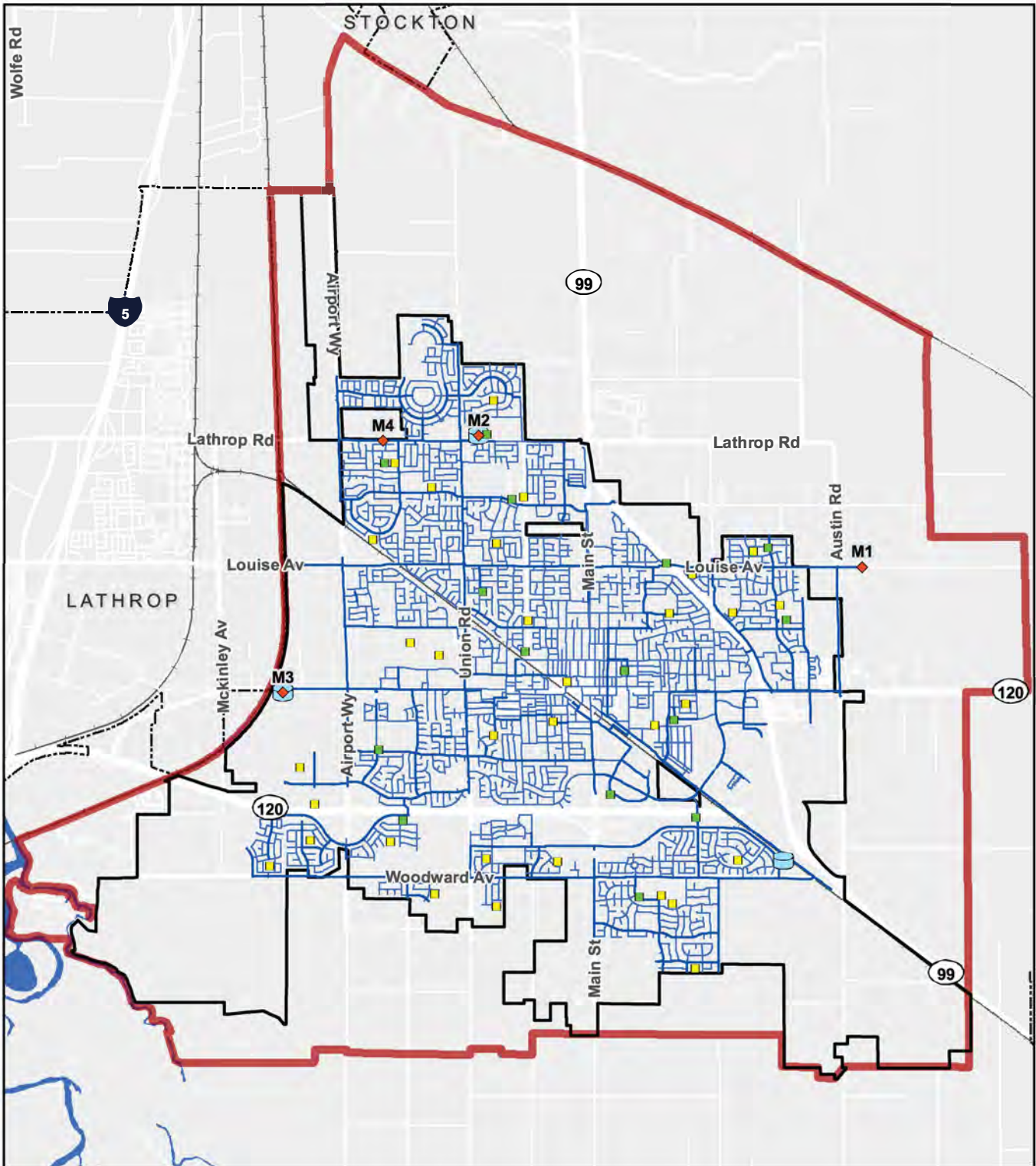
- *Increased participation in single family and multifamily residential curbside recycling programs;*
- *Increased participation in commercial and industrial recycling programs for paper, cardboard, and plastics;*
- *Reduce yard and landscaping waste through methods such as composting, grass recycling, and using resource efficient landscaping techniques;*
- *Encourage local businesses to provide electronic waste (e-waste) drop-off services and encourage residents and businesses to properly dispose of, or recycle, e-waste;*
- *Consider an ordinance mandating that single use food utensils, wrappers and containers be made from bio-degradable materials and prohibiting Styrofoam containers and coolers.*

CF-11g: Update the Public Facilities Implementation Plan regarding solid waste collection, recycling, and disposal, including need for refuse trucks and waste separators, every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

CF-11h: Expand educational and outreach efforts, in partnership with state, regional, local agencies, relevant organizations, businesses, schools, etc. to promote recycling and waste reduction.

CF-11i: Develop a community solid waste committee to evaluate the effectiveness of existing programs and to consider innovative solutions to reduce landfill and recycling burdens.

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Legend

- Manteca City Limits
- Planning Area

Existing City Water Infrastructure

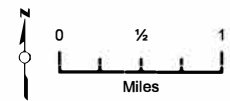
- Potable Water Well
- Irrigation Water Well
- Turnout
- Water Tank

Water Main

- 8-inch and Smaller
- 10-inch and Larger

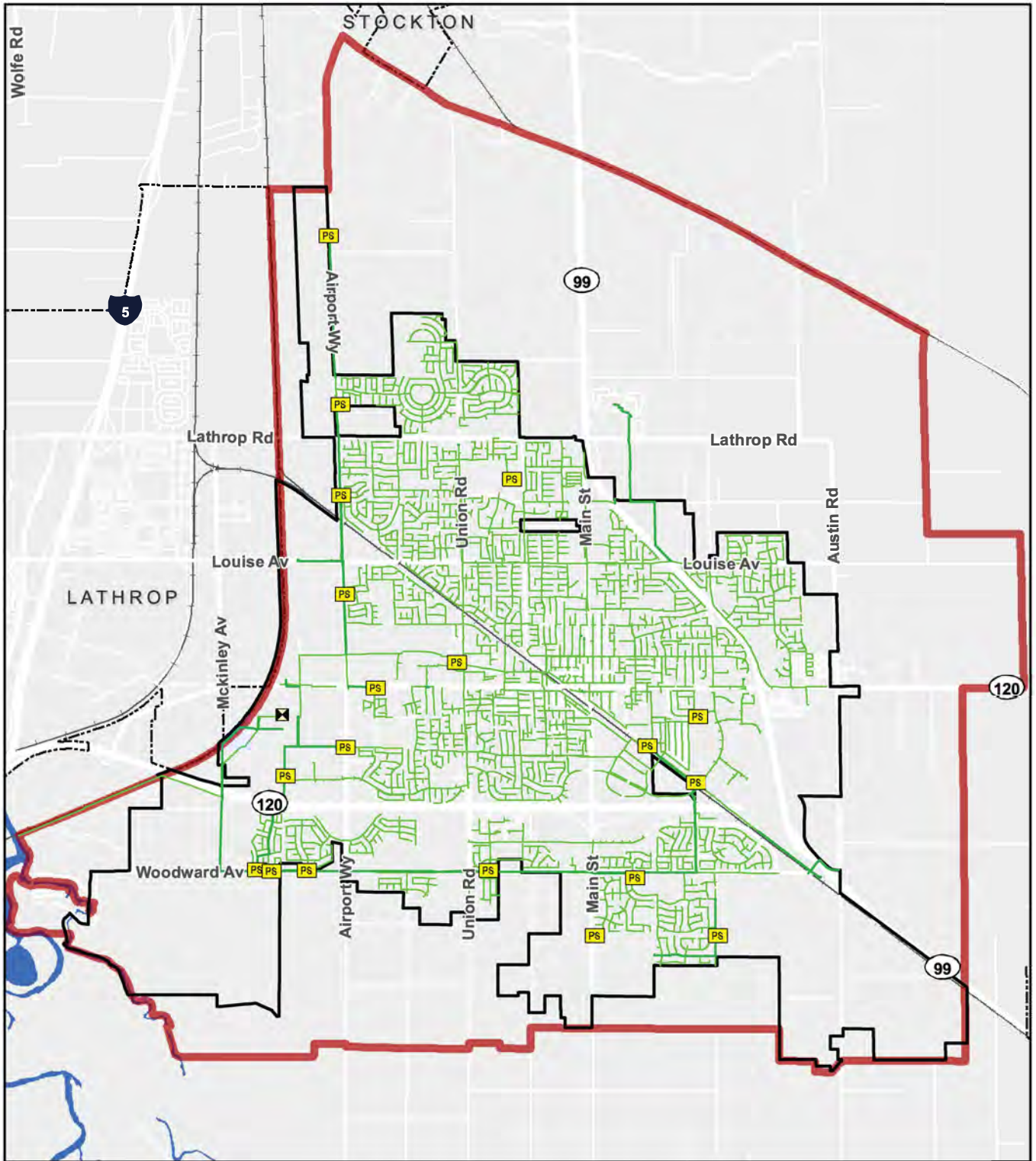
CITY OF MANTECA GENERAL PLAN

Figure 3.15-1. Existing Water System Facilities





Source: City of Manteca GIS. Map date: July 17, 2017. City boundary revised August 28, 2022.
 Notes: Turnout locations are approximate. Only active facilities are shown.





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Legend

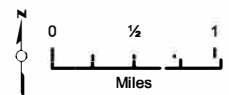
-  Manteca City Limits
-  Planning Area

Existing Sewer Collection System Infrastructure

-  Water Pollution Control Facility
-  Pump Station
-  Gravity Main
-  Force Main

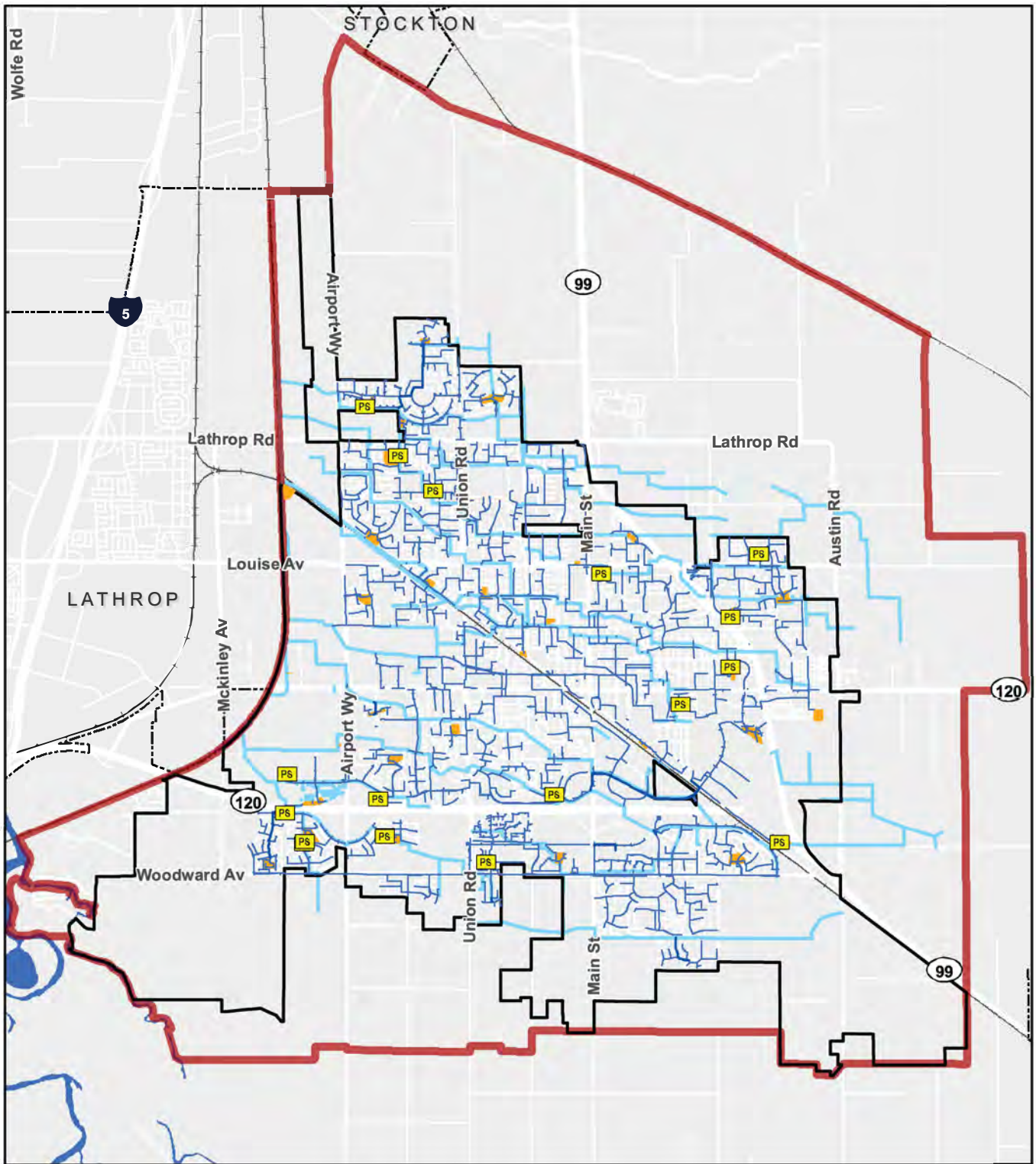
CITY OF MANTECA GENERAL PLAN

Figure 3.15-2.
Existing Sewer Collection System Facilities



Source: City of Manteca GIS. Map date: July 11, 2017.
City boundary revised: August 28, 2022.





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Legend

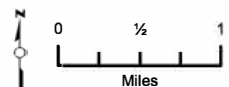
-  Manteca City Limits
-  Planning Area
-  South San Joaquin Irrigation District Conveyance

Existing City Stormwater Infrastructure

-  Pump Station
-  Gravity Main
-  Force Main
-  Detention Basin

CITY OF MANTECA GENERAL PLAN

**Figure 3.15-3.
Existing Stormwater System Facilities**



Source: City of Manteca GIS. Map date: July 11, 2017.
City boundary revised: August 28, 2022.

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This section provides a background discussion of the hazards associated with wildfires in the Planning Area. The discussion of fire suppression resources is located within Chapter 3.13, Public Services and Recreation, of this report.

No comments were received during the NOP comment period regarding this environmental topic.

3.16.1 ENVIRONMENTAL SETTING

FIRE HAZARD SEVERITY ZONES

The state has charged the California Department of Forestry and Fire Protection (CalFire) with the identification of Fire Hazard Severity Zones (FHSZ) within State Responsibility Areas (SRAs). In addition, CalFire must recommend Very High Fire Hazard Severity Zones (VHFHSZ) identified within any Local Responsibility Areas (LRAs). The FHSZ maps are used by the State Fire Marshall as a basis for the adoption of applicable building code standards.

The Planning Area includes only LRAs with State Responsibility Areas to the north, outside city boundaries. Included in Chapter 3.8, Hazards and Hazardous Materials, Figure 3.8-3 shows Fire Hazard Severity Zones within Manteca, and Figure 3.8-4 shows the corresponding fire threat to people.

Local Responsibility Areas

The majority of the Planning Area is not located within a LRA. Three portions of the Planning Area are located in an LRA: a developed area near Airport Way and W. Yosemite Avenue, a developed area near E. Yosemite Avenue and Austin Road, and a developed area near W. Louise Avenue and S. Airport Way. Manteca is an LRA that is served by the Manteca Fire Department. The Manteca Fire Department serves approximately 83,781 residents throughout approximately 17.2 square miles within the City limits. The City of Manteca is not categorized as a "Very High" FHSZ by CalFire. No cities or communities within San Joaquin County are categorized as a "Very High" FHSZ by CalFire.

State Responsibility Areas

There are no SRAs within the vicinity of the Planning Area.

Federal Responsibility Areas

There are no Federal Responsibility Areas (FRAs) within the vicinity of the Planning Area.

IDENTIFYING FIRE HAZARDS

Fuel Rank

Fuel rank is a ranking system developed by CalFire that incorporates four wildfire factors: fuel model, slope, ladder index, and crown index.

The U.S. Forest Service has developed a series of fuel models, which categorize fuels based on burn characteristics. These fuel models help predict fire behavior. In addition to fuel characteristics, slope

is an important contributor to fire hazard levels. A surface ranking system has been developed by CalFire, which incorporates the applicable fuel models and slope data. The model categorizes slope into six ranges: 0-10%, 11-25%, 26-40%, 41-55%, 56-75% and >75%. The combined fuel model and slope data are organized into three categories, referred to as surface rank. Thus, surface rank is a reflection of the quantity and burn characteristics of the fuels and the topography in a given area.

The ladder index is a reflection of the distance from the ground to the lowest leafy vegetation for tree and plant species. The crown index is a reflection of the quantity of leafy vegetation present within individual specimens of a given species.

The surface rank, ladder index, and crown index for a given area are combined in order to establish a fuel rank of medium, high, or very high. Fuel rank is used by CalFire to identify areas in the California Fire Plan where large, catastrophic fires are most likely.

The areas warranting “moderate” fuel ranks possess combustible material in sufficient quantities combined with topographic characteristics that pose a wildfire risk. The Planning Area contains areas with “moderate” and “non-wildland fuel” ranks. Within the City, the core area is primarily classified as “Local: Urban Unzoned” and surrounding areas are generally identified as “Local: Non-Wildland/Non-Urban.” There are limited areas designated as “Local: Moderate” in the City; these are relatively small, localized areas, including an area on both sides of Airport Way south of Yosemite Avenue, an area on both sides of Yosemite Avenue west of Austin Road, and an area along the UPRR line at the City’s boundary with Lathrop. In the Planning Area, there are only two areas designated “Local: Moderate”, an area around the E. Southland Road and Cottage Avenue intersection and an area located along and south of the Turtle Beach RV Resort adjacent to the San Joaquin River.

Fire Threat to People

As shown in Figure 3.8-4, there are no areas within the City or Planning Area classified as Very High or Extreme Fire Hazards. The majority of the City is classified as Not Mapped, with areas of Moderate Fire Hazards located in the southeast corner of the City, along the SR 120 interchanges, along and in the vicinity of the San Joaquin River, and scattered throughout the City and Planning Area. There are small areas of High Fire Hazard mapped, including areas in the vicinity of the Lathrop Rd/SR 99 interchange, in the vicinity of the SR 120/Union Road and SR 99/SR 120 interchanges, and in other limited locations in the Planning Area.

3.16.2 REGULATORY SETTING

FEDERAL

FY 2001 Appropriations Act

Title IV of the Appropriations Act required the identification of “Urban Wildland Interface Communities in the Vicinity of Federal Lands that are at High Risk from Wildfire” by the U.S. Departments of the Interior and Agriculture.

Disaster Mitigation Act (2000)

Section 104 of the Disaster Mitigation Act of 2000 (Public Law 106-390) enacted Section 322, Mitigation Planning of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, which created incentives for state and local entities to coordinate hazard mitigation planning and implementation efforts, and is an important source of funding for fuels mitigation efforts through hazard mitigation grants.

National Incident Management System

The City adopted the National Incident Management System (NIMS), which provides a systematic, proactive approach to guide government agencies, nongovernmental organizations, and the private sector to work together to prevent, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life and property and harm to the environment. NIMS improves the City's ability to prepare for and respond to potential incidents and hazard scenarios.

National Fire Plan 2000

The summer of 2000 marked a historic milestone in wildland fire records for the United States. Dry conditions (across the western United States), led to destructive wildfire events on an estimated 7.2 million acres, nearly double the 10-year average. Costs in damages including fire suppression activities were approximately 2.1 billion dollars. Congressional direction called for substantial new appropriations for wildland fire management. This resulted in action plans, interagency strategies, and the Western Governor's Association's "A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment - A 10-Year Comprehensive Strategy - Implementation Plan", which collectively became known as the National Fire Plan. This plan places a priority on collaborative work within communities to reduce their risk from large-scale wildfires.

Healthy Forest Initiative 2002/Healthy Forest Restoration ACT 2003

In August 2002, the Healthy Forests Initiative (HFI) was launched with the intent to reduce the severe wildfires risks that threaten people, communities, and the environment. Congress then passed the Healthy Forests Restoration Act (HFRA) on December 3, 2003 to provide the additional administrative tools needed to implement the HFI. The HFRA strengthened efforts to restore healthy forest conditions near communities by authorizing measures such as expedited environmental assessments for hazardous fuels projects on federal land. This Act emphasized the need for federal agencies to work collaboratively with communities in developing hazardous fuel reduction projects and places priority on fuel treatments identified by communities themselves in their Community Wildfire Protection Plans.

Department of the Interior Department Manual Part 620

Wildland Fire Management. Part 620 of the Department of the Interior Departmental Manual pertains to wildland fire management policies, with the goal of providing an integrated approach to wildland fire management. The guiding principles of the plan emphasize the need for public health

and safety considerations, risk management protocols, inter-agency collaboration, and economic feasibility of wildfire management practices, as well as the ecological role of wildfires.

STATE

California Strategic Fire Plan

This statewide plan is a strategic document, which guides fire policy for much of California. The plan is aimed at reducing wildfire risk through pre-fire mitigation efforts tailored to local areas through assessments of fuels, hazards, and risks.

California State Multi-Hazard Mitigation Plan

The purpose of the State Multi-Hazard Mitigation Plan (SHMP) is to significantly reduce deaths, injuries, and other losses attributed to natural- and human-caused hazards in California. The SHMP provides guidance for hazard mitigation activities emphasizing partnerships among local, state, and federal agencies as well as the private sector.

California Government Code

California Government Code Section 65302.5 requires the State Board of Forestry and Fire Protection to provide recommendations for a local jurisdiction's General Plan fire safety element when the jurisdiction amends its general plan. While not a direct and binding fire prevention requirement for individuals, general plans that adopt the Board's recommendations will include goals and policies that provide for contemporary fire prevention standards for the jurisdiction. While the State Board of Forestry and Fire Protection has not specifically commented on the Proposed General Plan at the time that this EIR was written, the Proposed General Plan has been developed to include best practices to ensure contemporary fire prevention standards, as described in greater detail under the impact discussions below.

California Government Code Section 51175 defines Very High Fire Hazard Severity Zones and designates lands considered by the State to be a very high fire hazard.

California Government Code Section 51189 directs the Office of the State Fire Marshal to create building standards for wildland fire resistance. The code includes measures that increase the likelihood of a structure withstanding intrusion by fire (such as building design and construction requirements that use fire-resistant building materials) and provides protection of structure projections (such as porches, decks, balconies and eaves), and structure openings (such as attics, eave vents, and windows).

California Public Resource Code

The State's Fire Safe Regulations are set forth in Public Resources Code Section 4290, which include the establishment of SRAs.

Public Resources Code Section 4291 sets forth defensible space requirements, which are applicable to anyone that ...owns, leases, controls, operates, or maintains a building or structure in, upon, or

adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material (§4291(a)).

Public Resources Code Sections 4292-4296 and 14 CCR 1256, Fire Prevention for Electrical Utilities, address the vegetation clearance standards for electrical utilities. They include the standards for clearing around energy lines and conductors such as power-line hardware and power poles. These regulations are critical to wildland fire safety because of the substantial number of power lines in wildlands, the historic source of fire ignitions associated with power lines, and the extensive damage that results from power line caused wildfires in severe wind conditions.

Assembly Bill 337

Per Assembly Bill 337, local fire prevention authorities and CalFire are required to identify VHFHSZs in LRAs. Standards related to brush clearance and the use of fire resistant materials in fire hazard severity zones are also established.

Uniform Fire Code

The Uniform Fire Code (UFC) establishes standards related to the design, construction, and maintenance of buildings. The standards set forth in the UFC range from designing for access by firefighters and equipment and minimum requirements for automatic sprinklers and fire hydrants to the appropriate storage and use of combustible materials.

Senate Bill No. 1241

California Senate Bill No. 1241 requires that the Safety Element component of city or county general plans to incorporate fire risk related to SRAs and Very High Fire Hazard Severity Zones.

Code of Regulations Title 8 (Cal/OSHA)

In accordance with CCR, Title 8, Section 1270 and Section 6773 (Fire Prevention and Fire Protection and Fire Equipment), the Occupational Safety and Health Administration (Cal OSHA) establishes fire suppression service standards. The standards range from fire hose size requirements to the design of emergency access roads.

Code of Regulations Title 14 (Natural Resources)

Division 1.5 (Department of Forestry and Fire Protection), Title 14 of the CCR establishes a variety of wildfire preparedness, prevention, and response regulations.

Code of Regulations Title 19 (Public Safety)

Title 19 of the CCR establishes a variety of emergency fire response, fire prevention, and construction and construction materials standards.

LOCAL

San Joaquin Office of Emergency Services

The mission of the Office of Emergency Services (OES) is to minimize or reduce injury, loss of life, environmental and property damage from emergencies within San Joaquin County. OES is the key disaster preparedness office of the County, and has direct responsibility to support and coordinate the efforts of County departments carrying out their functions in the field. To ensure a coordinated response to their disaster needs, OES also provides disaster information, logistical support, facilitates mutual aid requests, and facilitates inter-jurisdictional coordination with agencies from 7 cities, 120 special districts, and locally-based State and Federal agencies.

City of Manteca Municipal Code

The City of Manteca’s Municipal Code addresses wildfires and associated fire protection in Titles 8, 15, 16, and 17.

Title 8 – Health and Safety (8.08 Fireworks); this section covers sale, use, storage, public firework displays, and requiring permits from the Fire Marshal.

Title 15 - Buildings and Construction (15.24.070 Fire Code); this section includes the adoption of the 2016 California Fire code and additional amendments.

Title 16 - Subdivisions (16.23.030 Improvements Required); this section discusses the requirements for subdivisions including providing appropriate fire protection and fire protection facilities.

Title 17 – Zoning (17.58.040 Hazardous Materials); this section discusses hazardous materials, including disclosure to the Fire Department and San Joaquin County Health Department.

3.16.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact related to wildfires if:

- Located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, the project would:
 - Substantially impair an adopted emergency response plan or emergency evacuation plan.
 - Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
 - Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

IMPACTS AND MITIGATION MEASURES

Impact 3.16-1: General Plan implementation would not have a significant impact related to wildfire risks associated with lands in or near State Responsibility Areas or lands classified as very high fire hazard severity zones (No Impact)

The Planning Area is not located in or near any State Responsibility Areas and there are no lands classified as very high fire hazard severity zones within or near the Planning Area. Therefore, the General Plan would have *no impact* related to wildfire risks associated with lands in or near State Responsibility Areas or lands classified as very high fire hazard severity zones.

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CEQA requires an EIR to evaluate a project's effects in relationship to broader changes that are occurring or that may foreseeably occur, in the surrounding environment. Accordingly, this chapter presents discussion of CEQA-mandated analysis for cumulative impacts, irreversible impacts, and growth inducement associated with the proposed General Plan.

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

INTRODUCTION

CEQA requires that an EIR contain an assessment of the cumulative impacts that could be associated with the General Plan. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable," as defined in Section 15065(a)(3), means that "the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

...the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

1) Either:

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,

(B) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

- 2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and
- 3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

CUMULATIVE SETTING

Under CEQA, the discussion of cumulative impacts should focus on the severity of the impacts and the likelihood of their occurrence. The geographic scope for the cumulative analysis covers the entire Manteca Planning Area, which for the purposes of the General Plan includes the geographic area for which the General Plan provides a framework for long-term plans for growth, resource conservation, and continued agricultural activity. State law requires the General Plan to include all territory within Manteca's incorporated area as well as "any land outside its boundaries which in the planning agency's judgment bears relation to its planning" (California Government Code Section 65300). The Planning Area for the Manteca General Plan includes the entire City Limits and the City's SOI, as shown on Figure 2.0-2 (see Chapter 2.0: Project Description). It should be noted that, for some environmental topics, the geographic scope for the cumulative analysis also covers the boundaries of San Joaquin County, the San Joaquin Valley Air Basin, and/or other jurisdictional boundaries that are relevant to the particular environmental topic.

In most cases in this EIR, the buildout analysis utilizes a 20-year horizon, and 2040 is assumed to be the buildout year of the General Plan. The year 2040 is used as the benchmark year for the cumulative analysis contained in this EIR. This year was chosen based on the fact that the General Plan was developed as an approximately 20-year plan for Manteca, and the General Plan is scheduled for adoption in 2022.

Land Use/Growth Projections

The San Joaquin County Assessor's office maintains a database of existing land uses on individual parcels, including the number of dwelling units and related improvements such as non-residential building square footage. This information is used as the basis for property tax assessments and is summarized in Table 4.0-1. Table 4.0-2 identifies existing housing units, population, non-residential square footage, and jobs existing in the City.

TABLE 4.0-1: ASSESSED LAND USES – PLANNING AREA

<i>LAND USE</i>	<i>CITY LIMITS</i>	<i>PLANNING AREA (OUTSIDE OF CITY)</i>	<i>TOTAL ACRES</i>
Single Family Residential	4,675.55	2,061.90	6,737.45
Multifamily Residential	312.87	14.77	327.64
Commercial	1,052.06	34.99	1,087.06
Industrial Manufacturing	447.64	58.76	506.40
Industrial Non-Manufacturing	347.68	57.39	405.07
Institutional	1,307.89	725.56	2,033.45
Office	51.29	3.36	54.65
Open Space	0.00	176.14	176.14
Parks and Recreation Facilities	199.44	19.80	219.24
Agricultural	2,822.94	9,629.54	12,452.47
Communication/Utilities	17.87	23.09	40.96
Non-Taxable	23.64	0.00	23.64
No Use Code	200.32	10.05	210.37
Total	11,459.18	12,815.36	24,274.54

SOURCE: SAN JOAQUIN COUNTY ASSESSOR'S OFFICE, 2017; DE NOVO PLANNING GROUP, 2022.

Table 4.0-2 summarizes the range of net growth, including residential units (single family and multifamily) and non-residential square footage (commercial, office, industrial, governmental, public/quasi-public) that could occur. Growth is projected for the area within the City as well as for the Planning Area, with includes areas outside of the City but within the SOI and Planning Area identified for the General Plan Update. It is noted that the total growth estimates anticipate buildout of the entire Planning Area, with the exception of areas identified as Urban Reserve.

Table 4.0-3 includes a comparison of the current General Plan Land Use Map and the proposed General Plan Land Use Map in terms of population, housing units, jobs, and the jobs-to-housing ratio. See Chapter 2.0 for a detailed description of land uses projected for the Planning Area at buildout.

TABLE 4.0-2: GROWTH PROJECTIONS OF PROPOSED LAND USE MAP

<i>DEVELOPMENT</i>	<i>RESIDENTIAL</i>				<i>NON-RESIDENTIAL</i>	
	<i>SINGLE-FAMILY UNITS</i>	<i>MULTI-FAMILY UNITS</i>	<i>TOTAL UNITS</i>	<i>POPULATION</i>	<i>NON-RESIDENTIAL SQUARE FOOTAGE</i>	<i>JOB</i>
Existing Conditions (City)	23,697	4,553	28,250	89,835	N/A	16,381
New Growth	11,737	6,703	18,440	58,639	16,002,227	17,924
Total (Existing + New Growth)	44,588	21,765	66,353	211,003	-	43,829

¹E-5 ESTIMATES, DEPARTMENT OF FINANCE, 2020; ONTHEMAP, 2020; CITY DEVELOPMENT PROJECTS DATA, 2020

SOURCE: DE NOVO PLANNING GROUP, 2020

4.0 OTHER CEQA-REQUIRED TOPICS

TABLE 4.0-3: COMPARATIVE GROWTH PROJECTIONS OF CURRENT GENERAL PLAN LAND USE MAP AND PROPOSED GENERAL PLAN LAND USE MAP

	<i>HOUSING UNITS</i>	<i>POPULATION</i>	<i>JOBS</i>	<i>JOBS PER HOUSING UNIT</i>
<i>BUILDOUT CONDITIONS: CITY + PLANNING AREA</i>				
Current General Plan	54,402	172,998	42,457	0.78
Draft General Plan	66,353	211,003	43,829	0.66
<i>NEW GROWTH: CITY + PLANNING AREA</i>				
Change from Current General Plan	11,951	38,005	1,372	0.11

SOURCE: DE NOVO PLANNING GROUP, 2020

CUMULATIVE EFFECTS OF THE PROJECT

Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. Section 15130 of the CEQA Guidelines requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is: the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines 15355[b]). Cumulative impact analysis may be less detailed than the analysis of the project's individual effects (State CEQA Guidelines 15130[b]).

In order to assess cumulative impacts, an EIR must analyze either a list of past, present, and probable future projects (referred to as the "list approach") or a summary of projections contained in an adopted general plan or related planning document (referred to as the "projection method"). Because of the programmatic nature of the Manteca General Plan, this Draft EIR uses the **projection method** for the cumulative analysis and considers buildout of the proposed General Plan in addition to buildout of the other General Plans within San Joaquin County, as summarized and addressed in the 2018 Regional Transportation Plan/Sustainable Communities Strategy (2018 RTP/SCS). Development of the 2018 RTP/SCS included review of land use plans for each jurisdiction within San Joaquin County, including:

- County of San Joaquin
- City of Manteca
- City of Stockton
- City of Tracy
- City of Lodi
- City of Lathrop
- City of Escalon
- City of Ripon

Any such planning document shall be referenced and made available to the public at a location specified by the Lead Agency for that specific project.

The 2018 RTP/SCS projects that growth Countywide would result in 343,170 households, 360,328 employees, and a population of 1,094,253 in 2045 (see Figure 1 of the 2018 RTP/SCS). Appendix W of the 2018 RTP/SCS provides more detailed projections of regional growth, estimating a population of 1,323,236, 411,589 households, and 432,168 housing units in 2060. Table 4.0-4 shows the population and housing forecasts between 2020 and 2045 in San Joaquin County.

TABLE 4.0-4: POPULATION AND HOUSING PROJECTIONS

	2020	2025	2030	2040	2045
<i>POPULATION</i>					
City of Escalon	7,612	7,889	8,186	8,878	9,257
City of Lathrop	28,896	35,475	42,109	58,969	67,976
City of Lodi	69,219	73,397	77,610	88,317	94,037
City of Manteca	77,018	82,912	88,855	103,958	112,027
City of Ripon	16,525	17,850	19,186	22,582	24,396
City of Stockton	329,729	352,239	374,939	432,627	463,445
City of Tracy	95,040	102,236	109,492	127,933	137,7884
County Total	775,819	829,426	883,484	1,020,862	1,094,253
<i>HOUSING UNITS</i>					
City of Escalon	2,674	2,771	2,866	3,108	3,230
City of Lathrop	7,440	9,310	11,162	15,441	17,737
City of Lodi	24,756	26,206	27,782	31,406	33,375
City of Manteca	26,570	28,404	30,343	34,975	37,513
City of Ripon	5,702	6,174	6,638	7,745	8,344
City of Stockton	102,702	110,037	117,235	134,504	143,700
City of Tracy	27,767	29,920	32,357	37,539	40,247
County Total	246,715	263,876	280,716	321,379	343,170

SOURCE: SJCOG RTP/SCS DRAFT PROGRAMMATIC EIR, TABLES 33 AND 34.

The Projection Method serves as a guide to determine if the General Plan Update is consistent with the long-term population, employment, and household projections of the region. If the proposed General Plan Update is generally consistent with regional projections, then it would also generally be consistent with regional efforts to address environmental problems such as air quality and traffic.

Cumulative Impacts

Cumulative impacts for most issue areas are not quantifiable and are therefore discussed in general qualitative terms as they pertain to development patterns in the surrounding region. An exception to this is a topic like traffic, which may be quantified by estimating future traffic patterns, pollutant emitters, etc. and determining the combined effects that may result. In consideration of the cumulative scenario described above, the proposed project may result in the following cumulative impacts.

AESTHETICS AND VISUAL RESOURCES

Impact 4.1: Cumulative degradation of the existing visual character of the region (Less than Cumulatively Considerable)

While the Manteca Planning Area contains areas and viewsheds with scenic characteristics, such as views of open space and agricultural land, there are no officially designated scenic vista points in the Planning Area. Additionally, as described above, there are no officially designated scenic highways located in the vicinity of Manteca. The most significant visual features within or adjacent to the Manteca Planning Area are the San Joaquin River located to the west of the city and agricultural land and open space located in undeveloped areas within and around the city.

However, as noted in greater detail in the Project Description chapter (Chapter 2.0), implementation of the proposed General Plan could lead to new and expanded urban and suburban development throughout the City and Planning Area, particularly in areas designated for residential, commercial, professional, industrial, mixed use, and public/quasi-public uses by the Land Use Map. This new development may result in changes to the skyline throughout the Planning Area, which may obstruct or interfere with views of visual features surrounding the Planning Area.

Furthermore, buildout under the proposed General Plan and implementation of the General Plan Land Use Map has the potential to result in new and expanded development along highway corridors with scenic values, even though these corridors are not officially designated as State Scenic Highways.

While growth is anticipated to occur in the Manteca Planning Area and within the other cities within San Joaquin County, the majority of growth is anticipated to occur in and around existing urban development. Development of land uses and associated infrastructure is planned to occur in the future to accommodate growth envisioned in the general plans that are effective within the cumulative analysis area, including San Joaquin County and the cities of Stockton, Tracy, Lodi, Lathrop, Escalon, and Ripon.

Regional growth has and will continue to result in a cumulative aesthetic effect by converting undeveloped land into developed and occupied areas and increasing overall levels of nighttime lighting. Cumulative development entails grading/landform alteration, the development of structures, and the installation of roadways and other infrastructure that has altered and will continue to permanently alter the region's existing visual character. This is considered a potentially significant cumulative impact. Subsequent projects implemented under the proposed General Plan would be required to be consistent with the policies and actions of the proposed General Plan and adopted regulations pertaining to aesthetics and lighting in Manteca. With implementation of adopted policies and regulations provided in Section 3.1 (Aesthetics and Visual Resources), the proposed General Plan would not considerably contribute to permanent changes in visual character, such as obstruction of scenic views, conversion of existing visual character, and increased lighting. The policies and actions included within the General Plan would fully reduce the cumulative effect of the General Plan on visual character, to mitigate the proposed project's

contribution to a less-than-significant level. Therefore, the proposed General Plan's incremental contribution to this cumulative impact would be **less than cumulatively considerable**.

AGRICULTURAL AND FOREST RESOURCES

Impact 4.2: Cumulative impact to agricultural lands and resources (Considerable Contribution and Significant and Unavoidable)

As shown in Table 3.2-4, there are approximately 4,533.35 acres of Important Farmlands located within the city, including approximately 925.16 acres of Prime Farmland, 2,986.52 acres of Statewide Important Farmland and 621.67 acres of locally important farmland. As shown on Figure 3.2-1, the proposed General Plan Planning Area is designated as Urban and Built-Up (approximately 9,831.90 acres), Prime Farmland (4,636.38 acres), Farmland of Statewide Importance (9,948.09 acres), Farmland of Local Importance (1,016.53 acres), Semi-Agricultural and Rural Commercial Land and Vacant or Disturbed Land and Rural Residential (1,272.26 acres). Approximately 201.29 acres in the Planning Area contain Prime Farmland which is currently vacant and is designated for urban land uses (including the following land uses: Business Industrial Park [BIP], Commercial [C], Commercial Mixed-Use [CMU], Industrial [I], High Density Residential [HDR], Medium Density Residential [MDR], Low Density Residential [LDR], Very Low Density Residential [VLDR], Park [P], Public/Quasi Public [PQP], and roadway right of way) by the proposed General Plan Land Use Map. Approximately 1,281.14 acres in the Planning Area contain Farmland of Statewide Importance which is currently vacant and is designated for urban land uses (including the following land uses: Business Industrial Park [BIP], Commercial [C], Commercial Mixed-Use [CMU], Industrial [I], High Density Residential [HDR], Medium Density Residential [MDR], Low Density Residential [LDR], Very Low Density Residential [VLDR], Park [P], Public/Quasi Public [PQP], and roadway right of way) by the proposed General Plan Land Use Map.

While the proposed General Plan Land Use Map specifically identifies lands in Urban Reserve, Farmland, and Open Space that would not be converted to urban uses, it also designates a range of residential, commercial, industrial, public/quasi-public, and other uses that would convert farmland to urban and built up land. Therefore, the proposed Manteca General Plan has the potential to convert farmland to non-agricultural uses.

The General Plan has taken a proactive approach towards focusing new growth and development towards infill locations, and protecting open space areas and agricultural lands throughout the Planning Area to the greatest extent feasible. The applicable policies and actions that provide protection and preservation of agricultural lands are identified under Impact 3.2-2 in Section 3.2, Agricultural Resources.

However, as described in greater detail under Impact 3.2-1 in Section 3.2, there is no feasible mitigation available to reduce this impact to a less than significant level. Other conversions of farmland within San Joaquin County over the buildout period is also likely to occur. The policies and actions identified in Section 3.2 would mitigate this impact to the greatest extent feasible, and other General Plans in San Joaquin County have also mitigated potential impacts to agricultural

resources. Nevertheless, this is considered a **cumulatively considerable** and **significant and unavoidable** impact.

AIR QUALITY

Impact 4.3: Cumulative impact on the region's air quality (Considerable Contribution and Significant and Unavoidable)

Construction of the growth anticipated by the proposed General Plan has the potential to temporarily emit criteria air pollutant emissions through the use of heavy-duty construction equipment, and through vehicle trips generated by workers and haul trucks. In addition, fugitive dust emissions would result from demolition and various soil-handling activities. Mobile source emissions, primarily NO_x and PM emissions (i.e., PM₁₀ and PM_{2.5}), would result from the use of diesel-powered on- and off-road vehicles and equipment. Construction emissions can vary substantially from day-to-day, depending on the level of activity and the specific type of construction activity.

Table 3.3-6 in Section 3.3 shows the VMT measures per dwelling unit, per employee, per resident, and per service population for General Plan buildout conditions, as well as for the baseline condition plus development projects. As shown in the table, the proposed General Plan would result in decreased VMT per dwelling unit for residential land uses, flat VMT per employee for industrial uses, and increased VMT per employee for other employment-generating land uses as compared to the existing (baseline) condition. As indicated by footnote 4 in this table, this total VMT calculation considers the full length of travel generated by all land uses in the planning area. It shows an expected 150 percent increase in total VMT generation.

Table 3.3-9 in Section 3.3 displays the residential cancer risk and acute and chronic incidence rate results at nearest receptors at each of the four Truck Route segments analyzed (including the cumulative impacts associated with the combined impact of proposed segments and interacting segments together). As shown, maximum health risks associated with the worst-case truck route segments that could occur with implementation of the proposed General Plan would not exceed the applicable significance thresholds. Additionally, the highest maximum risk projected for the worst-case truck route segments is well below the threshold of significance.

Lastly, with respect to other emissions, future development under the proposed General Plan would be required to comply with Air Quality Management Plan (AQMP), State Implementation Plan (SIP), California Air Resources Board (CARB), San Joaquin Valley Air Pollution Control District (SJVAPCD) regulations, Title 24 energy efficiency standards, and the proposed General Plan policies and actions.

Overall, since the full nature of the impacts of proposed Project-generated TAC impacts is not fully known at this time, this is considered a **cumulatively considerable** and **significant and unavoidable** impact.

BIOLOGICAL RESOURCES

Impact 4.4: Cumulative loss of biological resources, including habitats and special status species (Less than Cumulatively Considerable)

Cumulative development anticipated throughout the greater San Joaquin County region will result in impacts to biological resources, including the permanent loss of habitat for special status species, corridor fragmentation, direct and indirect impacts to special status species, and reduction and degradation of sensitive habitat. Biological resources are a limited resource and the cumulative loss is considered significant.

Subsequent projects implemented under the proposed General Plan would be required to be consistent with the policies and actions of the proposed General Plan. The implementation of an individual project would require a detailed and site-specific review of the site to determine the presence or absence of movement corridors, special-status species, and sensitive habitat on a given project site. If movement corridors, special-status species, or sensitive habitat are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process. However, as provided under Section 3.4 (Biological Resources), with implementation of the policies and actions included within the General Plan, implementation of the General Plan would not generate a significant impact on biological resources.

Additionally, implementation of the General Plan would not conflict with the provisions of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), or other approved local, regional, or State habitat conservation plan. The SJMSCP, in accordance with ESA Section 10(a)(1)(B) and CESA Section 2081(b) Incidental Take Permits, provides compensation for the Conversion of Open Space to non-Open Space uses which affect the plant, fish and wildlife species covered by the Plan, hereinafter referred to as "SJMSCP Covered Species". The 97 SJMSCP Covered Species include 25 state and/or federally listed species. The SJMSCP Covered Species include 27 plants (6 listed), 4 fish (2 listed), 4 amphibians (1 listed), 4 reptiles (1 listed), 33 birds (7 listed), 15 mammals (3 listed) and 10 invertebrates (5 listed). The San Joaquin Council of Government uses the collected SJMSCP fees to preserve open space land of comparable types throughout the County, often coordinating with other private or public land trusts to purchase conservation easements or buy land outright for preservation. Compliance with the SJMSCP addresses impacts to biological resources, including special-status species, on a local and regional level. Therefore, the proposed General Plan's incremental contribution to this cumulative impact would be **less than cumulatively considerable**.

CULTURAL AND TRIBAL RESOURCES

Impact 4.5: Cumulative impacts on known and undiscovered cultural resources (Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the proposed General Plan may result in the discovery and removal of cultural resources, including

archaeological, paleontological, historical, and Native American resources and human remains. The proposed General Plan policies and actions, as well as State and Federal regulations, will reduce the risk to resources in the region. As discussed in Section 3.5 (Cultural and Tribal Cultural Resources), each project would require specific surveys for potential resources and the evaluation of any resources discovered during construction activities. Other policies and actions designed to reduce impacts to cultural and tribal cultural resources within the Planning Area and the the region as a whole are also provided in Section 3.5 (Cultural and Tribal Cultural Resources). Adherence to these policies, actions, and regulations will avoid and/or minimize a cumulative loss of these important resources if they are found during project-specific surveys or construction. Therefore, the proposed General Plan's incremental contribution to cumulative cultural resource impacts would be **less than cumulatively considerable**.

GEOLOGY AND SOILS

Impact 4.6: Cumulative impacts related to geology and soils (Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the proposed General Plan will result in risks associated with geology and soils. For example, there is an ongoing possibility that a fault located anywhere in the state (or region) could rupture and cause seismic ground shaking. Additionally, grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Other geologic risks such as liquefaction, landsliding, lateral spreading, and soil expansion are also geologic risks that are present.

Geologic impacts are site-specific and not additive in character. However, cumulative geologic impacts associated with erosion and sedimentation could occur in the County as each individual city and community continues to develop over the next 20 years. While some cumulative erosion-related impacts will occur in the region as individual projects are constructed, the proposed General Plan policies and actions, as well as State and Federal regulations, will reduce the project's contribution to the risk to people in the region. Considering the protection granted by local, State, and Federal agencies and their requirements for seismic design, as discussed in Section 3.6 (Geology and Soils), the overall cumulative impact would not be significant. As a result, the proposed General Plan's incremental contribution to cumulative geologic and soil impacts would be **less than cumulatively considerable**.

GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

Impact 4.7: Cumulative impacts related to greenhouse gases, climate change, and energy (Less than Cumulatively Considerable)

Implementation of the Manteca General Plan would not directly result in the creation of GHG emissions. However, subsequent development allowed under the General Plan would result in new projects that would increase GHG emissions in the Manteca Planning Area.

There are a variety of ways in which a general plan could contribute to climate change and result in the generation of GHGs. Sprawling land use patterns that place residences far from employment

and retail centers can result in increased vehicle miles traveled (VMT), which increase GHG generation. The conversion of forest lands and open space areas into urbanized uses removes vegetation and trees that have positive carbon sequestration value. Imbalances between local jobs and housing can result in increased commute times and increased VMT associated with longer travel distances between home and work.

Cumulative impacts are the collective impacts of one or more past, present, and future projects that, when combined, result in adverse changes to the environment. GHG emissions are cumulative by nature, given that they spread throughout the atmosphere on a global scale. In determining the significance of a project's contribution to anticipated adverse future conditions, a lead agency should generally undertake a two-step analysis. The first question is whether the *combined* effects from *both* the proposed project *and* other projects would be cumulatively significant. If the agency answers this inquiry in the affirmative, the second question is whether "the project's *incremental* effects are cumulatively considerable" and thus significant in and of themselves. The cumulative project list for this issue (climate change) comprises anthropogenic (i.e., human-made) GHG emissions sources across the globe and no project alone would reasonably be expected to contribute to a noticeable incremental change to the global climate. However, legislation and executive orders on the subject of climate change in California have established a statewide context and process for developing an enforceable statewide cap on GHG emissions. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that lead agencies consider evaluating the cumulative impacts of GHGs. Small contributions to this cumulative impact (from which significant effects are occurring and are expected to worsen over time) may be potentially considerable and, therefore, significant.

The CEQA Guidelines set forth a basic framework for developing a plan to reduce GHG emissions and acknowledges the role CEQA plays in ensuring the impacts of climate change are addressed. CEQA Guidelines Section 15183.5 provide a framework for the development of "Plans for the Reduction of Greenhouse Gas Emissions" for use in programmatic environmental review. Compliance with CEQA Guidelines section 15183.5 allows later project-specific environmental documents to tier from and/or incorporate by reference such existing programmatic review. CEQA Guidelines section 15183.5 (a) states that: "Lead agencies may analyze and mitigate the significant effects of greenhouse gas emissions at a programmatic level, such as in a general plan, a long range development plan, or a separate plan to reduce greenhouse gas emissions." In this regard, Manteca has an adopted Climate Action Plan, which is a Qualified GHG Reduction Plan. The CAP is designed to streamline environmental review of future development projects in the City of Manteca consistent with CEQA Guidelines Section 15183.5(b), as identified within the CAP itself. The CAP identifies a strategy, reduction measures, and implementation strategies the City will use to achieve the State-recommended greenhouse gas (GHG) emissions reduction targets. The City uses the CAP to achieve GHG emissions reductions in a manner consistent with AB 32 within discretionary projects on a project-by-project basis and through ongoing planning activities and programs. The proposed General Plan is consistent with the existing 2013 CAP, ensuring consistency with a Qualified GHG Reduction Strategy. Therefore, the proposed project is

consistent with the CEQA Guidelines Section 15183.5 framework for developing a plan to reduce GHG emissions.

As future development projects are received and reviewed by the City in subsequent years, those projects will be reviewed for consistency with the General Plan and all relevant State-level programs and requirements. All future projects must implement the most current version of the Title 24 energy efficiency requirements, as required by State law. Consistency with the General Plan and other mandatory State-level programs would ensure that future project-level contributions to global climate change would be less than significant. Moreover, as identified in Section 3.7 (Greenhouse Gases, Climate Change, and Energy), buildout of the General Plan would not be expected cause an inefficient, wasteful, or unnecessary use of energy resources nor conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In general, expanded and new energy and natural gas infrastructure will be needed to serve growth contemplated in the General Plan. The environmental effect of providing the energy and natural gas services is associated with the physical impacts of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the General Plan does not propose or authorize development nor does it designate specific sites for new or expanded utilities facilities and infrastructure. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the governmental facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. These impacts are described in the relevant chapters (Chapters 3.1 through 3.16, and 4.0) of this Draft EIR. Any future development under the General Plan would be required to comply with regulations, policies, and standards included in the General Plan, and would be subject to CEQA review as appropriate.

As a result, the proposed General Plan's incremental contribution to cumulative greenhouse gas, climate change, and energy impacts would be **less than cumulatively considerable**.

HAZARDS AND HAZARDOUS MATERIALS

Impact 4.8: Cumulative impacts related to hazardous materials and human health risks (Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the proposed General Plan may involve the transportation, use, and/or disposal of hazardous materials, which may involve the use of equipment that contains hazardous materials (e.g., solvents and fuels or diesel-fueled equipment), or the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated. Furthermore, because of the regional nature of the General Plan, some future land uses will inevitably transport or use hazardous materials within ¼ mile of a school, or other sensitive receptors such as hospitals and residences.

New development would inevitably increase the use of some hazardous materials within the region, resulting in potential health and safety effects related to hazardous materials use. Any use of hazardous materials must be managed in accordance with federal, State, and local (including Sacramento County) regulations to minimize any risk.

Hazardous materials incidents, if any, are typically site-specific and involve accidental spills or inadvertent releases. Associated health and safety risks generally are limited to those individuals using the materials or to persons in the immediate vicinity of the materials. Hazard-related impacts tend to be site-specific and project-specific. While some cumulative impacts, such as those associated with increases in the use of hazardous materials in the City associated with additional development, will occur in the region as individual projects are constructed, the proposed General Plan policies and actions, as well as State and Federal regulations, will reduce the project's contribution to risks to people in the region. Considering the protection granted by local, State, and Federal agencies and their requirements for the use of hazardous materials in the region, as discussed in Section 3.8 (Hazards and Hazardous Materials), the overall cumulative impact for most hazard impacts would not be significant. Therefore, this impact is considered **less than cumulatively considerable**.

HYDROLOGY AND WATER QUALITY

Impact 4.9: Cumulative impacts related to hydrology and water quality (Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the proposed General Plan has the potential to result in construction-related water quality impacts, impacts to groundwater recharge, and cause flooding, erosion, or siltation from the alteration of drainage patterns. Further, impacts resulting from buildout of the General Plan and potential development of the Planning Area would include substantial grading, site preparation, and an increase in urbanized development. Increased development in the County, including the Planning Area, would contribute to cumulative water quality impacts.

While some cumulative impacts will occur in the region as individual projects are constructed, the proposed General Plan policies and actions, as well as State and Federal regulations, will substantially reduce the project's contribution to impacts. Considering the protection granted by local, State, and Federal agencies and their permit and monitoring requirements, as discussed in Section 3.9 (Hydrology and Water Quality), and with implementation of the policies and actions included within the General Plan, the overall cumulative impact would not be significant. As a result, the General Plan's incremental contribution to cumulative hydrology impacts would be **less than cumulatively considerable**.

LAND USE, POPULATION, AND HOUSING

Impact 4.10: Cumulative impacts related to local land use, population, and housing (Less than Cumulatively Considerable)

Cumulative land use and planning impacts, such as the potential for conflicts with adjacent land uses and consistency with adopted plans and regulations, are typically site and project-specific. It

may be determined in the project-specific design phase of a development project that an individual project may require removal of homes and result in the displacement of people and housing; however, these effects are not cumulatively considerable because there is adequate replacement housing available under the proposed General Plan. Additionally, any removal of homes would require adequate compensation to the homeowner in accordance with Federal and State laws.

The land uses allowed under the proposed General Plan provide opportunities for cohesive new growth at in-fill locations within existing urbanized areas, as well as limited new growth within the Planning Area, but would not create physical division within existing communities. New development and redevelopment projects would be designed to complement the character of existing neighborhoods and provide connectivity between existing development and new development within the cumulative analysis area. The proposed General Plan does not include any new roadways, infrastructure, or other features that would divide existing communities. Moreover, with implementation of General Plan policies and actions intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under the proposed General Plan, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth that would exceed adopted thresholds. Lastly, General Plan implementation would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, the proposed General Plan's incremental contribution to cumulative land use and population impacts would be **less than cumulatively considerable**.

MINERAL RESOURCES

Impact 4.11: Cumulative impacts related to mineral resources (Less than Cumulatively Considerable)

Within the Planning Area, mineral resources include sand and gravel. The western portion of the planning area near Oakwood Lake is designated as MRZ-2, which consists of a large PCC-grade sand deposit situated along the San Joaquin River west of Manteca and south of Lathrop near the middle of the valley. The area is classified as an important MRZ for PCC grade aggregate by the DOC. PCC-grade aggregate is valuable in central California where it is used for a variety of construction purposes. However, mining operations at the Oakwood Lake Mine have ceased. Oakwood Lake Resort was created from these reclaimed mined lands and the Oakwood Shores residential project was subsequently developed on the site of this former quarry. A portion of MRZ-2 (PCC-1) land currently exists on and east of the Oakwood Shores residential project. However, this land is currently designated as LDR and is expected to be developed with residential uses. In addition, a large area designated MRZ-3 is located in the southwest portion of the Planning Area within zones designated as LDR and agricultural by the City of Manteca. Another portion of area designated as MRZ-3 currently extends through the southern/central portion of the City in an east/west direction, then extends southeast to undeveloped land primarily designated as LDR. These areas identified as MRZ-3, which consist of areas containing mineral deposits; the significance of which cannot be evaluated. However, the majority of the area designated as MRZ-3

runs through the center of the City of Manteca and is currently developed and is no longer available for mining.

Given that the only known MRZ in Manteca is currently developed and is no longer available for mining, there is no additional potential for resource extraction from this MRZ. There are no other known mineral deposits or resources within Manteca that are of significant value to the region or the state.

Separately, the Planning Area does not contain a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. The proposed project would not result in loss of a mineral resource. As a result, the General Plan's incremental contribution to cumulative mineral resource impacts would be **less than cumulatively considerable**.

NOISE

Impact 4.12: Cumulative impacts related to noise (Considerable Contribution and Significant and Unavoidable)

Table 3.12-12 shows the existing (2019) and future traffic noise levels and the increase in noise levels associated with traffic on the local roadway network under the proposed General Plan. Table 3.12-13 shows the existing (2019) plus approved and future traffic noise levels and the increase in noise levels associated with traffic on the local roadway network under the proposed General Plan. As indicated by Tables 3.12-12, the related traffic noise level increases under the proposed General Plan are predicted to increase between 0.6 to 10.6 dB versus Existing (2019) conditions. As indicated by Tables 3.12-13, the related traffic noise level increases under the proposed General Plan are predicted to increase between 0.2 to 9.1 dB versus Existing (2019) Plus Approved conditions. Cumulative conditions include traffic due to buildout of the General Plan in addition to pass-through traffic from other jurisdictions.

As shown in Table 3.12-12 and 3.12-13, the traffic noise increases associated with the proposed General Plan exceed the applicable noise exposure criteria. While the General Plan includes policies to reduce noise exposure and establishes more detailed policies and programs to identify and address potential noise impacts than the current General Plan, there will remain the potential for noise increases to exceed established standards. The universal use of noise attenuating features such as rubberized asphalt, soundwalls, berms, and improved building sound-insulation, could prevent transmission of excessive noise to the outdoor and indoor areas of sensitive land uses and/or could prevent projected increases in ambient noise levels. However, this approach would be infeasible in several situations. Specifically, rubberized asphalt reduces tire-pavement noise and when new, achieves a reduction of approximately 4 dB when compared to normal pavement surfaces. However, the noise reduction properties degrade over time, and the noise reduction would not be sufficient to reduce noise impacts in many areas of Manteca. In many cases, aesthetic concerns, costs, physical constraints, or other issues would prevent the universal implementation of adequate noise-attenuating features. In addition to their expense, soundwalls often block views and are regarded as unsightly. Moreover, the construction of soundwalls can result in reduced pedestrian and vehicle connectivity, which would contravene other goals of the

proposed General Plan. Therefore, the application of noise-attenuating features is not feasible in all circumstances. Therefore, this is considered a **cumulatively considerable** and **significant and unavoidable** impact.

PUBLIC SERVICES AND RECREATION

Impact 4.13: Cumulative impacts to public services and recreation (Less than Cumulatively Considerable)

Development accommodated under the General Plan would result in additional residents and businesses in the City, including new residential, industrial, office, and commercial uses. As described in Chapter 2.0, the General Plan is expected to accommodate up to 38,103 new residential dwelling units and up to 28,713,612 square feet of non-residential building space within the city limits at full buildout.

This new growth within the City limits would increase the City's population by up to 121,168 residents and would include approximately 27,448 new jobs. The full development of the new non-residential uses shown in Chapter 2.0 (Project Description), Table 2.0-2.

Development and growth facilitated by the General Plan would result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. The General Plan includes policies and actions to ensure that public services are provided at acceptable levels and to ensure that development and growth does not outpace the provision of public services.

Cumulative growth that would occur within San Joaquin County and other cities within San Joaquin County over the life of the proposed General Plan will result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. As the demand for public services and recreation increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., offices, maintenance and administrative buildings, schools, parks, fire facilities, libraries, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth within the cumulative analysis area.

New public services and recreation facilities will be needed to serve growth contemplated in the General Plan. The environmental effect of providing the public services and recreation is associated with the physical impacts of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the General Plan does not propose or authorize development nor does it designate specific sites for new or expanded public facilities. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the governmental facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. These impacts are described in the relevant chapters (Chapters 3.1 through 3.16, and 4.0) of this Draft EIR. Any future development under the General Plan would be required to comply with regulations, policies, and standards included in the General Plan, and would be subject to CEQA review as

appropriate. The General Plan includes a range of policies and actions to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the City and appropriate service agency, that new development funds its fair share of services, and that the effects of new development of parks, schools, and other public service facilities are appropriately considered. Payment of applicable impact fees, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the future projects, would ensure that the City maintains acceptable service ratios and that the expansion of public service facilities are adequately funded. The proposed General Plan's incremental contribution to cumulative public services and recreation impacts would be **less than cumulatively considerable**.

TRANSPORTATION AND CIRCULATION

Impact 4.14: Cumulative impacts on the transportation network (Considerable Contribution and Significant and Unavoidable)

The VMT generated by buildout of the proposed General Plan would exceed the VMT threshold of 85 percent of baseline. Implementing the proposed General Plan policies and actions will help to reduce VMT through encouraging non-vehicle transportation modes, expanded transit services, and developing TDM program requirements including measures to reduce VMT associated with new development. The City will also use this EIR and CEQA Section 15183 to streamline VMT analysis for projects consistent with the updated General Plan. However, reductions in VMT per employee from 15 to 51 percent would be required to achieve thresholds as shown in Table 3.14-9, as shown in Section 3.14. Additionally, the feasibility and effectiveness of a local or regional VMT impact fee program bank or exchange, as described in C-7.5, is unknown at this time and requires further evaluation. The City cannot demonstrate definitively at this time that implementation of these policies would achieve VMT reductions to meet the VMT per employee thresholds.

The General Plan goals, policies, and implementation measures listed above will achieve meaningful reductions in VMT generated by land uses within the City. However, reductions in VMT per employee from 15 to 51 percent would be required to achieve thresholds as shown in Table 3.14-9. The City at this time cannot demonstrate that VMT will be reduced to the degree that it meets these thresholds. Although large changes in the proposed General Plan Land Use Map could potentially reduce VMT of the City further, those changes would also affect the achievement of other goals the City seeks to achieve with the General Plan, and would not meet the City's stated objectives for the General Plan Update. However, the reader is referred to the analysis of Alternative D in Chapter 5.0 for an analysis of an alternative Land Use Map, and the corresponding impact analysis on VMT. VMT reduction also depends on factors such as demographic change, household preferences for housing types and locations, the cost of fuel, and the competitiveness of regional transit relative to driving, which relates to congestion along vehicular commute routes that are not under the City's jurisdiction, as well as transit provided by agencies other than the City. The feasibility and effectiveness of a local or regional VMT impact bank or exchange is unknown at this time.

Overall, this is considered a **cumulatively considerable** and **significant and unavoidable** impact.

UTILITIES

Impact 4.15: Cumulative impacts related to utilities (Less than Cumulatively Considerable)

Cumulative growth that would occur within the service areas for the South San Joaquin Irrigation District's (SSJID) and the City utilities divisions over the life of the proposed General Plan will result in increased demand for water service, sewer service, and solid waste disposal services.

In general, expanded and new utility infrastructure will be needed to serve growth contemplated in the General Plan. The environmental effect of providing the utility services is associated with the physical impacts of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the General Plan does not propose or authorize development nor does it designate specific sites for new or expanded facilities and infrastructure associated with utilities. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the governmental facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. These impacts are described in the relevant chapters (Chapters 3.1 through 3.16, and 4.0) of this Draft EIR. Any future development under the General Plan would be required to comply with regulations, policies, and standards included in the General Plan, and would be subject to CEQA review as appropriate.

Water: Table 3.15-7 summarizes annual projections of demands and supplies to meet those demands through 2045, as documented by West Yost Associates. The proposed General Plan includes a range of policies and actions designed to ensure an adequate water supply for development and to minimize the potential adverse effects of increased water use. Given that projected water demands associated with General Plan buildout would not exceed the projected available water (including after taking into account future development within San Joaquin County, neighboring cities, and the broader region), and that the proposed General Plan includes a comprehensive set of goals, policies and actions to ensure an adequate and reliable source of clean potable water, to implement water efficiency measures to reduce demand, and to ensure that adequate facilities are available to serve future development, impacts associated with water supplies are less than significant.

Additionally, future development in the Planning Area would be required to connect to existing water distribution infrastructure in the vicinity of each site, pay the applicable water system connection fees, and pay the applicable water usage rates. Future projects may be required to implement site specific and limited off-site improvements to the water distribution system in order to connect new project sites to the City's existing water infrastructure network. The specific impacts of providing new and expanded water distribution infrastructure cannot be determined at this time, as the General Plan does not propose any specific development projects or include details on any future development projects. However, any future improvements to the existing water distribution infrastructure would be primarily provided on sites with land use designations that allow for urbanized land uses, and the environmental impacts of constructing and operating

the new water distribution infrastructure would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the proposed General Plan.

This Draft EIR addresses the potential impacts of development that may occur under the proposed General Plan, including residential, commercial, professional office, business park, light industrial, public facilities, and a range of other uses. As shown in Tables 3.15-7 and 3.15-9, the City would have adequate future supplies available to meet projected demand increases throughout their respective service areas through the 2045, which is the greatest future year for water supply is projected).

Given that projected water demands associated with General Plan buildout would not exceed the projected water supplies, and that the proposed General Plan includes a comprehensive set of goals, policies, and actions to ensure an adequate and reliable source of clean potable water, impacts associated with water supplies are **less than cumulatively considerable**.

Wastewater: The City's sewer service area is contiguous with City limits, and is divided into north, south and central sewer sheds. The municipal wastewater collection system includes 242 miles of sewer mains and 19 pump stations (City of Manteca, 2017). The collection system includes gravity flow pipes ranging from 6-inch to 60-inch diameter, and force mains from 6-inch to 24-inch diameter (EDAW, 2007). Municipal wastewater is treated at the City's Wastewater Quality Control Facility (WQCF), which treats municipal sanitary sewage from the City of Manteca, portions of Lathrop, and Raymus Village, just northeast of Manteca. The WQCF treats an average dry weather flow (ADWF) of about 6 mgd and has an average dry weather design capacity of 9.87 mgd. Per contractual agreement, 8.42 mgd of plant capacity is allocated to the City of Manteca and 1.45 mgd is allocated to the City of Lathrop (EDAW, 2007).

As Manteca continues to develop in the future, there will be an increased need for water and wastewater services, including a reliable source of recycled water. These needs have been addressed in the WQCF master plan and will require that the city continue to implement phased improvements to some pump stations, sewer mains, and the various wastewater treatment plants when triggered by growth.

It is anticipated that buildout of the General Plan would result in a total demand for approximately 16.1 MGD. This total demand of 16.1 MGD, which includes demand associated with existing development, is well within the planned capacity of the WQCF.

While full buildout of the proposed General Plan would slightly increase the treatment demand of the WQCF, the proposed General Plan includes a range of policies and actions designed to ensure an adequate wastewater treatment capacity for development. Additionally, the City must also periodically review and update their Master Plans, and as growth continues to occur within the Planning Area, the City will identify necessary system upgrades and capacity enhancements to meet growth, prior to the approval of new development.

Given that projected wastewater generation volumes associated with General Plan buildout would not exceed the projected wastewater generation volumes described in the WQCF Master Plans,

and that the proposed General Plan includes a comprehensive set of goals, policies, and actions to ensure an adequate and reliable wastewater collection and treatment system, impacts associated with wastewater treatment and compliance with waste discharge requirements are less than significant. The proposed General Plan's incremental contribution to cumulative wastewater impacts would be **less than cumulatively considerable**.

Stormwater: Development under the proposed General Plan would result in increased areas of impervious surfaces throughout the Planning Area, resulting in the need for additional or expanded stormwater drainage, conveyance, and retention infrastructure. The infrastructure and facilities necessary to serve new growth would involve development of some facilities on-site within new development projects, some facilities off-site on appropriately designated land, and may also involve improvements to existing facilities and disturbance of existing rights-of-way.

Stormwater drainage and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

With the policies and actions listed in Section 3.15 (Utilities) would ensure that there is adequate stormwater drainage and flood control infrastructure to serve future development under the General Plan, and would ensure that future drainage and flood control infrastructure projects do not result in adverse environmental impacts. The proposed General Plan's incremental contribution to cumulative wastewater impacts would be **less than cumulatively considerable**.

Solid Waste: Future development of projects as contemplated under the proposed General Plan may increase the population within the Planning Area to approximately 121,168 persons. As shown in the Table 3.15-9 in Section 3.15, the per capita waste generation rate increased from 4.9 to 5.9 lbs/person/day over the 8-year (2010-2018) period. The average disposal rate was 5.0 lbs/person/day. Assuming the average disposal rate remains constant throughout the life of the General Plan, the new growth under General Plan buildout would result in an increase of approximately 605,840 lbs/day of solid waste, which equals 302.9 tons per day or 110,559 tons of solid waste per year.

The City's projected increase in solid waste generation associated with future buildout of the proposed General Plan is within the permitted capacity of the Forward Sanitary Landfill expansion.

As noted previously, the vast majority of landfill disposed from the City of Manteca went to Forward Sanitary Landfill.¹ Other landfills that received waste from the City of Manteca include:

- Lovelace Materials Recovery Facility and Transfer Station
- San Joaquin County Hazardous Waste
- Foothill Sanitary Landfill
- North County

Forward Sanitary Landfill has a remaining capacity of 23,700,000 cubic yards, and has a current maximum permitted throughput of 8,668 tons per day. At the closure of the Forward Landfill, the City can potentially utilize the Foothill Landfill and the North County Landfill as locations for solid waste disposal. The permitted maximum disposal at the Foothill Landfill is 1,500 tons per day and the North County Landfill is 825 tons per day. The remaining capacity of these landfills include 125 million cubic yards of solid waste at the Foothill Landfill, with an estimated cease operation date of 2054, and 35.4 million cubic yards of solid waste at the North County Landfill, which has an estimated cease operation date of 2035. Between the three landfills, there is capacity to manage the foreseeable solid waste generated by the land uses in the proposed General Plan Update.

The proposed project will contribute to the cumulative demand for solid waste facilities. The addition of solid waste associated with the proposed General Plan to the Foothill Landfill and North County Landfill would not exceed the combined landfills' remaining capacity of 160.4 cubic yards.

The proposed General Plan does not include any specific projects that would expand or construct new solid waste facilities. While there are no plans for landfill construction or expansion associated with the proposed General Plan, development of new solid waste disposal facilities to serve the region could result in environmental effects in areas such as traffic, hydrology, biology, air quality, greenhouse gases, and noise. Any future construction projects in would be required to conduct environmental review pursuant to CEQA prior to approval. As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations associated with solid waste. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. As such, this impact would be less than significant, and no additional mitigation is required.

Future projects within the Planning Area would be required to comply with applicable state and local requirements including those pertaining to solid waste, construction waste diversion, and recycling. While there is adequate permitted landfill capacity to accommodate future growth, the proposed General Plan includes actions to further reduce the project's impact on solid waste services. The General Plan would not exceed the permitted capacity of the landfill serving the City, and the General Plan complies with regulations related to solid waste. The proposed General

¹ Note: data provided by CalRecycle, based on information provided by County disposal reports.

Plan's incremental contribution to cumulative solid waste impacts would be **less than cumulatively considerable**.

WILDFIRE

Impact 4.16: Cumulative impact related to wildfire (Less than Cumulatively Considerable)

No specific aspect as a result of implementation of the General Plan will substantially alter the slope, prevailing winds, or other factors that would increase exposure to Manteca residents, employees or visitors to increased pollutant concentrations from wildfire or result in the uncontrollable spread of a wildfire. General Plan implementation would not exacerbate wildfire risks. The Planning Area is not located in or near any State Responsibility Areas and there are no lands classified as very high fire hazard severity zones within or near the Planning Area.

Furthermore, the Manteca General Plan is a long range policy document that does not include site specific designs or proposals, and does not propose any entitlements for development. The majority of all future development would occur within existing developed areas. However, future development may require the limited extension and development of infrastructure such as roads, water and sewer utilities, and fuel breaks. The potential for future projects to impact environmental resources to meet compliance with fire development standards such (as fuel breaks and clearance requirements) would require site specific environmental require under CEQA to identify any site-specific impacts. As demonstrated throughout this EIR, implementation of the various policies and actions contained in the General Plan would reduce potential impacts associated with the construction and expansion of infrastructure. Implementation of the General Plan policies and actions combined with local and state requirements, as discussed previously, would ensure that potential wildland fire hazards would not be exacerbated by local infrastructure, and this impact would be considered **less than significant**.

Lastly, while the City cannot state with certainty that future risks associated with post-fire flooding and debris flow would not occur in Manteca, implementation of the General Plan would not exacerbate this risk. Therefore, the proposed General Plan's incremental contribution to cumulative wildfire impacts would be **less than cumulatively considerable**.

4.2 GROWTH-INDUCING EFFECTS

INTRODUCTION

Section 15126.2(d) of the CEQA Guidelines requires that an EIR evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by the CEQA Guidelines as:

The way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth...It is not assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment.

Based on the CEQA Guidelines, growth inducement is any growth that exceeds planned growth of an area and results in new development that would not have taken place without implementation of the project. A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand (*Napa Citizens for Honest Government v. Napa County Board of Supervisors*). Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. A project providing an increased water supply in an area where water service historically limited growth could be considered growth-inducing.

The CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans provide for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, and solid waste service.

The General Plan is a long-term plan intended to accommodate projected population, housing, and employment growth, including the appropriate balance among these factors with the necessary public services and infrastructure. The proposed General Plan would serve as a comprehensive, long-term plan for the physical development of Manteca. Projected growth is described in Section 3.10 (Land Use, Population, and Housing), and the environmental consequences related to the potential growth are fully assessed in each topical section. By definition, the proposed Manteca General Plan is intended to provide for and address future growth in the City.

Because the proposed General Plan provides a framework for development through its Land Use Map, land use designations, goals, policies, and actions, it would directly induce population and employment growth in the Manteca Planning Area by designating land for development that is more intense, in some instances, than current designations allow. The analysis of the indirect growth-inducing impacts for the proposed General Plan focuses on the following factors: inducement of unanticipated population growth; encouragement of economic growth that leads to jobs and housing growth; elimination of obstacles to population growth; and resulting service, facility, or infrastructure demands in excess of existing and planned growth.

4.0 OTHER CEQA-REQUIRED TOPICS

The proposed General Plan accommodates future growth in Manteca, including new businesses, expansion of existing businesses, and new residential uses. Infrastructure and services would need to accommodate future growth. The General Plan would encourage development of a broader array of businesses, increasing local employment opportunities, and providing residential development as necessary to serve economic growth. The cumulative development scenario addressed in this Draft EIR is the maximum projected development that could occur within the existing city limits and the Planning Area, if every parcel in the city and the Planning Area developed at or near the higher end of densities and intensities allowed under the proposed General Plan.

As shown in Table 4.0-3, compared to the existing General Plan, the proposed General Plan would result in approximately 11,951 new housing units. This new growth may increase the city's population by approximately 38,005 residents and 1,372 employees compared to the existing General Plan. At buildout, growth associated with the proposed General Plan would yield a total of approximately 211,003 residents and 43,829 jobs. Depending on growth rates, the actual growth during the life of the General Plan could be lower or higher, but would not exceed the theoretical buildout described in Chapter 2.0.

Given the historical and current population, housing, and employment trends, growth in the City, as well as the entire state, is inevitable. The primary factors that account for population growth are natural increase and net migration. The average annual birth rate for California is expected to be 20 births per 1,000 population. Additionally, California is expected to attract more than one third of the country's immigrants. Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and transportation. While these factors would likely result in growth in Manteca during the planning period of the proposed General Plan, growth will continue to occur based primarily on the demand of the housing market and demand for new commercial, industrial, and other non-residential uses. As future development occurs under the proposed General Plan, new roads, infrastructure, and services would be necessary to serve the development and this infrastructure would accommodate planned growth. However, growth under the proposed General Plan would remain within the general growth levels projected statewide and would not be anticipated to exceed any applicable growth projections or limitations that have been adopted to avoid an environmental effect. The proposed General Plan is intended to accommodate the City's fair share of statewide housing needs, based on regional numbers provided by the California Department of Housing and Community Development on a regular basis (every five to eight years).

The proposed General Plan includes policies and actions that mitigate environmental impacts associated with growth, such as air quality, noise, traffic, water supply, and water quality. Additionally, this Draft EIR identifies General Plan policies and actions, where appropriate, that would serve to reduce or eliminate potentially significant impacts associated with specific environmental issues associated with growth. Chapters 3.1 through 4.0 provide a discussion of environmental effects associated with development allowed under the proposed General Plan.

With implementation of General Plan policies and actions intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under the proposed General Plan, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth that would exceed adopted thresholds. Therefore, population and housing growth associated with the proposed General Plan would result a **less than significant** impact.

4.3 SIGNIFICANT IRREVERSIBLE AND ADVERSE EFFECTS

LEGAL CONSIDERATIONS

CEQA Section 15126.2(c) and Public Resources Code Sections 21100(b)(2) and 21100.1(a), requires that the EIR include a discussion of significant irreversible environmental changes which would be involved in the proposed action should it be implemented. Irreversible environmental effects are described as:

- The project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing of the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Determining whether the proposed project would result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Irrecoverable commitments of resources should be evaluated to assure that such current consumption is justified.

Consumption of Nonrenewable Resources

Consumption of nonrenewable resources refers to the loss of physical features within the natural environment, including the conversion of agricultural lands, loss of access to mining reserves, and nonrenewable energy use. The Manteca Planning Area has nonrenewable resources, including biological resources, water resources, and agricultural resources.

One of the objectives of the proposed General Plan is to establish a long-term plan for conservation of resources and future growth and development. Many of the policies and actions aimed at conserving resources are contained within the Resource Conservation Element, and have been identified throughout this EIR. Additionally, the proposed General Plan directs most new development to infill areas, and areas surrounding existing neighborhoods and urbanized areas. As a result, the proposed General Plan will minimize the potential for impacts to the nonrenewable resources in the Planning Area, including biological resources, water resources, and agricultural resources, to the greatest extent feasible. More detailed and focused discussions of potential impacts to these nonrenewable resources are contained throughout this Draft EIR.

Nonrenewable agricultural resources such as agricultural land, farmland, and agricultural soils, would be converted during the construction and operation of development projects contemplated under the General Plan buildout. The proposed General Plan includes a variety of policies that seek to conserve and protect agricultural resources. These include policies that encourage the development of vacant lands within City boundaries prior to conversion of agricultural lands and ensure that urban development near existing agricultural lands will not unnecessarily constrain agricultural practices or adversely affect the economic viability of nearby agricultural operations.

Irretrievable Commitments/Irreversible Physical Changes

Implementation of the proposed General Plan would result in a commitment of land uses designated for the foreseeable future. Land use and development consistent with the General Plan would result in irretrievable commitments by introducing development onto sites that are presently undeveloped.

The conversion of agricultural lands to urban uses would result in an irretrievable loss of agricultural land, wildlife habitat, and open space.

A variety of resources, including land, energy, water, construction materials, and human resources would be irretrievably committed for development and infrastructure installation associated with uses envisioned by the proposed General Plan. Buildout of the proposed General Plan would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing operation and life of the uses accommodated by the proposed General Plan. The introduction of new residential, commercial, industrial, recreational, and other uses to the Planning Area will result in an increase energy demand associated with building operations, vehicle travel, equipment operation, and other activities. Fossil fuels are the principal source of energy and the Project will increase consumption of available supplies, including gasoline and diesel fuel, and natural gas. These energy resource demands relate to initial construction, operation, maintenance and the transport of people and goods to and from the Planning Area that would occur with implementation of the proposed General Plan.

Additionally, development will physically change the environment in terms of aesthetics, air emission, noise, traffic, open space, and natural resources. These physical changes are irreversible after development occurs. Therefore, the proposed General Plan would result in changes in land use within the Planning Area that would commit future generations to these uses.

Irreversible Damage

The General Plan does not involve uses in which irreversible damage could result from any potential environmental accidents associated with future buildout of the Planning Area. Future development, infrastructure, and other projects allowed under the General Plan may involve the transportation, use, and/or disposal of hazardous materials. However, potential environmental

accidents would not result in irreversible damage because the future uses in the Planning Area would be subject to applicable requirements of Federal, State, and local regulations and policies. Additionally, hazardous materials are typically used in industrial, and commercial uses, as well as residential uses. Future uses may involve the transport and disposal of such materials from time to time. Future activities may involve equipment or construction activities that use hazardous materials (e.g., coatings, solvents and fuels, and diesel-fueled equipment), cleanup of sites with known hazardous materials, the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated, or disposal of contaminated materials at an approved disposal site. While hazardous materials may be associated with industrial activities, hazardous materials may also be associated with the regular cleaning and maintenance of residential and other less intense uses.

The General Plan does not propose any uses that are would cause irreversible damage.

Phased Consumption of Resources

Buildout of the General Plan would use energy resources for the operation of buildings (electricity and natural gas), for on-road vehicle trips (e.g., gasoline and diesel fuel), and from off-road construction activities (e.g., diesel fuel) associated with buildout of the General Plan. Each of these activities would require the use of energy resources. Buildout would also require commitment of other resources, as discussed above. Developers of individual projects within the Planning Area would be responsible for conserving energy, to the extent feasible, and would rely heavily on reducing per capita energy consumption to achieve this goal, including through Statewide and local measures. Additionally, developers would have to comply with proposed General Plan policies and implementing actions that reduce energy usage, promote renewable and/or alternative energy sources, and encourage pedestrian/bicycle modes of transportation.

Buildout of the General Plan would be in compliance with all applicable federal, state, and local regulations regulating energy usage. For example, PG&E is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the Statewide RPS to increase the proportion of renewable energy (e.g., solar and wind) within its energy portfolio. PG&E is expected to achieve at least 60% renewables by 2030, and 100 percent zero-carbon electricity by 2045 (in compliance with SB 100). Additionally, energy-saving regulations, including the latest State Title 24 building energy efficiency standards (“part 6”), would be applicable to the proposed project. Other Statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g., the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time. Furthermore, additional project-specific the sustainability features individual development projects could further energy consumption of individual projects.

PG&E, the electricity and natural gas provider to the site, maintains sufficient capacity to serve the Planning Area. The City of Manteca would comply with all existing energy standards in

implementing the General Plan project, and would not result in significant adverse impacts on energy resources.

MANDATORY FINDINGS OF SIGNIFICANCE

CEQA Guidelines Section 15065 states that a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has potential environmental effects that are individually limited but cumulatively considerable. As defined in CEQA Guidelines Section 15065(a)(3), cumulatively considerable means “that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.” Cumulative impacts are addressed previously in Section 4.1 for each of the environmental topics.

CEQA Guidelines Section 15065(a)(1) states that a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to (1) substantially reduce the habitat of a fish or wildlife species; (2) cause a fish or wildlife population to drop below self-sustaining levels; or (3) substantially reduce the number or restrict the range of an endangered, rare, or threatened species. These impacts are discussed below.

Additionally, as required by CEQA Guidelines Section 15065(a)(4), a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. These impacts are discussed below.

Substantial Adverse Effects on Fish, Wildlife, and Plant Species

Section 3.4 (Biological Resources) of this Draft EIR fully addresses any impacts that might relate to the reduction of the fish or wildlife habitat, the reduction of fish or wildlife populations, and the reduction or restriction of the range of special-status species as a result of project implementation. As described throughout the analysis in this Draft EIR, the proposed General Plan would not result in any significant impacts that would substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal to the environment. As described in greater detail in Section 3.4 (Biological Resources) any potentially significant impacts related to plant and animal species would be reduced to a less than significant level through implementation of goals, policies and implementation measures provided in the City’s General Plan as well as through adherence to state and federal regulations. Therefore, this is considered a **less than significant** impact.

Substantial Adverse Effects on Human Beings

While changes to the environment that could indirectly affect human beings would be represented by all of the designated CEQA issue areas, those that could directly affect human beings include air quality, geology and soils, hazards and hazardous materials, hydrology and water quality, noise,

population and housing, public services and recreation, transportation, utilities, and climate change, which are addressed in Section 3.3 (Air Quality), Section 3.6 (Geology and Soils), Section 3.8 (Hazards and Hazardous Materials), Section 3.9 (Hydrology and Water Quality), Section 3.12 (Noise), Section 3.10 (Land Use, Population and Housing), Section 3.13 (Public Service and Recreation), Section 3.14 (Transportation and Circulation), Section 3.15 (Utilities), and Section 3.7 (Greenhouse Gases, Climate Change and Energy). As described throughout the analysis of this Draft EIR, the proposed General Plan reduces environmental effects including effects that directly and indirectly impact humans through implementation of goals, policies and implementation measures provided in the City's General Plan. However, several environmental impacts would still be considered significant and unavoidable (listed below in Section 4.6). These impacts include increases in localized noise, considerable increases of criteria pollutants, reduced air quality, and visual degradation, which may cause substantial adverse effects on humans and the way humans interact with their environment. Therefore, this is considered a **significant and unavoidable** impact.

Impact 4.17: Irreversible and adverse effects (Significant and Unavoidable)

In summary, the proposed General Plan includes an extensive policy framework that is designed to address land use and environmental issues to the greatest extent feasible, while allowing growth and economic prosperity for the City. However, even with the policies and actions that will serve to reduce potential significant impacts, the proposed General Plan will result in significant irreversible changes and has the potential to result in adverse effects as described above. This impact is considered a **significant and unavoidable** impact under CEQA.

4.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. The following significant and unavoidable impacts of the General Plan are discussed in Sections 3.2, 3.3, 3.12, 3.14, and previously in this chapter (cumulative-level). Refer to those discussions for further details and analysis of the significant and unavoidable impacts identified below:

- **Impact 3.2-1:** General Plan implementation would result in the conversion of farmlands, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, to non-agricultural use;
- **Impact 3.2-2:** General Plan implementation would conflict with existing zoning for agricultural use, or a Williamson Act Contract;
- **Impact 3.3-1:** General Plan implementation would conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants;
- **Impact 3.12-1:** General Plan implementation may result in exposure to significant traffic noise sources;
- **Impact 3.14-1:** General Plan implementation may result in VMT per dwelling unit and VMT per employee increases that are greater than 85 percent of Baseline conditions;

4.0 OTHER CEQA-REQUIRED TOPICS

- **Impact 3.14-2:** General Plan implementation may conflict with a program, plan, policy or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities;
- **Impact 3.14-3:** General Plan implementation may increase hazards due to a design feature, incompatible uses, or inadequate emergency access;
- **Impact 4.2:** Cumulative impact to agricultural lands and resources;
- **Impact 4.3:** Cumulative impact on the region's air quality;
- **Impact 4.12:** Cumulative impacts related to noise;
- **Impact 4.14:** Cumulative impacts on the transportation network;
- **Impact 4.17:** Irreversible and adverse effects.