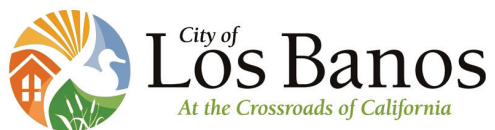




GENERAL PLAN 2042



Adopted October 2022

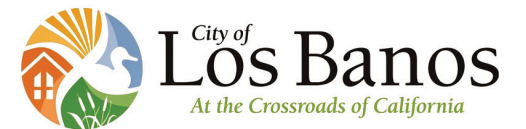


City of
Los Banos
At the Crossroads of California



GENERAL PLAN 2042

Adopted October 2022



Prepared by:



TABLE OF CONTENTS



1. INTRODUCTION

Purpose of the General Plan	I-1
Planning Boundaries	I-3
General Plan Requirements	I-8
Themes and Key Initiatives	I-9
Plan Organization	I-15
Administration of the Plan	I-17

2. ECONOMIC DEVELOPMENT

Demographic Trends.....	ED-1
Economic Conditions and Trends	ED-1
Downtown	ED-3
Fiscal Health	ED-3
Goals, Policies, and Actions.....	ED-4

3. LAND USE

Existing Land Use.....	LU-1
Land Use Concepts	LU-2
General Plan Land Use Designations	LU-5
Goals, Polices, and Actions.....	LU-13

4. CIRCULATION

Background Context.....	C-1
Circulation Themes.....	C-2
Roadway Network	C-3
Public Transit.....	C-10
Pedestrian Circulation	C-10
Bicycle Circulation	C-12
Parking.....	C-12
Goods Movement.....	C-16
Environmental Justice	C-17
Goals, Policies, and Actions	C-19

6. PARKS, OPEN SPACE, AND CONSERVATION

Parks and Recreation	P-1
Open Space Resources.....	P-5
Biological Resources	P-10
Agricultural Resources	P-11
Water Resources.....	P-13
Mineral Resources.....	P-14



TABLE OF CONTENTS

Cultural Resources P-15
 Air Quality P-17
 Climate Change and Greenhouse Gases..... P-21
 Environmental Justice..... P-22
 Goals, Policies, and Actions..... P-23

7. SAFETY AND NOISE

Seismicity, Soil Hazards, and Erosion..... S-1
 Flooding..... S-4
 Wildfire Hazards S-9
 Hazardous Materials Sites S-9
 Health and Safety Services..... S-11
 Local Hazard Mitigation Planning..... S-16
 Climate Change and Resilience S-16
 Noise S-17
 Goals, Policies, and Actions..... S-23

8. PUBLIC FACILITIES AND SERVICES

Schools and Community Facilities..... PFS-2
 Water, Wastewater, and Stormwater..... PFS-4
 Solid Waste Management and Recycling PFS-9
 Energy..... PFS-12
 Environmental Justice PFS-13
 Goals, Policies, and Actions PFS-14

9. IMPLEMENTATION AND MONITORING

Responsibilities IM-2
 The Regulatory System..... IM-4
 Capital Improvements Programming IM-6
 Implementation Actions for Plan Policies..... IM-7

ATTACHMENT A

Biological Resources Assessment Report

TABLE OF CONTENTS



TABLES

Table 1-1: Correspondence Between Required Elements and General Plan Elements I-9

Table 1-2: CalEnviroScreen Scoring Indicators..... I-12

Table 2-1: Total Employment Projections, 2020 to 2045.. ED-2

Table 3–1: Land Use Designation Density/Intensity Ranges and AveragesLU-8

Table 3–2: Land Use Allocations for Residential Neighborhoods (Individual neighborhoods will be 80-120 acres)LU-18

Table 4–1: Level of Service Criteria for Intersections.....C-6

Table 4-2: Planned ImprovementsC-7

Table 4-3: Bikeway Classifications.....C-13

Table 6-1: Existing Public Parks and Recreation Facilities.. P-3

Table 6–2: Summary of Existing Park to Population Ratios . P-4

Table 6-3: Existing Farmland P-13

Table 6–4: Listed Historic Resources P-17

Table 6–5: Air Pollutant Sources and Effects..... P-20

Table 7-1: Erosion Susceptibility..... S-4

Table 7-2: Active Hazardous Material Sites S-13

Table 7-3: Typical Noise Levels S-18

Table 8-1: Community Service by Service Provider PFS-1

Table 9-1: Consistency Between the General Plan and Zoning IM-6

Table 9-2: Implementation Actions for Economic Development..... IM-7

Table 9-3: Implementation Actions for Land Use IM-13

Table 9-4: Implementation Actions for Circulation IM-17

Table 9-5: Implementation Actions for Parks, Open Space, and Conservation IM-20

Table 9-6: Implementation Actions for Safety and Noise . IM-25

Table 9-7: Implementation Actions for Public Facilities and Services IM-30

FIGURES

Figure 1-1 Regional Setting.....I-4

Figure 1-2 Planning BoundariesI-5

Figure 1-3 Los Banos Population from 1910 to 2020I-7

Figure 1-4 California Communities Environmental Health Screening Tool (CalEnviroScreen) Census Tract Scores in the Planning AreaI-13

Figure 1-5 CalEnviroScreen Indicator Scoring for Census Tracts within the Planning AreaI-14

Figure 1-6 General Plan Policy StructureI-16



TABLE OF CONTENTS

Figure 3-1	Existing Land Uses.....	LU-3	Figure 7-4	Flooding Hazards.....	S-8
Figure 3-2	General Plan 2042 Land Use Designations	LU-6	Figure 7-5	Fire Hazard Severity Zones.....	S-10
Figure 3-3	Illustration of Floor Area Ratios.....	LU-7	Figure 7-6	Hazardous Materials Sites	S-12
Figure 3-4	Airport Land Use Compatibility Zones.....	LU-9	Figure 7-7	Police and Fire Stations	S-15
Figure 4-1	Existing Roadway System	C-4	Figure 7-8	Los Banos Municipal Airport Noise Contours ...	S-22
Figure 4-2	Planned Roadways 2042.....	C-8	Figure 7-9	Future 2042 Noise Contours	S-32
Figure 4-3	Planned Improvements.....	C-9	Figure 7-10	Land Use Compatibility for Community Noise Environments	S-33
Figure 4-4	Westside Subarea	C-10	Figure 8-1	Schools	PFS-3
Figure 4-5	Bus Routes.....	C-11	Figure 8-2	Water Distribution System.....	PFS-5
Figure 4-6	Existing and Planned Bicycle Facilities	C-14	Figure 8-3	Groundwater Subbasins.....	PFS-7
Figure 4-7	Multimodal Network	C-15	Figure 8-4	Stormwater System.....	PFS-9
Figure 4-8	Truck Routes	C-18	Figure 8-5	Wastewater Collection System.....	PFS-11
Figure 6-1	Parks and Recreation Facilities	P-6			
Figure 6-2	Open Space Resources.....	P-9			
Figure 6-3	Agricultural and Working Farmlands	P-12			
Figure 6-4	Grassland Resources Overlay Zone (GROZ) ..	P-34			
Figure 7-1	Regional Faults.....	S-3			
Figure 7-2	Erosion Hazards	S-5			
Figure 7-3	Dam Inundation	S-7			

1 INTRODUCTION

The Los Banos General Plan 2042 articulates the aspirations of citizens, City of Los Banos staff, elected officials, and others who participated in its creation. This chapter outlines the purpose of the General Plan, describes the planning process, and provides the reader a context in which to understand the plan's overall organization and the goals, policies, and actions contained in individual elements of the General Plan.

Contents

- 1 Purpose of the General Plan
- 2 Planning Boundaries
- 3 General Plan Requirements
- 4 Themes and Key Initiatives
- 5 Plan Organization
- 6 Administration of the Plan

Purpose of the General Plan

The Los Banos General Plan is a document required under California law and adopted by the City Council to address issues related to physical development and conservation of City resources. While the plan builds on input from city residents, it is not merely a compendium of ideas and wish lists. Plan policies focus on what is concrete and achievable in the planning period to 2042 and set forth actions to be undertaken by the City. Broad objectives such as economic development, quality of life, and neighborhood character are tailored in support of community goals united under one overarching vision.

Los Banos' Downtown is the historical heart of the city and is key to the city's small-town identity. It is characteristic of a vibrant, safe, and attractive city with community character and an improved economy, new job opportunities, affordable housing, improved public services and facilities, an excellent circulation system, and a superb quality of life.



The General Plan is both general and long range. It is designed to be used on an ongoing basis as State law requires a variety of City regulations, requirements, and actions that are consistent with the General Plan. Nonetheless, the General Plan does not, and cannot, cover all aspects of City government. There are some instances where detailed studies are necessary before Plan policies can be implemented.

Thus, the Los Banos General Plan 2042 serves the following purposes:

- It outlines a long-range vision that reflects the aspirations of the community and provides steps to achieve this vision;
 - It establishes long-range development policies that will guide the Planning Department, Public Works Department, Planning Commission, Airport Advisory Commission, Parks and Recreation Commission, Traffic and Safety Committee, and City Council decision making;
 - It provides a basis for judging whether specific development proposals and public projects are in harmony with plan policies;
 - It allows City departments, other public agencies, and private developers to design projects that will enhance the character of the community, preserve environmental resources, and minimize hazards; and
- It provides the basis for establishing and setting priorities for detailed plans and implementing programs, such as the Zoning Ordinance, subdivision regulations, specific and area plans, and the Capital Improvement Program.

Why the Plan is Being Updated

General Plans look ahead 20 years or more in the future and are typically revised every 10 years. Los Banos last adopted a General Plan in 2009. Since then, conditions inside and outside Los Banos have changed, including the economic recovery from the Great Recession, a worsening housing crisis in California, and the COVID-19 pandemic. A number of state and federal laws guiding General Plan policies have also been updated recently. As such, there is a need to take stock of the existing situation and plan for sustainable development in line with a vision. The General Plan 2042 focuses on meeting current community requirements and future needs. It is forward-looking and designed to address the challenge of accommodating growth and developing employment opportunities while enhancing Los Banos residents' quality of life and protecting the environment.

Many issues not covered in earlier plans are addressed here. These include how to enhance Downtown as a vibrant center, build a diversified job base, provide sites for housing and mixed-use development, and prepare for adaptation and resilience to a changing climate.

1 INTRODUCTION

Plan Preparation Process

The General Plan update was initiated in late 2017. The process included existing conditions data gathering, community engagement at the 2018 May Day Fair, recommendations for General Plan policy revisions to respond to legislative requirements enacted since 2009, an analysis of the competitiveness and feasibility of potential business park development in Los Banos, and preparation of a new Downtown Strategic Plan, which was approved by City Council in February 2020. Throughout each of these steps, the City sought feedback from the community, property owners, business owners, and Planning Commissioners and City Councilmembers.

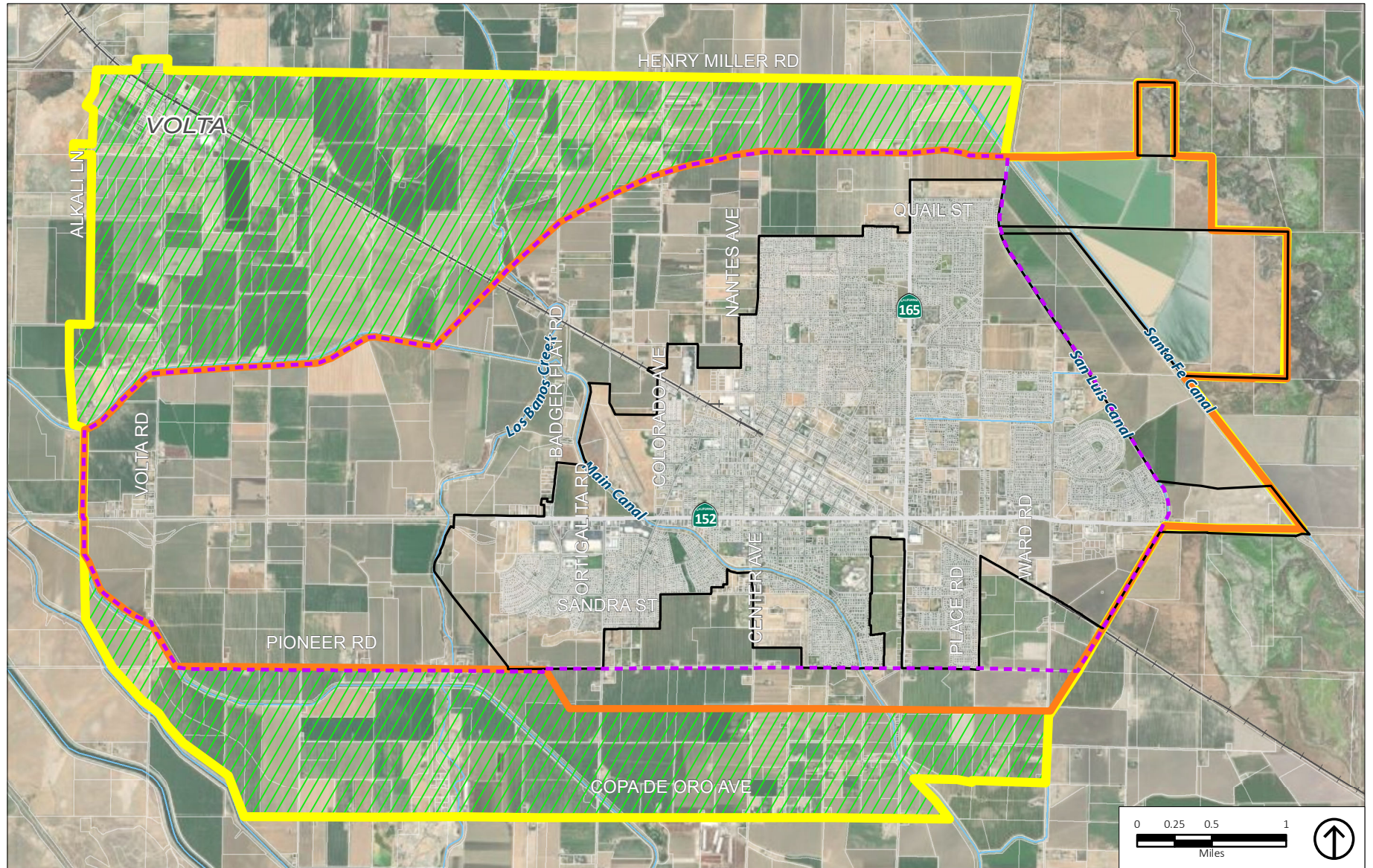
Staff also met with interested organizations, such as the Grassland Water District, Merced County Farm Bureau, Central California Irrigation District, and Los Banos Unified School District, to understand and mitigate their concerns.

Public feedback from community events and City Council and Planning Commission study sessions has been incorporated into the planning process and helped shape the policies and actions. Additionally, special stakeholder interviews were also held to refine draft policies. All of the documents, maps, and meeting agendas were made available for public download through the General Plan update website at www.losbanos2042.org, which offers information in both English and Spanish.

Planning Boundaries

The City of Los Banos is within western Merced County, in the northern portion of the San Joaquin Valley (see Figure 1-1, Regional Setting). The city is conveniently located in the center of California, near the junction of California State Route (SR-) 152 and Interstate 5, approximately 120 miles southeast of San Francisco, 83 miles northeast of Monterey, and 72 miles northwest of Fresno. Los Banos is the second-largest city in Merced County and borders the communities of Dos Palos, Gustine, Volta, and Santa Nella. The San Luis Reservoir State Recreation Area is west of the Planning Area. Various state and federal wildlife areas and refuges surrounding the Planning Area include the Volta State Wildlife Area to the northwest, the Los Banos Wildlife Area to the northeast, and the Mud Slough Wildlife Area to the east (see Figure 1-2, Planning Boundaries). The Planning Area is bordered by the Grassland Ecological Area (GEA).

INTRODUCTION



Source: Merced County, 2019; PlaceWorks, 2022.

- City Limits
- Urban Growth Boundary (UGB)
- Area of Interest (AOI)
- Planning Area
- Sphere of Influence (SOI)

Figure 1-2
Planning Boundaries



Planning Area

The Los Banos Planning Area encompasses just about 22,600 acres of land. This Planning Area is slightly smaller than that set forth in the 1999 General Plan (23,400 acres), as a result of contracting the area from the south and east to foster more compact development and protect farmlands. The Planning Area includes agricultural land and residential, commercial, and industrial developments, as well as public facilities, including parks, schools, and the wastewater treatment plant.

Urban Growth Boundary

The General Plan 2042 Land Use Designations Map (Figure 3-2) depicts an Urban Growth Boundary (UGB) representing land that is appropriate for and likely to be needed for urban purposes up to the year 2042. The UGB is shown in Figure 1-2. The primary purpose of the UGB is to promote compact urban development and protect surrounding agricultural land. Prior to urbanization, rural uses, including farming, are encouraged on land inside the UGB but outside current city limits. The UGB includes approximately 12,000 acres or 19 square miles.

Sphere of Influence

Under State law, the sphere of influence (SOI) is defined as the ultimate physical boundary and service area of the City, beyond which, urban development will not be allowed except for public parks and recreational facilities. In this General Plan, the SOI is contiguous with the UGB except for the eastern and southern

areas. In these areas, the UGB limits development up to Pioneer Road in the south and the San Luis Canal in the east, while the SOI extends to encompass rural agricultural land the City wishes to control as a green buffer with little or no development. The SOI includes approximately 14,500 acres or 23 square miles. Under State law, the Merced County Local Agency Formation Commission (LAFCO) is the body that approves all SOI amendments.

Area of Interest

An area of interest (AOI) is an area recognized by LAFCO as an area outside of the SOI where County land use changes may impact City planning efforts. AOIs require agreement between the City and Merced County and establishes a process where the County would engage the City around planning and development activities on these lands. It does not establish control of that land for the City. In this General Plan, two AOIs have been identified, as shown in Figure 1-2. These areas are generally agricultural and open space lands with little to no development.

Planning in Context: A Brief History of Los Banos

Before its founding, the land on which Los Banos is now located was part of the Yuktut Native American hunting grounds. The wetlands in and around the area provided everything the native people needed, including salmon, sturgeon, and game, such as elk and deer. For many years, the confluence of Bear Creek, Los Banos Creek, and the San Joaquin River with its large watershed,

protected the region from early Spanish exploration. As such, the Yukuts were able to live in relative seclusion until the eighteenth century.

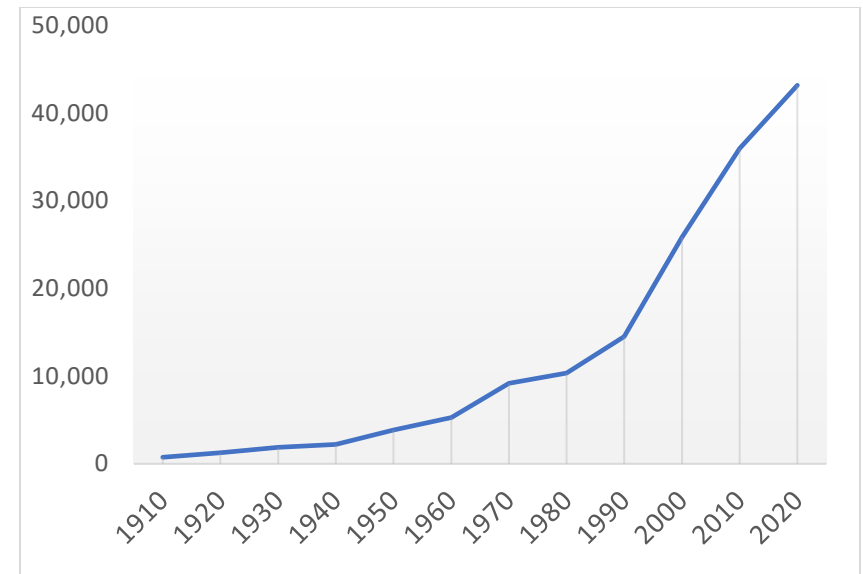
From 1808 to 1833, Spanish missionaries discovered the area when they moved over the mountains from Monterey Bay to look for grassy plains to nurture their stock. On one such visit, Franciscan Felipe Arroyo de la Cuesta discovered pools of water in a creek bed that flowed into the San Joaquin Valley. Because of these pools, he named the area “Los banos,” which meant “The Baths.” Reports of these baths led to the local ranchers naming the creek “El Arroyo de Los Banos del Padre Arroyo.” In time, that lengthy moniker was reduced to “Los Banos Crick.”

The Gold Rush of the 1830s and 1840s brought miners, herders, and ultimately settlers and homesteaders to the San Joaquin Valley. Henry Miller arrived from Germany in 1847. With only six dollars in his pocket, he started a series of successful cattle ventures and acquired land around Los Banos. He created an irrigation system, introduced cotton, rice, and alfalfa to the valley, and brought the railroad to the area. He is honored today as one of the town’s founders and has a park named after him.

Los Banos’ population began to grow more quickly after World War II because of returning veterans and highway construction (see Figure 1-3). A series of irrigation and dam projects in the 1960s brought farmers in search of arable land. From 1970 to 1985, population growth began to stagnate. The City had reached a point where agriculture was no longer driving growth. Los

Banos’ proximity to major employment centers in the Bay Area fueled a population boom from the 1990s to the mid-2000s.

Figure 1-3 Los Banos Population from 1910 to 2020

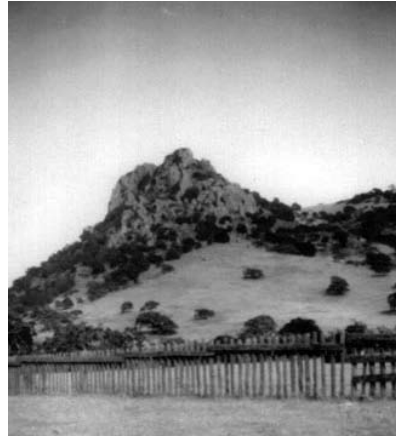


Over the decade between 2010 and 2020, Los Banos grew more slowly than Merced County or California as a whole. Household sizes got smaller, the proportion of residents over age 55 increased, and the number of nonfamily households and renters increased, as Los Banos continued to grow and evolve.



General Plan Requirements

A city's General Plan has been described as its constitution for development—the framework within which decisions on how to grow, provide public services and facilities, and protect and enhance the environment must be made. California's tradition of allowing local authority over land use decisions means that the State's cities have considerable flexibility in preparing their General Plans.



Los Banos' Pacheco Pass in the early 19th century

While allowing considerable flexibility, State planning laws do establish some requirements for the issues that General Plans must address. The California Government Code establishes both the content of General Plans and rules for their adoption and subsequent amendment. Together, State law and judicial decisions establish three overall guidelines for General Plans:

- The General Plan must be comprehensive. This requirement has two aspects. First, the General Plan must be geographically comprehensive. That is, it must apply throughout the entire incorporated area and it should include other areas that the city determines are relevant

to its planning. Second, the General Plan must address the full range of issues that affect the city's physical development.

- The General Plan must be internally consistent. This requirement means that the General Plan must fully integrate its separate parts and relate them to each other without conflict. "Horizontal" consistency applies both to figures and diagrams as well as General Plan text. It also applies to data and analysis as well as policies. All adopted portions of the General Plan, whether required by State law or not, have equal legal weight. None may supersede another, so the General Plan must resolve conflicts among the provisions of each element.
- The General Plan must be long range. Because anticipated development will affect the city and the people who live or work there for years to come, State law requires every General Plan to take a long-term perspective.

The Los Banos General Plan 2042 includes the eight elements required by State law: Land Use, Circulation, Open Space, Conservation, Safety, Noise, Housing, and Environmental Justice. It also includes these other optional elements that address local concerns: Public Facilities and Services and Economic Development. Furthermore, the Open Space Element has been expanded to include resources such as air quality. Table 1-1 outlines how the required and optional elements are

incorporated into the General Plan. An Environmental Impact Report (EIR) was completed for the General Plan update to identify potential environmental impacts.

TABLE 1-1 CORRESPONDENCE BETWEEN REQUIRED ELEMENTS AND GENERAL PLAN ELEMENTS

Required Element	General Plan Element
Land Use	Chapter 3: Land Use
Circulation	Chapter 4: Circulation
Housing	Contained in a separate volume
Open Space	Chapter 6: Parks, Open Space, and Conservation
Conservation	Chapter 6: Parks, Open Space, and Conservation
Safety	Chapter 7: Safety and Noise
Noise	Chapter 7: Safety and Noise
Environmental Justice	Incorporated as goals, policies, and actions throughout other chapters

Themes and Key Initiatives

The maps and policies in the General Plan are structured around the following seven initiatives.

Providing for balanced and sustainable growth. The Plan offers proposals to create and maintain a cohesive development pattern amidst the agriculture landscape, with clearly defined urban edges. An urban boundary is created to protect Los Banos’

surrounding lands from sprawl, reduce the cost of extending costly infrastructure, and enhance the visual character of the City’s edge. Land use policies are enacted to reduce incompatible land uses and ensure developments pay for their share of infrastructure, public facilities, and any environmental costs they might impose.

Creating new jobs to develop the local economy. City officials and residents alike recognize that if Los Banos is to continue as a desirable community, being simply a bedroom community to the Bay Area is not an option. The plan strives for more local jobs and an improved jobs/housing ratio. Land has been set aside in ‘employment centers’ at various parts of the city, and economic development initiatives have been proposed to help make Los Banos a desirable place to work and live.

Integrating neighborhoods and neighborhood centers. Another central idea in this General Plan is the concept of neighborhoods. Neighborhoods are the essential building blocks of good cities. Quality neighborhoods typically mean a quality urban environment. Balanced neighborhoods include a mix of residential types and intensities and include activities and facilities that are used on a frequent basis— such as schools, stores, and parks. Land uses are designated to ensure balanced neighborhood development with a mix of uses and housing types, provision of parks and schools, and easy access to commercial activity centers.



Creating a network of parks and open space. In addition to neighborhood and community parks, the General Plan proposes an interconnected network of pathways and trails. This system is envisioned to connect neighborhoods to one another and to create a pedestrian or bikeway linkage between parks, schools, neighborhood commercial centers, downtown, and employment centers.

Creating a safe, efficient, and equitable circulation system for all users. The General Plan establishes a comprehensive set of principles and policies to enhance the existing system and promote a well-integrated and coordinated transit network and safe and convenient pedestrian and bicycle circulation. Also, this plan proposes a system of plantings, trees, and other amenities to add pleasant visual character to Los Banos' streets.

Providing ample retail and shopping opportunities. Quality communities are often gauged by the quality of retail outlets. With this in mind, combined with the jobs and sales tax revenue that commercial properties produce, the General Plan proposes a mix of retail sites. These are intended to serve both local residents and a regional population and are to be accessible by both automobiles and pedestrians, depending on type and location.

Planning for environmental justice. Senate Bill (SB) 1000, the Planning for Healthy Communities Act, was passed in 2016 and requires that General Plans address environmental justice for disadvantaged communities that exist within the Planning Area.



The General Plan provides for more retail opportunities for Los Banos residents

California law defines “environmental justice” as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.

The law allows cities and counties to address environmental justice either by adopting a stand-alone environmental justice element or by incorporating environmental justice goals, policies, and actions into other elements. This General Plan takes the approach of incorporating environmental justice goals, policies, and actions into its other elements. These goals, policies, and actions address procedural inequities and geographic inequities.

- Procedural inequities occur when the planning process is not applied uniformly. Procedural inequities might include “stacking” commissions or committees with individuals who ignore the interests of minority and low-income residents, holding meetings at times and places that minimize the ability of low-income residents to participate, using English-only communications when non-English-speaking populations may be affected by land use decisions, and requiring lower levels of mitigation for projects affecting low-income and minority populations.
- Geographic inequities occur when the burden of undesirable land uses are concentrated in certain neighborhoods while the benefits of those land uses are received elsewhere. Geographic inequity can also result from the lack of provision of amenities proportionately across all neighborhoods. Geographic inequities might include when waste disposal facilities are located disproportionately in one neighborhood while the benefits accrue to the entire community, or when fewer public services, transit services, or parks are provided for minority or low-income neighborhoods than for white or middle- and upper-income neighborhoods.
- Identify objectives and policies to reduce the unique or compounded health risks in disadvantaged communities by means that include, but are not limited to, the reduction of pollution exposure, including the improvement of air quality, and the promotion of public facilities, food access, safe and sanitary homes, and physical activity.
- Identify objectives and policies to promote civil engagement in the public decision-making process.
- Identify objectives and policies that prioritize improvements and programs that address the needs of disadvantaged communities.

SB 1000 defines “disadvantaged communities” (DACs) per Section 39711 of the Health and Safety Code as either low-income communities or communities that are disproportionately affected by environmental pollution and other hazards leading to negative health effects, exposure, or environmental degradation. The law specifies CalEnviroScreen as the primary screening method for identifying DACs.

CalEnviroScreen is an interactive mapping tool that maps pollution burden and population characteristics at the census tract level. It calculates a range of indicators under these two criteria, such as poverty, educational attainment, or age to determine a score for each census tract. The higher the score, the more impacted the census tract and the community residing in it is. Census tracts in the highest 25th percentile of scores (scoring

SB 1000 requires environmental justice goals, policies, and actions to address the following areas:



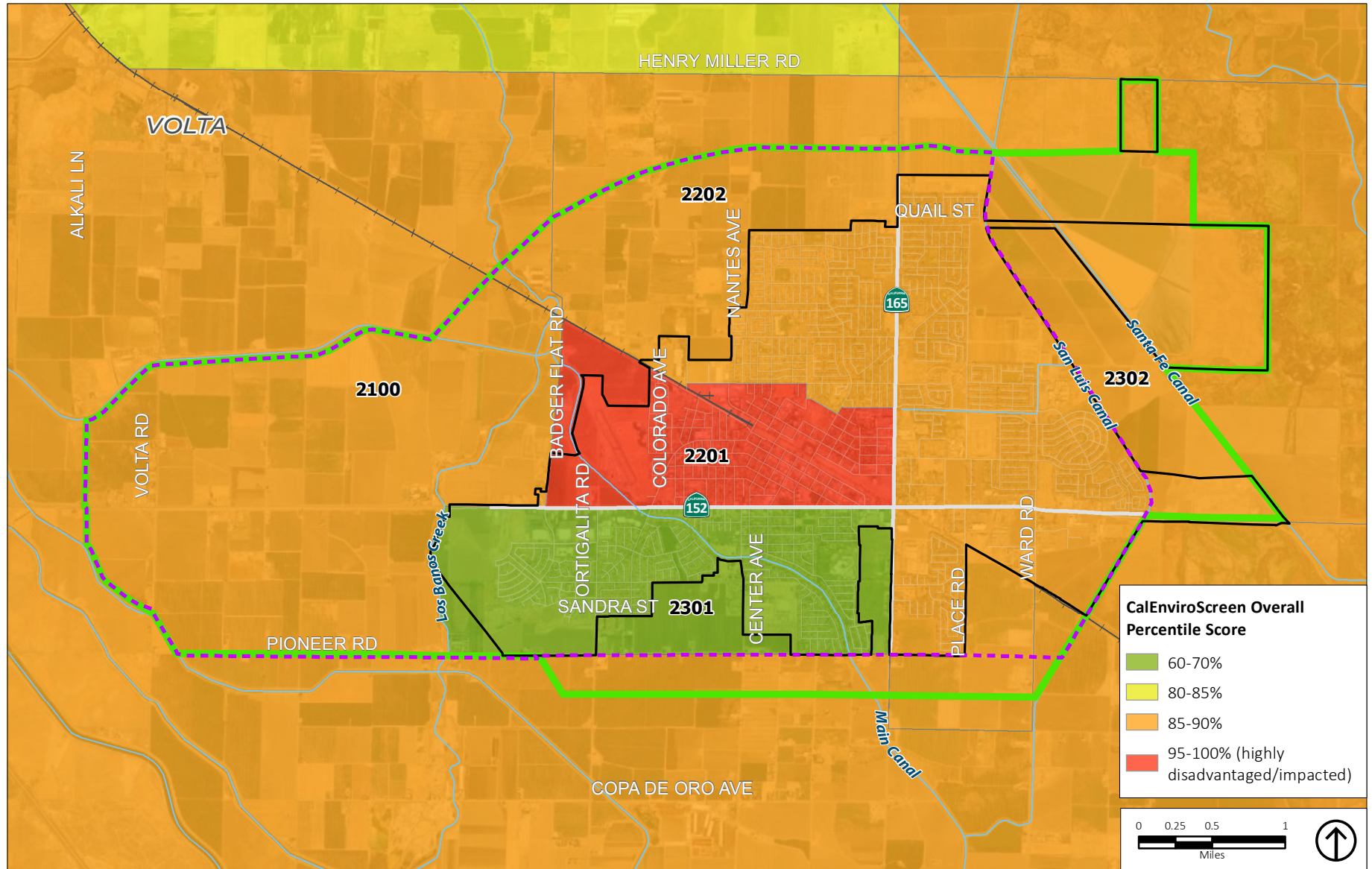
between 75 and 100) are DACs under SB 1000. The indicators used to determine this score are listed in Table 1-2.

CalEnviroScreen is available online through the California Office of Environmental Health Hazards Assessment, which hosts, updates, and maintains the tool. Figure 1-4 maps the CalEnviroScreen scoring of the census tracts that comprise the Los Banos Planning Area. As shown on Figure 1-4, most census tracts in the Planning Area score in the highest 25th percentile. Figure 1-5 shows the scoring of each census tract per indicator. The indicators with the highest (that is, worst) scores in Los Banos census tracts include those with levels of fine particulate matter less than 2.5 micrometers (PM_{2.5}), groundwater threats, asthma risks, cardiovascular disease, and unemployment.

TABLE 1-2 CALENVIROSCREEN SCORING INDICATORS

Pollution Burden		Population Characteristics	
Exposure Indicators		Sensitive Population Indicators	
<ul style="list-style-type: none"> Ozone concentrations in air PM_{2.5} concentrations in air Diesel particulate matter emissions Drinking water contaminants Children's lead risk from housing Pesticide use Toxic releases from facilities Traffic impacts 		<ul style="list-style-type: none"> Asthma (emergency department visits) Cardiovascular disease (emergency department visits for heart attacks) Low birth-weight infants 	
Environmental Effect Indicators		Socioeconomic Factor Indicators	
<ul style="list-style-type: none"> Cleanup sites Groundwater threats Hazardous waste generators and facilities Impaired water bodies Solid waste sites and facilities 		<ul style="list-style-type: none"> Educational attainment Housing burdened low-income households Linguistic isolation Poverty Unemployment 	

INTRODUCTION



Source: CalEnviroScreen 4.0, 2021; Merced County, 2019; PlaceWorks, 2022.

City Limits Urban Growth Boundary (UGB) Sphere of Influence (SOI)

Figure 1-4

California Communities Environmental Health Screening Tool (CalEnviroScreen) Census Tract Scores



Figure 1-5 CalEnviroScreen Indicator Scoring for Census Tracts within the Planning Area



Source: California Office of Environmental Health Hazards Assessment, 2021

Plan Organization

The Los Banos General Plan 2042 is organized into the following chapters:

1. **Introduction.** This includes General Plan objectives and key initiatives, State requirements, and requirements for administration of the Plan.
2. **Economic Development.** This chapter provides the economic framework for development in Los Banos and outlines associated policies and implementing actions.
3. **Land Use.** This chapter provides the physical framework for development in the city. It establishes policies and implementing actions related to the location and intensity of new development and city-wide land use policies.
4. **Circulation.** This chapter includes policies and implementing actions to maintain efficient circulation. It identifies future street and bikeway improvements and addresses alternative transportation modes and parking.
5. **Housing.** This chapter identifies the housing needs of the city for all income levels and strategies and policies for providing housing to meet those needs. Since the Housing Element is updated more frequently than the other elements, it exists as its own document outside of this General Plan.
6. **Parks, Open Space, and Conservation.** This chapter outlines policies and implementing actions relating to regional and local parks and recreational facilities and preserved open space. It also addresses policies and implementing actions relating to habitat and biological resources, water quality, air quality, and historic and archaeological resources.
7. **Safety and Noise.** This chapter addresses the risks posed by natural disasters, such as seismic and geologic hazards, flooding, wildfire, as well as climate change. It addresses public safety services, including police and fire. This chapter also includes policies and land use compatibility standards to limit the impacts of noise sources throughout the city.
8. **Public Facilities and Services.** This chapter outlines policies and implementing actions relating to schools, libraries, and institutions of higher learning. The chapter also addresses local utilities, such as water, wastewater, stormwater, and energy.
9. **Implementation and Monitoring.** This chapter includes details on how the Plan will be implemented.

Policy Structure

Each element of this General Plan contains background information followed by a series of goals, policies, and actions. The background information section of each element describes topics and current conditions in Los Banos specific to that element. For example, the Land Use Element defines a series of



land use designations that guide overall development in the city and the Circulation Element describes the network and hierarchy of streets.

The goals, policies, and actions provide guidance to the City on how to direct change and manage its resources over the next 20 years. Policies and actions are at the same level of importance and are both intended to implement goals. In most cases, goals have both implementing policies and actions. It is also possible for a goal to be implemented exclusively through either policies or actions. The following provides a description of each and explains the relationship between each:

- **Goal.** A description of the general desired result that the City seeks to create through the implementation of its proposed General Plan.
- **Policy.** A specific statement that guides decision-making in working to achieve a goal. Such policies, once adopted, represent statements of City regulation and require no further implementation. The General Plan's policies set out the standards that will be used by City staff, the Planning Commission, and City Council in their review of land development projects and in decision-making about City actions.
- **Action.** A program, implementation measure, procedure, or technique by the City intended to help achieve a specified goal.

Together, the goals, policies, and actions articulate a vision for Los Banos that the General Plan seeks to achieve. They also provide protection for the City's resources by establishing planning requirements, programs, standards, and criteria for project review. Explanatory material or commentary accompanies some policies. The use of "should" or "would" indicates that a statement is advisory, not binding; details will be added in General Plan implementation. Where the same topic is addressed in more than one chapter, sections and policies are cross-referenced. Figure 1-6 shows how goals, policies, and actions relate to each other.

Figure 1-6 General Plan Policy Structure



Administration of the Plan

The General Plan is intended to be a dynamic document. As such, it may be subject to more site-specific and comprehensive amendments over time, amendments that may be needed to conform to State or federal law passed after adoption, or to eliminate or modify policies that may become obsolete or unrealistic over time due to changed conditions, such as the completion of a task or project, development on a site, or adoption of an ordinance or plan.

Amendments to the General Plan

State law limits the number of times a jurisdiction can amend its General Plan to generally no more than four times in one year for a mandatory element, although each amendment may include more than one change. This restriction does not apply to optional General Plan elements (Economic Development and Public Facilities and Services), or if the amendment is necessary to allow for the development of workforce housing or to comply with a court decision.

Annual Report

The California Government Code requires City staff to “provide an annual report to the legislative body on the status of the general plan and progress in its implementation” (Government Code Section 65400[b]). This report must also be submitted to the Governor’s Office of Planning and Research and the Department of Housing and Community Development. It must include an analysis of the progress in meeting the City’s share of regional

housing needs and local efforts to remove governmental constraints to maintenance, improvement, and development of workforce housing (Government Code Sections 65583, 65584).

In addition, any mitigation monitoring and reporting requirements prescribed by the California Environmental Quality Act (CEQA) identified in the General Plan EIR should be addressed in the annual report because they are closely tied to plan implementation. Finally, the annual report should include a summary of all General Plan amendments adopted during the preceding year and an outline of upcoming projects and General Plan issues to be addressed in the coming year, along with a work program.



LOS BANOS
GENERAL PLAN

INTRODUCTION **1**

This page intentionally left blank.

2 ECONOMIC DEVELOPMENT

The Economic Development Element supports the prosperity of local residents and businesses by establishing policies and actions to help diversify the local economy and increase the quality and quantity of job opportunities for local residents. This Element also identifies steps the City of Los Banos can take to maintain fiscal health, decrease the need for local residents to commute, and create a thriving downtown that remains a focal point of community life.

Contents

- 1 Demographic Trends
- 2 Economic Conditions and Trends
- 3 Downtown
- 4 Fiscal Health
- 5 Goals, Policies, and Actions

Demographic Trends

Over the life of this General Plan, Los Banos will continue to grow, creating demand for new housing, generating important market support for local retail and services, and providing a growing workforce that can support business expansion.

Between 2010 and 2020, the average household size in Los Banos became smaller, population age 55 and over grew more quickly than the remaining population, and the number of nonfamily households and renters increased. These changes point to need for a more diverse housing stock, to meet more varied household needs, and to be an attractive location for employers and workers.

Economic Conditions and Trends

Major Employers and Job Growth

Major employers in Los Banos include public service providers and major retailers. The Los Banos Unified School District is the largest employer within Los Banos. The next largest employer is Wal-Mart, followed by Memorial Hospital. Of the remaining top employers, the majority are major retailers, including Target, Home Depot, Food 4 Less, and Save Mart. Kagome, a food service manufacturer, is the only industrial business within the top 10 employers.

The Merced County Association of Governments (MCAG) maintains job growth projections for the county. According to MCAG, total employment in the City of Los Banos and Merced County is projected to grow at roughly 1.3 percent per year between 2020 and 2045 (see Table 2-1). This translates to an increase of approximately 2,759 new jobs in Los Banos over the 25-year period. The Education and Health Services sector is projected to experience the largest net change, followed by Government, Retail Trade, Leisure and Hospitality, and Professional and Business Services.



TABLE 2-1 TOTAL EMPLOYMENT PROJECTIONS, 2020 TO 2045

	2020	2025	2030	2035	2040	2045	Net Change (2020-45)	Average Annual Growth (2020-45)
City of Los Banos	6,966	7,318	7,867	8,432	9,065	9,725	2,759	1.3%
Merced County	82,017	86,055	92,099	96,913	103,290	109,480	27,463	1.2%

Sources: Merced County Association of Governments, 2016; Center for Business and Policy Research, 2016; BAE, 2018.

Unemployment

The City of Los Banos, similar to Merced County and the majority of California’s Central Valley, often suffers from elevated unemployment, and the results of economic downturns, such as the Great Recession, tend to be felt more severely here and last longer than in the state as a whole. Elevated levels of measured unemployment may be associated in part with the fact that seasonal agricultural work is an important part of the local economy.

Workforce Characteristics

Residents of Merced County, including those who live in Los Banos, generally have lower levels of educational attainment compared to the state. For example, approximately 32 percent of California residents have earned a Bachelor’s degree or higher, compared to around 14 percent in Merced County and 11 percent in Los Banos. However, according to the Census Bureau, the City of Los Banos is adding residents with higher levels of educational attainment at a faster rate than the state as a whole. In addition,

Los Banos is home to the full-service Los Banos Campus of the Merced Community College. Within 100 miles of Los Banos, there are eight additional vocational colleges and two four-year universities, the University of California at Merced and California State University Stanislaus. Additional investment in local education and training may offer important opportunities in terms of workforce readiness, the attractiveness of the local labor pool to employers seeking a more highly educated and highly skilled workforce, and consumer spending power that typically accompanies workers with higher educational attainment.

Commute Patterns

Approximately 74 percent of employed Los Banos residents commute to jobs in locations outside of Los Banos, but the largest portion of Los Banos residents work within Merced County, accounting for 43.3 percent of the working residents, including roughly 26.1 percent of working Los Banos residents who work within the City of Los Banos itself. Approximately 11 percent of employed Los Banos residents commute into Santa Clara County for work. This represents around 1,217 individual workers. Other

2 ECONOMIC DEVELOPMENT ELEMENT



notable work destinations for employed residents include Stanislaus County, Fresno County, and San Joaquin County.

Around 61 percent of those working in Los Banos live in Merced County, with 45 percent living in Los Banos itself. Those local workers who commute in from homes outside of Merced County live mostly in Stanislaus County (6.3 percent) and Fresno County (5.7 percent), with only 3.3 percent of local workers commuting in from Santa Clara County.

Downtown

Downtown Los Banos is an important community focal point, providing goods and services for local residents, businesses and their employees, and visitors. While there are other shopping and dining areas in Los Banos, downtown is unique, known for important local destinations like Wool Growers, Los Banos Drug Store, Santa Fe Foods, and City Hall. New lodging and residential uses can help to strengthen downtown for these targeted uses by expanding the base of demand for goods and services and enlivening the area.

However, the Downtown core is disconnected from nearby regional corridors, has vacant storefronts and vacant lots, and lacks prominent wayfinding and signage. The City's Downtown Strategic Plan seeks to address these and other issues to enhance Downtown and promote development, while maintaining its historic, small-town character. Based on input from stakeholders, community members, and City staff, the Downtown Strategic Plan includes a comprehensive set of strategies

designed to help achieve those goals, including how the City and Downtown property owners and businesses can work together to:

- Plan for New Land Uses
- Implement Gateways and Wayfinding
- Strengthen Businesses
- Rehabilitate Buildings
- Upgrade Infrastructure
- Improve Safety
- Establish Character
- Develop a Food Scene
- Manage Parking
- Create Public Spaces

The policies in this General Plan and the Downtown Strategic Plan will work together to support Downtown as a thriving retail, cultural, recreational, and entertainment center.

Fiscal Health

High-quality public services, reliable infrastructure, and local quality of life are critical to attracting, retaining, and growing local businesses. In addition to providing land where businesses can locate and expand, the City plays a key economic development role in building, maintaining, and/or coordinating infrastructure to support businesses, including roadways, water and sewer services, solid waste disposal, and electricity and telecommunications systems. Public services like building permits, code enforcement, and City administration is also critical to support local businesses. This General Plan includes policies and actions to sustain the City's fiscal health and ensure that the City has the financial resources to develop and maintain high-quality public infrastructure and services.



Goals, Policies, and Actions

Create Jobs

GOAL ED-1

Help create jobs and improve job quality for existing and future Los Banos residents.

POLICIES

Policy ED-P1.1 Facilitate the development of new businesses and/or expansion of existing businesses through site availability, infrastructure investment, workforce preparedness, branding, and marketing.

Policy ED-P1.2 Create, maintain, or upgrade Los Banos' infrastructure to support economic development.

ACTIONS

Action ED-A1.1 Actively promote Los Banos as a good place for business through the following:

- Continue to attend trade shows, retail conventions, or other gatherings for targeted industries;
- Regularly schedule face-to-face meetings between City representatives and leaders of key local businesses for business retention purposes;
- Prepare effective and informative collateral materials to distribute to interested businesses;
- Publish an inventory of assets that Los Banos offers in newsletters and on the web;
- Create materials to keep businesses and industry groups informed of local services using electronic newsletter, postcards, and specialized promotional packages.

Action ED-A1.2 Create and market a unified and unique city image through a branding strategy that differentiates Los Banos from other communities in Merced County, the San Joaquin Valley, and California.

Attract New Businesses

GOAL ED-2

Seek and promote particular businesses or development projects that provide needed local goods, services, employment, or those that enhance the city's physical and social well-being and quality of life.

ACTIONS

Action ED-A2.1 Prepare an outreach strategy for targeted industries, focusing on:

- Industries/businesses that indicate an interest in, and/or represent a good geographical fit with the San Joaquin Valley, Merced County, and/or Los Banos;
- Industries whose labor requirements match the occupations and skills of the local labor force and local educational institutions;
- Businesses that rely on ground and air transportation;

- Businesses that can add to or leverage existing industrial clusters or firms;
- Public or private enterprises appropriate to strengthening the health/education/services sector, or those that would improve the quality of life for residents and help to attract higher-income households to Los Banos; and
- Partnerships with area educational institutions to assist with training for a new workforce.

Action ED-A2.2 Continue to have economic development staff contact and visit target companies and industry associations, including businesses, real estate brokers, and site consultants.

Action ED-A2.3 In partnership with the Chamber of Commerce and the Merced County Economic Development Team, continuously track local, state, and national economic trends to identify new candidate businesses/industries for Los Banos.



Action ED-A2.4 Encourage the establishment and expansion of value-added food processing businesses in Los Banos that use local agricultural products.

Action ED-A2.5 Explore including the warehousing and logistics industry as a recruitment target, including, but not limited to, research into the benefits and barriers to development of major warehouse and distribution centers similar in Patterson and Tracy.

Action ED-A2.6 Explore possible expansion of the existing medical center, including location, facility size, infrastructure needs, and service capacity, etc.

Action ED-A2.7 Continue to explore the possible relocation or closure of the Los Banos Airport with redevelopment of the site to potentially include regional recreation facilities, as well as retail, office, industrial, and residential uses.

Action ED-A2.8 Continue to explore establishment of a business park that would provide shovel-ready land, as well as speculative and built-to-suit office and industrial buildings, with ready access to high-capacity utilities (i.e., water, sewer, electrical, broadband) and transportation infrastructure.

Action ED-A2.9 Establish Los Banos as a tourism destination by promoting activities associated with the O'Neil Forebay, Grassland Ecological Area, and other points of interest around the city. Specific initiatives may include the following:

- Promoting commerce associated with the O'Neil Forebay as a summer recreation area, and the Tule Elk Reserve for wildlife viewing;
- Promoting commerce associated with private recreational activities within the Grassland Ecological Area, such as wildlife viewing and hunting;
- Establishing easy access to visitor information, such as lodging, dining, recreation, and cultural offerings in the city and surrounding area; and
- Providing clear signage on roads leading to points of interest.

Action ED-A2.10 Investigate the benefits that senior communities may bring to Los Banos and, if appropriate, pursue development of such communities in appropriate locations.

Action ED-A2.11 Promote youth-related businesses and those that provide activities families can enjoy together.

Action ED-A2.12 Explore the feasibility of creating an Auto Mall at the eastern or western end of Pacheco Boulevard, near the State Route 152 bypass intersections.

Invest in Human Capital

GOAL ED-3

Cultivate partnerships with institutions that enhance skills and increase access to high-quality training and education for Los Banos residents.

POLICIES

Policy ED-P3.1 Promote workforce retraining and lifelong learning/education to increase education levels and promote job readiness:

- Provide technical assistance to employers that send workers for skill upgrading and/or retraining.

- Encourage local educational providers to establish continuing education programs to meet the existing and foreseeable needs of local employers.

Policy ED-P3.2 Encourage diverse housing types that meet the needs of the workforce, from executive housing to housing suitable for entry-level employees.

ACTIONS

Action ED-A3.1 Actively recruit vocational institutions to locate in Los Banos, and support development of a vocational education certificate program at Merced Community College that can address the gaps for technical skills needed by the city's major industries.

Action ED-A3.2 Actively recruit University of California Merced staff and students to network with Los Banos for research and development, pilot, or training opportunities.



Action ED-A3.3 Work with high schools, the Community College, University of California Merced, other educational providers, and major employers to develop internship, mentoring, and apprenticeship programs.

Welcome Businesses

GOAL ED-4	Make Los Banos an ideal place to do business by fostering a business-friendly climate.
----------------------	---

POLICIES

Policy ED-P4.1 Use available planning tools, such as Specific Plans, and conduct master environmental impact assessments for targeted business growth areas to clear the way for cost-effective development that can respond rapidly to user demand. (new policy)

ACTIONS

Action ED-A4.1 Improve the ease of doing business within the City to ensure the growth, development, and prosperity of Los Banos’ business community by:

- Continuing to maintain an inventory of “shovel-ready” sites, with information about their location, size, configuration, infrastructure availability, zoning, and other data that indicates readiness for development;
- Continuing to provide business assistance services, including visitation to existing businesses;
- Adopting a streamlined permit process and expediting permit decisions; and
- Creating a one-stop web portal for economic development.

Action ED-A4.2 Establish financing plans for existing businesses seeking to expand in Los Banos for whom payment of fees “upfront” may represent a major financial burden.

Action ED-A4.3 Develop an incubator program to foster the development of local start-ups.

Action ED-A4.4 Establish a “Citizens’ Academy” to educate the public and businesses regarding the role of government in providing high-quality, but fiscally efficient, public services.

Improve Downtown

GOAL ED-5

Promote Downtown as a cultural and entertainment center to bring people downtown and stimulate business opportunities.

ACTIONS

- Action ED-A5.1* In partnership with the Downtown Association, Chamber of Commerce, Downtown store owners, and local hotels, promote a varied seasonal calendar of parades, festivals, celebrations, promotional sales, and sporting events in Downtown that will draw visitors to the area.
- Action ED-A5.2* Encourage establishment of both temporary and permanent cultural attractions and entertainment venues within the Downtown to help establish it as a local destination.
- Action ED-A5.3* Explore establishing an entertainment district in the Downtown with a discrete boundary and strategies to promote entertainment uses, such as:
- Reducing permit requirements;

- Providing incentives for pubs and restaurants;
- Allowing for reduced or shared parking; and
- Delineating an area in which to facilitate food trucks and pop-up businesses.

Also see policies in Chapter 3: Land Use.

Collaborate with Partners

GOAL ED-6

Strengthen positive working relationships among the business community, education providers, regional economic institutions, and City government.

ACTIONS

- Action ED-A6.1* Continue to work with regional economic development organizations to foster the economic health of the area.
- Action ED-A6.2* Continue to periodically survey the business community for evaluation of City services and improvement suggestions.



Sustain Fiscal Health

GOAL
ED-7

Foster a fiscally healthy City government that provides high-quality public services. (ED-G-6)

POLICIES

- Policy ED-P7.1 Seek to maintain an operating reserve of not less than 30 percent of projected operating expense for the following fiscal year to ensure that sufficient financial resources will be available in the event of sudden economic dislocations or general economic slowdowns.
- Policy ED-P7.2 Ensure current revenue sources can adequately finance the City's capital and program initiatives, and at the same time, provide for adequate maintenance of existing facilities, or identify necessary and available revenue as needed.

ACTIONS

- Action ED-A7.1* Continue to identify, pursue, and secure funding from available local, state, and federal sources for economic development.

3 LAND USE

The land use patterns in Los Banos reflect its heritage as an agricultural center, as well as its present and future as a desirable community for families, workers, retirees, and others. The overarching goals of this Land Use Element are to build on the strengths of Los Banos' historic character and existing neighborhoods, and to foster the creation of new communities with exceptional amenities and a sense of shared identity while protecting the agricultural land and habitat that surrounds Los Banos.

Contents

- 1 Existing Land Use
- 2 Land Use Concepts
- 3 General Plan Land Use Designations
- 4 Goals, Policies, and Actions

Existing Land Use

Los Banos includes a historic core encircled by mostly single-family neighborhoods linked by commercial corridors. Much of the existing land use pattern found in the Planning Area can be traced back to Los Banos' evolution as an agricultural center within the Central Valley. Today, Los Banos is still surrounded by agricultural land and some of California's most important wetland habitats.

Existing land uses in Los Banos are illustrated geographically in Figure 3-1. Single-family residential is the most common land use within city limits.

Los Banos' Downtown is the historical heart of the city and is key to the city's small-town identity. It is characteristic of a late nineteenth-century central business district, incorporating a mixture of retail, public facilities, and older residential neighborhoods along tree-lined streets. Downtown's charming mix of old and new buildings and compact block sizes make it highly walkable.



Larger commercial uses and newer residential neighborhoods are further from Downtown and feature the more distinct separation of land uses characteristic of post-World War II urban development. Major commercial land uses tend to be along State Routes (SR-) 152 (Pacheco Road) and 165 (Merced Springs Road). Most industrial areas are along the Union Pacific Railroad corridor and, to a lesser extent, around the Los Banos Municipal Airport. Agricultural uses predominate around the periphery of Los Banos. Schools and parks of various sizes are distributed throughout the city, with newer master-planned neighborhoods tending to have easier access to parks than those within the city's historic core.

Land Use Concepts

The land use designations and policies herein are based on the following planning principles to support orderly, sustainable growth, invigorate the local economy, and make Los Banos a great place to live, work, and visit.

Build Complete, High-Quality Neighborhoods

This Land Use Element directs residential growth into infill projects or developments that represent complete neighborhoods. New neighborhoods will include a variety of complementary uses, such as neighborhood retail and restaurants, schools, parks and recreation, and other civic uses. New neighborhoods will be connected to surrounding development through a continuous network of streets, bicycle facilities, sidewalks, and pedestrian paths.

The land use designation map shows new residential neighborhoods organized around neighborhood centers. Each neighborhood center features, at a minimum, neighborhood commercial uses as well as publicly oriented uses and gathering spaces surrounded by residential development.

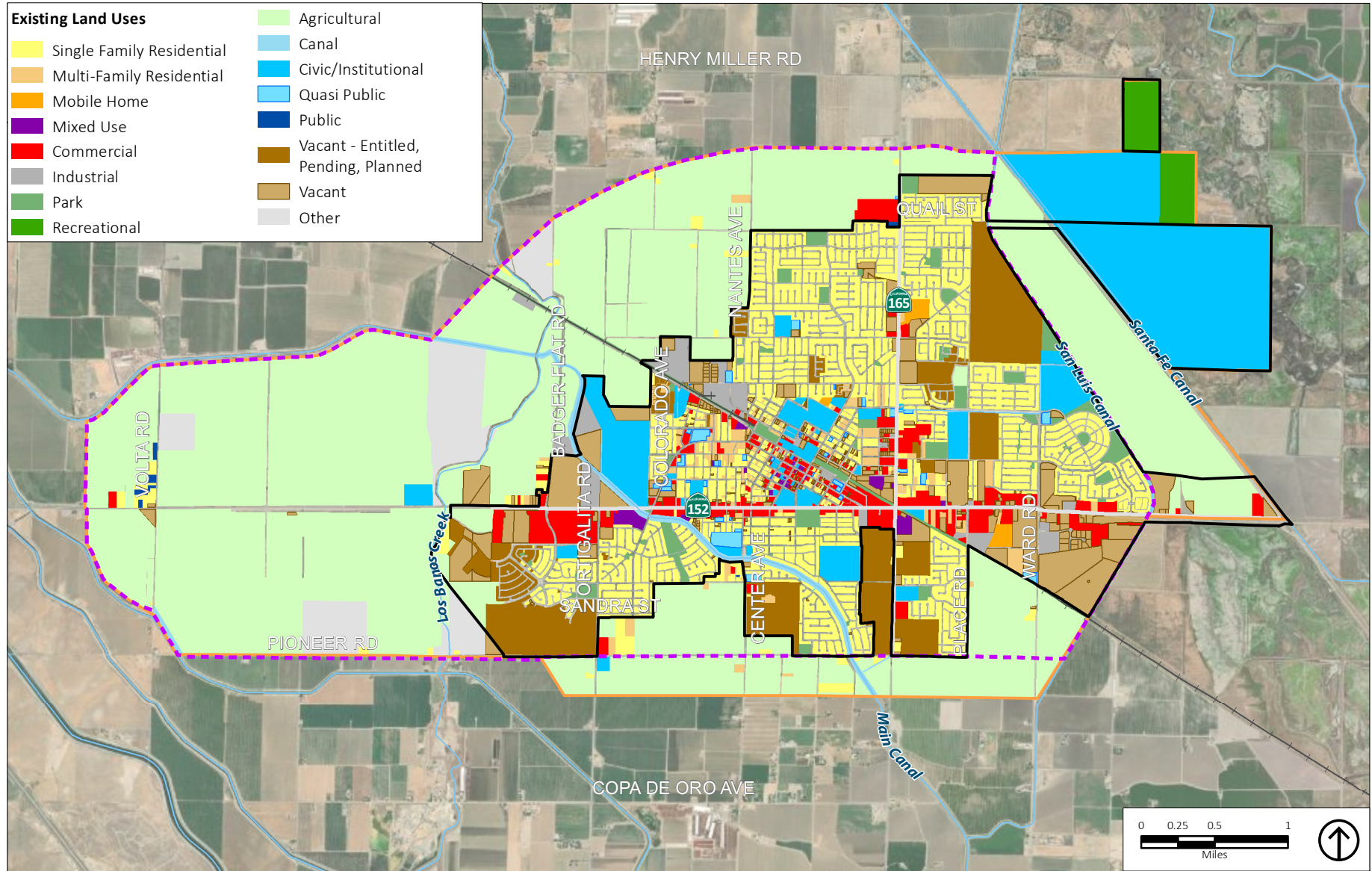
A neighborhood center is typically located on an accessible, main transportation artery, with safe and convenient sidewalks and bikeways, and is composed of low- to medium-scale neighborhood commercial land uses that provide goods and services to the local community.

Services found at a neighborhood center may include a grocery retail store, cafés, drycleaners, post office, bank, and other small businesses. Neighborhood centers may also incorporate regional commercial uses when they border regional roadways.

Neighborhood centers are often located next to a civic use, such as a school and/or park. This central gathering area is surrounded by higher-density housing, which allows a larger number of people to reach these uses on foot or by bicycle and provides a larger nearby customer base for the businesses.

To assist local small business owners and ensure that a diverse range of neighborhood activities are available and easily accessible to residents, the General Plan provides sites for several neighborhood-oriented centers in both new and existing areas. Implementation of the General Plan would bring a substantially increased population within a convenient distance of a neighborhood center.

LAND USE



Source: Merced County, 2019; PlaceWorks, 2022.

City Limit Urban Growth Boundary (UGB) Sphere of Influence (SOI)

Figure 3-1
Existing Land Uses



Diversify the Local Economy

Historically driven by agricultural production and food processing, Los Banos' economy continues to expand and diversify, with new opportunities to tap into populations of talented workers. Los Banos' growth has also brought new opportunities to bring high-quality local and regional retail to the city and its residents. The General Plan provides for a full range of employment and retail opportunities to meet the needs of current and future residents and the business community.

Strengthen and Support Downtown

Los Banos envisions Downtown as a vibrant, welcoming neighborhood where residents and visitors come together to share in food, shopping, and culture. As part of this General Plan update process, the City Council approved a new Downtown Strategic Plan in February 2020. This General Plan supports the Strategic Plan's vision of Downtown:

Downtown Los Banos is a vibrant, welcoming neighborhood where residents and visitors come together to share in food, shopping, and culture. Downtown's well-kept historic fabric and high-quality new buildings host a healthy mix of local and national retail, restaurants, and entertainment venues. Old and new housing in Downtown Los Banos meets a high standard of quality and supports its thriving business climate. Downtown Los Banos is clean, safe, and attracts young people, families with children, and tourists during the day and in the evenings.

This vision of Downtown can be realized by encouraging a mix of 'work-live-and-play' land uses. A mixed-use land use designation allows for a variety of activities, including residential, commercial and office uses, as well as public and quasi-public uses.

Characteristics of Downtown include a pedestrian-oriented environment, mixed-use development with a backbone of retail use, streets on a grid or modified grid, and direct pedestrian and bicycle connections to surrounding neighborhoods.

Tailor Regional Retail to Evolving Demand

Los Banos attracts shoppers from a large region, including travelers passing through on SR-152. Regional retail centers are critical in shaping the identity and image of the city. To make them highly accessible to both local residents and visitors, these centers are planned along the major transportation corridors of SR-152 and SR-165. However, the nature of brick-and-mortar retail in the United States is changing rapidly as online shopping increases. To ensure the viability of the proposed retail regional centers, and avoid land or buildings that will sit vacant, land designated for new regional commercial uses corresponds closely to the anticipated need over the planning period.

Create Diverse Settings for New Jobs

In the current competitive economy, employers increasingly compete for skilled workers based on the convenience and amenities of the workplace. Single-use suburban-style office parks popular in the late twentieth century are being replaced by mixed-use buildings, standalone office buildings on infill sites, and adaptively reused buildings.

This General Plan anticipates that job growth in Los Banos will occur in both larger employment campuses and smaller, individual office buildings. Downtown offices are also encouraged on the upper floors of new mixed-use, multi-tenant buildings to add jobs within walking distance of residences, increase the number of customers for Downtown businesses, and provide smaller and/or flexible spaces for small- to medium-size firms.

The Land Use Element also provides significant acreage for flexible Employment Park uses to attract firms with long-term growth potential. Three employment centers are planned; the first is on large, undeveloped areas to the southwest of the Planning Area near the intersection of Volta Road and SR-152, the second is near Merced Community College (Los Banos Campus), and the third is west of city center at the site of the Los Banos Municipal Airport. The third area also includes rail-oriented employment sites in the Ingomar Grade corridor, which may develop before the airport is relocated.

Finally, the Land Use Element allows for ongoing and new industrial uses, particularly to capture opportunities for food processing facilities that capitalize on Los Banos' agricultural setting. Industrial businesses provide valuable jobs and can be sensitively integrated into the community with appropriate siting, buffers, and other mitigation.

Provide Convenient, Efficient Services

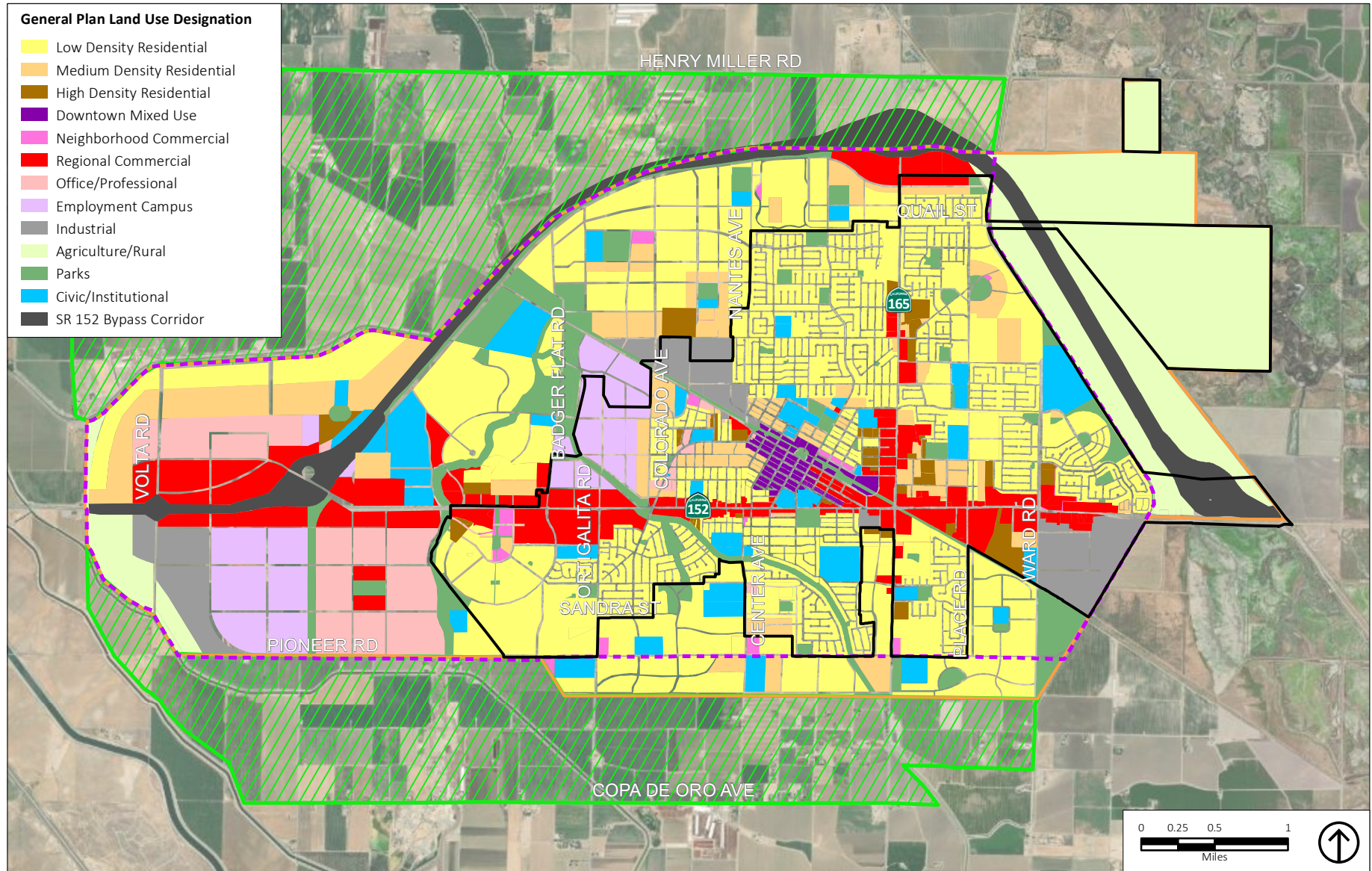
Civic and institutional facilities, such as City Hall, the Police Department, the Fire Department, and water and sewerage facilities are important elements of a safe, attractive, and cohesive community.

Community facilities, such as childcare services, schools, and libraries, also contribute to the quality of life and economic success. The City is committed to a collaborative relationship with the Los Banos Unified School District to identify and plan for appropriate school sites that are an asset to families and neighborhoods. This Land Use Element also allows community facilities that are appropriate for a residential environment, including residential care, daycare, elderly care, and alcoholism or drug abuse recovery or treatment facilities within neighborhoods, provided standards and licensing requirements are met. Large-scale community facilities will be in mixed-use neighborhood centers, on commercial sites, and in Downtown.

General Plan Land Use Designations

The General Plan land use (GPLU) designations and land use designation map (GPLU map) are an expression of the community's vision for future conservation and development on public and private land in Los Banos through the year 2042. Figure 3-2 illustrates the General Plan 2042 land use designations. This map designates the proposed general location, distribution, and extent of land uses. As required by California law, each land use designation includes standards for development density or intensity of use.

LAND USE



Source: Merced County, 2019; PlaceWorks, 2022.

Figure 3-2
General Plan 2042 Land Use Designations

Density/Intensity Standards

The General Plan establishes density/intensity standards for each use classification. These density/intensity standards are shown in Table 3-1 and inform the City’s projected infrastructure, recreation, and other service needs.

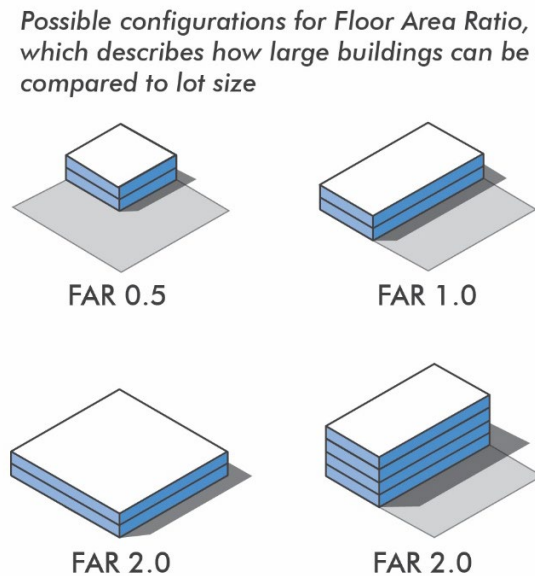
Residential densities are expressed in terms of dwelling units per net acre. The net-acre calculation uses a parcel acreage that excludes land devoted to road and infrastructure rights-of-way (ROW). Based on the net-acre calculation, the number of allowable units on a parcel can be calculated by subtracting the amount of land needed for ROW from the total number of acres, then multiplying the remaining number of acres by the allowable density. The assumed percentages of land devoted to ROW varies based on the land use designation:

- Low-Density Residential: 30 percent
- Medium-Density Residential: 25 percent
- High-Density Residential: 20 percent

Maximum permitted ratio of total floor area to site area, called floor area ratio (FAR), is specified for nonresidential uses. FAR is a broad measure of building bulk that controls both visual prominence and traffic generation. It can be clearly translated to a limit on building bulk in the Zoning Ordinance and is independent of the type of use occupying the building. For example, on a site with 10,000 square feet (sq. ft.) of developable land, a FAR of 1.0 will allow 10,000 sq. ft. of building floor area to be built. On the same site, a FAR of 2.0 would allow 20,000 sq. ft.

of floor area. This could take the form of a two-story building with 100-percent lot coverage, or a four-story building with 50-percent lot coverage. Figure 3-3 illustrates possible configurations of FAR.

Figure 3-3 Illustration of Floor Area Ratios



Intensity standards for nonresidential and mixed-use development are for each entire development site; that is, intensities on individual parcels with a larger project may exceed the maximum, provided the overall development project does not exceed the stipulated intensity.



TABLE 3-1: LAND USE DESIGNATION DENSITY/INTENSITY RANGES AND AVERAGES

Land Use Designation	Density (units/net acre)		Floor Area Ratio (FAR)	
	Min	Max	Min	Max
Low-Density Residential	2	6		
Medium-Density Residential	7	20		
High-Density Residential	20	30		
Downtown Mixed-Use ¹		30	0.50	2.00
Agricultural/Rural ¹		0.1		0.05
Neighborhood Commercial			0.25	0.60
Commercial			0.25	0.60
Office/Professional			0.25	0.60
Employment Park			0.25	0.50
Industrial			0.25	0.70
Park				0.05
Civic/Institutional			N/A	N/A
SR-152 Bypass Corridor ²			N/A	N/A

¹ Developments with no residential units are permitted for these uses.

² No development is permitted or expected within the area designated for the SR-152 bypass.

Airport Land Use Compatibility

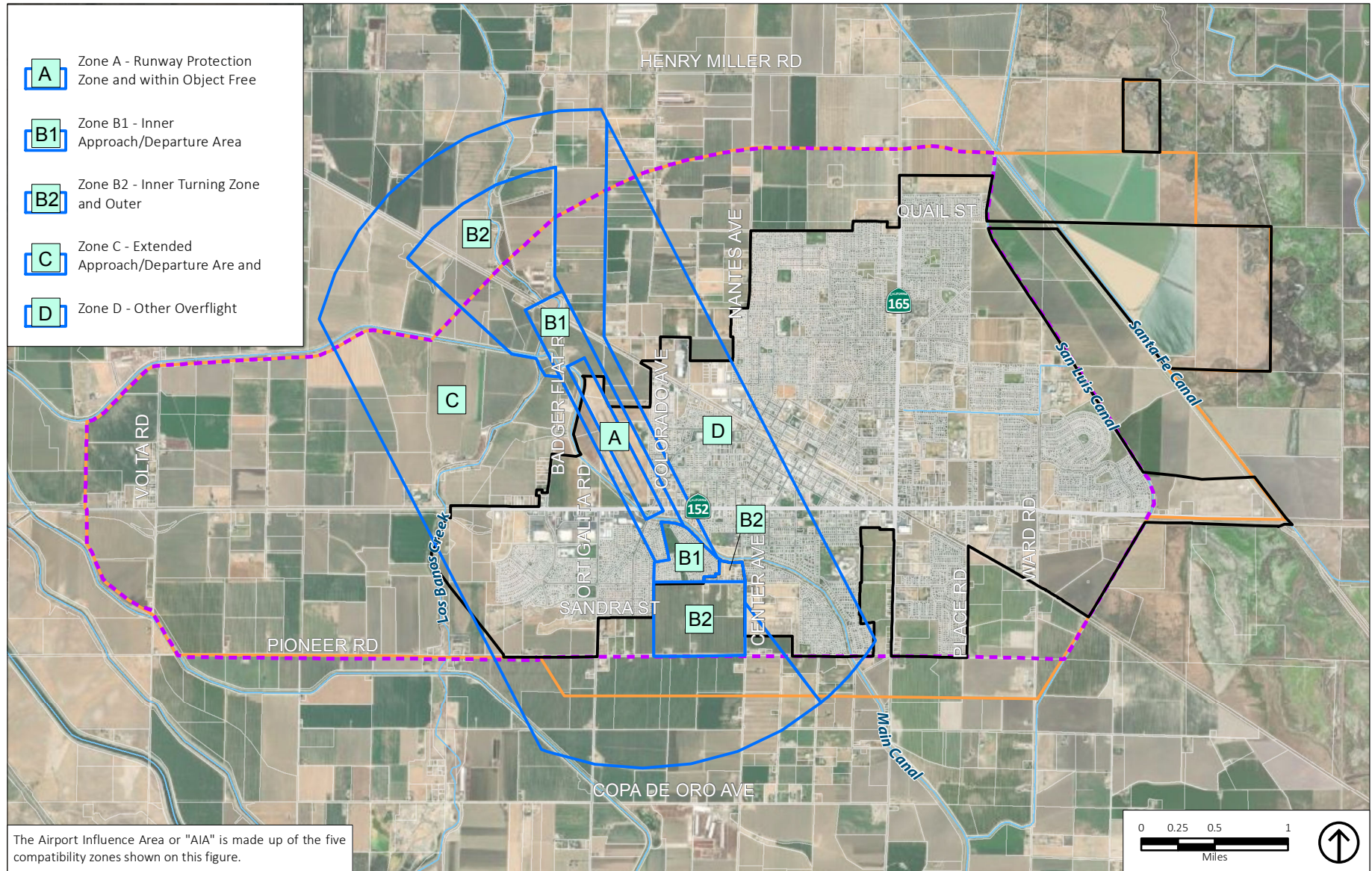
Land use compatibility with the Los Banos Municipal Airport is regulated by the Merced County Airport Land Use Compatibility Plan (ALUCP), which covers multiple airports within the county. The influence area of the airport extends approximately two miles from their airport runways.

The City may relocate the Los Banos Municipal Airport to another site at some future point in time. However, until the airport is relocated, pursuant to the California Public Utilities Code Section 21676, development of land and changes in land use around the airport must be consistent with the ALUCP. Figure 3-4 shows the influence area and compatibility zones established by the ALUCP.

Land Use Designation Descriptions

The following descriptions apply to land use designations indicated on the General Plan 2042 Land Use Designations Diagram, as shown in Figure 3-2. The General Plan land use designations are meant to be broad enough to give the City flexibility but provide direction clear enough to realize the vision of the General Plan. Land use designations are grouped into the following categories: Residential, Mixed-Use, Commercial, Office/Industrial, and Public/Open Space. The City's Zoning Ordinance contains more detailed provisions and standards, and more than one zoning district may be consistent with a single General Plan land use designation.

LAND USE



Source: Merced County, 2019; PlaceWorks, 2022.

City Limit
 Urban Growth Boundary (UGB)
 Sphere of Influence (SOI)

Figure 3-4

Los Banos Airport Land Use Compatibility Zones



Residential

In addition to homes, all residential designations allow community facilities that are appropriate for a residential environment, including accessory dwelling units, home occupations, residential care, daycare, elderly care, and alcoholism or drug abuse recovery or treatment facilities, provided standards and licensing requirements are met. Houses of worship and other places for religious assembly, as well as private schools and colleges, are allowed subject to appropriate development standards and use-permit requirements.

Each residential use includes a density range. The top of the range is the maximum density, excluding any units that may be permitted through density bonus programs. Accessory dwelling units are not counted toward the density limits, as required by California law. New housing in the Medium-Density Residential and High-Density Residential designations must be built at or above the minimum density in the range. New housing at densities below the “bottom” of the density range for each designation is generally not permitted, although exceptions may be made for existing small lots on which higher densities are infeasible.

Low-Density Residential. This designation is intended for single-family development on lot sizes found in urbanized settings. Development intensities range from two to six units per net acre.

Medium-Density Residential. This designation is intended for small-lot single-family and low-density multifamily and/or attached homes. Allowable residential density is between 7 and 20 units per net acre.

High-Density Residential. This designation is intended for multifamily apartments and condominiums. Residential densities range from 20 to 30 units per net acre.

Mixed-Use

Downtown Mixed-Use. This designation is intended for mixed-use development in Downtown Los Banos, and allows for a mixture of commercial, office, institutional, public/semi-public, and residential uses. Maximum FAR for nonresidential uses are 0.25 for retail, and 2.0 for office use, with a maximum of 30 dwelling units per acre.

Commercial/Office/Industrial

Neighborhood Commercial. This designation is intended for a mix of neighborhood-serving commercial uses that include small-scale office space and small retail stores, such as grocery stores and pharmacies, serving local residents. Development must be pedestrian-friendly and incorporate public amenities such as fountains, seating areas, and/or shade. Houses of worship and other places for religious assembly as well as private schools and colleges are permitted in residential and commercial areas, subject to appropriate development standards and use-permit requirements. The FAR range for this use is 0.25–0.6.

Regional Commercial. This designation is intended for large-scale commercial developments that serve residents and visitors from the surrounding region. Examples of this land use include shopping centers, large-format retail, auto sales, and travel-related services, such as hotels, gas stations, and restaurants. Most shopping opportunities in regional retail centers are likely to be national retailers with immediately recognizable household names. These uses typically require good access to at least region-serving roadways. Supportive office uses are also allowed in this designation. Houses of worship and other places for religious assembly as well as private schools and colleges are permitted subject to appropriate development standards and use-permit requirements. Allowable FAR of nonresidential uses ranges from 0.25 to 0.60. In addition, multifamily residential apartments and condominiums with a density of between 20 to 30 units per net acre are permitted on Regional Commercial parcels that are at least 40 acres or larger in size. The density of the multifamily residential developments shall be based on the net acreage of the resulting parcel created through subdivision. Where applicable, the residential uses shall be placed on the side of the lot closest to other adjacent residential uses and/or on the side away from incompatible uses.

Office/Professional. This designation is intended for small-scale, local-serving professional and administrative offices, such as medical, dental, real estate, financial services, and research and development (R&D), as well as advanced educational or workforce training uses, such as community colleges and technology teaching institutes. Office/Professional parcels near the hospital allow specialized clinics, laboratories, and related services. This designation may also allow cafés, restaurants,

support services, and convenience retail activities. The FAR range for Office/Professional use is 0.25 to 0.60.

Employment Campus. This designation is intended for large sites that draw employees from a wide area and provide a significant number of jobs.

Sites with the Employment Campus designation are envisioned as a master-planned, regionally oriented development that may include business and office parks, light industries, incubator or research and development (R&D) laboratories, testing, packaging, or publishing centers, and employee-supporting amenities, such as dining, retail, services, and landscaped outdoor spaces. This designation also allows advanced educational or workforce training uses, such as community colleges and technology teaching institutes. Uses in this category are expected to have high-quality architectural and landscape design. Warehousing and distribution facilities are permitted as ancillary uses only. Industries producing substantial amounts of waste, odor, and other pollutants will not be permitted.

The FAR ranges from 0.25 to 0.50.

Industrial. This designation allows manufacturing, R&D, wholesale and warehouse distribution, agricultural and food processing, agricultural sales and services, truck terminals, utility operations, and similar activities, including those with outdoor facilities. Large retailers of appliances, heavy equipment rental, and sale of mobile homes or fabricated housing are allowed.



Supporting commercial services and ancillary office space are allowed but uses in this category do not require pedestrian traffic or high visibility and are not compatible with consumer-oriented retail. To minimize land-use conflicts and provide support for commercial areas, no large-scale retail uses are allowed.

This land use differs from the Employment Campus designation by the greater amount of waste, noise, odor, and other pollutants that may be generated, and the comparatively little research or knowledge-based activities that may occur. Due to potential land conflicts with residential areas, new industrial land uses are planned only at the edges of the Planning Area. Buffers and other mitigation devices will be required where development occurs next to agricultural land or habitat areas.

The FAR range for Industrial use is 0.25 to 0.70.

Other

Agriculture/Rural. This designation is intended for rural and agricultural land uses without municipal services. Typical development allows for large parcels with housing and agricultural service buildings and uses, with a maximum density of 0.1 units per acre. For nonresidential structures, there is no minimum FAR, with a maximum FAR of 0.05.

Parks. Public and private recreation sites and facilities at intensities of up to 0.05 FAR.

Civic/Institutional. This designation is intended for lands including publicly owned facilities, such as schools, administrative offices, as well as facilities related to municipal services and infrastructure, including corporation yards, recycling centers, sewage treatment ponds, and police and fire stations. To offer public entities and institutions maximum flexibility, this use has no minimum or maximum intensity.

The school sites depicted on the General Plan 2042 Land Use Designations Diagram, as shown in Figure 3-2, are intended to relate well to adjacent uses, such as neighborhood focal areas and park sites. School site locations can be adjusted if the school district chooses not to locate in those areas and the land will be designated in a compatible manner with the surrounding uses.

SR-152 Bypass Corridor. This designation is for the areas that would be part of the planned SR-152 bypass around Los Banos. No development is permitted or anticipated in these areas, thus allowed densities and intensities are both zero. Existing agricultural uses are permitted to continue, but no new structures are allowed within the bypass designation.

Neighborhood Planning Subareas

Pacheco Boulevard Corridor

The Pacheco Boulevard Corridor subarea is along both sides of SR-152. This subarea contains various commercial establishments, including restaurants, automobile dealerships, hotels, retail, and some light industrial uses. Pacheco Boulevard is a major gateway into and through Los Banos. The General Plan

aims to keep land use mainly commercial and enhance its visual character through design requirements.

Central Neighborhood

The Central Neighborhood subarea is bounded by H Street, Johnson Road, and the Downtown subarea. The subarea contains mainly low-density and medium-density residential homes built before 1980, as well as important destinations, like the hospital. Its proximity to Downtown and its central location make it attractive. The General Plan aims to retain most of the existing uses in this subarea.

Airport

The Airport subarea is at the site of the existing Los Banos Municipal Airport. Under the General Plan, employment campus uses are planned in this area if the airport is relocated.

Eastside

The Eastside subarea is north of Pacheco Road/SR-152 and east of Mercey Springs Road/SR-165. Much of this subarea contains existing single-family neighborhoods that will expand to include more single-family neighborhoods, along with medium-density residential, neighborhood commercial, and parklands.

Goals, Polices, and Actions

GOAL LU-1

Provide for orderly, well-planned, and balanced development.

POLICIES

- Policy LU-P1.1 Promote sustainable, balanced, and well-paced growth and land use patterns that meet existing and future needs of Los Banos.
- Policy LU-P1.2 Maintain a well-defined compact urban form, with a defined urban growth boundary and development intensities on land designated for urban uses.
- Policy LU-P1.3 Require that any land requested to be annexed be contiguous with the existing city limits, within the urban growth boundary, and within the sphere of influence.
- Policy LU-P1.4 Require lands outside, but adjacent to, the current city limits to annex to the City of Los Banos prior to approval of new development or provision of any City services.



- Policy LU-P1.5 Prior to annexation, the City must find that adequate police, fire, and other public safety services can be provided.
- Policy LU-P1.6 Require that new development projects include full mitigation of impacts to City-funded services and infrastructure, including parks and recreational services, police and fire services, and City-owned infrastructure, both on- and off-site.
- Policy LU-P1.7 Ensure that new development provides for infrastructure, schools, parks, neighborhood shops, and community facilities in close proximity to residents.
- Policy LU-P1.8 Require areas annexed to the City to be served by City utilities. Prohibit new wells and septic systems to serve urban development within the city limits. Conversely, do not provide utility services, water, and sanitary sewer to new development outside of the city limits unless annexation is approved. Prior to annexation, the City must find that adequate water supply and service and wastewater treatment and disposal capacity can be provided. Existing water supplies must remain with the land and be transferred to the City upon annexation approval.
- Policy LU-P1.9 Coordinate land use planning efforts between City departments and with local institutions and regional agencies.
- Policy LU-P1.10 When approved development within the city reaches the maximum number of residential units or any of the nonresidential square footages projected in the General Plan Environmental Impact Report (EIR), require that environmental review conducted for any subsequent development project address growth impacts that would occur due to development exceeding the General Plan EIR's projections. This does not preclude the City, as lead agency, from determining that an EIR would be required for any development in the sphere of influence to the extent required under the relevant provisions of the California Environmental Quality Act (e.g., Section 21166 and related guidelines). The City will conduct the appropriate scoping at the time of initial study for any project, all in accordance with these requirements.

Policy LU-P1.11 Monitor growth rates to ensure they do not overburden the City's infrastructure and services or exceed the amounts analyzed in the General Plan Environmental Impact Report.

Policy LU-P1.12 Locate land uses to balance travel origins (homes) and destinations (schools, shopping, and jobs) as close as possible to reduce vehicle miles traveled (VMT).

Policy LU-P1.13 The urban growth boundary (UGB) shall be amended only by a majority vote of the City Council that follows a public hearing and adopts one or more of the following findings based on substantial evidence in the record:

- A natural or humanmade disaster or public emergency has occurred that warrants the provision of housing and/or other community needs on land outside the UGB.
- An objective study has determined that the UGB is preventing the City from providing its fair share of affordable housing, or regional housing, as required by State law, and the City Council finds

that a change to the UGB is the only feasible means to enable the City to meet these requirements of State law.

- The land subject to the change is immediately adjacent to developed land and water and sewer connections are available.
- The change is required to conform to applicable California or federal law.
- Project-level and cumulative impacts affecting environmental resources, particularly in the Grassland Ecological Area (GEA), will be mitigated to less-than-significant levels.

Also see Chapter 6: Parks, Open Space, and Conservation, for policies related to open space and reservation of agricultural land outside the UGB.

ACTIONS

Action LU-A1.1 Seek Local Agency Formation Commission (LAFCO) approval of a sphere of influence (SOI) line corresponding with the General Plan designation for the proposed SOI.



Action LU-A1.2 Review and update Title 9 of the City Municipal Code (Planning and Zoning) and Zoning Map, as necessary, to ensure consistency with the General Plan.

Action LU-A1.3 Adopt a Growth Management Program to monitor growth and ensure that provision of public facilities and utilities are aligned with development and track the amount of growth relative to what was analyzed in the General Plan Environmental Impact Report.

Action LU-A1.4 Regularly evaluate and implement adjustments to the City’s fee structure to encourage development in areas where infrastructure is already present and ensure that non-infill development pays its fair share of anticipated citywide capital facilities and operational costs.

Action LU-A1.5 Provide comments to Merced County on proposed significant development projects within the Planning Area to request consistency with this General Plan and other City regulations.

Action LU-A1.6 Participate in the Merced County Association of Governments (MCAG) regional planning programs and coordinate City plans and programs with those of MCAG, including the Regional Transportation Plan/Sustainable Communities Strategy, and work with non-profit organizations also engaging in these planning programs.

Action LU-A1.7 Coordinate with Merced College (Los Banos Campus) to ensure the development of roadways, utilities, and expansion of campus facilities is consistent with City plans.

**GOAL
LU-2**

Foster neighborhoods with exceptional amenities and design, broad-based opportunity, and a shared sense of identity.

POLICIES

Policy LU-P2.1 Require new residential neighborhoods to be developed with a consistent aesthetic, appropriate and complementary scales of development, identifiable centers and edges, and well-defined public spaces for recreation and civic activities.

3 LAND USE

- Policy LU-P2.2 Create neighborhoods that are safe and welcoming for people of all life stages, family sizes, and income levels.
- Policy LU-P2.3 Ensure that all Los Banos neighborhoods enjoy convenient access to parks and recreational opportunities.
- Policy LU-P2.4 Ensure that the scale, operation, location, and other characteristics of community facilities, including parks, schools, childcare facilities, religious institutions, and other public and quasi-public facilities, enhance the character and quality of neighborhoods.
- Policy LU-P2.5 Require new developments and infill projects to include space for civic and institutional uses, to be maintained through capital projects, such as parks and open spaces, police and fire services, water and sanitary facilities, infrastructure, and other City services.
- Policy LU-P2.6 Require development to follow adopted Community Design Standards.
- Policy LU-P2.7 Require new residential development adjacent to established neighborhoods to provide a transition zone where the scale, architectural character, pedestrian circulation, and vehicular access routes of both new and old neighborhoods are well integrated.
- Policy LU-P2.8 Provide for a gradual transition in building massing and height between higher-density and lower-density residential areas.
- Policy LU-P2.9 Require buffers of varying size between residential uses and nonresidential uses without restricting pedestrian and bicycle access.
- Policy LU-P2.10 Require new multifamily housing to be near existing or planned neighborhood centers, open space, and be within a quarter-mile of any collector or arterial streets.
- Policy LU-P2.11 Locate a diverse range of civic, institutional, and community land uses in close proximity to neighborhoods, where feasible.



- Policy LU-P2.12 Ensure new neighborhoods are designed to incorporate appropriate public and community facilities, such as schools, childcare, community centers, parks, houses of worship, and/or libraries.
- Policy LU-P2.13 Require a centrally located neighborhood square or “commons” within each new residential neighborhood to serve as a focal point for the surrounding neighborhood.
- Policy LU-P2.14 Provide for a full range of housing types and affordability levels within neighborhoods, including specified mix of density per Table 3-2 to ensure that the economic needs of all segments of the community are met.
- Policy LU-P2.15 Permit childcare centers in all districts, subject to appropriate permitting requirements, and develop criteria for incentives for childcare facilities, including density bonuses according to State law.
- Policy LU-P2.16 Maintain local accessory dwelling unit (ADU) ordinances in a manner consistent with State law.

TABLE 3–2: LAND USE ALLOCATIONS FOR RESIDENTIAL NEIGHBORHOODS (INDIVIDUAL NEIGHBORHOODS WILL BE 80-120 ACRES)

Land Use Designation	Allowable Percentage of Total Units	
	Minimum	Maximum
Low-Density Residential	33 percent	75 percent
Medium-Density Residential	15 percent	57 percent
High-Density Residential	10 percent	52 percent
	Allowable Gross Acreage	
	Minimum	Maximum
Neighborhood Center	2 acres	10 acres
Civic/Institutional Neighborhood-Serving Facilities (e.g., elementary school, public safety facilities and community centers; the latter may be incorporated into Neighborhood Centers)	7 acres	10 acres
Parks and Recreation	5 acres per 1,000 residents	7 acres per 1,000 residents

ACTIONS

- Action LU-A2.1* Periodically review the City’s development impact fees to determine whether they should be adjusted to reflect the City’s priorities for parks, community centers, and libraries that serve the surrounding neighborhoods.
- Action LU-A2.2* Create fee structures that incentivize the creation of attached, small-lot, and small-floorplan size ownership housing units to provide opportunities for many families to participate in the home-ownership market.
- Action LU-A2.3* Adopt ordinances that preserve affordable housing options while ensuring that housing meets habitability requirements and City codes.
- Action LU-A2.4* Maintain appropriate density bonuses for developers meeting State criteria for affordable housing and create an additional density bonus for projects undertaking elective off-site improvements (such as streetscape improvements) that further the City’s community design and/or open space objectives. This latter bonus cannot be

combined with the affordable housing bonus. Off-site improvements directly resulting from a project’s impacts, as specified in the Zoning Ordinance, may still be required; the bonus is intended for improvements that go beyond the required minimum.

- Action LU-A2.5* Continue to review development applications to confirm consistency with the adopted Community Design Standards.

- Action LU-A2.6* Amend the Zoning Ordinance in Title 9 of the City Municipal Code to permit multifamily residential development at a density between 20 to 30 units per net acre on Regional Commercial lots of 40 acres or larger in size.

GOAL LU-3

Provide a clear process for annexation proposals that ensures the proposals meet the requirements and needs of the Los Banos community.

POLICIES

- Policy LU-P3.1 Annexation proposals are required to meet the following basic requirements:



- a. **Consistency.** Require that any land requested to be annexed is consistent with the policies of the City's General Plan and all appropriate City development standards.
- b. **Timing of Development.** Require lands outside, but adjacent to, the current city limits to annex to the City of Los Banos prior to approval of new development.
- c. **Utilities.** Require areas annexed to the City to be served by City utilities. Prohibit new wells and septic systems to serve urban development within the city limits. Conversely, do not provide City utility services, water, and sanitary sewer to new development outside of the city limits unless annexation is approved. Prior to annexation, the City must find that adequate water supply and service and wastewater treatment and disposal capacity can be provided. Existing water supplies must remain with the land and be transferred to the City upon annexation approval.

- d. **Public Safety.** Prior to annexation, the City must find that adequate police, fire, and other public safety services can be provided.
- e. **Mitigation.** Require that new development projects include full mitigation of impacts to parks and recreational services, police and fire services, and public infrastructure, both on- and off-site.

Policy LU-P3.2 Require that Specific Plans be prepared for new areas proposed for annexation. Specific Plans must provide a coordinated, enforceable plan for land use, circulation, public facilities, and public services throughout the entire area. Specific Plans must also be consistent with all of the goals and policies of this General Plan and contribute toward achieving Los Banos' vision. Prohibit individual, piecemeal developments within future annexation areas.

Policy LU-P3.3 Every Specific Plan shall include the following minimum requirements:

3 LAND USE

- a. The distribution, location, and extent of land uses, including standards for land use intensity.
- b. Distribution and location of roadways, including the precise alignment of arterial, collector, and local streets, and bikeways.
- c. Provisions for the extension of the existing city roadway system into new development areas.
- d. Design standards for public arterials, collectors, and local streets that address street widths and lane configurations, landscaping and street trees, and the location of sidewalks, crosswalks, and pedestrian amenities, as well as bike routes and on-street parking.
- e. Distribution and location of, and specifications for, sewer, water and drainage facilities needed to serve new development consistent with City infrastructure master plans.
- f. Distribution, location, and financing of parks, trails, schools, and other public and quasi-public facilities.
- g. Design guidelines for all new public and private buildings.
- h. Design guidelines for all new public and private improvements, including landscaping, park layout and improvement, neighborhood identification signs and monuments, and walls and fences.
- i. An analysis of school needs for the Specific Plan area, the designation of required school sites, and the payment of impact fees for school facilities consistent with California Government Code Section 65995.
- j. Provisions for development phasing.
- k. Provisions for minimizing conflicts between new development and agricultural uses.
- l. An analysis and disclosure of the adequacy of existing public services and facilities ability to meet demands generated by development of the Specific Plan area and the identification of additional facilities and service enhancements needed to meet this



demand. The Specific Plan shall also identify the method of funding new public services and facilities and the timing of the needed improvements and service enhancements to fully mitigate any impacts to public services or facilities.

- m. Implementation measures necessary to carry out the plan, including a program for financing public infrastructure improvements.
- n. A fiscal analysis that determines the impact of the development of a given Specific Plan Subarea on the City's general fund.

Policy LU-P3.4 Specific Plans for areas including residential uses shall meet the following criteria:

- a. A range of housing types shall be provided to ensure socially and economically integrated neighborhoods. The various housing types shall be integrated throughout each neighborhood.

- b. The design of new neighborhoods shall be consistent with the goals and policies of the Land Use Element.
- c. The design of roadways and public rights-of-way shall be consistent with the goals and policies of the Circulation Element.
- d. New development shall be linked to adjacent existing neighborhoods and planned neighborhoods by collector and local streets. All existing stubbed streets shall be continued.
- e. Wherever possible and consistent with public safety considerations, drainage facilities shall use green infrastructure or be designed as natural waterways.
- f. A system of pedestrian trails or pathways and linear open-space corridors shall be provided to link residential neighborhoods, parks, schools, downtown, shopping areas, and employment centers.

- g. Within a Specific Plan area, the land closest to existing urban development shall be developed first, before outlying land.
- h. School facilities shall be planned and developed in accordance with the requirements of the Los Banos Unified School District and the California Department of Education.

Policy LU-P3.5 Specific Plans for areas including industrial and business park uses shall meet the following criteria:

- a. Provisions to minimize conflicts and ensure compatibility between new industrial development, existing agriculture, and existing or planned residential uses, including use of buffers, as appropriate.
- b. Provisions for services and amenities for employees, such as recreation, childcare, and dining.
- c. Coordination with adjacent industrial development in Los Banos.

- d. Coordination of roadway and infrastructure improvements/financing of frontage treatment along arterial roadways.
- e. Provision of all on-site infrastructure that is needed to serve the industrial or business park development and contribution towards a fair share of off-site infrastructure improvements.

GOAL
LU-4

Protect and enhance Los Banos' image and unique sense of place.

POLICIES

- Policy LU-P4.1 Preserve and build upon Los Banos' historic charm and small-town feel.
- Policy LU-P4.2 Ensure that both new development and exterior remodels of existing buildings are compatible with nearby buildings, public spaces, and cultural/historic resources in scale, orientation, and materials.



- Policy LU-P4.3 To the extent possible, ensure that new public and private investment preserves, enhances, rehabilitates, and celebrates local landmarks, buildings, neighborhoods, historic treasures, open spaces, cultures, and traditions that make Los Banos unique.
- Policy LU-P4.4 Safeguard and leverage Los Banos' agricultural heritage for the benefit of the community.
- Policy LU-P4.5 Require development to transition in density, with lot sizes increasing as a buffer for adjoining rural and agricultural districts.
- Policy LU-P4.6 Require residential developments adjacent to the Central California Irrigation District Irrigation Canal/HG Fawcett Parkway to comply with buffer requirements and provide direct public access where feasible.
- Policy LU-P4.7 Promote new development that is environmentally sensitive and sustainable.
- Policy LU-P4.8 Facilitate environmentally sensitive development practices by:

- Exploring and promoting the use of new sustainable building materials, such as mass timber and cross-laminated timber in new development, consistent with State building codes;
- Encouraging the purchase of locally or regionally available materials, when practical;
- Encouraging both passive solar design features and the incorporation of solar panels or solar-readiness;
- Promoting the use of the U.S. Green Building Council's LEED rating system; and
- Creating Green Building Design Guidelines to be used in the development review process.

Policy LU-P4.9 Continue to require undergrounding of utilities in all new development.

Policy LU-P4.10 Require street trees on all public street frontages and adopt street tree guidelines that specify preferred species, spacing requirements, and planting guidelines in coordination with the Urban Tree Foundation.

Policy LU-P4.11 Require new development to incorporate public safety measures into site design, circulation, building design, and landscaping plans through the design review process.

Policy LU-P4.12 Require development proposals to incorporate bird-safe design measures, including the following design considerations and best management practice strategies:

- Avoid the use of highly reflective glass as an exterior treatment, which appears to reproduce natural habitat and can be attractive to some birds;
- Limit reflectivity and prevent exterior glass from attracting birds in building plans by utilizing low-reflectivity glass and providing other non-attractive surface treatments;
- For commercial buildings, interior light “pollution” should be reduced during evening hours through the use of a lighting control system;
- Exterior lighting should be directed downward and screened to minimize illuminating the exterior of the building at

night, except as needed for safety and security;

- Freestanding glass walls, and transparent building corners should not be allowed;
- Transparent glass should not be allowed at the rooflines of buildings; and
- All roof mechanical equipment should be covered by low-profile angled roofing so that obstacles to bird flight are minimized.

Policy LU-P4.13 Encourage lighting for safety and security while preventing excessive light spillover and glare. Lighting should complement building and landscape design.

Policy LU-P4.14 Require lighting plans for projects proposing exterior lighting. The design review process should be used to evaluate lighting for safety, consistency with dark sky objectives, and potential mitigation to reduce negative impacts on nearby properties.

Policy LU-P4.15 Continue efforts to improve street lighting, balancing financial, public safety, and environmental objectives.



ACTIONS

Action LU-A4.1 Adopt a dark sky ordinance, including lighting standards and enforcement provisions that reduce light pollution. In the interim, refer to guidelines from the International Dark Sky Association during the review of major projects involving night lighting.

**GOAL
LU-5**

Provide residents with excellent employment and shopping opportunities.

POLICIES

Policy LU-P5.1 Provide for a broad range of commercial uses that generate employment, retail sales, and tax revenue to strengthen the City’s economic base and provide employment opportunities for residents.

Policy LU-P5.2 Allow flexible planning for larger-scale employment-generating businesses, technology-based businesses, light industrial, professional offices, and other businesses wishing to locate in Los Banos.

Policy LU-P5.3 Locate regionally oriented commercial uses on major roadway corridors. Locate community and neighborhood-oriented uses within planned communities and neighborhoods.

Policy LU-P5.4 Foster viable, pedestrian-oriented neighborhood centers and strong, visually attractive regional commercial centers with a mix of tenants to serve both local and regional retail needs.

Policy LU-P5.5 Require pedestrian-oriented design in neighborhood centers, including “street-friendly” designs and amenities for public benefit, such as outdoor seating, plazas, weather protection, and transit waiting areas.

Policy LU-P5.6 Evenly distribute neighborhood retail centers in new development areas and encourage a mix of uses to offer both choice and convenience for shoppers and residents.

Policy LU-P5.7 Encourage existing neighborhood centers to expand to their maximum potential through reuse, rehabilitation, and infill development.

Policy LU-P5.8 Foster high-quality design and allow secondary uses in Employment Park or industrial areas if they can complement or enhance the primary use.

**GOAL
LU-6**

Develop a vibrant, mixed-use Downtown that is the pride of the community.

POLICIES

Policy LU-P6.1 Promote the Downtown as a destination for commerce and entertainment, with office and high-quality housing to complement retail activity and infuse the area with daytime, evening, and weekend activity.

Policy LU-P6.2 Set a high standard for Downtown design and amenities to make residents and visitors feel welcome, safe, and engaged.

Policy LU-P6.3 Encourage more resident- and visitor-serving restaurants, retail, and consumer services to locate in the Downtown.

Policy LU-P6.4 Incentivize and encourage infill development, adaptive reuse of structures, and development on underutilized land to serve a variety of uses.

Policy LU-P6.5 Allow a range of medium- to high-density residential, live/work, and Business Commercial uses to support Downtown.

Policy LU-P6.6 Encourage pedestrian-oriented amenities near Downtown, such as outdoor seating, plazas, public art, weather protection, and waiting areas (benches and shelters).

Policy LU-P6.7 Require building continuity along H Street, with buildings oriented to the street, limitations on blank walls, parking tucked behind buildings, and adoption of landscape standards.

Policy LU-P6.8 Prohibit new warehouse/distribution or manufacturing uses in Downtown, which is defined as the area north of Pacheco Boulevard, east of Fourth Street, and south of H Street.

Policy LU-P6.9 Manage parking in the Downtown to ensure visitors can quickly find convenient and reasonably priced parking and reduce the need to dedicate valuable land to parking lots.



ACTIONS

- Action LU-A6.1* Adopt flexible zoning and encourage a mix of residential, retail, and office in the heart of Downtown.
- Action LU-A6.2* Establish zoning, review procedures, and fees that encourage rehabilitation, renovation, preservation, and reuse of Downtown buildings with a mix of commercial, entertainment, and residential uses that promote around-the-clock activity.
- Action LU-A6.3* Target individual vacant and underutilized infill sites that are not part of larger neighborhood developments for additional high-density residential development.
- Action LU-A6.4* Establish incentives for anchor retail to locate in strategic areas of Downtown to maximize foot traffic and interest.
- Action LU-A6.5* Amend Title 9 of the City Municipal Code (Planning and Zoning) to provide flexibility for redevelopment of historic structures in the Downtown to meet current needs while maintaining the overall historic value.

- Action LU-A6.6* Facilitate planning and permitting for building renovations to ensure they are economically feasible and enable new uses that meet contemporary needs.
- Action LU-A6.7* Work with other public agencies and organizations to develop and use all available financing tools and incentives to stimulate investment in the Downtown, including areas within the Rail Corridor Master Plan.
- Action LU-A6.8* Evaluate and implement adjustments to the Public Facilities Fee structure to promote development in the Downtown.
- Action LU-A6.9* Implement the policies and strategies contained in the Downtown Strategic Plan, including by amending Title 9 of the City Municipal Code (Planning and Zoning) and permitting procedures/fees, as necessary.
- Action LU-A6.10* Explore the possibility of creating a commercial parking center to alleviate problems of on-street truck parking.

Action LU-A6.11 Improve Downtown lighting, potentially including installation of new streetlamps or suspended street lighting, and/or requirements for new development to incorporate pedestrian-scale lighting.

Action LU-A6.12 Improve Downtown wayfinding for vehicles and pedestrians to direct visitors to key destinations throughout the Downtown.

Action LU-A6.13 Improve sidewalk maintenance in the Downtown and explore widening key sidewalks to provide space for outdoor seating and tree plantings.

Action LU-A6.14 Implement complete streets projects to improve bicycle and pedestrian safety in the Downtown.

GOAL LU-7

Nurture individual neighborhoods by adopting tailored Land Use policies that address the needs of Los Banos' subareas.

Los Banos is divided into a number of subareas that have distinct characters and needs. The following policies, while potentially applicable to other areas as well, are written with specific subareas in mind.

POLICIES

Pacheco Boulevard Corridor

Policy LU-P7.1 Enhance aesthetics and urban design along Pacheco Boulevard and improve the safety and experience of people walking and driving along the street consistent with the Pacheco Boulevard Complete Streets Plan.

Policy LU-P7.2 Gradually phase out industrial and warehouse uses along Central Pacheco Boulevard between Mercey Springs Road (SR-165) and Ortigalita Boulevard and explore mechanisms to help those uses relocate to planned Employment Parks or Industrial areas.

Policy LU-P7.3 Implement adopted Community Design Standards for buildings on Pacheco Boulevard.

Central Neighborhood

Policy LU-P7.4 Recognize and leverage the presence of Memorial Hospital Los Banos to provide needed medical services for the community.



Policy LU-P7.5 Allow medical/dental offices, specialized clinics, laboratories, and related services to cluster around the Memorial Hospital Los Banos, subject to standards ensuring that surrounding areas are not adversely affected.

Airport

Policy LU-P7.6 Prepare and plan for maximally beneficial potential future redevelopment of the Los Banos Airport site.

Policy LU-P7.7 Require developers to mitigate fully the environmental effects of development at or near the airport site following any relocation of the airport (particularly the potential impacts to Los Banos Creek riparian corridor and the City's water supply) by clustering development to maximize open space.

Policy LU-P7.8 Until such time as the airport is relocated, ensure that proposed residential, commercial, and industrial uses near the airport be consistent with Los Banos Municipal Airport Plan and the Merced County Airport Land Use Compatibility Plan.

Policy LU-P7.9 Establish design guidelines to ensure high-quality design and site planning at the Business Opportunity Area and the airport site.

Policy LU-P7.10 Encourage a campus-like setting for Employment Parks at the airport site, in the Ingomar Grade rail corridor at Johnson Road, and next to Merced Community College, with emphasis on pedestrian connections, streetscape beautification, and compatible building scale where the district connects to surrounding neighborhoods.

Eastside

Policy LU-P7.11 Prohibit gas stations or other potentially polluting uses at the commercial area immediately south of the future SR-152 bypass interchange with SR-165.

The Circulation Element provides guidance and specific actions to ensure the continued safe and efficient operation of Los Banos' transportation system. As required by California law, this Element correlates with the Land Use Element to provide policies for managing transportation and traffic conditions in the city. Careful integration of the City's traffic and circulation policies with its land use policies ensures a circulation system that can accommodate the current and future vehicular, pedestrian, bicycle, public transit, aviation, and goods movement needs of the city. The Circulation Element includes policies related to physical infrastructure serving development, vehicular circulation, bicycle and pedestrian trails, transit, regional goods movement, and aviation.

Contents

- 1 Background Context
- 2 Circulation Themes
- 3 Roadway Network
- 4 Public Transit
- 5 Pedestrian Circulation
- 6 Bicycle Circulation
- 7 Parking
- 8 Goods Movement
- 9 Environmental Justice
- 10 Goals, Policies, and Actions

Background Context

Transportation programs are based on circulation system planning and land use planning. The City's traffic circulation planning efforts coordinate with those of the Merced County Association of Governments (MCAG) and California Department of Transportation (Caltrans) District 10. State-of-the-art traffic engineering through City implementation and policy guidance is used to bring planned improvements to reality. Development and implementation of all these strategies will seek to achieve a balanced and efficient circulation system for Los Banos.

Another objective of this Element is to create a complete and equitable transportation system that addresses all modes and users: personal motor vehicle use, commercial truck traffic, public transportation, bicyclists, pedestrians, youth, the elderly, and people with disabilities, as well as airport facilities and users. It contains policies to meet State requirements to implement complete streets and address environmental justice by ensuring



the circulation system of Los Banos is fully accessible by and meets the needs of disadvantaged communities.

This Element provides direction for the construction of new routes to serve new development and the expansion of the existing circulation system. In addition, the General Plan establishes a range of street classifications to be applied for roads in different contexts. The Element recognizes the need to provide an environment that encourages walking, particularly at high activity centers, and provides ways to reduce auto-dependence by facilitating use of alternate modes of travel.

Circulation Themes

Complete Streets

Complete streets create a circulation network that accommodates multimodal travel, allowing people of all ages and abilities to safely travel by vehicle, foot, bicycle, and transit within the city and to the larger region. Circulation policies supporting complete streets promote roadway improvements that incorporate pedestrian, bicycle, and public transit facilities where feasible on thoroughfares that are mainly used by vehicles. Policies also guide the design of new streets, whether private or public, to serve a complete range of users. Caltrans has a Complete Streets Program that it implements on State-regulated highways.

The Los Banos City Council accepted the Pacheco Boulevard Complete Streets Plan and the Pioneer Road Complete Streets Plan in 2021. The Pacheco Boulevard Complete Streets Plan will

enhance Pacheco Boulevard using strategies that create a more efficient, safe, and attractive street for people driving, walking, and bicycling. The Pioneer Road Complete Streets Plan includes proposed improvements to make Pioneer Road an attractive boulevard providing a new east-west connection for cars and trucks that would include safe and comfortable facilities for people walking and bicycling.

Connectivity

Connectivity strategies promote connection locally between residential neighborhoods, Downtown, employment centers, and shopping locations in Los Banos, and regionally by improving links to the State highway system.

Policies supporting connectivity focus on promoting grid street layouts to allow for through movement and good connections between and within neighborhoods; short blocks offer a choice of routes and enable more direct connections, which decreases trip length and increases the likelihood of choosing to bike or walk; and to reduce cul-de-sacs wherever possible, which lead to circuitous travel and concentrates traffic along fewer streets. Variations from the traditional grid can allow for diagonal and curvilinear streets as well as larger or smaller blocks for maximum flexibility and improved connectivity. Additionally, connectivity policies support neighborhood street design that is human-scaled and not excessively wide and incorporate traffic safety measures, including setting speed limits, providing signage, and designating truck routes to reduce commercial traffic through neighborhoods.

Equity

An equitable and safe circulation network, especially for residents of disadvantaged communities (DACs), ensures that the network meets the needs of all Los Banos residents.¹ The policies in this Element commit the City to prioritizing traffic safety, connectivity, and bicycle and pedestrian improvements to make streets and sidewalks safe and accessible for people of all ages and abilities.

Roadway Network

The core of Los Banos' circulation network is the roadway system, which all modes of transportation depend on to some degree. In Los Banos, this system is based on a traditional grid pattern in the downtown surrounded by a radial pattern of arterial roadways. Regional access is provided by State Route (SR-) 152 and SR-165 on the west and north. The hierarchy of street classifications is shown on Figure 4-1.

Street System

The roadway system in Los Banos consists of a hierarchy of street types that are commonly referred to as functional classifications. The functional classifications are as follows:

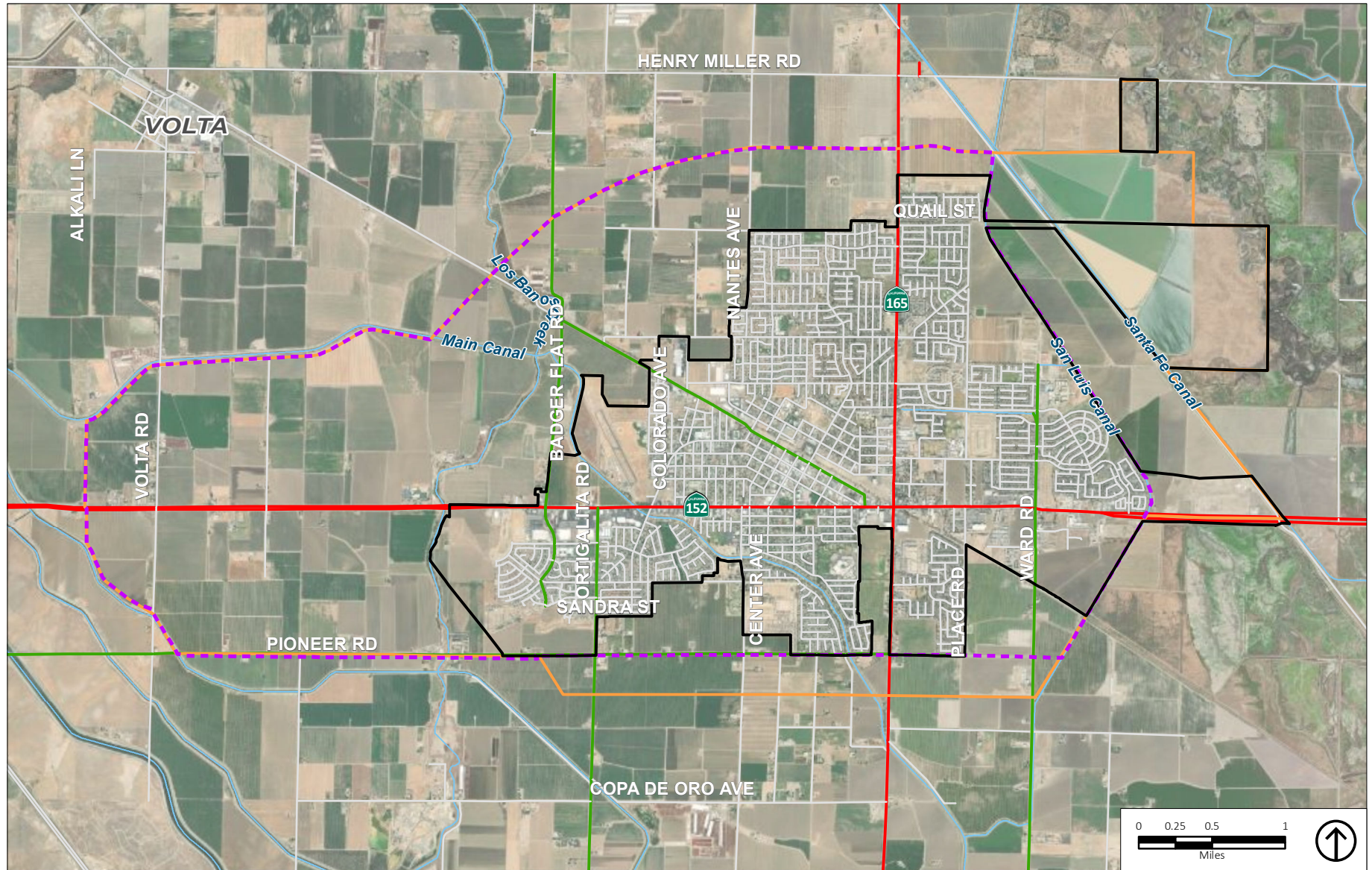
Freeways. Freeways are divided highways designed for the unimpeded flow of large traffic volumes. Most freeways are four lanes, or two lanes each direction. Access to a freeway is rigorously controlled through the use of interchanges, and the type of interchange depends on the kind of intersecting roadway (surface street, rural road, another freeway, urban arterial, etc.). There are currently no freeways within the Planning Area, but the future SR-152 by-pass north of the city will fall under this category.

Highways. Highways are designed to carry heavy traffic volumes at speeds of 40 to 55 miles per hour. Highways link Los Banos with other nearby urban areas. Access is limited, crossings are generally signalized at grade or grade-separated, parking is not allowed, and a continuous median separates lanes moving in opposite directions. SR-152 and SR-165 are the two highways in Los Banos.

Major Arterials. Arterials are designed to move large volumes of traffic between highways and other arterials in Los Banos and to adjacent jurisdictions. Major arterials are access-controlled roadways emphasizing mobility between major portions of the city and to regional freeways and highways. Major arterials do not provide on-street parking.

¹ See the explanation of disadvantaged communities, as defined by Senate Bill 1000, in Chapter 1, Introduction, under "Planning for Environmental Justice."

CIRCULATION



Source: Merced County 2019; PlaceWorks, 2022.

- City Limit
- State Highway
- Urban Growth Boundary (UGB)
- Arterial
- Sphere of Influence (SOI)
- Roads

Figure 4-1
Existing Roadway Network

Minor Arterials. Minor arterials provide mobility through the city and access to major residential, employment, and activity centers. Minor arterials provide two travel lanes, one in each direction. Driveway access is minimized, consistent with the primary function of arterials to move through traffic. Bike lanes, landscaped strips, sidewalks, and transit facilities may also be accommodated within the right-of-way of minor arterials, depending on the right-of-way width. On-street parking may be appropriate for some minor arterials that emphasize accessibility over mobility.

Collectors. Collector streets provide a link between neighborhood streets and arterials. Collectors provide two travel lanes, one in each direction, in addition to any bicycle lanes where called for in the Los Banos Bicycle-Pedestrian Plan. On-street parking may be provided if sufficient width is available. Collectors also provide access to adjacent properties, so driveway access is generally discouraged but not restricted. Landscaped strips, sidewalks, and transit facilities may also be accommodated depending on the right-of-way available.

Local Streets. The primary function of local streets is to provide direct access to adjacent properties. Local streets provide two travel lanes, landscaped strips, and sidewalks. On-street parking may be restricted.

Level of Service

The level of service (LOS) concept is generally used to measure the amount of traffic that a roadway or intersection can accommodate, based on how many vehicles use the facility (volume) versus how many vehicles the facility is designed to carry (capacity). LOS ranges from LOS A, or free-flow conditions, to LOS F, or congested conditions. These conditions are generally described in Table 4-1.

Vehicle Miles Traveled

California Senate Bill (SB) 743, passed in 2013, requires that the environmental impacts of new development on transportation network performance be evaluated based on greenhouse gas emissions rather than on traffic congestion, or LOS, at local intersections and roadways. This shift also recognizes that improvements that can help more cars move faster, such as widening roadways and intersections, may often be detrimental to other roadway users, like people walking or biking. Therefore, cities are evolving away from the traditional LOS metric towards a multi-modal perspective based on vehicle miles traveled (VMT).

While LOS describes local impacts at a specific location, VMT describes citywide or regional impacts by measuring the number of miles traveled by motor vehicles within an area. Considering VMT enables the City to focus transportation planning efforts on reducing commute lengths and improving alternative transportation options.



TABLE 4-1: LEVEL OF SERVICE CRITERIA FOR INTERSECTIONS

Level of Service	Type of Flow and Delay	Maneuverability	Stopped Delay/Vehicle (Seconds)		
			Signalized	Unsignalized	All-Way Stop
A	Stable Flow Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all.	Turning movements are easily made, and nearly all drivers find freedom of operation.	≤10	≤10	≤10
B	Stable Flow Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	>10 and ≤20	>10 and ≤15	>10 and ≤15
C	Stable Flow Higher delays resulting from fair progression and/or longer cycle lengths. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.	Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	>20 and ≤35	>15 and ≤25	>15 and ≤25
D	Approaching Unstable Flow The influence of congestion becomes more noticeable. Longer delays may result from some combination of long cycle lengths or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	Maneuverability is severely limited during short periods due to temporary back-ups.	>35 and ≤55	>25 and ≤35	>25 and ≤35
E	Unstable Flow Generally considered to be the limit of acceptable delay, with poor progression, long cycle lengths, and high volume-to-capacity ratios.	There are typically long queues of vehicles waiting upstream of the intersection.	>55 and ≤80	>35 and ≤50	>35 and ≤50
F	Forced Flow Generally considered to be unacceptable to most drivers. May also occur at high volume-to-capacity ratios. Poor progression and long cycle lengths may also be major contributing factors.	Jammed conditions. Back-ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions.	>80.0	>50.0	>50.0

Source: Omni-Means, 2006.

4 CIRCULATION

Planned Roadway Improvements

This Element describes major street improvements planned or programmed to meet the City’s circulation goals. Figure 4-2 shows the planned roadway system implemented through 2042. Table 4-2 and Figure 4-3 show and describe specific planned roadway improvements across Los Banos’ circulation system.

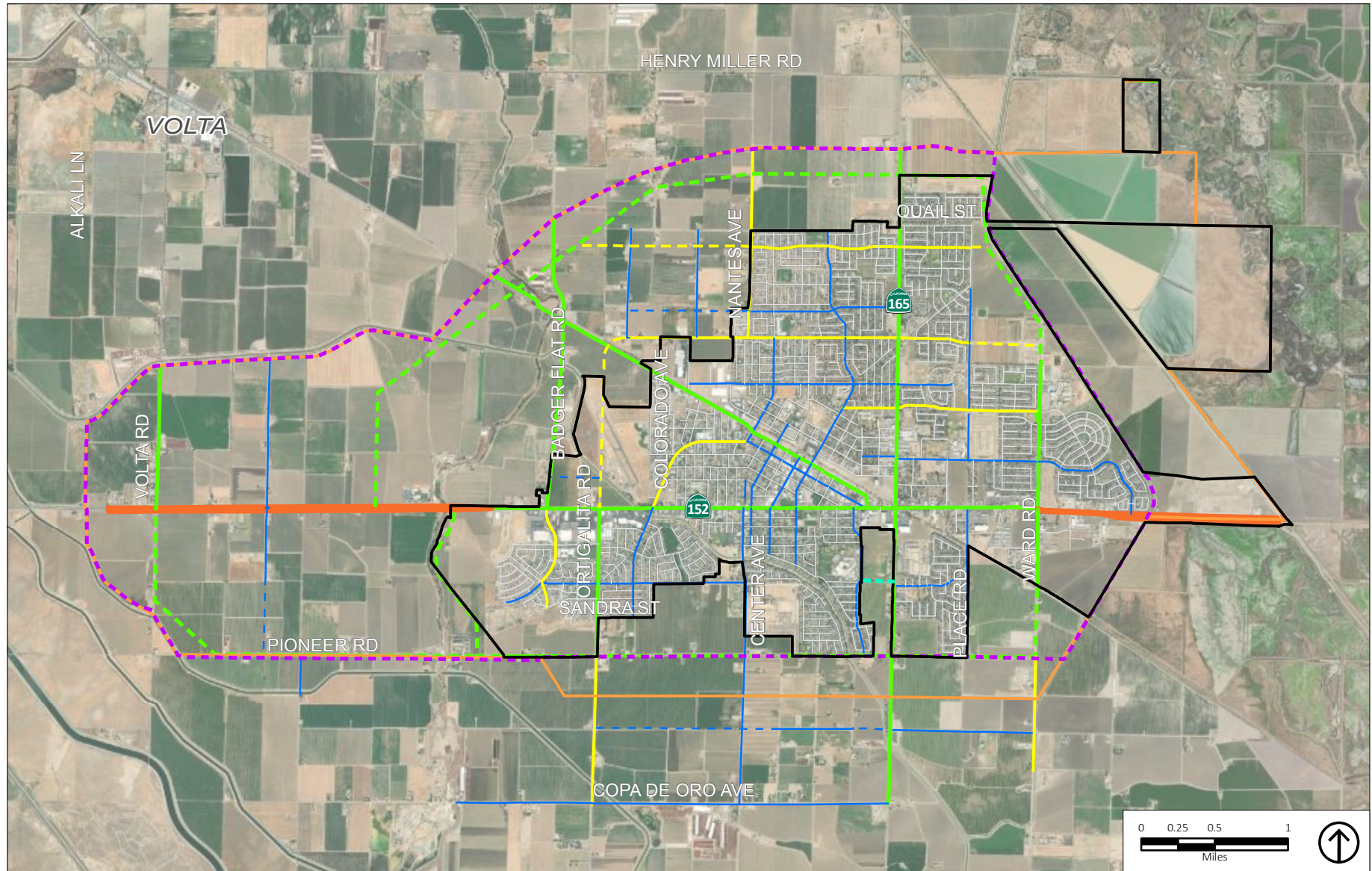
The planned improvements, coupled with policies requiring transportation demand management and traffic analysis for new development, will result in generally acceptable LOS.



TABLE 4-2: PLANNED IMPROVEMENTS	
Roadway	Improvement Description
SR-165 / Mercey Springs Road	Widen to four-lane divided arterial from Henry Miller Road to Copa del Oro Road
SR-152 / Pacheco Boulevard	Provide improvements consistent with the Pacheco Boulevard Complete Streets Plan
Pioneer Road	Widen to four-lane arterial from Volta Road to Ward Road.
Pioneer Road	Provide improvements consistent with the Pioneer Road Complete Streets Plan
Ward Road	Widen to four-lane arterial from Pacheco Boulevard to Pioneer Road
10th Street	Extend 10th Street from G Street to H Street
Ingomar Grade Road / H Street	Widen to four-lane arterial
Badger Flat Road	Widen to four-lane arterial from Henry Miller Road to Pioneer Road
Overland Avenue	Realign intersection of Overland Avenue and H Street
Page Avenue	Extend Page Avenue between South 11th Street and Mercey Springs Road to connect to Scripps Drive
Place Road	Extend Place Road from Pacheco Boulevard to San Luis Street
SR-152 and SR-165	Provide improvements to intersection of SR-152 and SR-165
Future SR-152 Bypass Frontage Road	Reserve right-of-way for new frontage road just south of the future SR-152 bypass from Pacheco Boulevard to Ward Road

Source: Kittelson Associates, 2022.

CIRCULATION

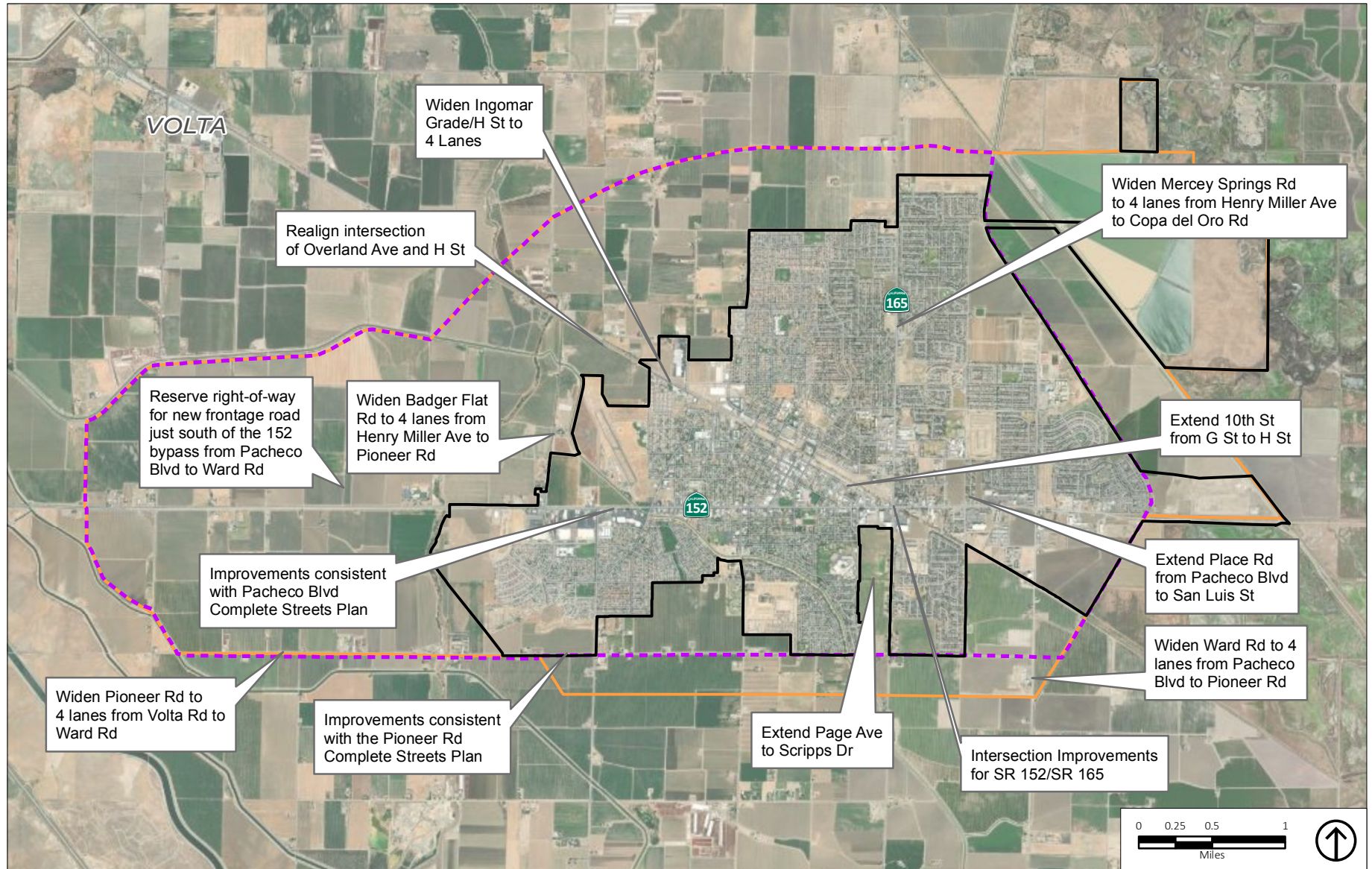


Source: Merced County 2019; PlaceWorks, 2022.

- | | | | |
|-----------------------------|----------------|------------------------|------------------------|
| City Limit | Local | Minor Arterial | Planned Minor Arterial |
| Urban Growth Boundary (UGB) | Highway | Collector | Planned Collector |
| Sphere of Influence (SOI) | Major Arterial | Planned Major Arterial | Planned Local Road |

Figure 4-2
Planned Roadways 2042

CIRCULATION



Source: Merced County 2019; PlaceWorks, 2022.

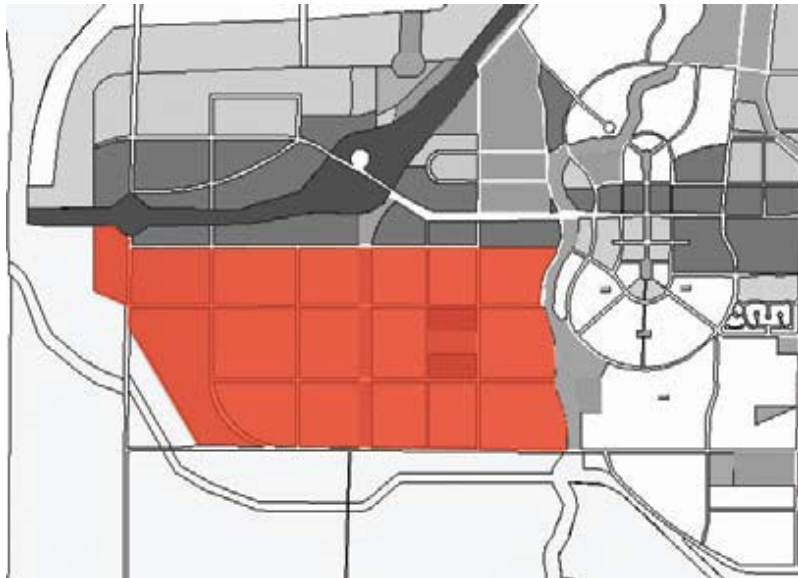
Figure 4-3
Planned Improvements

City Limit
 Urban Growth Boundary (UGB)
 Sphere of Influence (SOI)

Transportation Management for the Westside Subarea

Under General Plan 2042, the Westside subarea is envisioned to provide more than 2,200 acres of developable land where many new jobs will be located (see Figure 4-4). As such, many employees who work in this area will use Pacheco Boulevard, Pioneer Road, and the proposed SR-152 bypass to travel to work. This will create an adverse impact on peak-hour traffic on these roads, so this General Plan includes policies that have specific requirements for traffic analysis and transportation demand management for new projects in this area.

Figure 4-4 Westside Subarea



Public Transit

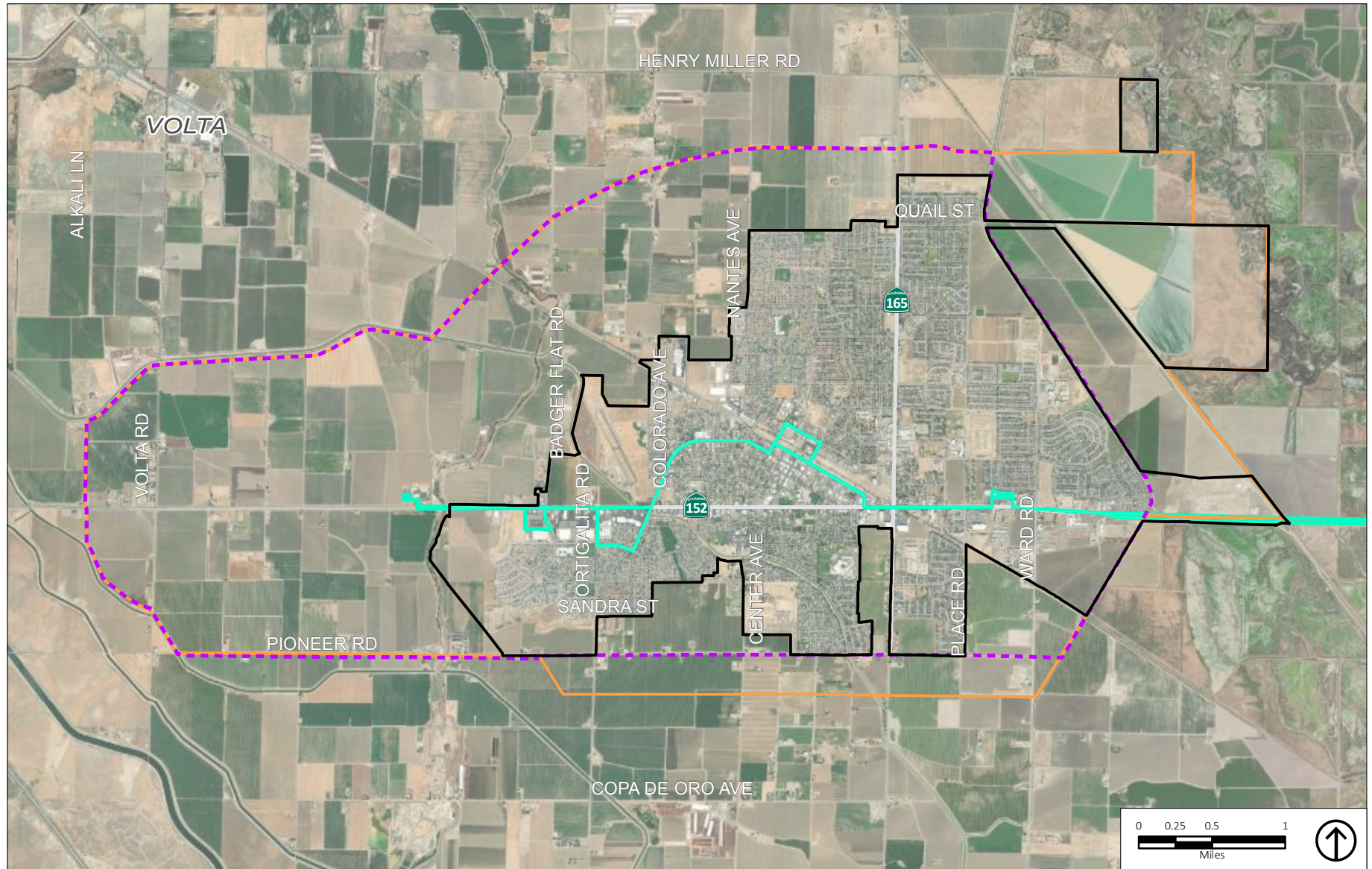
Public transit in Los Banos is currently served by the Merced Regional Transit System, also known as “The Bus”. The Bus is administered and governed by the Transit Joint Powers Authority for Merced County. The system provides both fixed route and Dial-A-Ride (door-to-door) transit services throughout all of Merced County. Transportation centers include the Greyhound Bus Station, and the Los Banos Airport.

The Los Banos Commuter Route is the bus route that travels between the Cities of Los Banos and Merced, with stops at El Nido and Dos Palos in between. The Bus has several stops within the Planning Area along Pacheco Boulevard, in Downtown, and the Los Banos Campus of Merced College, as illustrated on Figure 4-5. Most of the outlying residential areas of Los Banos are not served by the Bus.

Pedestrian Circulation

The pedestrian circulation network consists of all public paths dedicated to pedestrian travel, such as sidewalks, crosswalks, accessible ramps, trails, and overhead and underpass crossings. This network is supported by signalized intersections, signage, and accessibility features that make pedestrian travel safe and accessible for people of all ages and abilities.

CIRCULATION



Source: Merced County, 2019; Merced County Association of Governments, 2022; PlaceWorks, 2022.

- City Limit
- Sphere of Influence (SOI)
- Urban Growth Boundary (UGB)
- Merced Transit Authority Los Banos Commuter Bus Route

Figure 4-5
Bus Routes



The pedestrian network is described in the Los Banos Bicycle-Pedestrian Plan, which is the active transportation plan (ATP) for Los Banos. It assesses the existing pedestrian network of Los Banos, identifies gaps, proposes new pedestrian facilities, and identifies improvements and funding sources to implement them. The ATP also includes Safe-Routes-to-Schools (SRTS) improvements to create safe pathways for youth and students traveling between home and school.

Pedestrian travel is an active mode of transportation that reduces greenhouse gases and improves public health. Los Banos' flat topography and warm climate provide favorable conditions for walking or bicycling as a transportation option. Circulation policies promote development and improvement of pedestrian facilities across Los Banos.

Bicycle Circulation

In Los Banos, existing and planned bikeways and bicycle parking facilities are identified in the Los Banos Bicycle-Pedestrian Plan. The General Plan provides goals and policies for supporting and promoting bicycle facilities in Los Banos.

Bicycle route classifications are shown in Table 4-3. Figure 4-6 shows existing and planned bicycle facilities for Los Banos. Figure 4-7 shows the multimodal transportation network of Los Banos combining the existing public transit, pedestrian, and bicycle facilities.

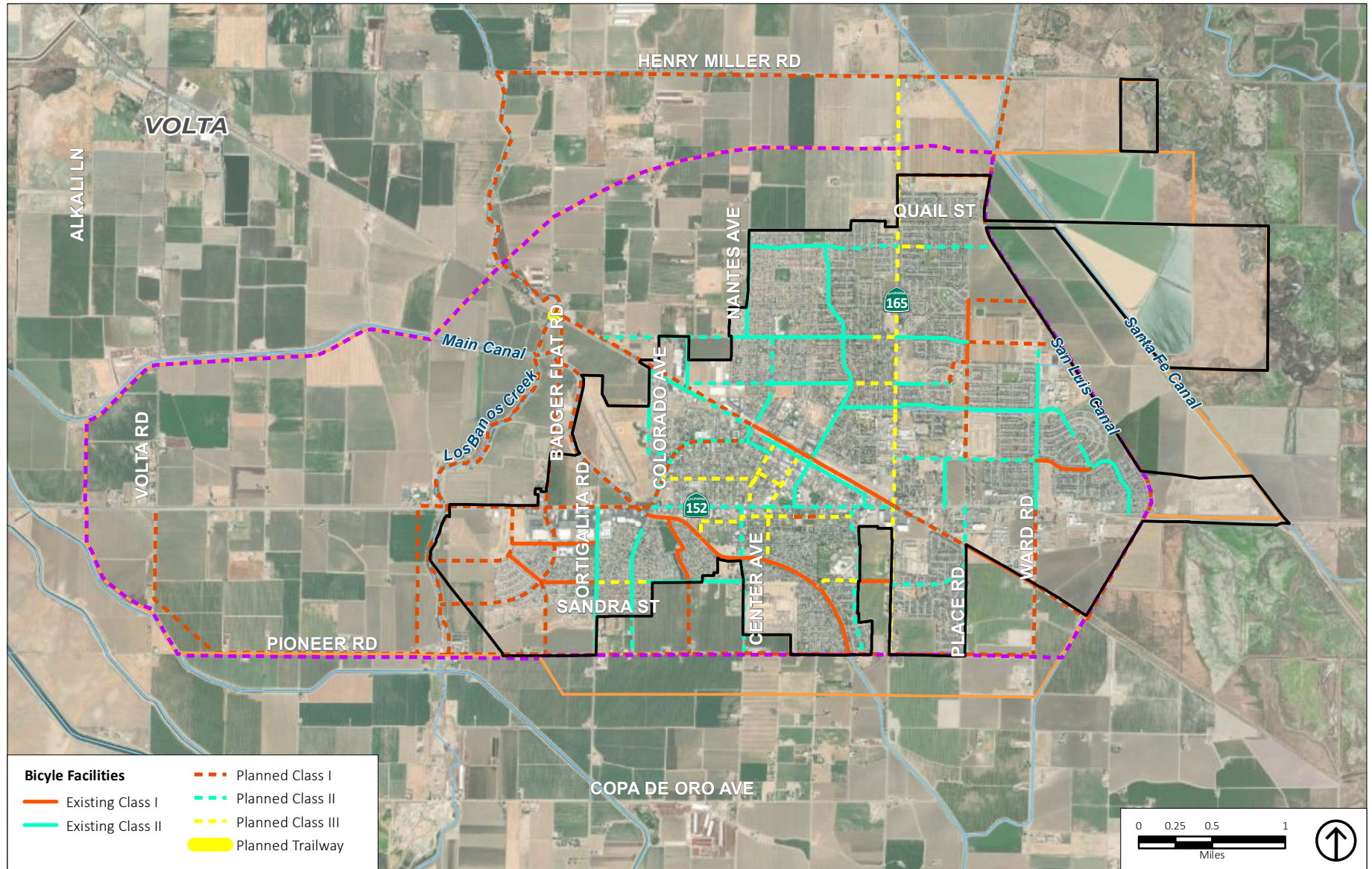
Parking

Parking is regulated by the City Zoning Ordinance (Title 9 of the Municipal Code). This Element provides policies for maintaining and improving parking conditions in Los Banos.

TABLE 4-3: BIKEWAY CLASSIFICATIONS

Classification	Function	Access Control	Right-of-Way
Class I - Bike Paths	Provide exclusive right-of-way for bicyclists with cross-flows by motorists minimized.	Where crossing or access from the bicycle path is required, the crossing should be grade-separated or occur at pedestrian crossings. Mid-block crossings should assign right-of-way through signing or signalization.	Minimum of 8 feet for a two-way facility. The minimum paved width for a one-way bike path is 5 feet. A minimum 2-foot-wide graded area shall be provided adjacent to the pavement, but a 3-foot graded area is recommended. Where pedestrian activity is expected, a minimum of 12 feet for a two-way facility should be provided.
Class II - Bike Lanes	Provides preferential use of the paved area of roadway for bicyclists by establishing specific lines of demarcation between areas reserved for bicycles and motorists.	Access should be controlled to minimize intersection and driveway crossings. At intersections where there is a bike lane and an actuated signal, it is desirable to install bicycle-sensitive detectors. Push button detectors force the bicyclists to stop and actuate the push button.	Class II bike lanes are one-way facilities. On roadways with parking, the bike lane is between the parking area and the traffic lane with 5-foot minimums for the bike lane. Where parking is permitted and not marked, minimum width is 12 feet. On roadways where parking is prohibited, a minimum of 5 feet is required, including a 2-foot gutter.
Class III - Bike Routes	Provides a right-of-way designated by signs or permanent markings and shared with pedestrians and motorists.	Access should be controlled to minimize driveway crossings.	The width of a Class III bike route varies. It is desirable to have a minimum bicycle travel way; however, due to various constraints/conditions, a minimum width has not been established.
Class IV - Separated Bike Lanes	Provides buffered right-of-way for bicyclists separated from vehicle traffic by raised features such as medians, landscaping, bollards, flex posts, or other element.	Access should be controlled to minimize intersection and driveway crossings. At intersections where there is a bike lane and an actuated signal, it is desirable to install bicycle-sensitive detectors. Push button detectors force the bicyclists to stop and actuate the push button.	Minimum 2 feet width for buffer on streets where there is no parking, minimum 3 feet width for buffer on streets where this is parking, minimum 5 feet width for buffer where there is accessible parking. Minimum 5 feet width for each bicycle lane.

CIRCULATION

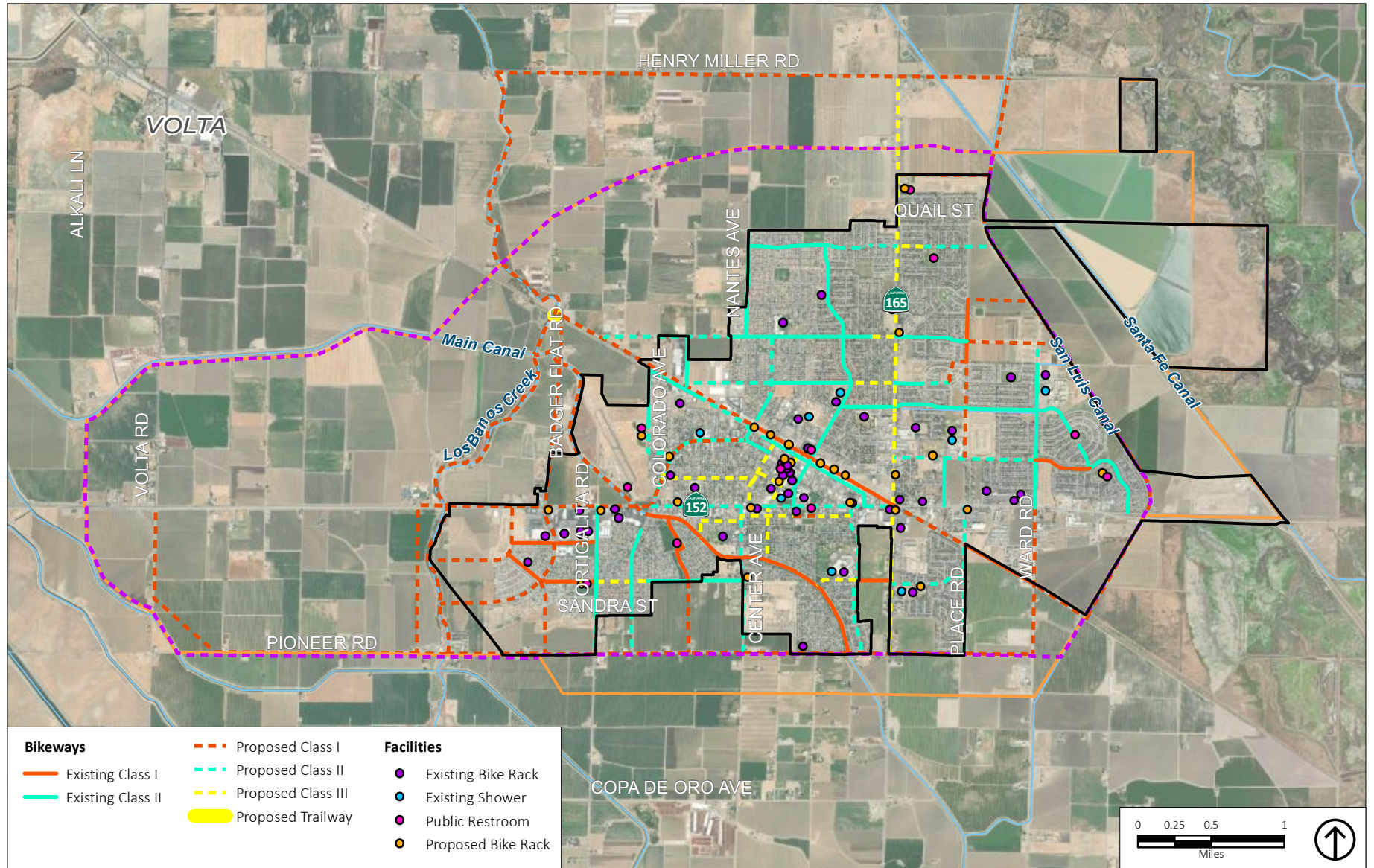


Source: Merced County, 2019; PlaceWorks, 2022.

City Limit Urban Growth Boundary (UGB) Sphere of Influence (SOI)

Figure 4-6
Existing and Planned Bicycle Facilities

CIRCULATION



Source: Merced County, 2019; PlaceWorks, 2022.

Figure 4-7
Multimodal Network



Goods Movement

Aviation

Los Banos currently has a small, public-use aviation airport west of downtown to serve city residents and communities in the vicinity.

The Los Banos Municipal Airport has an approximately 3,800-foot runway with a full return taxiway. The airport is open 24 hours and receives small twin engine passenger aircrafts as well as corporate or private jets. There are a number of T-hangers and a pilot's lounge on airport grounds.

The City is considering whether to relocate the airport in the future.

Railway

Los Banos currently does not have active railway lines within the Planning Area. The city was historically connected to Fresno and Tracy via a railway line operated by the Union Pacific Railroad Company. The railway was primarily used to transport agricultural produce and goods and was abandoned in the early 1990s when trucking became more economical. Today, a part of this railway has been converted into the Henry Miller Plaza at the junction of Sixth Street and H-Street.



Jets parked at the Los Banos Municipal Airport. (Source: airport-data.com)

The State of California High-Speed Rail Authority is constructing a high-speed rail network linking San Francisco, Oakland, and Sacramento in the north—with service to the Central Valley—to Los Angeles and San Diego in the south. The northbound route will connect to Sacramento; the southbound will connect to an interchange that will take travelers west towards Gilroy and the San Francisco Bay Area or south to Madera, Fresno, and Los Angeles. The current planned alignment of the high-speed rail corridor will pass just north of Los Banos, east-west parallel to Henry Miller Road. The closest station to Los Banos will be in Merced, adjacent to SR-99 and the Union Pacific Railroad line on Martin Luther King Jr. Way/SR-59 and the SR-99 interchange.

The High-Speed Rail Authority and the City of Merced will be developing a station area plan before proceeding to construction.

Truck Routes

The roadway system in Los Banos carries a substantial number of trucks moving goods. The General Plan designates specific truck routes that are designed to allow truck traffic to pass through the city with minimal impact on residential neighborhoods as well as local vehicular and pedestrian traffic. Figure 4-8 shows the designated truck routes in Los Banos.

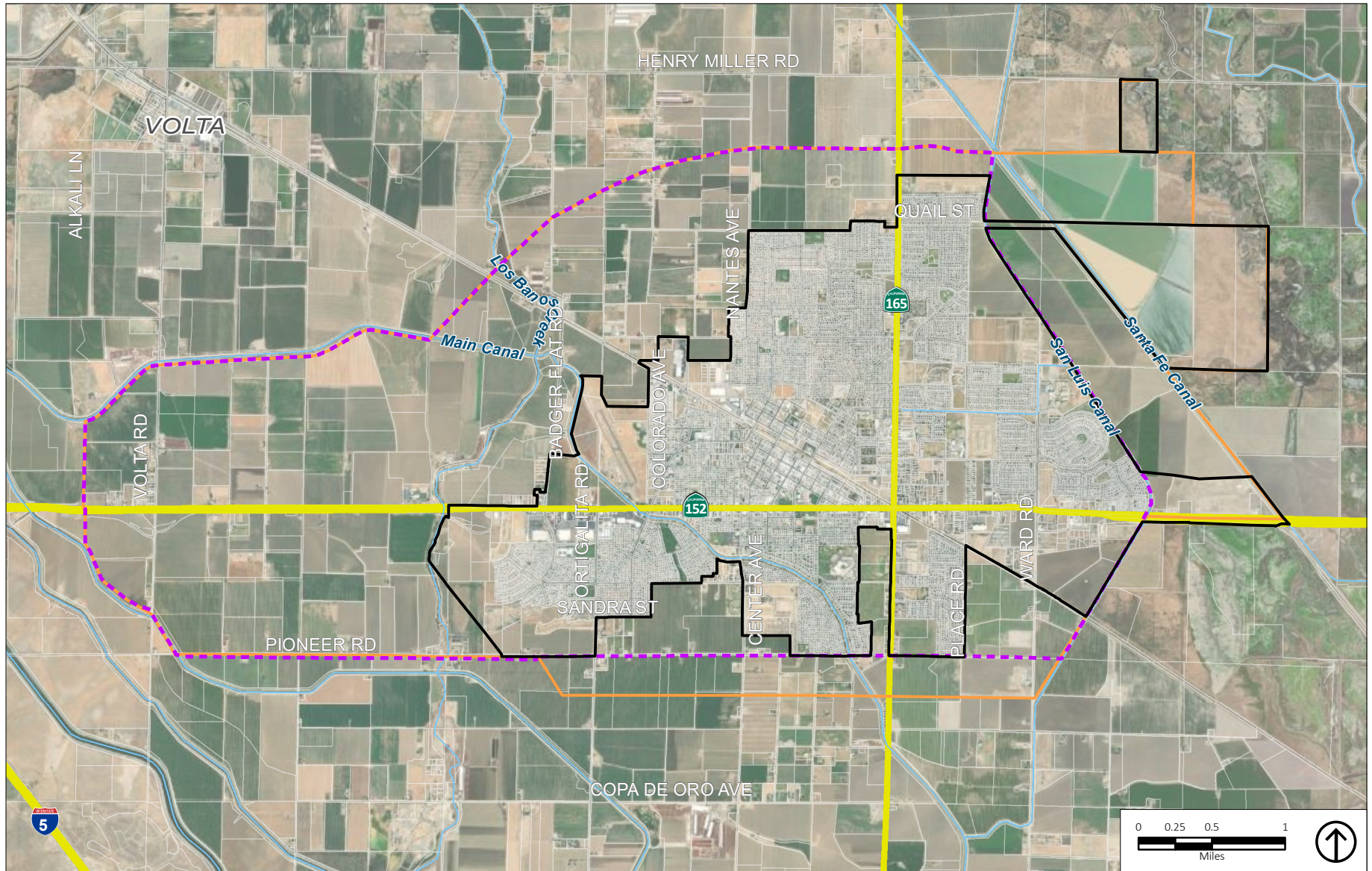
Environmental Justice

State law (SB 1000) requires this General Plan to advance environmental justice by addressing the needs of DACs. Though the law does not prescribe specific policies the City must adopt, policies and actions must cover the following.

- **Reduction of pollution exposure, including improvement of air quality.** The Circulation Element provides policies to promote active transportation that would reduce transportation modes that produce greenhouse gas emissions and thereby increase exposure to particulate matter and air contaminants. The Element regulates truck routes to minimize pollution impacts on DACs.

- **Promotion of physical activities.** Along with the Los Banos Bicycle-Pedestrian Plan, circulation policies in this Element promote the creation and support of pedestrian and bicycle facilities, which would encourage physical activity. Additional policies prioritize connectivity to open space and recreation for DACs.
- **Promotion of public facilities.** Circulation policies prioritize improving connectivity between DACs and public facilities, such as schools and community facilities. Additionally, policies prioritize circulation network improvements for DACs to ensure vehicular, pedestrian, bicycling, and public transit facilities that meet the needs of the community.
- **Promotion of food access.** Circulation policies prioritize improving multimodal connectivity between residents of DACs and access to healthy foods, such as grocery stores and farmers' markets.
- **Prioritize improvements and programs that address the needs of disadvantaged communities.** Circulation policies prioritize circulation and complete streets improvements for DACs.

CIRCULATION



Source: California Department of Transportation, 2020; Merced County, 2019; PlaceWorks, 2022.

- City Limit
- Urban Growth Boundary (UGB)
- Sphere of Influence (SOI)
- Truck Routes

Figure 4-8
Truck Routes

Goals, Policies, and Actions

Roadway Planning and Design

GOAL C-1

Promote safe and efficient vehicular circulation for all modes and users.

POLICIES

Policy C-P1.1 Plan, design, and maintain complete streets in Los Banos, which balance safe access to all users, including drivers, pedestrians, cyclists, and people of all ages and abilities, and which integrates all appropriate modes of transportation into an effectively functioning system.

Policy C-P1.2 Require all new developments to provide right-of-way and improvements consistent with the General Plan street designations and City cross-street section standards.

Policy C-P1.3

Provide for greater street connectivity by:

- Incorporating in subdivision regulations requirements for a minimum number of access points to existing collector streets or neighborhood streets for each development;
- Encouraging traffic circles and roundabouts over signals where feasible;
- Requiring bicycle and pedestrian connections from cul-de-sacs to nearby public areas and main streets; and
- Requiring new residential communities on undeveloped land planned for urban uses to provide stubs for future connections to the edge of the property line. Where stubs exist on adjacent properties, new streets within the development shall connect to these stubs.

Policy C-P1.4

Promote the installation of landscaping in center medians and at major intersections where feasible.



ACTIONS

- Action C-A1.1* Work with the Merced County Association of Governments and Caltrans to implement technologies that can improve the performance, reliability, and safety of the transportation system, such as signal coordination, centralized traffic control, red-light and speed enforcement cameras, and real-time travel information.
- Action C-A1.2* Adopt street standards that provide flexibility in design, especially in residential neighborhoods. Revise right-of-way and pavement standards to reflect adjacent land use and/or anticipated traffic and permit reduced right-of-way dimensions where necessary to maintain neighborhood character.
- Action C-A1.3* Adopt updated street standards to reflect complete streets principles, focusing on bicycle and pedestrian safety and multi-modal uses.

- Action C-A1.4* Plan for a frontage road on the south side of the SR-152 bypass to facilitate traffic circulation.
- Action C-A1.5* Work with regional and State agencies to plan for the future SR-152 bypass.
- Action C-A1.6* Establish landscaping standards along the SR-152 bypass and the Pioneer Road/Ward Road/West Connector.

Minimizing Emissions and Congestion

**GOAL
C-2**

Make efficient use of existing transportation facilities and, through coordinated land use planning, strive to improve accessibility to shops, schools, parks, and employment centers for all users, and reduce total vehicle miles traveled per household to minimize vehicle emissions and save energy.

POLICIES

- Policy C-P2.1* Develop and manage the roadway system to obtain segments at level of service (LOS) C and intersections at LOS D or better for two-hour peak periods (a.m. and p.m.) on all major

4 CIRCULATION

roadways and intersections in Los Banos. This policy does not extend to neighborhood streets, freeways, or State highways and their intersections, where Caltrans policies apply. Exceptions to LOS policy may be allowed by the City Council in areas, such as Downtown, where allowing a lower LOS would result in clear public benefits.

Policy C-P2.2 Require traffic impact studies for all proposed new developments that will generate significant amounts of traffic (100 or more peak-hour trips).

Policy C-P2.3 Collect and analyze traffic volume data on a regular basis and monitor current intersection and roadway segment levels of service on a regular basis. Use this information to update and refine the City's travel forecasting model so that estimates of future conditions are more strongly based on local travel behavior and trends.

Policy C-P2.4 Require applicants for proposed projects in the Westside subarea, as shown in Figure 4-4, to provide data to the City traffic engineer for site trip calculations and reduce their building

square footages if the number of trips exceeds that allowed to gain development approval.

Policy C-P2.5 Achieve State-mandated reductions in vehicle miles traveled (VMT) by requiring development and transportation projects to meet specific VMT metrics. In the event a proposed project does not meet these metrics, require measures to reduce the additional VMT associated with the project, consistent with the City's adopted thresholds.

Policy C-P2.6 Reduce vehicle miles traveled (VMT) through measures such as improvements to public transportation and carpooling and offering safe routes for pedestrians and bicyclists.

Policy C-P2.7 Consider, on a case-by-case basis, how to shift travel demand away from the peak period, especially in those situations where peak-traffic problems result from a few major generators.

Policy C-P2.8 Promote and encourage carpool, vanpool, and guaranteed ride home with employers to discourage single occupancy vehicles while encouraging alternative modes of transportation such as carpooling.



ACTIONS

- Action C-A2.1* Participate in regional efforts to develop guidelines for calculating the projected VMT associated with future development projects and transportation improvements. The guidelines also should cover administration, screening criteria, and appropriate Transportation Demand Management measures and monitoring procedures. All VMT metrics should be routinely reassessed and revised as needed to reflect changing conditions.
- Action C-A2.2* Study the feasibility of a Trip Reduction Ordinance (TRO) to support achievement of the State-mandated reductions in VMT.
- Action C-A2.3* Perform routine, ongoing evaluation of the efficiency of the urban street traffic-control system, with emphasis on traffic signal timing, phasing, and coordination to optimize traffic flow along arterial corridors. Use traffic control systems to balance arterial street utilization (e.g., timing and phasing for turn movements, peak period, and off-peak signal timing plans).

Action C-A2.4 Establish and implement additional programs to maintain adequate peak-hour level of service at intersections and along roadway segments as circumstances warrant.

Public Transit

**GOAL
C-3**

Provide a wide variety of transportation alternatives and modes to serve all residents and businesses to enhance the quality of life.

POLICIES

- Policy C-P3.1* Promote the use of public transit for daily trips to schools, employment, and medical appointments.
- Policy C-P3.2* Work with Merced County Transit to situate transit stops and hubs at locations that are convenient for transit users and promote increased transit ridership through the provision of shelters, benches, bike racks on buses, and other amenities.
- Policy C-P3.3* Ensure that new development is designed to make transit a viable choice for residents. Design options include:

- Have neighborhood focal points with sheltered bus stops;
- Locate medium- to high-density development near streets served by transit; and
- Link neighborhoods to bus stops by continuous sidewalks or pedestrian paths.

Coordinate with Caltrans and Merced County Transit to identify and implement Park and Ride sites with convenient access to public transit.

ACTION

- Action C-A3.1* Develop a multi-modal transit system map integrating bicycle, public transportation, pedestrian, and vehicle linkages within the city to ensure circulation gaps are being met.

Bicycle and Pedestrian Circulation

GOAL C-4

Promote bicycling and walking as alternatives to the automobile.

POLICIES

- Policy C-P4.1 Develop bicycle lanes, routes, and paths consistent with the Los Banos Bicycle-Pedestrian Plan.
- Policy C-P4.2 Increase bicycle safety by:
- Sweeping and repairing bicycle lanes and paths on a regular basis;
 - Ensuring that bikeways are delineated and signed in accordance with Caltrans' standards and lighting is provided, where needed;
 - Providing bicycle paths or lanes on bridges and overpasses;
 - Ensuring that all new and improved streets have bicycle-safe drainage grates and are free of hazards, such as uneven pavement and gravel;



- Providing signage and markings warning vehicular traffic of merging or crossing bicycle traffic where bike routes and paths make transitions into or across roadways; and
- Working with the Los Banos Unified School District to educate on bicycle safety through programs and classes in schools as part of Safe Routes to Schools.

Policy C-P4.3 Give bicyclists equal treatment in terms of provisions for safety and comfort on arterials and collectors as vehicles. (

Policy C-P4.4 Require secure and convenient bicycle parking at large commercial and industrial employer sites.

Policy C-P4.5 Require new development in office parks, commercial districts, and residential neighborhoods to include a series of continuous walkways so they connect to one another.

Policy C-P4.6 Provide for pedestrian-friendly zones in conjunction with the development, redevelopment, and design of mixed-use neighborhood core areas, the Downtown area, schools, parks, and other high-use areas by:

- Providing intersection “bump outs” to reduce walking distances across streets in the Downtown and other high-use areas;
- Providing crosswalks at all signalized intersections;
- Providing landscaping that encourages pedestrian use; and
- Constructing adequately lit and safe access through subdivision sites.

Policy C-P4.7 Ensure that roadway improvement projects address mobility and accessibility for bicyclists and/or pedestrians.

Policy C-P4.8 Support implementation of the adopted Los Banos Bicycle-Pedestrian Plan in coordination with the County’s Regional Bikeway Plan.

Policy C-P4.9 Reduce driveway conflicts along Pacheco Boulevard consistent with the Pacheco Boulevard Complete Streets Plan.

Parking

GOAL C-5

Foster practical parking solutions.

POLICIES

Policy C-P5.1 Promote side setbacks in new residential development to provide parking for recreation vehicles where feasible.

Policy C-P5.2 Promote shared parking for mixed-use projects, passive solar on parking structures to generate energy for parking lot lighting, and pervious parking paving to improve groundwater recharge.

ACTIONS

Action C-A5.1 Assess and address parking needs of downtown commercial businesses by:

- Considering the need for the construction of a new parking structure for public convenience and to promote economic development; and
- Establishing parking exemptions for small stores and restaurants.

Action C-A5.2 Amend the Zoning Ordinance to allow shared parking for mixed uses where peak parking demands do not overlap.

Goods Movement

GOAL C-6

Provide for safe, efficient goods movement within Los Banos that supports the local economy.

POLICIES

Policy C-P6.1 Continue to participate in the planning and construction process for the California High-Speed Railway.



ACTIONS

- Action C-A6.1* Study the feasibility of relocating the airport outside the urban area, with access to the State highway system, at a location that will minimize environmental impacts.
- Action C-A6.2* Work with the County to update the Airport Land Use Compatibility Plan to accommodate a relocated airport and its operations.
- Action C-A6.3* Establish, maintain, and enforce truck routes in the city to provide direct access to Commercial, Office, and Industrial areas and to avoid disadvantaged communities. This program should include standards for designating truck routes, signage, and enforcement mechanisms.

Environmental Justice

GOAL
C-7

Provide a safe and accessible multimodal circulation network for disadvantaged communities that improves health and reduces pollution exposure.

POLICIES

- Policy C-P7.1* In capital projects and planning documents, prioritize the implementation of street safety projects in disadvantaged communities.
- Policy C-P7.2* Support improvements to bikeways and sidewalks in disadvantaged communities to make active transportation more accessible, user-friendly, and safer, while decreasing vehicle speeds, congestion, and air pollution.
- Policy C-P7.3* Prioritize energy-efficient street lighting programs in disadvantaged communities, particularly at parks, transit stops, alleyways, pedestrian paths, along commercial corridors, and near high-density and medium-density housing.
- Policy C-P7.4* Work with local transit providers to establish and maintain routes and services, including accessible transit services, that provide disadvantaged communities with convenient access to employment centers, shopping, healthy food outlets, and services. Support extended hours of transit service to serve shift workers.

Policy C-P7.5 Provide convenient ways for residents to notify the City when transit shelters and benches or other seating at transit stops in disadvantaged communities are not in a state of good repair, especially along commercial corridors and near high-density and medium-density housing. The City will relay this information to Merced County Transit.

ACTIONS

Action C-A7.1 Develop and implement Safe-Routes-to-School plans to ensure that routes for safe walking, bicycling, and transit to schools exist. Prioritize the development and maintenance of sidewalks, crosswalks, street lighting, bicycling infrastructure, transit stop amenities, traffic calming, and other safety improvements in disadvantaged communities.

Action C-A7.2 Promote programs where people can apply for partial and/or temporary street closures for amenities such as parklets and community events such as farmers’ markets, block parties, or bicycle and pedestrian events.

Funding for Improvements

GOAL C-8	Provide stable and adequate funding for roadway construction and maintenance.
--------------------	--

POLICIES

Policy C-P8.1 Continue to require that new development pays a proportionate share of the costs of street and other traffic and local transportation improvements based on traffic generated and impacts on traffic service levels, consistent with State laws.

Policy C-P8.2 Continue to require city-wide traffic impact fees to provide additional funding for transportation improvements needed to serve new development. Provide for automatic adjustments in traffic fees to reflect increases in construction costs (e.g., materials, rate of inflation).

Policy C-P8.3 Continue to pursue creative sources of funding for transportation improvements.



This page intentionally left blank.

6 PARKS, OPEN SPACE, AND CONSERVATION

The Parks, Open Space, and Conservation Element provides guidance for development and management of the City's parks and recreation facilities, public open space, and cultural and historic resources. This Element addresses conservation of natural resources, including biological resources, agriculture, vegetation, habitat, special-status species, water resources, mineral resources, air quality, climate change, and environmental justice.

Contents

- 1 Parks and Recreation
- 2 Open Space Resources
- 3 Biological Resources
- 4 Agricultural Resources
- 5 Water Resources
- 6 Mineral Resources
- 7 Cultural Resources
- 8 Air Quality
- 9 Climate Change and Greenhouse Gases
- 10 Environmental Justice
- 11 Goals, Policies, and Actions

Parks and Recreation

Los Banos is committed to creating and maintaining a park system that meets peoples' recreational needs and contributes to the city's positive image. The presence of well-designed and accessible parks and community facilities is essential to the health and well-being of city residents.

Existing Parks and Recreation Facilities

The Parks and Facilities Division of the City of Los Banos maintains a park system that embraces a wide variety of neighborhood, community, and pocket parks. Table 6-1 lists existing parks and their acreages and Table 6-2 summarizes existing parkland by park type. Figure 6-1 illustrates existing parks and recreation facilities.



Los Banos' parks and facilities are established through the Park Master Plan, which provides the following classifications.

- **Pocket Park.** A pocket park is intended to serve the needs of a specific neighborhood within a quarter-mile radius. Pocket parks are usually fully landscaped with trees and turf and usually less than one acre in size. Besides residential neighborhoods, they can also be found Downtown, serving shoppers or employees as places to rest or eat.
- **Neighborhood Park.** A neighborhood park, typically 1 to 10 acres in size, provides basic recreation facilities for one or more neighborhoods. They can also be attached to a storm basin, in which case they can be as large as 25 acres in size. The service area typically is a half-mile radius and should avoid crossing any major natural or human-made barriers that inhibit access to the park, such as major arterial roads, canals, or sound walls.
- **Community Park.** A community park is typically between 7 to 10 acres in size and is intended to provide recreational, athletic, and open space needs within a service area of 1 to 3 miles.

- **Specialized Park or Facility.** A specialized use park is a recreation area or facility intended to provide the city with a specific activity or major use and are generally not determined by size. This category may include elements from neighborhood and community parks and is intended to provide amenities that could serve visitors from outside the city. A specialty park or facility could be a building used for meetings or recreational programs; a memorial park or plaza smaller than five acres; or can be a specific use such as a skate park, BMX track, or dog park.
- **Trail.** A trail is a linear path that is along a linear feature, such as a waterway, roadway, or railroad right-of-way. A trail could also be an easement that leads to canal or rail trails. The Rail Corridor Trail is an example.

Neighborhood and community parks have a variety of facilities, including sports fields, tennis courts, basketball courts, picnic areas, and children's play areas, as well as grass areas for informal play. Currently, there is a joint-use agreement between the school district and the City for facility use, which requires agreement on intensity of use, costs, and other factors. Table 6-2 summarizes the total acreage and ratios of parkland type per 1,000 residents.

6 PARKS, OPEN SPACE, AND CONSERVATION

TABLE 6-1: EXISTING PUBLIC PARKS AND RECREATION FACILITIES

Name	Acreage	Name	Acreage	Name	Acreage
Pocket Park		Neighborhood Park		Community Park	
Big Page Park	1.23	Citrus Terrace II Park	2.4	7th St. Ballpark	5.92
Catholic Park	0.26	College Greens Park	5.1	AG Sports Complex	49.87
Citrus Terrace I Park	0.3	Cresthills Park	4.21	Colorado Ballpark	9.33
City Park (on Ninth Street)	1.03	Elena Talbott Basin Park	9.19	Pacheco Park	6.02
Davis Park	0.7	Gardens V Basin Park	15.87	Specialty Park or Facility	
Gardens 1 Park	0.75	Jo-Lin Basin Park	4.16	Airport Park	0.35
Gardens 3 Park	0.86	Meadowlands II Park	4.38	Flagpole Park	0.63
Little Page Park	0.18	Meadowlands III Park	3.44	Henry Miller Plaza	2.63
Meadowlands I Park	0.61	Meadowlands Basin Park	24.4	Los Banos Community Center	4.31
Meadowlands Greenway	1.01	Neighborhood (Sandstone) Park	0.54	Miller and Lux Building	0.15
Oliveira Courtyard (Southbrook Park)	0.7	Oliveira Park	8.72	Veterans Memorial Park	2.16
Presidential Park	0.43	Orchard Terrace	1.17	Wolfsen Park	2.04
Rancho Dos Amigos Park	0.62	Rancho Dos Amigos Greenway	1.8	Trails	
Regency Tot Lot Park	0.47	Ranchwood Park	4.55	H.G. Fawcett Canal Trail	19.0
Village Park	0.55	Regency Lot D Park	4.98	Lindemann Trail	4.5
		Skylark Park and Expansion	7.42	Page Avenue Extension Trail	0.84
		Verona Basin Park	6.75	Rail Trail	6.91
		Vineyard Basin A Park	6.27	Rail Trail Extension	6.67
		Vineyard Basin B Park	8.95		
		Vineyard Basin C Park	8.58		

Source: City of Los Banos, 2021.



TABLE 6-2: SUMMARY OF EXISTING PARK TO POPULATION RATIOS

Park Type	Acreege	Current Ratio (Acres/1,000 population)
Pocket Parks	9.34	0.2
Neighborhood Parks	131.27	3.1
Community Parks	75.79	1.8
Special Parks and Facilities	11.35	0.3
Trails	36.60	0.8
Total	264.35	6.2

Proposed Parks and Trails

This General Plan will serve as a guide for park and recreation master planning by the Planning and Public Works Departments.

The parks proposed in the General Plan respond to the expressed desire of Los Banos residents for more green spaces, greater access to parks and recreational spaces, and an enhanced urban environment.

As shown in Table 6-2, the City currently has approximately 264 acres of neighborhood, community, and pocket parks in the city serving a population of roughly 42,900 residents. This translates into a park ratio of just over 6 acres per 1,000 residents.

The City is studying and pursuing several planned community parks. The 2021 Parks Master Plan provides concepts for these major efforts. These include a regional sports facility in the southwest area of the city with multiple sports fields, courts, picnic areas, and open space; an aquatics center Downtown with indoor swimming and recreational facilities; and renovation and expansion of some existing parks. The Ag Sports Complex in the northeast area of the city is proposed for expansion to potentially accommodate sports fields, a dog park, trails, and other recreational facilities. Colorado Park in the northwest area of the city would be renovated with new picnic areas, ballcourts, and hardscaped areas. New parkland areas are to be acquired by the City through private and public funding sources or through development contributions. In all, the General Plan aims to provide a park within a quarter-mile access for each resident and seeks to achieve a parkland goal of at least 5 acres per 1,000 residents to help accomplish this.

Rail Trail

The Rail Trail is a linear park that extends from the center of Downtown to southeast Los Banos. The Rail Corridor Trail was born out of a collaborative effort between City government, community leaders, and business owners to revitalize downtown after the Union Pacific Railroad company abandoned its right-of-way in the mid-90s. The entire trail is made up of three segments. The primary paved segment is known as the Rail Trail Corridor and extends from 2nd Street to Mercey Springs Road, roughly following H-Street, a diagonal street that connects downtown with development east and west of the city. This connects to an unpaved segment called the Rail Trail Extension from Mercey

6 PARKS, OPEN SPACE, AND CONSERVATION



Springs Road to Place Road. The final segment is called Lindemann Trail and is a paved trail that extends from Place Road to Ward Street.

HG Fawcett Parkway (CCID Main Channel)

The Central California Irrigation District (CCID) Main Channel presents an excellent opportunity to create an extensive linear park system in Los Banos. The channel traverses the city in a roughly northwest to southeast direction and connects the Gardens V Basin Park Pacheco Boulevard and several schools along its path. HG Fawcett Parkway follows the segment of the canal between I Street and Pioneer Road. It offers a multi-use path, several picnic areas, and pedestrian bridge. Residents from different neighborhoods fish regularly in the channel or walk their dogs. As the city becomes more developed, the HG Fawcett Parkway could be extended to link new neighborhood parks and community centers north and south of Pioneer Road to jobs, shopping, and services along Pacheco Boulevard and in future Employment Campus areas.

Los Banos Creek Trail

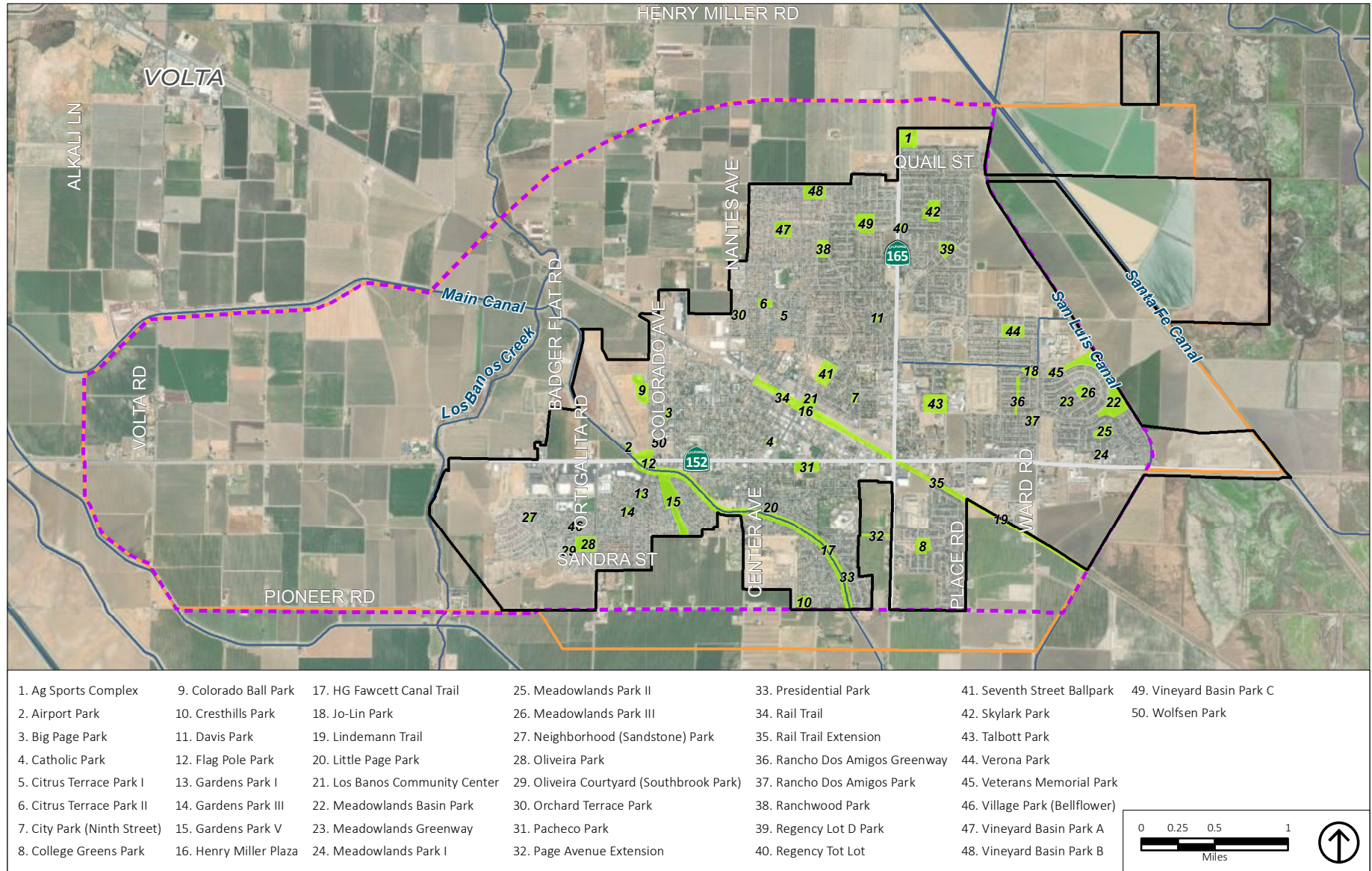
The Los Banos Creek Trail is a planned trail envisioned to traverse the city in a north/south direction and was traditionally a major watershed and flood catchment for the eastern and southeastern part of the city. Currently, the creek runs along the edge of urban development and adjoins several agricultural land parcels. When this part of the city develops in the future, the creek will become a major ecological green belt and circulation element. It has potential for multi-purpose recreation, water recharge, and

habitat restoration facilities. Additionally, portions of the trail system could serve as a buffer between proposed commercial uses to the west of the creek and residential development at the other side. The current Land Use Element proposes a Community/City Park at the junction of the creek and the HG Fawcett Parkway. This interconnection will provide a linear trail system that ties together the creek area with southern and southeastern portions of the city.

Open Space Resources

Los Banos' setting—in an agricultural county laced with creeks and waterways—includes natural resources that are important not only for aesthetic value, but also for environmental quality, habitat protection, and water resources. In addition, preserving the general configuration of surrounding hills, creeks, and natural topographic features fosters a sense of place for the community, and this affords current and future residents an understanding of the city's natural setting and native topography. The Land Use Element (Chapter 3 of the General Plan) is responsible for designating which land is open space. This section describes the different types of open spaces that the General Plan is required to address.

PARKS, OPEN SPACE, AND CONSERVATION



Source: City of Los Banos, 2022; PlaceWorks, 2022.

Figure 6-1
Parks and Recreation Facilities

City Limit
 Urban Growth Boundary (UGB)
 Sphere of Influence (SOI)
 Parks

Classification of Open Space

State planning law (California Government Code Section 65560) provides a structure for the preservation of open space by identifying the following open space categories:

- **Open space for public health and safety**, including, but not limited to, areas that require special management or regulation due to hazardous or special conditions. This type of open space might include earthquake fault zones, unstable soil areas, floodplains, watersheds, high fire risk zones, areas required for protecting water quality and water reservoirs, and areas required for protecting and enhancing air quality.
- **Open space for the preservation of natural resources**, including, but not limited to, areas required for the preservation of plant and animal life, such as: habitat for fish and wildlife species; areas required for ecological and other scientific study purposes; rivers, streams, bays, estuaries, and wetlands.
- **Open space for outdoor recreation**, including, but not limited to, areas of outstanding scenic, historic, and cultural value; areas particularly suited for recreation purposes, such as access to rivers and streams; and areas that serve as links between major recreation and open space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors.
- **Open space used for the managed production of resources**, including, but not limited to, rangeland, agricultural lands, and areas of economic importance for the production of food or fiber; areas required for recharge of groundwater basins; marshes, rivers, and streams that are important for the management of commercial fisheries; and areas containing major mineral deposits.
- **Open space to shape and limit urban form**, including, but not limited to, areas meeting other open space objectives, such as greenbelts and open space corridors established to implement community design goals or objectives. Open space established for the State Route (SR-) 152 Bypass and those under the jurisdiction of the CCID and Grassland Water District (GWD), may also be classified as open space to shape and limit urban form.
- **Open space for military support**, including, but not limited to, areas adjacent to military installations and training routes, and areas underlying restricted airspace. Los Banos currently does not have and is not located near military installations or training routes.
- **Open space for tribal resources**, including, but not limited to, public land containing any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and Native American historic, cultural, or sacred sites that are listed or may be eligible for listing in the California Register of Historical



Resources, pursuant to California Public Resources Code Section 5024.1.

In addition to these categories, California Government Code Section 65302 also requires that the General Plan identify existing natural features and ecosystem processes that the City can incorporate into strategies to increase resiliency to climate change. In Los Banos, these include mature trees, creeks and waterways, riparian areas, and groundwater recharge processes.

Protection of open space resources is determined based on the ecosystem fragility, location, hazard potential, regulatory constraints, and other pertinent factors. In some types of open space, development is prohibited entirely, while in others, some development may be allowed if it is clustered to respect and protect the integrity of the land and the environment.

Determination of how these open space resources are to be protected will be made on a case-by-case basis following standards and review procedures established in the Zoning and Subdivision Ordinances consistent with General Plan policies.

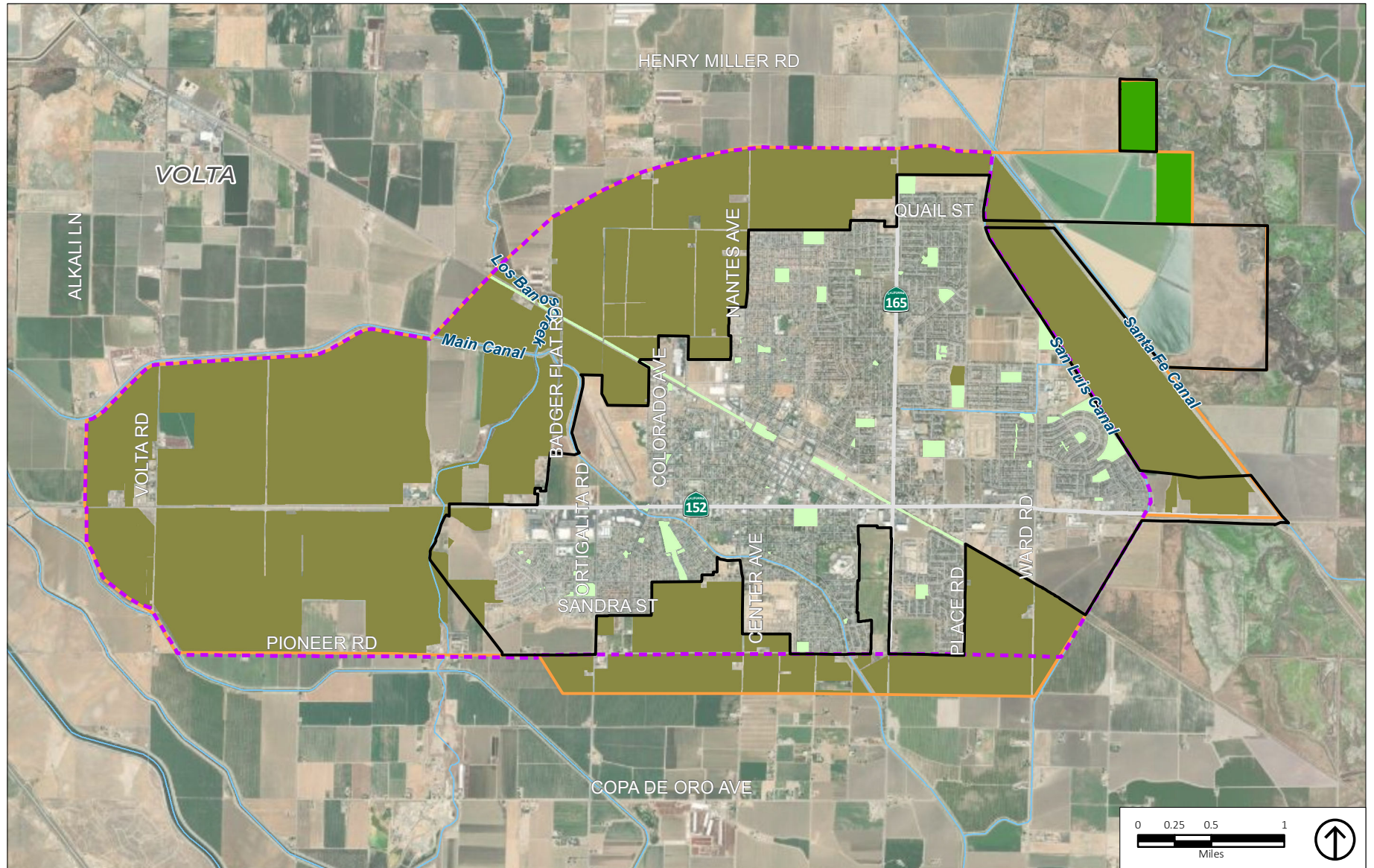
Existing Open Space

Los Banos is primarily surrounded by agricultural open space and undeveloped lands in the unincorporated areas of the county. Open space for agricultural production currently exists in the western parts of the city near the municipal airport, and around the edges of its sphere of influence (SOI). The Grassland Ecological Area (GEA) and Pacific Flyway to the east of Los Banos are examples of open space for the preservation of natural

resources and are discussed in more detail in the following section on Biological Resources. Figure 6-2 shows existing open space in Los Banos.

Open space policies listed in the Goals, Policies, and Actions section of this Element are intended to protect open space resources and improve open space management and access to these areas, as appropriate.

PARKS, OPEN SPACE, AND CONSERVATION



Source: Merced County, 2019; PlaceWorks, 2022.

- City Limit
- Urban Growth Boundary (UGB)
- Sphere of Influence (SOI)
- Park
- Recreational
- Agricultural

Figure 6-2
Open Space Types

Biological Resources

The City of Los Banos lies at the edge of the larger San Joaquin Valley ecoregion, with portions of two key open space areas, the GEA and the Pacific Flyway, neighboring to the east. The GEA encompasses the Los Banos Wildlife Area and the North Grasslands Wildlife Area and includes native valley grassland, marshes, and riparian areas. It is considered the largest wetland complex in California, vital to migratory birds and many other species. This part of the Planning Area includes a variety of unique natural communities that range from vernal pools/wetland communities to riparian woodlands. The region's temperate weather and rich alluvial soil developed from sediment deposited by the San Joaquin River and its tributaries support a variety of amphibians, reptiles, birds, and mammals.

Vegetation and Habitat

The majority of the Planning Area consists of mixed agriculture, varying from row crops to orchards, vineyards, and irrigated pasture. There are also patches of disturbed areas along roadsides and irrigation ditches, and non-native annual grasslands on fallow parcels. A mixed riparian woodland occurs along Los Banos Creek, and fresh emergent wetlands are found in the far eastern and northern portions of the Planning Area, near the GEA. Wetlands are ecologically complex habitats that support a variety of plant and animal life. The GEA boundary neighboring the area is a non-jurisdictional border established by the U.S. Fish and Wildlife Service (USFWS) for the purpose of designating an area in which public easements for wetland conservation may be purchased. This area of year-round and seasonal wetlands, riparian corridors, and native grasslands is

part of the largest contiguous block of wetlands remaining in the Central Valley and provides habitat for hundreds of species of plants and animals, including many species that have been federally or state listed as threatened, endangered, or sensitive. These habitats are managed by the California Department of Fish and Wildlife (CDFW), GWD, and various private owners. The GEA is a major wintering ground for ducks and other migratory waterfowl and shorebirds. By some estimates, the wetlands near the Planning Area are used by 30 percent of the Pacific Flyway wintering duck population.

Special-Status Species

Special-status species are those plants and animals that, because of their acknowledged rarity or vulnerability to habitat loss or population decline, are recognized by federal, state, or other agencies and organizations as deserving special consideration. There are 70 special-status plant and animal species with potential to occur in the Planning Area, including alkali milk-vetch (*Astragalus tener*), Lemmon's jewel flower (*Caulanthus lemmonii*), vernal pool tadpole shrimp (*Lepidurus packardi*), Swainson's hawk (*Buteo swainsoni*), San Joaquin kit fox (*Vulpes macrotis mutica*), and giant garter snake (*Thamnophis gigas*).

Wildlife Corridors

Wildlife corridors link large blocks of habitat and allow safe movement for mammals and other wildlife species from one habitat area to another. Wildlife corridors can include greenbelts, refuges, underpasses, riparian areas, and creeks. Habitat for wildlife in and around Los Banos is fragmented by irrigation canals, SR-152 and SR-165, and urban development. Wildlife may move through agricultural fields and non-native annual grasslands when vehicle traffic and agricultural machinery are quiet. The mixed riparian woodland along Los Banos Creek may also serve as a wildlife corridor but is constrained by the narrow width of the corridor and lack of continuous vegetation cover. As noted above, the managed wetlands of the GEA, to the east of the Planning Area, are very important habitat for migratory waterfowl and shorebirds.

Agricultural Resources

Agriculture dominates the land surrounding Los Banos and is an important contributor to the local economy, history, and character.

Agriculture and Working Farmlands

Like most cities in the San Joaquin Valley, Los Banos was built on agricultural land. Although the City's economy once thrived on the production of agricultural uses, the City has since become urban, diversified, and modern. Nevertheless, agriculture is still an important asset to the region, as evidenced by the surrounding dairy farms and nut orchards, which boost the region's economy. The gross value of Merced County's agricultural production in 2016 was almost \$3.5 billion. The County's top-five commodities are milk (\$940 million), almonds (\$579 million), chickens (\$381

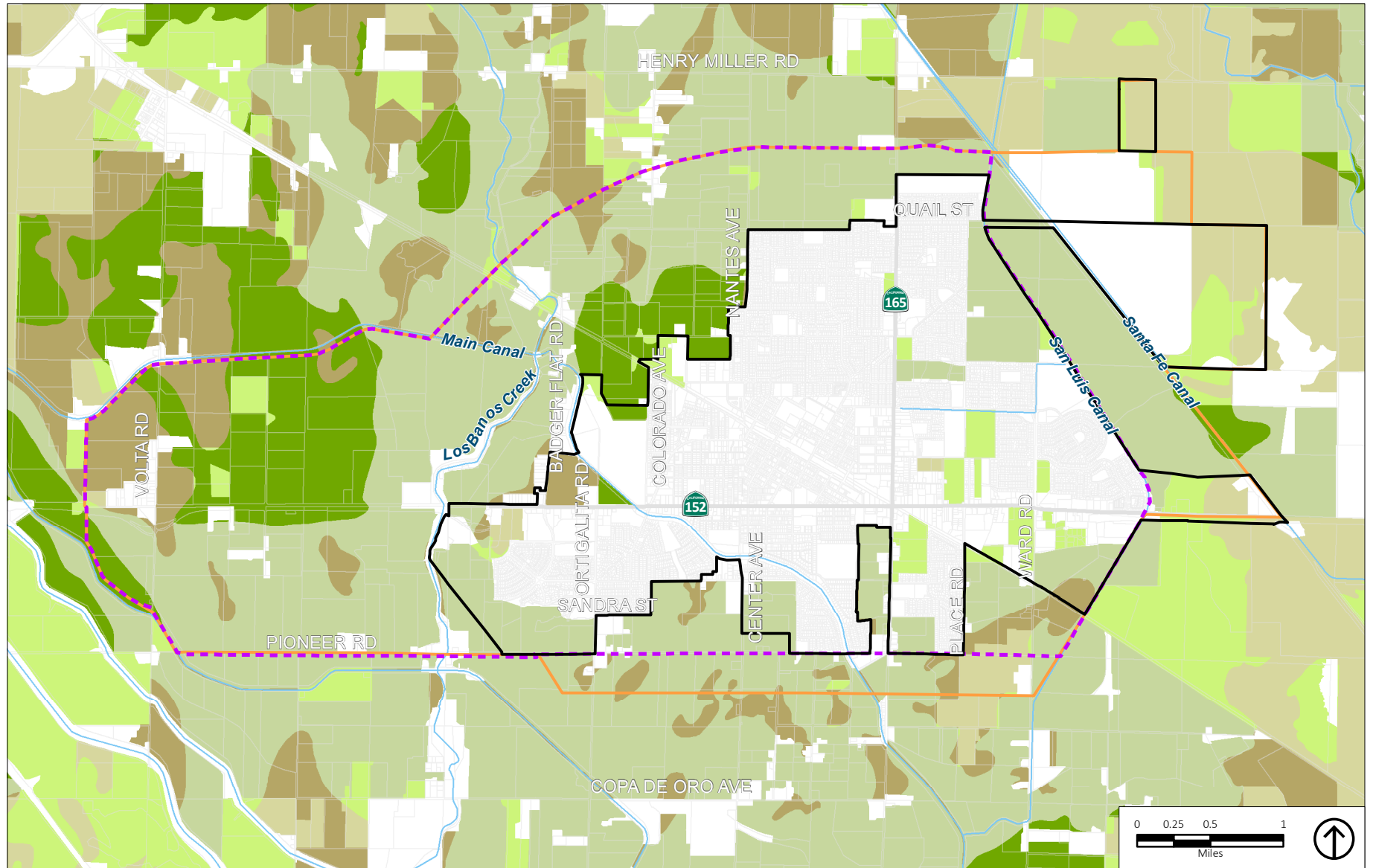
million), cattle and calves (\$297 million), sweet potatoes (\$232 million), and tomatoes (\$152 million).

Agricultural land can be found within the city limit and within the SOI. The Planning Area includes prime farmland, farmland of statewide importance, farmland of local importance, unique farmland, and grazing land, as classified by the California Department of Conservation. The majority of agricultural land within the Planning Area is classified as Prime Farmland. Table 6-3 lists the number of acres within the city limit and SOI in each classification. Figure 6-3 illustrates the distribution of working farmlands in the Planning Area and Prime Farmland surrounds the city limit. However, the Department of Conservation's data reflect conditions as of 2016. Since that time, some limited pieces of land may have been developed or may now be under development review. Nevertheless, the data provide a broad picture of the agricultural resources within Los Banos.

Community Agriculture

Community agriculture is agriculture that is supported locally by residents and seeks to serve the needs of the community. The primary example of this is the community garden. Another type is community-supported agriculture, where residents and community members subscribe to a local farm that directly delivers fresh foods and produce to them on a regular basis. Given Los Banos' agricultural roots and history, policies in this Element seek to economically and socially benefit Los Banos by supporting a self-sustaining community agricultural network within Los Banos.

PARKS, OPEN SPACE, AND CONSERVATION



Source: Department of Conservation 2018; PlaceWorks, 2022.

- City Limit
- Urban Growth Boundary (UGB)
- Sphere of Influence (SOI)
- Prime Farmland
- Farmland of Statewide Importance
- Farmland of Local Importance
- Unique Farmland
- Grazing Farmland

Figure 6-3
Agricultural and Working Farmlands

TABLE 6-3: EXISTING FARMLAND

Type	Acres in City Limit	Acres Outside City Limit in SOI	Total Acres	Percentage
Urban/Built-up Land	4,662	363	5,052	35%
Prime Farmland	759	4,495	5,254	36%
Farmland of Statewide Importance	32	1,285	1,317	9%
Farmland of Local Importance	492	145	637	4%
Unique Farmland	99	797	895	6%
Grazing Land	356	174	530	4%
Other Land	391	482	874	6%
Total	6,791	7,769	14,559	100%

Source: Department of Conservation: Division of Land Resource Protection.

Agriculture Protection

Agricultural land within the Los Banos Planning Area will be converted to urban uses during the life of this General Plan to accommodate projected residential and employment growth. For that reason, the Land Use Element of the General Plan establishes an Urban Growth Boundary and encourages compact development to reduce unnecessary conversion of agricultural lands.

Water Resources

The Los Banos Planning Area is within the Middle San Joaquin-Lower Chowchilla watershed, which lies within the greater San Joaquin Hydrologic Basin. Water enters the subbasins by way of riverbeds throughout the valley. The Planning Area is traversed by two natural surface water features, the Los Banos Creek and Mud Slough. Through the years, both water courses have been altered for flood control and have had their volume reduced upstream. Three human-made water courses—the CCID Main Canal, San Luis Canal, and the Santa Fe Canal, run through or near the Planning Area. These canals are used for both drainage conveyance and irrigation purposes.

Groundwater Basins

The City of Los Banos currently gets water solely from groundwater sources. Los Banos extracts its groundwater from the Delta-Mendota Subbasin, which is part of the larger San Joaquin Valley Basin. The Delta-Mendota Subbasin has been designated by the Department of Water Resources as in critical overdraft.

This chapter focuses on water as a natural resource to be protected and conserved. Existing and future groundwater supply for human use, including groundwater management requirements and Los Banos' role as a groundwater supply agency, is described in Chapter 8, Public Facilities and Services.



Groundwater Quality

In general, groundwater quality throughout the region is suitable for most urban and agricultural uses with only local impairments. The primary constituents of concern are nitrate, hexavalent chromium, selenium, sulfate, Total Dissolved Solids (TDS), arsenic, boron, chloride, and boron.

Although many city wells have low concentrations of arsenic, the city's drinking water meets the federal and state standards for arsenic of 0.010 milligrams per liter (mg/l). Arsenic occurs naturally in some rocks and soil, while agricultural pesticides and herbicides can contribute to contamination levels. Naturally occurring hexavalent chromium has been detected in elevated concentrations in some of the city's wells. It currently meets California drinking water standards of 0.05 mg/l; however, the State is in the process of lowering the standard to 0.010 mg/l. Groundwater from wells with elevated concentrations is blended with groundwater from other city wells to ensure compliance with the drinking water regulations. Because of the positive effects of recharge of Los Banos Creek on groundwater quality, higher-quality groundwater can be found at the western portion of the Planning Area.

Groundwater Recharge

Groundwater recharge at Los Banos occurs primarily from deep percolation of applied irrigation water and rainfall. The rate of recharge depends on the permeability of the surface and

subsurface materials. Surface water tends to flow towards the ancestral San Luis Creek Bed and the Los Banos Creek area. To a lesser extent, they also flow to various human-made irrigation canals and irrigation channels south and west of the city. Treated wastewater from the wastewater treatment plant (WWTP) is also discharged into pastureland, which helps to replenish the underground water supply. Additionally, the San Joaquin River Exchange Contractors (SJREC) Groundwater Sustainability Plan (GSP) group is implementing groundwater sustainability projects that would increase groundwater recharge by 50,000 acre-feet per year (AFY), including the Los Banos Creek Diversion Facility, Los Banos Creek Recharge and Recovery Program, and the Los Banos Creek Storage Project.

Goals and objectives for recharging, conserving, recharging, and seeking new primary and backup sources will all reduce the vulnerability and increase reliability of the city's water resources.

Mineral Resources

According to the California Department of Conservation, State Mining Geology Board, there are no known significant mineral resources within the Planning Area.¹ The Planning Area contains parts of San Luis Ranch alluvium and Modesto alluvium, known mineral occurrences of undetermined mineral resource significance. According to the California Division of Mine Reclamation, sand and gravel is currently mined within portions of the Los Banos Creek Fan, located southwest of the Planning

¹ Department of Conservation: State Mining and Geology Board, *Mineral Land Classification of Merced County*, 1999.

Area.² Although further exploration within the Planning Area could result in the reclassification of specific localities, no mineral resources have been historically exploited or are being currently exploited commercially within the Planning Area.

Cultural Resources

The lands encompassed by the Planning Area have a long and rich history of human inhabitation, supported by archaeological evidence of prehistoric cultures and a small number of historic buildings. The existence of both archaeologically sensitive areas and historic buildings in Los Banos requires the need for policies that preserve such aspects of the city's heritage.

In addition, several California laws protect tribal, archaeological, and historical resources. According to an inventory conducted by the Central California Information Center at California State University Stanislaus (CSUS), the Planning Area contains important historical resources, including various nationally and state-registered historic sites, as well as both prehistoric and historic archaeological sites.

Tribal and Archaeological Resources

Human habitation in the area of present-day Los Banos dates back to at least 1000 BC. Los Banos is within the indigenous territory of the Nopchinchí tribelet of the Northern Valley Yokuts, who displaced earlier Costanoan and Miwok residents of the San Joaquin Valley. By the early nineteenth century, the population of

the Northern Valley Yokuts was estimated at 30,000, concentrated along the San Joaquin River and its main tributaries in tribelets of up to 300 people. Sustenance included seeds, acorns, tule roots, fishing, and hunting for fowl.

The Northern Valley Yokuts first encountered Spanish exploratory missions in the early 1800s. Large numbers of Yokuts peoples were taken to the San José, Santa Clara, Soledad, San Juan Bautista, and San Antonio missions. The succeeding period is characterized by Neophytes running away from the harsh mission system, being pursued by punitive expeditions, and joining with unconverted groups to raid mission territories. The native population declined significantly from malaria and other diseases, as well as from violence and displacement from transient gold prospectors and settlers who arrived to farm the Central Valley.

According to records maintained by the Central California Information Center (CCIC) of the California Historical Resources Information System (CHRIS) at California State University, Stanislaus, approximately 35 percent of the Planning Area has been studied for cultural resources, identifying 16 archaeological sites. These include habitation sites, task-oriented camps, and burial sites. In particular, the area around and to the south of Mud Slough is rich in archaeological resources. It is likely that there are undiscovered and unrecorded archaeological resources in the Planning Area.

² Assembly Bill 3098 Listing, as of October 16, 2006.



Unlike historic sites, the location of archaeological sites is restricted by the federal Archaeological Resources Protection Act (ARPA) to prevent looting, vandalism, and destruction of archaeological resources.

Historical Resources

Historic cultural resources generally include buildings, roads, trails, bridges, canals, and railroads usually associated with the time period beginning with the first European and/or American contact. The first significant European settlement of California began during the Spanish Period (1769 to 1821) with the establishment of missions and presidios to solidify Spanish economic, military, political, and religious control over the Alta California territory. Following the Mexican Revolution and independence from Spain in 1821, the vast land holdings of the missions in California were divided into large land grants called *ranchos*. Soon after the end of the Mexican-American war in 1848, the 1849 California Gold Rush brought thousands of miners and settlers to California.

The 1850s and 1860s saw rapid growth in farming and cattle ranching, which sometimes came into conflict. Notable early cattlemen and pioneers of this era included Henry Miller, Charles Lux, Uriah Wood, W.J. Stockton, and Charles W. Smith. Los Banos Village, a few miles east of the present-day City of Los Banos, was one of only two towns on the west side of the Sierra Nevada in the lower Central Valley during the early 1870s amidst extensive stock ranches for cattle and sheep, but new communities sprang up as railroads and canals came to the area.

By 1871, Henry Miller formed the San Joaquin and Kings River Canal and Irrigation Company to continue to get water to support his cattle empire. He introduced agricultural crops such as cotton, rice, and alfalfa to the area and started an annual May Day celebration in 1877 to celebrate the completion of another canal. The celebration became an established custom in Los Banos that continues today.

According to the State Office of Historic Preservation, there are currently three historic resources in the Planning Area:

- The Canal Farm Inn (California Historical Landmark No. 548), 1460 E Pacheco Boulevard, established by Henry Miller in 1873 as his San Joaquin Valley ranch headquarters.
- Los Banos (California Historical Landmark No. 550), Los Banos Park, 803 E Pacheco Boulevard.
- Los Banos Creek (the site of the original town in the southwestern portion of the Planning Area).

Five resources in Los Banos are on or have been determined eligible for listing on the National Register of Historic Places, which includes districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture. These are:

- The Old Bank Building/Bank of Los Banos Building, 836–848 6th Street (currently listed);
- The Church of St. Joseph, 1109 K Street (currently listed);

6 PARKS, OPEN SPACE, AND CONSERVATION

- Bridge #39-200, The Delta Mendota Canal Bridge (eligible);
- Fegundo’s Barn, 20180 South Mercey Springs Road (eligible); and
- 65918 SR-152, 637 SR-152 (eligible).

CCIC also identifies additional historic buildings, structures, or objects within the Planning Area that have not been formally registered as historic sites. The location of registered historic sites is summarized in Table 6-4.

TABLE 6–4: LISTED HISTORIC RESOURCES

No	Name	Address
National Register Site		
1	Bank of Los Banos Building	836–848 6th Street
2	Church of St. Joseph	1109 K Street
California Historic Landmark		
3	Canal Farm Inn	1460 E. Pacheco Blvd
4	Los Banos	803 E. Pacheco Blvd. ¹
5	Los Banos Creek	Southwest portion of Planning Area

¹ Address depicts the location of historic plaque.

Source: Central California Information Center at California State University Stanislaus, 2022.

Air Quality

Los Banos is within the San Joaquin Valley Air Basin (SJVAB). The SJVAB is one of the most polluted air basins in California (see Table 6-5). Air quality is impacted by emissions and dust from vehicles, agricultural activities, and industry, including traffic along Interstate (I-) 5 and SR-99, which are then trapped by the basin’s unique topography and weather patterns.

Air quality in the basin is monitored and regulated by the San Joaquin Valley Air Pollution Control District (SJVAPCD), which operates a network of monitoring stations throughout the San Joaquin Valley to determine if emissions and air pollutant levels meet health and safety standards. Air quality is affected by three types of pollutants—criteria air pollutants, toxic air contaminants, and odors and nuisances. Criteria air pollutants and toxic air contaminants (as described below) are under the purview of the SJVAPCD. The City has a more direct role in regulating odors and nuisances, and the release of particulate matter at construction sites.

Regulatory Context

Regulation of ambient air quality is achieved through the cooperation of various federal and state agencies that oversee regulations and implement air quality policies.

The U.S. Environmental Protection Agency (EPA), pursuant to the federal Clean Air Act of 1967 (amended 1990) sets national ambient air quality standards (NAAQS) for several pollutants and oversees their implementation by State air quality agencies. The California Air Resources Board (CARB) is the corresponding



State agency. CARB is responsible for establishing emission standards for on-road motor vehicles sold in California and overseeing the activities of regional/county air districts. It also establishes air quality standards and is empowered under the California Clean Air Act to enforce compliance.

The SJVAPCD is the agency that administers air quality in the San Joaquin Valley Air Basin. Its jurisdiction covers eight counties, including Merced County, in which Los Banos is located. SJVAPCD has permit authority over stationary sources, acts as the primary reviewing agency for environmental documents, and develops regulations consistent with state and federal air quality agencies.

The Merced County Association of Governments (MCAG) also has a role in air quality planning by ensuring its transportation plans, programs, and projects conform to the most recent air quality requirements, and to coordinate effectively with other government agencies.

Odors and Nuisances

Odors and nuisances may not have adverse health effects, but they do create discomfort and concern for residents. Controlling odor from livestock and poultry producers are major challenges, along with complaints of dust from construction sites. To help address this, policies in this Element call for buffers between incompatible uses and local controls at construction sites.

Air Quality Conditions and Trends

The SJVAPCD operates a network of air pollution monitoring stations in San Joaquin Valley to provide information on ambient concentrations of critical air pollutants and toxic air contaminants. The nearest air monitoring stations to Los Banos are at Merced City, roughly 30 miles northeast, at Coffee Avenue, and another at M Street. Since air quality is rarely localized and typically of a regional character, data recorded nearby can be taken to approximate air quality standards at Los Banos. Table 6-5 summarizes data collected from Merced County (for ozone, particulate matter, and nitrogen dioxide) and Stanislaus County (for carbon monoxide).

Air Pollutants

Criteria Air Pollutants

Federal ambient air quality standards have been established to monitor the levels of six air pollutants. These are the “criteria” air pollutants. Criteria air pollutants include pollutants such as carbon monoxide (CO), ozone (O₃), particulate matter (PM₁₀, PM_{2.5}), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and lead (Pb).

Under the California Clean Air Act and amendments to the federal Clean Air Act, the U.S. EPA and CARB are required to classify Air Basins as either “Attainment” or “Non-Attainment” for each criterion of air pollutants, based on whether or not the national and state standards have been met. Table 6-5 shows minimum standards for criteria air pollutants, their effects on health, and potential sources. The Valley meets state and federal standards

6 PARKS, OPEN SPACE, AND CONSERVATION

for all air pollutants except PM_{2.5} and ground level-ozone, which remain in the “Non-Attainment” category.

Vehicles and industry are the main sources of particulates and ozone in the Valley, such as the transport of goods along I-5 and SR-99. Emissions are also generated through commercial operations and building energy use. Los Banos’ primary role in achieving and maintaining regional air quality standards is through land use and transportation policies and actions to reduce driving in the city, and through cooperation with state agencies such as SJVAPCD and CARB to implement emissions-control plans.

Sensitive Receptors

Sensitive receptors are segments of the population that are most susceptible to poor air quality, such as children, elderly people, and sick people, as well as sensitive land uses, such as hospitals, schools, convalescent facilities, parks, and residential areas. To mitigate and avoid air quality problems, pollution sources should not be located near sensitive receptors, and vice versa. Appropriate buffers and separations should be established where possible.

Some people are more sensitive than others to the effects of air pollutants. Chronic asthma or bronchitis sufferers, young children, or the elderly, for example, may experience more discomfort compared to other residents. Aside from age and health problems, heightened sensitivity may also be caused by prolonged exposure to air pollutants and proximity to an emissions source. Therefore, hospitals, schools, convalescent

facilities, residential areas, and other sensitive receptors should not be located close to pollution sources.



TABLE 6–5: AIR POLLUTANT SOURCES AND EFFECTS

Pollutant	Major Pollutant Sources	Pollutant Health and Atmospheric Effects
Ozone	On-road motor vehicles, other mobile sources, solvent extraction, combustion, industrial, and commercial processes.	<ul style="list-style-type: none"> • Respiratory symptoms • Worsening of lung disease leading to premature death • Damage to lung tissue • Crop, forest, and ecosystem damage • Damage to a variety of materials, including rubber, plastics, fabrics, paint, and metals
Carbon Monoxide (CO)	Internal combustion engines, primarily gasoline-powered motor vehicles.	<ul style="list-style-type: none"> • Chest pain in patients with heart disease • Headache • Light-headedness • Reduced mental alertness
Nitrogen Oxides (NO_x)	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.	<ul style="list-style-type: none"> • Lung irritation • Enhanced allergic responses
Sulfur Oxides (SO_x)	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.	<ul style="list-style-type: none"> • Worsening of asthma: increased symptoms, increased medication usage, and emergency room visits
Respirable Particulate Matter (PM₁₀)	Dust- and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).	<ul style="list-style-type: none"> • Premature death & hospitalization, primarily for worsening of respiratory disease • Reduced visibility and material soiling
Fine Particulate Matter (PM_{2.5})	Fuel combustion in motor vehicles, equipment and industrial sources; residential and agricultural burning. Also formed from photochemical reactions of other pollutants, including NO _x , sulfur oxides, and organics.	<ul style="list-style-type: none"> • Premature death • Hospitalization for worsening of cardiovascular disease • Hospitalization for respiratory disease • Asthma-related emergency room visits • Increased symptoms, increased inhaler usage
Lead	Present sources: lead smelters, battery manufacturing and recycling facilities. Past source: combustion of leaded gasoline.	<ul style="list-style-type: none"> • Impaired mental functioning in children • Learning disabilities in children • Brain and kidney damage

TABLE 6–5: AIR POLLUTANT SOURCES AND EFFECTS

Pollutant	Major Pollutant Sources	Pollutant Health and Atmospheric Effects
Hydrogen Sulfide (H₂S)	Oil and natural gas extraction and processing, geothermal fields, sewage treatment facilities, landfills, petrochemical plants, coke oven plants, and paper mills.	<ul style="list-style-type: none"> • Nuisance odor (rotten egg smell). • At high concentrations: headache & breathing difficulties.
Sulfate	Combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur.	<ul style="list-style-type: none"> • Same as PM_{2.5}, particularly worsening asthma and other lung diseases. • Reduces visibility
Vinyl chloride	Process of making polyvinyl chloride (PVC) plastic and vinyl products; primarily an occupational concern.	<ul style="list-style-type: none"> • Central nervous system effects, such as dizziness, drowsiness & headaches • Long-term exposure: liver damage & liver cancer
Toxic Air Contaminants (About 200 chemicals have been listed as toxic air contaminants)	Multiple; mobile sources such as cars and trucks; stationary sources such as factories, dry cleaning facilities, gas stations, hospital operations, and other businesses.	<ul style="list-style-type: none"> • Cancer • Reproductive and developmental effects • Neurological effects

ppm=parts per million; µg/m³=micrograms per cubic meter

Source: California Air Resource Board, Available at <https://ww2.arb.ca.gov/resources/common-air-pollutants>, March 2022.

Climate Change and Greenhouse Gases

Climate change is a critical issue that communities across the globe are facing now and will continue to face in the foreseeable and unforeseeable future. Climate change is a change in the average weather of the Earth that may be measured by wind patterns, storms, precipitation, and temperature. Global average temperature and sea level are expected to rise in the coming century.

A key policy approach for addressing climate change focuses on reducing or eliminating greenhouse gases (GHGs). These gases play a critical role in determining the Earth’s surface temperature. Common GHGs include water vapor, carbon dioxide, methane, nitrous oxides, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. 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.



The State of California has committed to achieving GHG emission reductions through legislative actions and executive orders. Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, codified into law a state target of reducing GHG emissions to 1990 levels by 2020. Senate Bill (SB) 32, adopted in 2016, codifies a GHG reduction target of 40 percent below 1990 levels by 2030. Executive Order S-03-05 sets a state goal of reducing GHG emissions to 80 percent below 1990 levels by 2050, although this goal does not yet have the force of law. CARB is responsible for overseeing and planning the state's GHG reduction efforts. CARB has prepared a Climate Change Scoping Plan, which lays out a framework for achieving the state's GHG reduction targets. The Scoping Plan identifies local jurisdictions as key partners in the State's efforts to reduce GHG emissions and provides guidance for local jurisdictions to establish GHG emission-reduction targets.

Environmental Justice

Numerous environmental justice goals rest in the parks and open space system of Los Banos. Environmental justice (EJ) is defined in California law as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies. EJ-related policies for parks and open spaces are to prioritize benefits for disadvantaged communities in Los Banos.

Fair treatment within the parks and open space system means ensuring equitable access to and distribution of parks and open spaces for all residents and community members of Los Banos, particularly for disadvantaged communities. This means addressing gaps in access by populations currently and historically disenfranchised, such as communities of color and low-income populations. It also means providing spaces that can promote physical, mental, and social health by providing spaces for physical activity, social gatherings, and access to clean air and water. Parks and open spaces should address accessibility barriers to be usable by people of all ages and abilities.

Parks and open space resources are important for providing a healthy environment, especially for disadvantaged communities that have historically been subject to disproportionate impacts from pollution sources, such as high-traffic roads, industrial uses, and fossil-fuel energy. This includes seeking measures to improve air quality and water quality in impacted neighborhoods.

Disadvantaged communities are also most vulnerable to the effects of climate change. As temperatures rise and intense weather events increase, the state of infrastructure in these communities will determine the severity of how they will be impacted. Examples of scenarios to plan for include flooding, wildfires, extreme heat, pandemics, and drought. Policies and programs promoting and implementing adequate cooling, emergency planning, and community resources will ensure an environmentally just parks and open space system.

6 PARKS, OPEN SPACE, AND CONSERVATION

A central principle of EJ is empowering communities to shape their own environment and determine their own outcomes. Policies promoting collaboration between the City and communities in the development, maintenance, and protection of parks, open spaces, and facilities are key to achieving this goal. Guiding communities to self-organize in seeking resources and undertaking activities to care for and improve their own environments will improve their resilience, especially against the impacts of climate change.

Goals, Policies, and Actions

Parks and Recreation

GOAL P-1	Establish and maintain a high-quality public park system for Los Banos.
---------------------------	--

POLICIES

Policy P-P1.1 Provide a range of park and recreation facilities to serve the needs of all residents and within close proximity to residents they are intended to serve to provide 5 acres of parkland for every 1,000 residents.

Policy P-P1.2 Provide a unified and consistently marked trail system throughout the city, including bikeways, pathways, sidewalks, and other trails that link key destinations in the city, including parks and recreational facilities, community facilities, public schools, and downtown.

Policy P-P1.3 Preserve and maintain open space around the city for future generations.

Policy P-P1.4 Continue to provide public access to public open space to the maximum extent feasible.

Policy P-P1.5 Involve citizens, especially youths, in maintaining park areas through participation in park watches, citizen-based graffiti watch, cleanup, and repair.

Policy P-P1.6 Maintain and update a 10-year Park and Recreation Master Plan in consultation with the Parks and Recreation Commission. Community design standards for new park and recreation facilities should include:

- Standards for bicycle/pedestrian and handicapped access;



- Minimum safety standards in accordance with State guidelines; and
- Allowable native and drought-resistant plant species.

Policy P-P1.7 Develop new parks with high-quality park facilities that are durable and require low maintenance, wherever possible. Retrofit existing parks, as appropriate, to reduce maintenance cost and water use, and to improve safety and aesthetics.

Policy P-P1.8 Link parks together by a system of trails, bicycle paths, and/or open space.

ACTIONS

Action P-A1.1 Acquire and develop parks and open spaces, consistent with the ability of the City to finance acquisition and operation, to reach a functional goal of at least 5 acres per 1,000 residents and a park within a quarter-mile access for each resident.

Action P-A1.2 Establish the following minimum criteria as a guide to improving the park system:

- Neighborhood parks should have a minimum size of two to nine acres and a general service area of one-half mile radius; and
- Community parks should have a minimum size of 10 acres and a general service area of a two-mile radius.

Action P-A1.3 Continue to develop existing trails and linkages and create new trails where feasible:

- **Rail Corridor Park.** Continue to develop the Rail Corridor Park and implement developments in the Rail Corridor Master Plan.
- **HG Fawcett Parkway.** Continue to improve and expand the HG Fawcett Parkway with active daytime uses consistent with Central California Irrigation District (CCID) use agreement, which may include exercise equipment, park furniture, and landscaping.
- **Los Banos Creek Trail.** Prepare and adopt a Los Banos Creek Parkway Plan prior to development of creekside properties.

6 PARKS, OPEN SPACE, AND CONSERVATION

GOAL P-2

Establish long-term, sustainable approaches to park management and development within the Los Banos Planning Area.

POLICIES

- Policy P-P2.1 Only approve pocket parks as part of a Planned Development if the long-term maintenance of such facilities is guaranteed by a legally established maintenance district.
- Policy P-P2.2 Actively pursue and use available public and private funding sources for land acquisition, facility construction, program development, and maintenance of parks and open spaces.
- Policy P-P2.3 Coordinate with the Los Banos Unified School District to promote joint development and use of school facilities after school hours.
- Policy P-P2.4 Pursue and maintain shared-use recreational facilities where possible, including on school grounds and utility easements, and look for additional partnership opportunities to expand resident access to shared facilities.

- Policy P-P2.5 Design park facilities to be as flexible as possible, so that they may adapt to changes in the population served and in the recreation program offered.
- Policy P-P2.6 Continue to cooperate with school districts in locating schools to allow for park development adjacent to campuses.
- Policy P-P2.7 Seek agreements and joint ventures with private entities to provide recreation facilities and activities.
- Policy P-P2.8 Pursue support from federal, state, and private sources to assist with acquisition, design, and construction of parks and recreation facilities.

ACTIONS

- Action P-A2.1* Amend the Subdivision Ordinance to require developers to dedicate and improve any portion of a planned bike path or trail system that passes through their development project sites, including any needed linkages to the regional bicycle and trail system.



Action P-A2.2 Include funding for trail acquisition and trail improvements in the Park Development Fee Program.

Equitable Park Access

GOAL P-3	Ensure parks and open spaces are equitably distributed and accessible for all residents, especially disadvantaged communities.
---------------------	---

POLICIES

- Policy P-P3.1 Prioritize creation of parks and open space in areas that are determined to lack adequate park space.
- Policy P-P3.2 Partner with transit agencies to ensure that parks and recreational facilities are accessible to low-income populations and communities of color.
- Policy P-P3.3 Provide equitable access to safe recreational activities and parks among all neighborhoods in Los Banos so that all residents are empowered to choose an active lifestyle that supports their health.

Policy P-P3.4 Maintain joint-use agreements that provide access to recreation facilities serving disadvantaged communities.

Policy P-P3.5 Increase access to diverse, high-quality parks, green space, recreational facilities, and natural environments for disadvantaged communities. Design and maintain these facilities to offer a safe and comfortable environment for residents of all ages and abilities.

Policy P-P3.6 Rather than allowing in-lieu fees, require major new development projects in disadvantaged communities to improve existing park and recreation amenities within these communities and/or to add new amenities within the project, ideally open to the public. In-lieu fees may only be used when amenity improvements or new amenities are not feasible, as determined by the City.

Policy P-P3.7 Increase recreation opportunities in disadvantaged communities by working with other agencies to convert public easements, such as utility corridors or unused rights-of-way, into parks and trails.

6 PARKS, OPEN SPACE, AND CONSERVATION

Policy P-P3.8 Promote recreational activity programs and opportunities to disadvantaged communities.

Policy P-P3.9 Partner with local school districts and non-profit organizations to improve access to bicycles, helmets, and related equipment for lower-income families.

ACTIONS

Action P-A3.1 Coordinate with park districts to prepare a parks, recreation, and open space needs assessment for each disadvantaged community. Based on the results of the assessment for each community, implement improvements that address barriers to outdoor physical activity, such as inadequate infrastructure and safety concerns. Prioritize park, recreation, and open space improvement activities to lower-income and higher-density areas, which may have a demonstrably greater need for these amenities.

Action P-A3.2 Work with the City Parks and Recreation Division and the Los Banos Unified School District to identify indoor recreational and athletic facilities to serve as emergency housing and cooling centers in disadvantaged communities for natural hazards or extreme heat events. In addition, work with these districts to prepare a list of priority improvements at these facilities to implement in preparation for emergency events.

GOAL
P-4 Empower communities to participate in developing and maintaining parks, open spaces, facilities, and programming.

POLICIES

Policy P-P4.1 Partner with and support local community groups and volunteer organizations in efforts to improve or maintain local parks, trails, and other public spaces, especially in disadvantaged communities.



- Policy P-P4.2 Ensure residents of disadvantaged communities are meaningfully engaged for input as early as possible when new developments and projects are proposed in their communities.
- Policy P-P4.3 Assist disadvantaged communities in establishing funding and financing mechanisms – both community-generated mechanisms like building improvement districts and City-initiated mechanisms like landscape and lighting improvement districts – to provide community-desired public facilities and services.
- Policy P-P4.4 Promote a sense of community responsibility for maintaining and improving the parks and recreation system, and offer ways for individuals, groups, and businesses to invest time and resources in that effort.
- Policy P-P4.5 Explore options for the City to provide seed grants, micro loans, or similar funding to community-based organizations or public-private partners to support improvements in disadvantaged communities, such as murals and planting strips.

- Policy P-P4.6 Seek resident involvement and feedback to create recreation programming that is relevant to a broad spectrum of community members.

Open Space Resources

GOAL P-5	Protect and restore open space resources of Los Banos.
---------------------------	---

POLICIES

- Policy P-P5.1 Protect and enhance the natural habitat features and open space corridors within and around the Planning Area.
- Policy P-P5.2 Require degraded open space areas be restored to an environmentally sustainable condition as part of development approval where these lands are proposed as permanent open space in new development.
- Policy P-P5.3 Require the preservation of mature trees and encourage the planting of drought-resistant street and shade trees in all new developments.

6 PARKS, OPEN SPACE, AND CONSERVATION

Policy P-P5.4 Work with property owners, law enforcement officials, and the public in preserving or restoring open space to its natural state. These efforts may include, but are not limited to:

- Soliciting volunteers to remove invasive vegetation;
- Removing abandoned items and trash; and
- Ensuring no illegal encampments occur on open space areas.

Policy P-P5.5 Support efforts to increase the regional county open space system through joint efforts with Grassland Water District, Central California Irrigation District, Merced County, and trustee agencies.

Policy P-P5.6 Require anti-vandalism designs (appropriate fencing or other landscape features) to ensure that new development has conditions that minimize increased vandalism of adjacent agricultural activities outside the Urban Growth Boundary.

Policy P-P5.7 Reduce light pollution and other adverse effects associated with night lighting from streets and urban uses.

ACTIONS

Action P-A5.1 Establish priorities for open space preservation and acquisition based on an evaluation of:

- Significant natural areas that are historically, ecologically, or scientifically unique or are outstanding, important, or threatened;
- Wildlife habitats and fragile ecosystems in need of protection;
- Watersheds or significant water recharge areas;
- Open space for safety and public health;
- Lands suitable for recreation, such as biking, photography, or nature study;
- Preserving or restoring natural features and ecosystem processes that can increase resiliency to climate change; and
- Land suitable for agricultural production.



Action P-A5.2 Establish and maintain a protection zone around wetlands, riparian corridors, and identified habitat areas where development shall not occur, except as part of a parkway enhancement program (e.g., trails and bikeways).

Action P-A5.3 Work with the Grassland Water District to create a greenbelt/open space buffer around the perimeter of the city that provides a clear sense of identity and protects the Grassland Ecological Area.

Action P-A5.4 Work with the Grassland Water District to establish a “no net loss” policy for wetlands and vernal pools within and adjacent to the Planning Area.

Policy P-P6.2 Require assessments of biological resources by a qualified biologist prior to approval of any development within 300 feet of any creeks, wetlands, sensitive habitat areas, or areas of potential special-status species. Protect sensitive habitat areas and special-status species in the following order: (1) avoidance, (2) on-site mitigation, and (3) off-site mitigation. Refer to the recommendations of the Biological Resources Assessment in Attachment A to minimize impacts to habitat and special-status species.

Policy P-P6.3 Review development proposals in accordance with applicable federal and state laws protecting special-status species and jurisdictional wetlands and use the California Natural Diversity Database and field reconnaissance, where necessary, to confirm habitat value, to assist in identifying potential conflicts with sensitive habitats or special-status species and establishing appropriate mitigation and monitoring requirements.

Policy P-P6.4 Provide wildlife corridors to allow movement of animals and minimize wildlife-urban conflicts.

Biological Resources

GOAL
P-6 Protect and restore biological resources of Los Banos.

POLICIES

Policy P-P6.1 Protect species that are federally or state listed as rare, threatened, endangered, or sensitive.

6 PARKS, OPEN SPACE, AND CONSERVATION

Policy P-P6.5 Require project applicants to avoid nests of native birds in active use, in compliance with state and federal regulations. For new development sites where nesting birds may be present, initiate vegetation clearing and construction outside the bird nesting season (February 1 through September 15) or conduct preconstruction surveys by a qualified biologist in advance of any disturbance. If active nests are encountered, establish appropriate buffer zones based on recommendations by the qualified biologist and maintain the buffer zones until any young birds have successfully left the nest.

ACTION

Action P-A6.1 Develop buffer zones around the Los Banos Creek corridor and the grassland wetland areas to the east of the city to enhance groundwater recharge and minimize impacts to habitat and species.

Agricultural Resources

GOAL P-7

Protect and preserve agricultural resources around Los Banos.

POLICIES

- Policy P-P7.1 Promote preservation of agriculture within the Planning Area.
- Policy P-P7.2 Work with the County and with the Grassland Water District to preserve agricultural uses outside the Urban Growth Boundary.
- Policy P-P7.3 Protect productive agricultural areas from conversion to non-agricultural uses by establishing and implementing an agricultural mitigation program, with consistent standards based on Merced County’s Agricultural Land Mitigation policy, that matches acres converted with farmland acres preserved at a 1:1 ratio. The Land Evaluation and Site Assessment Model (LESA model) may be used to determine whether the conservation land is of equal or greater value than the land being converted.



Policy P-P7.4 Support agricultural conservation easement programs managed by other public, private, and non-profit organizations.

Policy P-P7.5 Require developers of residential developments adjoining agricultural land to provide, fund, and maintain a physical buffer to ensure that agricultural practices will not be adversely affected.

Policy P-P7.6 Require property developers adjacent to sites where agricultural uses are being conducted to inform subsequent buyers of potential continued agricultural production and the lawful use of agricultural chemicals, including pesticides and fertilizers.

Policy P-P7.7 Require applicants of annexation proposals that would result in the conversion of 50 or more acres of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland to do the following:

- Prepare an inventory of the vacant land within the city limit zoned for similar uses as the proposed annexation, and an analysis of the probable build-out time for that quantity of vacant land given past

development rates. When the inventory includes vacant land to support more than 12 years of development (10-year inventory plus an additional two years to account for annexation processes), the applicant shall demonstrate to the City's satisfaction why the existing vacant land within the city limits is not suitable for the proposed development.

- Prepare a phasing timeline that prioritizes development of lands with lesser farmland value, lands immediately adjacent to existing development within the city, lands with prior disturbance of farmland, lands that do not encroach beyond major barriers into areas of farmland not already partially developed, and/or lands that do not require cancellation or non-renewal of a Williamson Act contract.
- Use major land features as boundaries, including roads, canals, creeks, or highway plan lines, so that annexation boundaries are physically separated from remaining agricultural land beyond the annexation area, when appropriate.

6 PARKS, OPEN SPACE, AND CONSERVATION

ACTION

Action P-A7.1 Explore feasible and implementable policies and mitigation measures to address impacts to agricultural land, including:

- Participating in a future Countywide agricultural mitigation program, if established, that preserves one acre of farmland for every acre converted.
- Establishing or participating in a program to restore or improve land in Merced County to a level that meets the criteria of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, in order to create new farmland in addition to preserving existing farmland.
- Establishing a local right-to-farm ordinance.

Action P-A7.2 Establish and maintain a Grassland Resources Overlay Zone (GROZ) as shown in Figure 6-4 for the inter-canal area between the San Luis Canal and the Santa Fe Canal north of SR-152 where lands within the GROZ

(allowing for the bypass) shall remain in agricultural and open space uses.

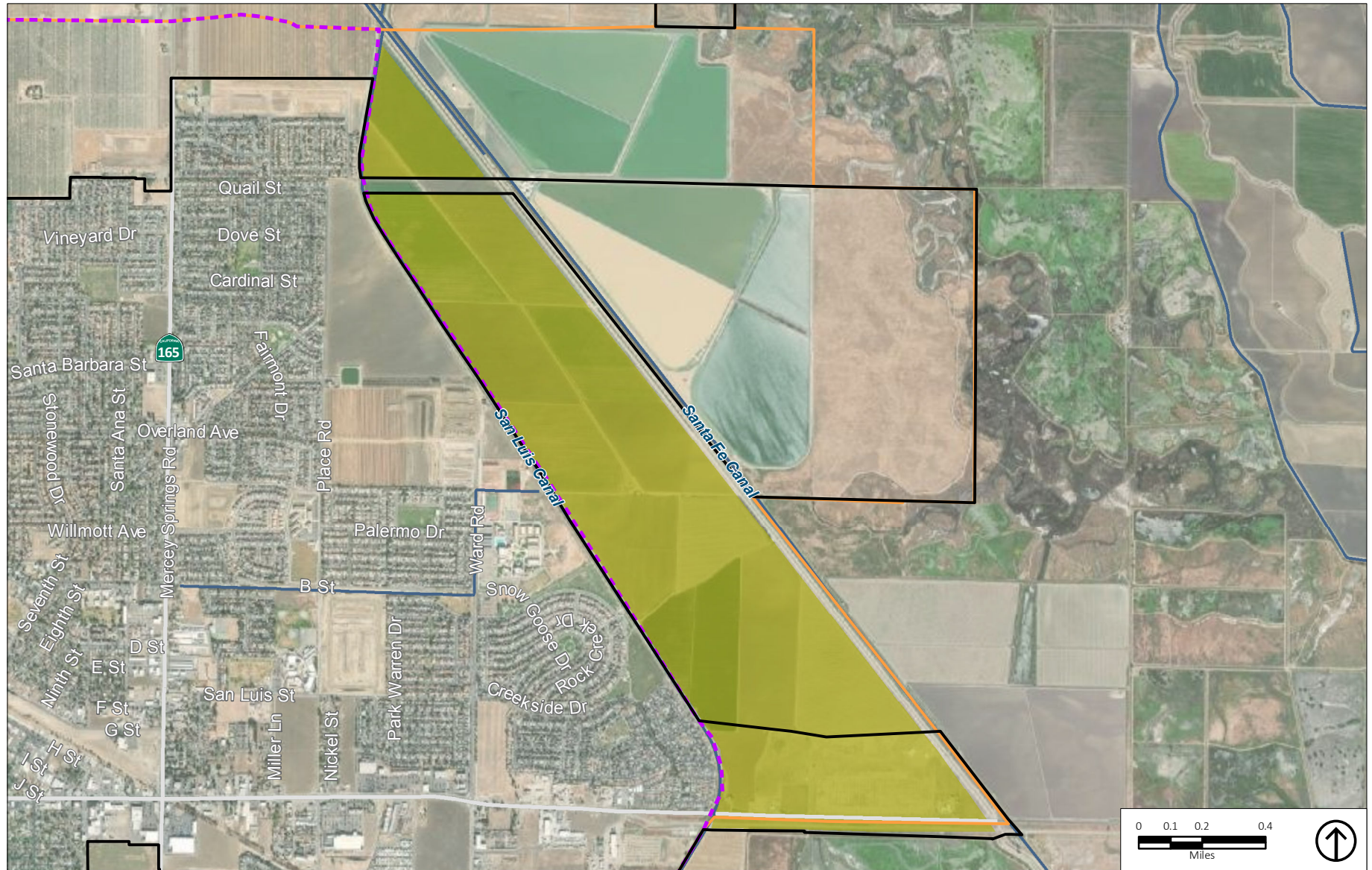
GOAL P-8

Support community agriculture and equitable food production.

POLICIES

- Policy P-P8.1 Reduce permitting barriers to, protect, and expand urban agriculture.
- Policy P-P8.2 Allow edible landscaping and community gardens for suitable public and private land, as well as new large-scale residential and mixed-use development projects.
- Policy P-P8.3 Recognize the importance and needs of temporary agricultural workers.
- Policy P-P8.4 Support programs and strategies to improve conditions for temporary agricultural workers, especially cooperative solutions that create better living conditions for farmworkers, such as improved farmworker housing.

PARKS, OPEN SPACE, AND CONSERVATION



Source: Merced County, 2019; PlaceWorks, 2020.

- City Limit
- Urban Growth Boundary (UGB)
- Sphere of Influence (SOI)
- Grassland Resources Overlay Zone

Figure 6-4
Grassland Resources Overlay Zone

6 PARKS, OPEN SPACE, AND CONSERVATION

ACTIONS

- Action P-A8.1* Identify vacant lots and underutilized public land that can be turned into neighborhood-run community gardens.
- Action P-A8.2* Explore opportunities for community-supported agriculture within the community.

Water Resources

GOAL P-9

Protect and restore water quality in and around Los Banos.

POLICIES

- Policy P-P9.1 Protect the quality of stormwater that discharges into areas in and around Los Banos.
- Policy P-P9.2 Ensure groundwater quality is maintained at a satisfactory level for domestic consumption.

Policy P-P9.3 Require the use of enhanced stormwater control facilities that provide additional filtration of stormwater to remove pollutants prior to discharge to pastureland or the Grassland Water District and other water districts.

Policy P-P9.4 Work with the San Joaquin River Exchange Contractors (SJREC) Groundwater Sustainability Plan (GSP) group to offset increases in water demand based on projected population growth by identifying, analyzing, and implementing projects jointly with the SJREC to maximize the regional benefits. The City will develop projects to offset overdraft, including (1) stormwater capture, (2) demand reduction through reduced watering, (3) surface water transfer, (4) purchasing groundwater credits, and (5) participation in recharge projects.



ACTIONS

- Action P-A9.1* Monitor groundwater quality and quantity throughout the Planning Area.
- Action P-A9.2* Work with Central California Irrigation District to investigate a possible water recharge program.
- Action P-A9.3* Seek funding from the Department of Water Resources' Sustainable Groundwater Planning Grant Program (SGWP) to fund projects that promote the sustainable use of groundwater.
- Action P-A9.4* Explore the feasibility of surface water transfers from Central California Irrigation District and Grassland Water District to alleviate groundwater overdraft and groundwater quality issues.

Cultural Resources

GOAL P-10	Protect and restore the cultural and historic resources of Los Banos.
----------------------	--

POLICIES

- Policy P-P10.1 Preserve the archaeological and historic resources that are found within the Los Banos Planning Area.
- Policy P-P10.2 Preserve any tribal cultural resources that are found within the Los Banos Planning Area.
- Policy P-P10.3 Require consultation with Native American tribes during General Plan amendments or updates, Specific Plans, or Specific Plan amendments, and any project that may impact a tribal cultural resource.
- Policy P-P10.4 After consultation with local Native American tribes affected by the General Plan, Specific Plan, or any project that may affect that tribe, determine which areas may be of cultural significance and determine how the areas can be preserved. Continue consultation with tribes throughout implementation of the plan.
- Policy P-P10.5 Require that new development analyze and avoid any potential impacts to archaeological, paleontological, and designated historic resources by:

- Requiring a record search at the Central California Information Center located at California State University Stanislaus and other appropriate historical repositories for development proposed in areas that are considered archaeologically sensitive;
- Studying the potential effects of development and construction (as required by the California Environmental Quality Act);
- Requiring pre-construction field surveys (where appropriate) and monitoring during any ground disturbance for all development in areas of historical and archaeological sensitivity; and
- Implementing appropriate measures or project alternatives to avoid significant impacts to historical resources. Where such impacts are unavoidable, document the structure(s) in accordance with the National Park Service's Historic American Building Survey/Historic American Engineering Record (HABS/HAER). Such effects would still be considered significant.

Policy P-P10.6 Promote the listing of individual properties and historic districts on the National Register of Historic Places and in the California Register of Historical Resources.

Policy P-P10.7 Require applicants of major development projects to consult with Native American representatives regarding cultural resources to identify locations of importance to Native Americans, including archaeological sites and traditional cultural properties.

Policy P-P10.8 Prohibit the damage or destruction of paleontological resources, including prehistorically significant fossils, ruins, monuments, or objects of antiquity, that could potentially be caused by future development.

ACTIONS

Action P-A10.1 Explore the feasibility of creating a heritage trail linking significant historical landmarks in Los Banos.

Action P-A10.2 Retain a qualified architectural historian to undertake a survey to identify historic properties and historic districts eligible for listing on the National Register of Historic



Places and in the California Register of Historical Resources.

through landscaping, ventilation systems, or other measures.

Action P-A10.3 Update the City’s building regulations to implement the State Historic Building Code for alterations to designated historic properties.

Policy P-P11.4 Support federal and state efforts to reduce greenhouse gases and emissions through local action that will reduce motor vehicle use, support alternative forms of transportation, require energy conservation in new construction, and energy management in public buildings.

Air Quality

GOAL P-11	Maintain and improve air quality within Los Banos.
----------------------	---

POLICIES

Policy P-P11.1 Improve air quality to promote public health, safety, and Los Banos’ environmental quality.

Policy P-P11.5 Assume leadership in efforts to reduce toxic air pollutants and ozone-depleting compounds.

Policy P-P11.2 Make air quality a priority in land use planning by implementing emissions-reduction efforts targeting mobile sources, stationary sources, and construction-related sources.

Policy P-P11.6 Require developers to implement best management practices to reduce air pollutant emissions due to construction work and operation of equipment.

Policy P-P11.3 Require that new multifamily residential buildings and other sensitive land uses in areas with high levels of localized air pollution be designed to achieve good indoor air quality

- During clearing, grading, earth-moving or excavation operations, fugitive dust emissions shall be controlled by regular watering, paving of construction roads, or other dust-preventive measures.

- All materials excavated or graded shall be either sufficiently watered or covered by canvas or plastic sheeting to prevent excessive amounts of dust.
- All materials transported off-site shall be either sufficiently watered or covered by canvas or plastic sheeting to prevent excessive amounts of dust.
- All motorized vehicles shall have their tires watered before exiting a construction site.
- The area disturbed by demolition, clearing, grading, earth-moving, or excavation shall be minimized at all times.
- All construction-related equipment shall be maintained in good working order to reduce exhaust from this equipment.

Policy P-P11.7 Prohibit wood-burning stoves and fireplaces in new development.

Policy P-P11.8 Use the San Joaquin Valley Air Pollution Control District Guidelines for Assessing and Mitigating Air Quality Impacts for determining and mitigating project air quality impacts and related thresholds of significance for use in environmental documents.

ACTIONS

Action P-A11.1 Develop and implement a plan to provide clean air refuges during times when outdoor air quality is unhealthy.

Action P-A11.2 Purchase hybrid gasoline-electric or bio-diesel fuel vehicles for the City fleet and provide incentives to City employees who carpool or use hybrid vehicles.

Climate Change

GOAL P-12

Promote resilient design and energy efficiency in the built environment.

POLICIES

Policy P-P12.1 Maximize tree planting, landscaping, green roofs, and other vegetation measures to mitigate heat gain and heat island effects, improve resilience, and create new spaces for biodiversity.



- Policy P-P12.2 Where feasible, require use of materials that minimize heat island effect, such as cool pavements and cool roofs. Where feasible, minimize impervious and paved surfaces.
- Policy P-P12.3 Encourage the use of low-emission building, such as HVAC equipment, and operation equipment for all new residential and commercial development.
- Policy P-P12.4 Provide incentives and/or partner with the Community Choice Aggregation agency for improving energy efficiency in existing buildings.
- Policy P-P12.5 Educate City employees and department managers about sustainability with a focus on specific operational changes that can be made to reduce greenhouse gas emissions, such as fuel-efficient driving and reducing energy use at work.

ACTION

- Action P-A12.1* Prepare a Climate Action Plan (CAP) to achieve the GHG reduction targets of Senate Bill 32 for the year 2030. Updated the CAP every five years to ensure the City is monitoring the plan’s progress toward achieving the City’s greenhouse gas (GHG) reduction target and to require amendment if the plan is not achieving specified level.

Air Quality and Community Health

**GOAL
P-13**

Ensure equitable and healthy air quality among all communities in the city so that all residents, including those with high sensitivity to unhealthy air, can live in their community without facing disproportionately high risks of respiratory disease and other health problems.

POLICIES

- Policy P-P13.1 Require a cumulative health risk assessment, including consideration of truck traffic impacts, when a project potentially affects sensitive receptors in disadvantaged communities, and

6 PARKS, OPEN SPACE, AND CONSERVATION

- require appropriate mitigation based on the findings of the assessment.
- Policy P-P13.2 When evaluating health risk impacts of projects in disadvantaged communities, use a cancer risk of 1.0 per million as the threshold for a significant impact.
- Policy P-P13.3 Require new development to site-sensitive receptors, such as homes, schools, playgrounds, sports fields, childcare centers, senior centers, and long-term healthcare facilities as far away as possible from significant pollution sources.
- Policy P-P13.4 When evaluating air quality impacts of projects in disadvantaged communities, use thresholds of significance that match or are more stringent than the air quality thresholds of significance identified in the current San Joaquin Valley Air Pollution Control District Air Quality Guidelines.
- Policy P-P13.5 Prioritize new street tree plantings and increase the tree canopy in disadvantaged communities, in particular areas with a high heat index.

- Policy P-P13.6 Preserve, restore, and enhance natural landscapes in and near disadvantaged communities for their role in improving air quality and community health and increasing resilience against climate change.
- Policy P-P13.7 Require warehouse and distribution facilities to provide adequate on-site truck parking to prevent idling and require refrigerated warehouses to provide generators for refrigerated trucks.

ACTION

- Action P-A13.1* Complete an urban forest master plan that includes quantified goals and tracking methods, prioritizing disadvantaged communities.



This page intentionally left blank.

The purpose of the Safety and Noise Element is to identify the natural and human-made hazards that exist within the City of Los Banos and to establish guiding policies and implementing actions to mitigate their potential impacts through both preventative and responsive measures. This Element addresses seismicity, soil hazards, and erosion; flood hazards; wildfire hazards; hazardous materials; health and safety services; local hazard mitigation planning; climate change; and noise. It also includes policies on natural hazards mitigation planning, which respond to the Federal Disaster Mitigation Act of 2000 and the Federal Emergency Management Agency's implementing regulations.

Contents

- 1 Seismicity, Soil Hazards, and Erosion
- 2 Flooding
- 3 Wildfire Hazards
- 4 Hazardous Materials Sites
- 5 Health and Safety Services
- 6 Local Hazard Mitigation Planning
- 7 Climate Change and Resilience
- 8 Noise
- 9 Goals, Policies, and Actions

Seismicity, Soil Hazards, and Erosion

Geology

The City of Los Banos is in the San Joaquin Valley, which is in the southern half of the Great Valley geomorphic province, a 50-mile-wide alluvial plain that runs 400 miles north and south making up California's Central Valley. Sediments from surrounding mountain ranges have been deposited in the trough of the Great Valley since the Jurassic period, 160 million years ago. As part of the Great Valley, the Los Banos Planning Area is mainly flat, underlain with sediments from alluvial deposits as well as non-marine sedimentary rocks. The nearest mountain range is the Diablo Range of the Coast Ranges, which is about 20 miles to the west.



Seismicity

The California Geological Survey (CGS) has undertaken a complete probabilistic seismic hazard analysis for the City. According to the CGS, no active earthquake faults are known to exist within the Planning Area. The nearest known fault is the Tesla Ortigalita fault zone and the O’Neill fault zone, both located about eight miles west of Los Banos. Although they do not pass through the city, these faults can produce ground motion in Los Banos. The Tesla Ortigalita fault is considered capable of generating a six- to seven-Richter Magnitude earthquake with a recurrence interval of 2,000 to 5,000 years. Figure 7-1 shows regional faults and linear traces surrounding the Planning Area.

Earthquakes can cause geologic failures ranging from ground shaking, surface rupture along the fault zone, to related secondary ground failures. Secondary ground failures include liquefaction, landslides, ground lurching and seiches, and lateral spreading. Secondary ground failures could cause major structural damage to existing buildings, including tilting or settlement of foundations, twisting and breaking of structural building components, debris shedding, and potentially even collapse of buildings. In the case of seiches, damage to levees and dams could be significant.

Los Banos’ distance to fault zones in the region, including the Ortigalita, Calaveras, San Andreas, and Hayward Faults, places it within “Maximum Expectable Earthquake Intensity Zone III,” where “High Severity, Most Probable Damage” could result should an earthquake occur in the region.

The International Building Code, International Existing Building Code, and International Residential Code provide earthquake-resistant provisions for building design and construction.

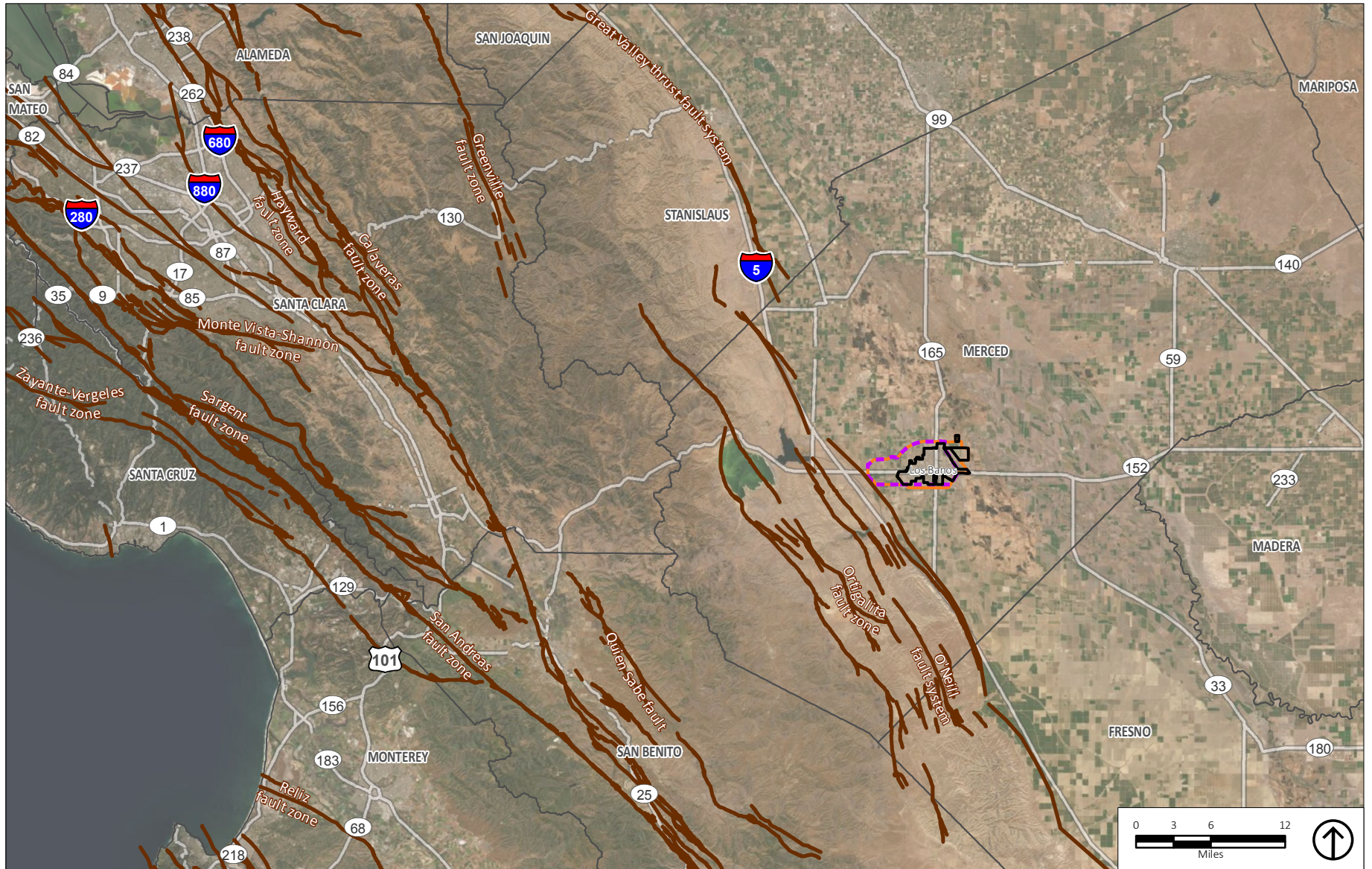
Soil Hazards

The Central Valley, which includes the San Joaquin Valley, is an area filled with fertile sediments as a result of marine deposits from millions of years ago. Soils in and around Los Banos are formed in mixed alluvium, which makes the area suitable for cultivation. The same soil characteristic, however, also subjects the Planning Area to both shrink-swell and subsidence hazards.

Shrink-Swell

The most common soil types found within the Planning Area are Woo, Stanislaus, Dosamigos, Capay, Henmel, and Pedcat associations. All of these soil types, except Woo, are “expansive”—a quality characterized by slow permeability and the potential to shrink or swell significantly with changes in moisture content. Expansive soils are a potential geologic hazard as structures located on them may be damaged should the soil suddenly shrink or swell. Additionally, structural damage may occur over a long period of time from inadequate foundation engineering or the placement of structures directly on expansive soils.

SAFETY AND NOISE ELEMENT



Source: Merced County, 2018; ESRI, 2019; United States Geological Survey, 2020; PlaceWorks, 2022.

- Earthquake Faults
- City Limit
- Urban Growth Boundary (UGB)
- County Boundaries
- Sphere of Influence (SOI)

Figure 7-1
Regional Faults



Subsidence

Subsidence in Los Banos is recognized as a geologic hazard. Subsidence is the gradual sinking of the ground as a result of loss of subsurface materials, with little or no horizontal motion. It is often accompanied by large-scale ground cracking, and in some cases, the cracking has movement across it, making it into incipient or actual faulting. Subsidence may occur over a small or large area depending on the amount of subsurface movement. Shifts in the water table or loss of groundwater are major causes. Subsidence can also be caused by excavation work, hydrocompaction, or oxidation of organic soils.

On rare occasions, subsidence may occur due to earthquake-induced ground movement.

Erosion

Table 7-1 summarizes erosion susceptibility in the Planning Area. Figure 7-2 illustrates erosion susceptibility, which shows that much of the Planning Area contains soil with slight erosion hazards, with moderate risk of erosion at the west-southwest edge of the Planning Area. The risk of erosion is greatly increased during grading and construction activities when soils are loosened and bare of vegetation. Erosion-control measures prevent downstream sedimentation and surface water degradation.

TABLE 7-1: EROSION SUSCEPTIBILITY

Category	Total Acres	Percentage of Total Planning Area
Slight	12,259	54.2
Moderate	61	0.2
Severe	0	0.0
Total	12,320	54.4

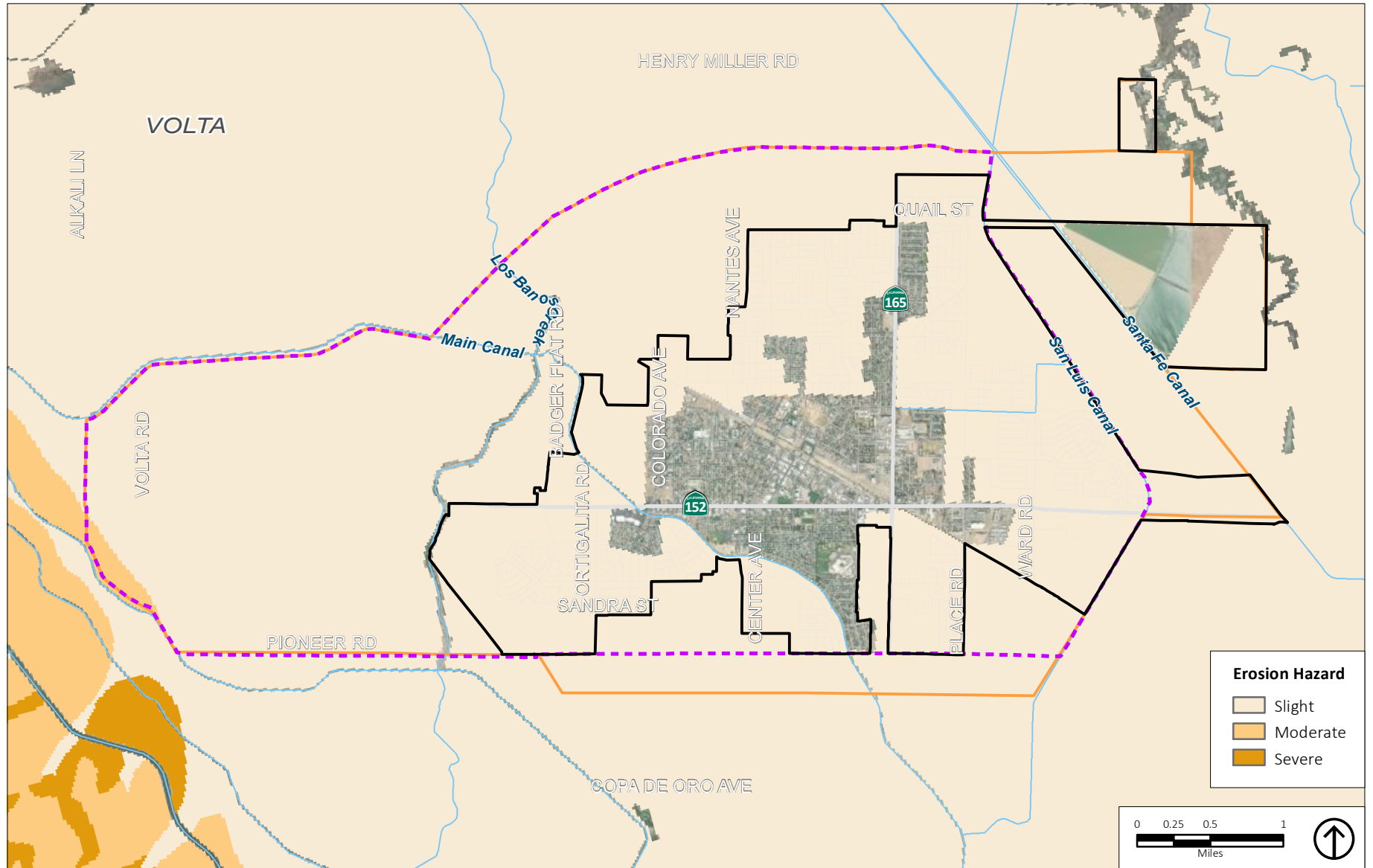
Source: United States Department of Agriculture, Natural Resources Conservation Service Web Soil Survey, 2022.

Flooding

Dam Inundation

Flooding due to dam inundation can be the result of natural or human-made factors, such as earthquakes, erosion, or structural design flaws. Snow melt or landslides also may trigger a dam failure by over-topping the dam. A dam failure can cause catastrophic loss of life, damage to property, and displacement of residents. Next to earthquakes, it is the most dangerous natural hazard facing the city.

SAFETY AND NOISE ELEMENT



Source: National Resource Conservation Service, 2021; PlaceWorks, 2022.

City Limit Urban Growth Boundary (UGB) Sphere of Influence (SOI)

Figure 7-2
Erosion Hazards



Two dams close to Los Banos have the potential of inundating portions or the whole of the Planning Area. Both dams are owned and regularly inspected by the Bureau of Reclamation. Flood zone mapping by the U.S. Army Corps of Engineers (USACE) indicates that the entire Planning Area is within the Los Banos Creek Detention Reservoir dam inundation area. Northern portions of the Planning Area are also within the San Luis Reservoir Dam inundation area.¹ Figure 7-3 depicts the probable extent of inundation of a dam failure.

Los Banos Detention Reservoir is an earthfill detention dam southwest of the Planning Area on Los Banos Creek that was constructed in 1965 to protect areas surrounding Los Banos from regular flooding. The dam is 167 feet high and provides recreation facilities for picnicking, camping, swimming, fishing, and boating.

The San Luis Dam was constructed in 1967 to control flood waters in the San Luis Canal. The dam is 382 feet high and contains 77,656,000 cubic yards of material. The dam's crest is 30 feet thick. The dam structure is constructed to withstand an earthquake of magnitude 8.3.

Storm Drainage

In Los Banos, stormwater runoff is discharged through a combination of natural and human-made drainage structures, including creeks, waterways, and irrigation channels. Some of these are described in detail herein.

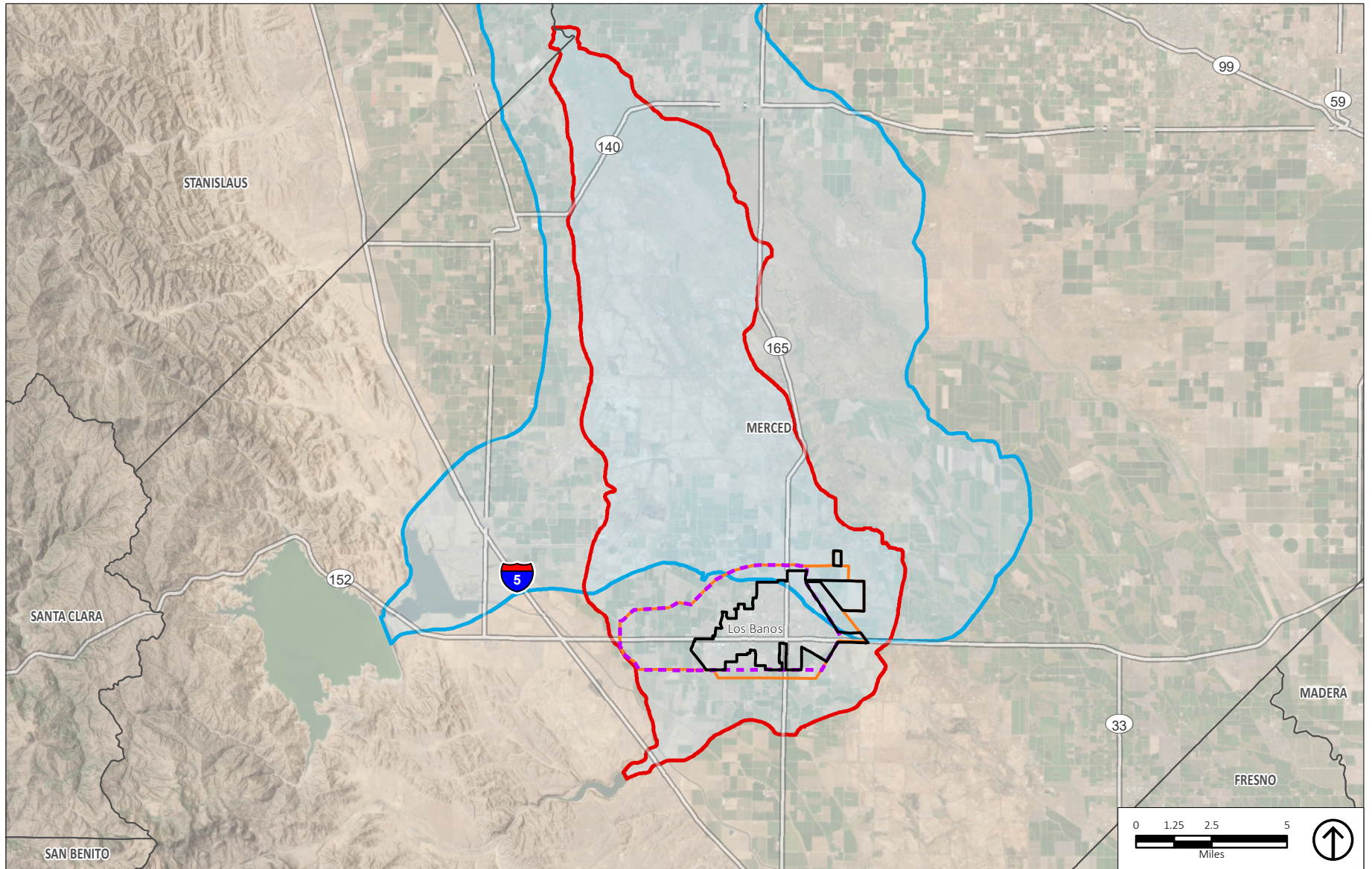
Figure 7-4 shows the flood zone mapping covering the Los Banos Planning Area by the Federal Emergency Management Agency (FEMA). The relatively flat topography, low incidence of rain, and availability of various drainage management facilities make sudden floods by rain unlikely.

Los Banos Creek

Los Banos Creek is the predominant natural drainage feature in the region. It runs in a north to south direction and is at the western part of the city. The Los Banos Creek Detention Reservoir (LBCDR) was constructed to manage risk of the creek flooding with intermittent flood-flow release upstream. The Grassland Water District (GWD) regulates creek flow downstream and diverts part of the creek for wetlands water supply purposes.

¹ Merced Irrigation District, U.S. Army Corps of Engineers, February 1987.

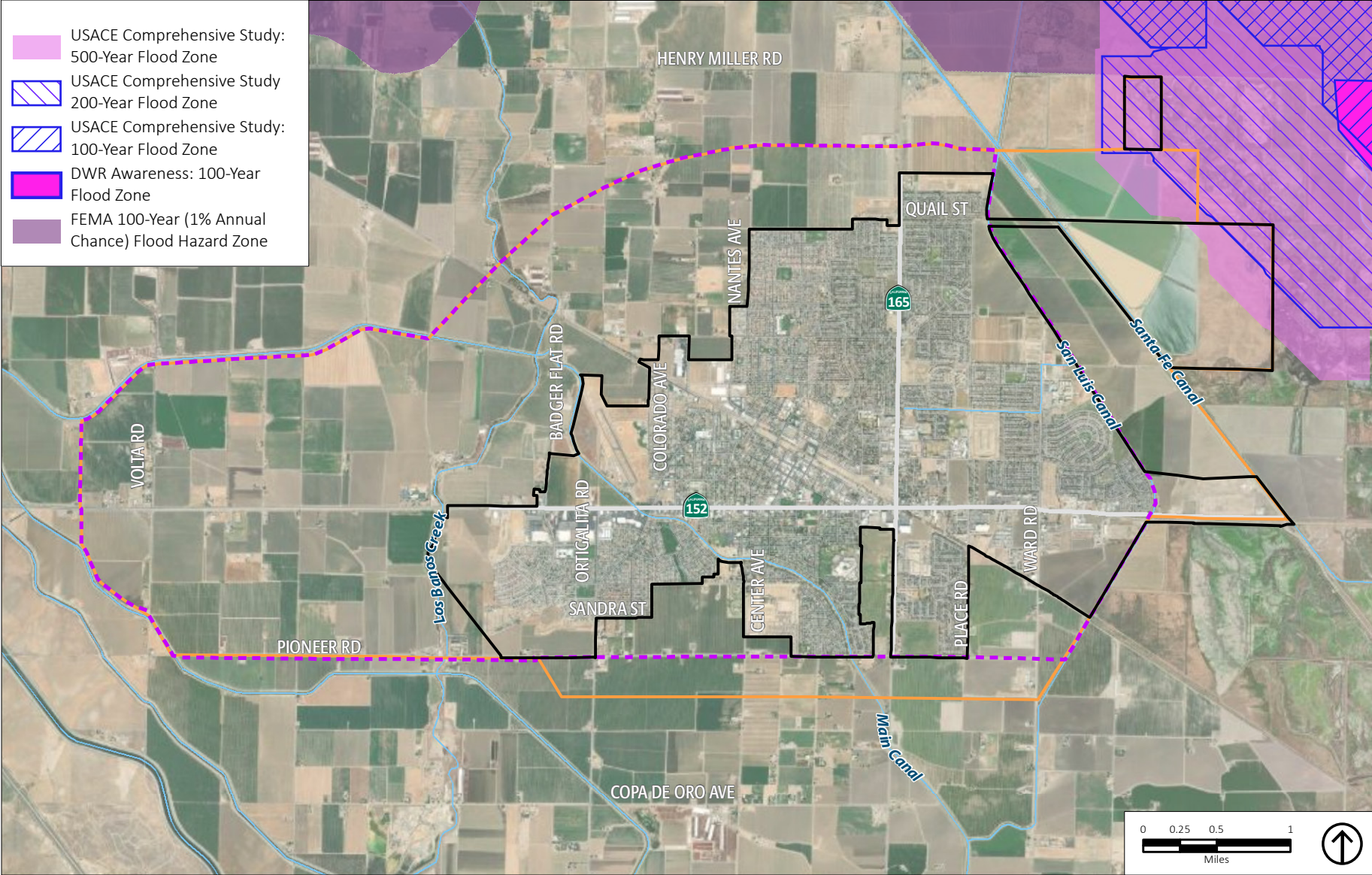
SAFETY AND NOISE ELEMENT



Source: Merced County, 2018; ESRI, 2019; Cal OES, 2016; PlaceWorks, 2022.

- County Boundaries
- Urban Growth Boundary (UGB)
- San Luis Reservoir
- City Limit
- Sphere of Influence (SOI)
- Los Banos Creek Detention Reservoir

Figure 7-3
Dam Inundation Zones



Source: USACE, 2022; FEMA, 2021; Merced County, 2018; PlaceWorks, 2022.

City Limit
 Urban Growth Boundary (UGB)
 Sphere of Influence (SOI)

Figure 7-4
Flooding Hazards

Mud Slough

Mud Slough is a tributary of the original Los Banos Creek channel and runs in a northwesterly direction east of the city. Peak level flows in the Mud Slough drainage area are controlled by a number of projects by the GWD. The flow generated in the slough south of State Route (SR-) 152 is directed into the Santa Fe Canal and is used as part of GWD's water supply.

Irrigation Canals

The Central California Irrigation District's (CCID's) Main Canal is a major human-made water feature and runs approximately in a southwesterly direction in the Planning Area. This conveyance facility is the main artery for water supply for CCID and collects stormwater runoff from the city. GWD's San Luis Canal and Santa Fe Canal are in the eastern portion of the Planning Area and convey water for irrigation and wetlands. Stormwater runoff from the city is also conveyed to these canals.

Also see Chapter 6, Parks, Open Space, and Conservation, on policies related to stormwater filtration and groundwater recharge, and Chapter 8, Public Facilities and Services, on policies related to water and wastewater utilities and water conservation.

Wildfire Hazards

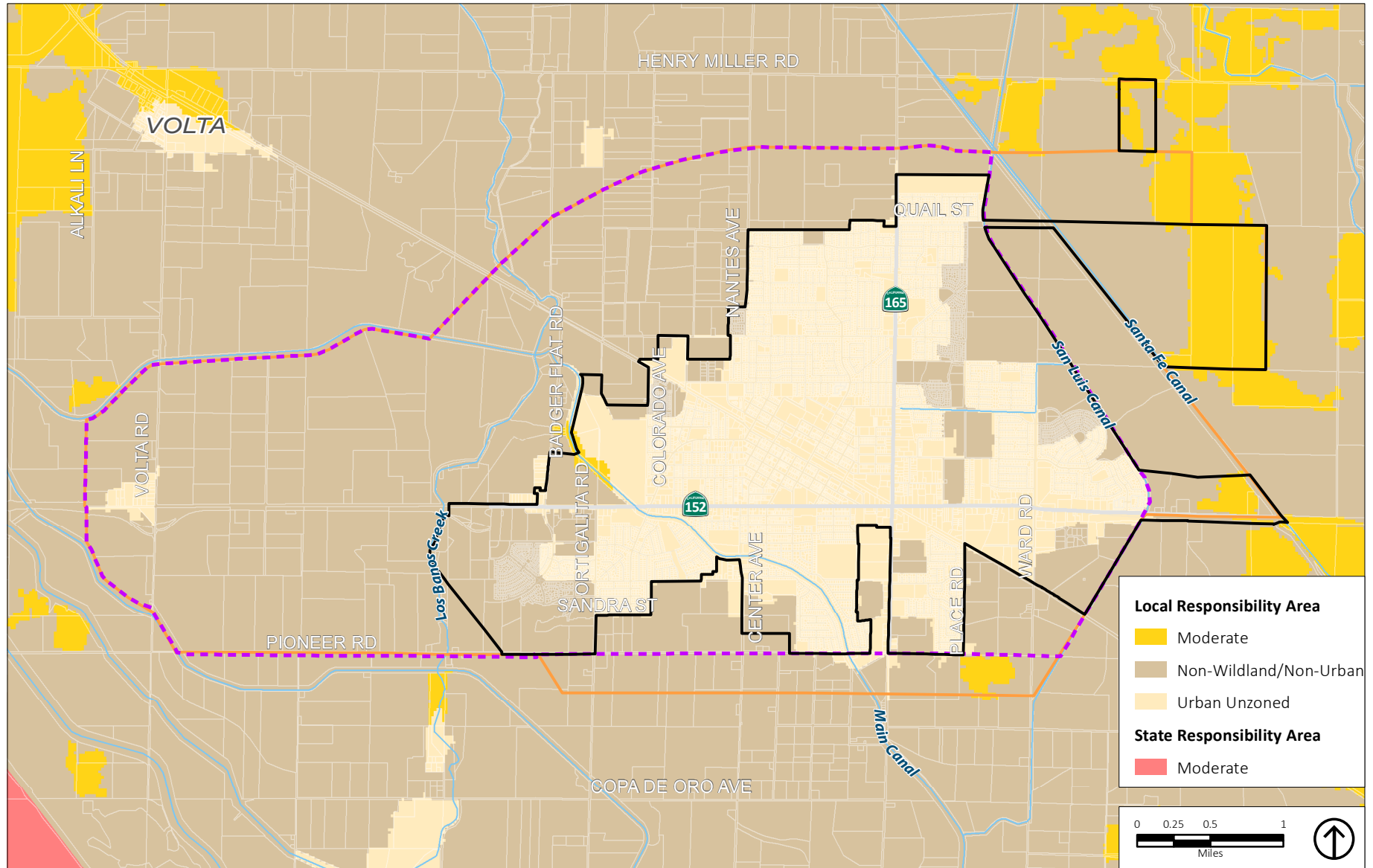
Wildfire hazard is largely dependent on the extent and type of vegetation, known as surface fuels, that exists within a region. They differ from urban fires in that wildland fires are typically harder to control, highly unpredictable, and spread more rapidly.

Figure 7-5 shows fire hazard severity zones (FHSZ) in the Planning Area, including State Responsibility Areas (SRA) and Local Responsibility Areas (LRA). Los Banos and adjacent areas of Merced County are within the LRA. There are no areas in the Very High FHSZ in the LRA in or around Los Banos. The riparian forest corridor along Los Banos Creek represents the largest single risk due to the amount of tree cover and undergrowth, and is considered a Moderate FHSZ. The Los Banos Creek corridor is being managed with the implementation of Los Banos Creek flood-control measures. Wildfire hazards are most likely to occur at the edges of the city where residential homes abut grassland or open space. An increase in these urban-rural interface areas will also increase wildfire risks. Within the city, fuel loading is light and fire risk comes primarily from urban fires, not wildfires.

Hazardous Materials Sites

Hazardous materials are defined as any material that is flammable, corrosive, reactive, or toxic. Hazardous materials are present in businesses and factories and are also found in homes in the form of solvents, cleaning fluids, or other substances. The main concern with hazardous materials lies in their improper storage, disposal, and accidental release.

SAFETY AND NOISE ELEMENT



Source: Merced County, 2018; CALFIRE, 2022; PlaceWorks, 2022.

City Limit Urban Growth Boundary (UGB) Sphere of Influence (SOI)

Figure 7-5
Fire Hazard Severity Zones

Figure 7-6 identifies active sites where there is known or suspected release of hazardous materials from activities. Table 7-2 provides a complete listing of these sites. Contamination can be caused by leaking underground storage tanks along with activities associated with certain uses, such as gas stations, convenience stores, car washes, etc., local industrial, and agricultural uses. Contaminated sites threaten the city's groundwater and pose a threat to residents. Disturbance of previously contaminated areas through grading or excavation operations could expose the public to health hazards from physical contact with contaminated materials.

Various California and federal agencies govern the proper storage, handling, and transport of hazardous materials. The Merced County Division of Environmental Health is the appointed regional authority for hazardous waste in Los Banos. It oversees the cleanup of contaminated sites originating from leaking underground storage tank systems as well as the disposal of hazardous wastes. Merced County runs a household waste disposal and oil collection center along SR-59 and provides free collection service every month to city residents. The role of the City is primarily in making land use decisions regarding siting of hazardous facilities, as well as supporting federal, state, and regional agencies in carrying out their obligations.

Health and Safety Services

The City of Los Banos Police and Fire Departments provide police, fire, and life-safety services within the city. Additional police and fire protection services within unincorporated areas is provided by Merced County Sheriff and Fire Departments. The locations of both city and county police, fire, and life-safety stations are illustrated in Figure 7-7.

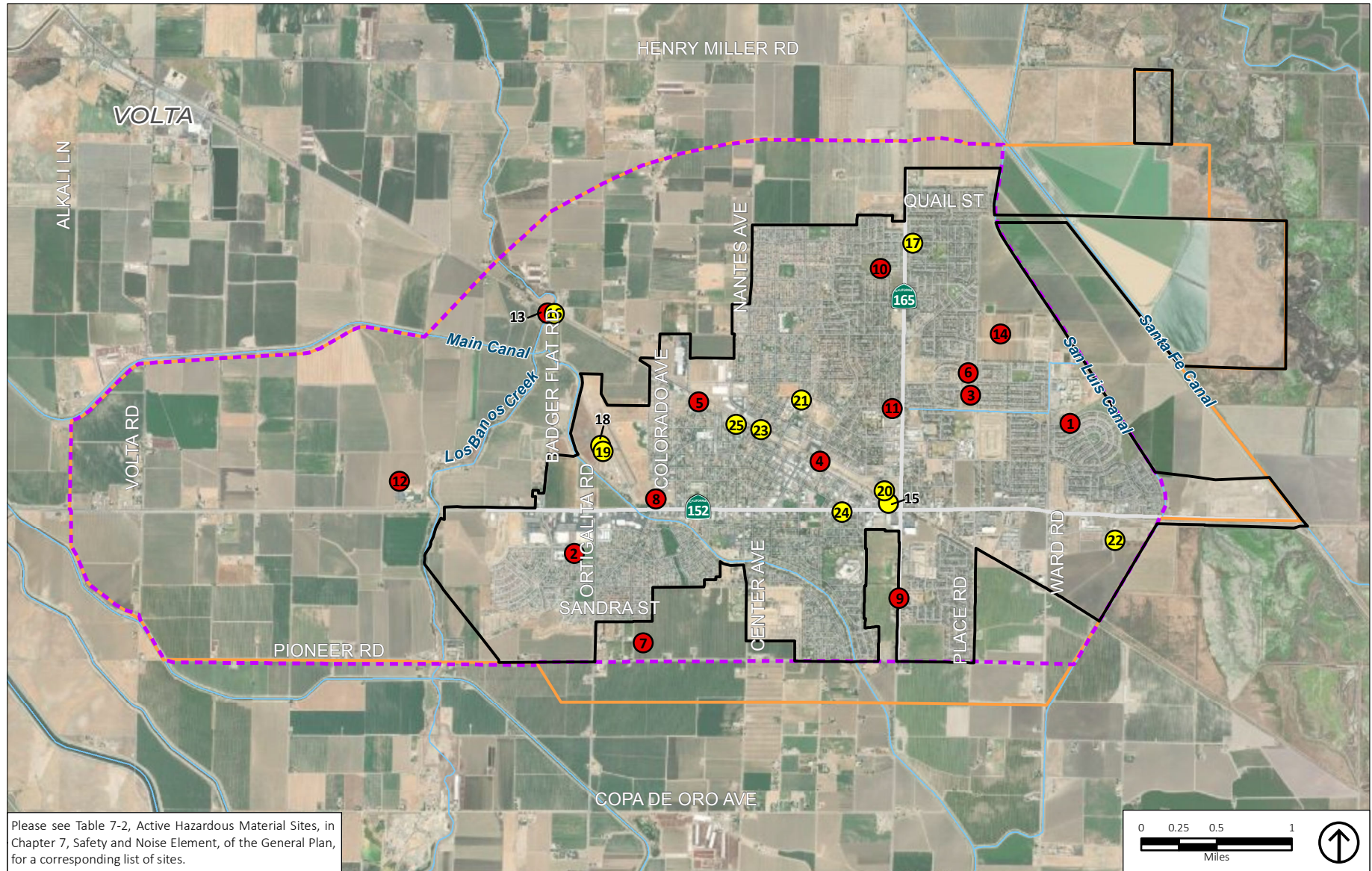
Police Services

The Los Banos Police Department (LBPD) operates out of one central Police Headquarters office downtown. To respond to future growth, LBPD has plans to replace the current, aging (1969) police facility and jail with funds from the public safety sales tax. The new facility will be adjacent to the Merced County Courthouse on G Street.

Responsibilities of the LBPD include responding to crime, code enforcement, traffic enforcement, and providing police patrols within the city limits. The LBPD also maintains several programs, including the Police Activities League, Volunteer Interacting to Advance Law Enforcement, and community involvement groups and events.

The Merced County Sheriff's Department is responsible for law enforcement in the unincorporated areas surrounding the city. The LBPD operates a "Westside" substation in the City of Los Banos and serves Gustine, Santa Nella, Volta, Santa Rita Park, and South Dos Palos.

SAFETY AND NOISE ELEMENT



- City Limit
- Urban Growth Boundary (UGB)
- Sphere of Influence (SOI)
- GeoTracker Sites
- EnviroStor Cleanup Program Sites

Figure 7-6
Active Hazardous Material Sites

TABLE 7-2: ACTIVE HAZARDOUS MATERIAL SITES

Map ID	Site Name	Address	Site Type	Potential Contaminants	Cleanup Status
Envirostor Cleanup Program Sites ¹					
1	Arcadian High School	B Street/Ward Rd	School Investigation	Metals, Pesticides	No Further Action
2	Badger Flat Middle School	Badger Flat Rd/ Prairie Springs Dr	School Investigation	Metals, Pesticides	No Further Action
3	Elementary School #2/ Ranchwood Property	18761 Willmont Rd	School Investigation	Metals, Pesticides	No Further Action
4	Former Union Pacific Railroad Right-of-Way	Between 2nd St and Mercey Springs	Evaluation	None Specified	Refer: Local Agency
5	Los Banos Community School	Texas Ave/H St	School Investigation	None Specified	No Action Required
6	Los Banos ES #2 Expansion Site	Willmott Ave/Las Palmas St	School Investigation	Arsenic, Pesticides	No Action Required
7	Los Banos Middle School #2	Pioneer Rd/I St Alignment	School Investigation	Arsenic, Pesticides	No Further Action
8	Los Banos Municipal Airport	I St/Airport Rd	Evaluation	Pesticides, Unspecified Aqueous Solution	Inactive – Needs Evaluation
9	Mercey Springs Elementary School	16570 Mercey Springs Rd	School Investigation	Metals, Pesticides	No Further Action
10	Old Los Banos Dump	Parkwood Ave/ Ranchwood Ave	State Response	Lead	Certified
11	R. M. Miano Elementary School	B St/Santa Rita St	School Investigation	None Specified	No Action Required
12	Special Education/ Child Development Facility	22240 State Highway 152	School Investigation	Arsenic, Pesticides	No Further Action
13	Trent Pump Station	21425 Ingomar Rd	Voluntary Cleanup	Benzene (B), Toluene (T), Ethylbenzene (E), Xylene (X), Petroleum-containing waste	Inactive – Needs Evaluation
14	Vineyard School Site	Overland Rd	School Investigation	Arsenic, Lead	No Further Action



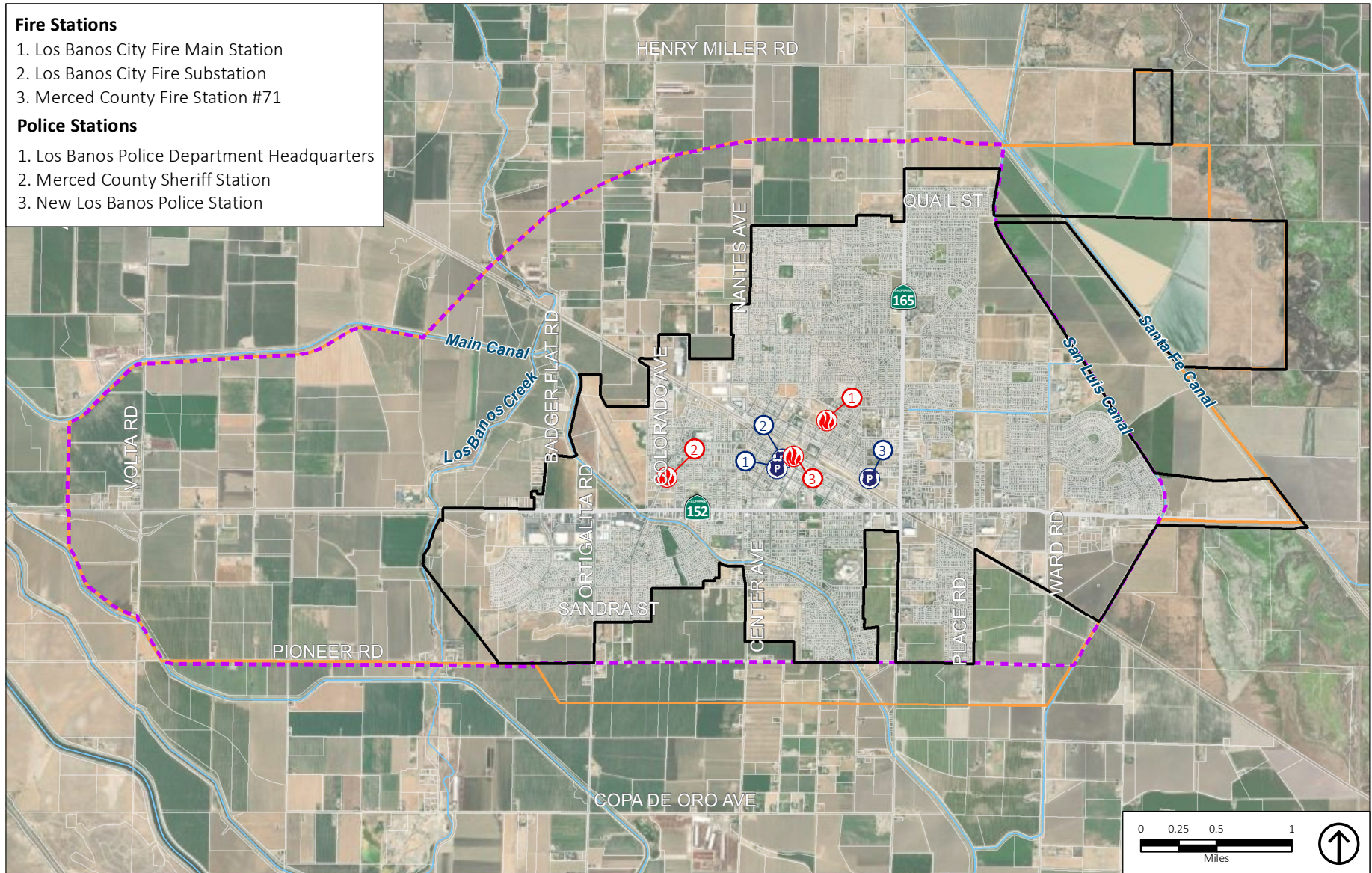
TABLE 7-2: ACTIVE HAZARDOUS MATERIAL SITES

Map ID	Site Name	Address	Site Type	Potential Contaminants	Cleanup Status
GeoTracker Sites ²					
15	Becker Estate, Former Becker Oil Term., Los Banos	1330 Pacheco Pass Blvd	Cleanup Program Site	Diesel, Gasoline, Methyl tert-Butyl Ether (MTBE), Tert-Butyl Alcohol (TBA), Other Fuel Oxygenates	Open - Remediation
16	Former Trent Pump Station	21425 Ingomar Rd	Cleanup Program Site	Crude Oil	Open – Site Assessment
17	Lister Ag Aviation	P.O. Box 31	Cleanup Program Site	Fertilizer	Open – Inactive
18	Los Banos Airport	None West I St/Hwy 152	Cleanup Program Site	Pesticides, Metals, Fumigants	Open – Inactive
19	Los Banos Airport	1 Mile West of Los Banos	Cleanup Program Site	Pesticides, Herbicides	Open – Inactive
20	Los Banos Gateway Center, LLC – 1159 G Street Site	1159 G St	Cleanup Program Site	Arsenic	Open – Site Assessment
21	Merced County Spring Fair	360 D St	LUST Cleanup Site	Gasoline	Open – Eligible For Closure
22	Meza Brothers, Inc.	2657 E Pacheco Blvd	LUST Cleanup Site	Diesel, Gasoline, PCE	Open – Eligible For Closure
23	Pacheco Oil	740 Second St	Cleanup Program Site	Arsenic, Diesel	Open – Site Assessment
24	Santos Texaco #2	1009 E Pacheco Blvd	LUST Cleanup Site	Diesel, Gasoline, Waste Oil, Motor Oil, Hydraulic Oil, Lubricating Oil	Open – Site Assessment
25	Tosco Bulk Plant #0382	101 H St	LUST Cleanup Site	Diesel, Gasoline, PCE	Open – Site Assessment

Sources:

1. Department of Toxic Substances Control, 2022, EnviroStor, <https://www.envirostor.dtsc.ca.gov/public/>, accessed January 31, 2022
2. State Water Resources Control Board, 2022, GeoTracker, <https://geotracker.waterboards.ca.gov/>, accessed January 31, 2022.

SAFETY AND NOISE ELEMENT



Source: Merced County, 2019; PlaceWorks, 2022.

- City Limit
- Urban Growth Boundary (UGB)
- Sphere of Influence (SOI)
- 🔥 Fire Station
- 👮 Police Station

Figure 7-7
Police and Fire Stations

Fire and Life-Safety Services

The Los Banos Fire Department (LBFD) currently operates two fire stations (Station 1 and Station 2), while the Merced County Fire Department operates one station, Station 71, within Los Banos city limits. Fire dispatch is handled through the LBPD. The LBFD provides first responder and emergency medical technician (EMT) services within the city limits. They also provide Automatic Aid for confirmed structure fires within identified proximity to city limits and mutual aid for fire/rescue and EMS services to other local agencies in Merced County, and participate in the statewide Master Mutual Aid plan.

As the city develops outside the current city limits, LBFD estimates that stations, equipment, and personnel will need to be added in order to maintain the current Insurance Services Office (ISO) rating and response times.

Local Hazard Mitigation Planning

The Merced County Office of Emergency Services prepared the Multi-jurisdictional Hazard Mitigation Plan (MJHMP) in accordance with the Disaster Mitigation Act of 2000 and followed FEMA's 2011 Local Hazard Mitigation Plan guidance. The MJHMP includes local hazard identification, risk assessments, and mitigation actions for Los Banos. Merced County prepared the plan pursuant to the Disaster Mitigation Act of 2000, which requires jurisdictions to adopt policies on hazard mitigation based on quantifiable vulnerability, loss, and risk analysis.

Local hazard mitigation planning seeks to reduce or eliminate long-term risk to human life and property resulting from natural and human-made hazards in Los Banos by identifying risks before they occur and putting together resources, information, and strategies for risk reduction. The County MJHMP provides guidance before, during, and after a disaster to reduce potential impacts and contains the following:

- Identifies and assesses risks of dam failure, earthquakes, flooding, severe weather, and wildfire hazards for the Planning Area;
- Provides a vulnerability assessment of population, structures, and key assets in the Planning Area;
- Assesses capabilities of each jurisdiction for addressing and responding to disasters; and
- Establishes mitigation goals and prioritizes mitigation actions for the Planning Area.

Climate Change and Resilience

Climate change is driven by an increase in greenhouse gases (GHGs) in Earth's atmosphere, trapping more heat near the surface and changing Earth's climate in a number of ways. These changes often include increasing the frequency and severity of natural hazards, either directly (such as causing summer temperatures to reach dangerously high levels) or indirectly (such as warm temperatures and droughts leading to more dry vegetation, increasing wildfire risks). The hazard situations created or exacerbated by climate change may result in an

increased chance of personal injury or other harm, a greater risk of damage to buildings and infrastructure, and disruption of essential services, among other hardships.

In the Central Valley region around Los Banos, climate change is expected to lead to warmer temperatures, creating a risk of more frequent and intense heat waves that can threaten human health and agricultural activities. Precipitation events are likely to become more extreme, creating a risk of more intense flooding and drought cycles that may affect human, economic, and environmental health in the region. Although Los Banos does not contain any Very High Fire Hazard Severity Zones, climate change is expected to increase the frequency and intensity of regional wildfire events, which may disrupt regional activities and contribute to poor local air quality. While most community members and assets are likely to be affected by climate change, people who already face substantial challenges (including low-income persons, senior citizens, persons with underlying health effects, and undocumented or other marginalized persons, among others) are more susceptible to serious harm.

Natural features and ecosystems can help Los Banos remain resilient to climate change.

Noise

Noise Characteristics and Measurement

Noises vary widely in their scope, source, and volume, ranging from individual occurrences, such as leaf blowers, to the intermittent disturbances of overhead aircraft, to the fairly constant noise generated by traffic on freeways. Noise is primarily a concern with regard to noise-sensitive uses, such as residences, schools, churches, and hospitals.

Noise Measurement

Noise is commonly defined as undesirable or unwanted sound. The following definitions are useful in understanding community noise exposure.

- **Decibel Level.** (e.g., magnitude or loudness) of sound. Sound levels are measured and expressed in decibels (dB) with 10 dB roughly equal to the threshold of hearing. Table 7-3 shows the decibel levels associated with different common sounds.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.



TABLE 7-3: TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Outdoor Activities
Onset of physical discomfort	120+	
	110	Rock Band (near amplification system)
Jet Flyover at 1,000 feet		
	100	
Gas Lawn Mower at three feet		
	90	
Diesel Truck at 50 feet, at 50 mph		Food Blender at 3 feet
	80	Garbage Disposal at 3 feet
Noisy Urban Area, Daytime		
	70	Vacuum Cleaner at 10 feet
Commercial Area		Normal speech at 3 feet
Heavy Traffic at 300 feet	60	
		Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Nighttime		
	30	Library
Quiet Rural Nighttime		Bedroom at Night, Concert Hall (background)
	20	
		Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: California Department of Transportation (Caltrans). 2013, September. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*.

- **Frequency** composition or spectrum of the sound. Frequency is a measure of the pressure fluctuations per second, measured in units of hertz (Hz). The characterization of sound level magnitude with respect to frequency is the sound spectrum, often described in octave bands, which divide the audible human frequency range (e.g., from 20 to 20,000 Hz) into 10 segments.
- **Equivalent Continuous Noise Level (L_{eq}); also called the Energy-Equivalent Noise Level.** The value of an equivalent, steady sound level, which, in a stated time period (often over an hour) and at a stated location, has the same A-weighted sound energy as the time-varying sound. Thus, the L_{eq} metric is a single numerical value that represents the equivalent amount of variable sound energy received by a receptor over the specified duration.
- **Maximum Sound Level (L_{max}).** The highest sound level measured during the measurement period.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added from 7:00 p.m. to 10:00 p.m. and 10 dB from 10:00 p.m. to 7:00 a.m.

Reporting Noise Levels

Measuring and reporting noise levels involves accounting for variations in sensitivity to noise during the daytime versus nighttime hours. Noise descriptors used for analysis need to factor in human sensitivity to nighttime noise when background noise levels are generally lower than in the daytime and outside noise intrusions are more noticeable. Common descriptors include the Community Noise Equivalent Level (CNEL) and the Day-Night Average Level (Ldn). Both reflect noise exposure over an average day with weighting to reflect the increased sensitivity to noise during the evening and night. The two descriptors are roughly equivalent. The CNEL descriptor is used in relation to major continuous noise sources, such as aircraft or traffic, and is the reference level for the Noise Element.

Knowledge of the following relationships is helpful in understanding how changes in noise and noise exposure are perceived:

- Except under special conditions, a change in sound level of 1 dBA cannot be perceived;
- A 3 dBA change is considered a barely perceptible difference;
- A 5 dBA change is considered a readily perceptible difference; and
- A 10 dBA increase is subjectively heard as an approximate doubling in loudness and almost always causes an adverse community response.



According to common practice, noise levels up to 60 dBA CNEL are considered “normally acceptable” for single-family residential development. Noise levels from 60 dBA to 70 dBA CNEL fall within the “conditionally unacceptable” range, and those above 70 dBA CNEL range are considered “normally unacceptable” or “clearly unacceptable.” Figure 7-10, under Goal S-8 below, contains the noise and land use compatibility standards by land use in the city.

Noise Sources in Los Banos

The major noise sources of concern are SR-152, SR-165, and the Los Banos Airport. Other vehicle traffic on arterial and collector streets are also a source of noise. The Union Pacific Railroad (UPRR) facilities are abandoned and are no longer a noise source of concern.

Traffic Noise

Traffic noise depends primarily on the speed of traffic, the percentage of truck traffic, and the time-of-day traffic volume percentage splits (i.e., daytime, evening, and nighttime). The primary source of noise from automobiles is higher-frequency tire noise, which increases with speed. In addition, trucks and older automobiles produce considerable engine and exhaust noise. While tire noise from cars is generally located at ground level, truck noise sources can be located as high as 10 to 15 feet above the road surface due to tall exhaust stacks and higher engines; therefore, sound walls may not be effective for mitigating traffic noise unless they are tall enough to block line-of-sight between the source and receiver. The increase in electric vehicles on

California roads is expected to lead to a decrease in engine noise as a component of traffic noise. However, at speeds above 20 to 30 miles per hour (mph), tire-pavement noise is the dominant sound source. So, along highways and major roadways, the perception of traffic noise will likely remain similar over the life of this General Plan. Traffic noise exposure contours for Los Banos were modeled using the Federal Highway Administration’s noise modeling procedures. These noise contours are conservative, meaning that the contours are conservatively modeled without additional noise attenuation by natural barriers, buildings, etc. The noise level measured at a specific location may be lower than what is shown on the noise contour map.

Future development within the City’s Planning Area will result in increased traffic volumes, thus increasing noise levels in some areas. Increased traffic volumes on roadways will result in increased noise exposure for adjacent and nearby development. Additionally, continued growth of the city—residential as well as commercial and industrial uses—will further increase traffic and noise levels on arterial roadways. Future (Year 2042) noise contours are illustrated in Figure 7-9, under Goal S-8, below.

The predominant current and future noise source in Los Banos is motor vehicle and truck traffic on SR-152 and SR-165, which currently bisect the city north-south and east-west. Increased traffic on SR-152 and SR-165 and on Los Banos’ arterial streets can be expected to increase noise exposure for sensitive receptors along these thoroughfares.

Arterial streets with substantial noise levels include Ward Road from Pioneer to Henry Miller Road, Mercey Springs Road (SR-165), West I Street, south of Pacheco Boulevard, Badger Flat Road from Capri Avenue to Pioneer Road, H Street-Ingomar Grade Road west of 7th, I Street north of Pacheco Boulevard, Pacheco Boulevard, and Pioneer Road from Los Banos Creek to Ward Road. In general, auto traffic volumes will increase and, along with them, greater noise levels will be experienced.

Los Banos Municipal Airport

In 2015, annual operations (takeoffs and landings) at Los Banos Municipal Airport were estimated at around 16,000, averaging approximately 44 flights per day. Figure 7-8 shows the most recent CNEL noise contours at the Los Banos Municipal Airport based on the 2012 Merced County Airport Land Use Compatibility Plan. Until a decision is made to relocate the airport, the City will not permit new non-compatible uses in the immediate vicinity of the airport.

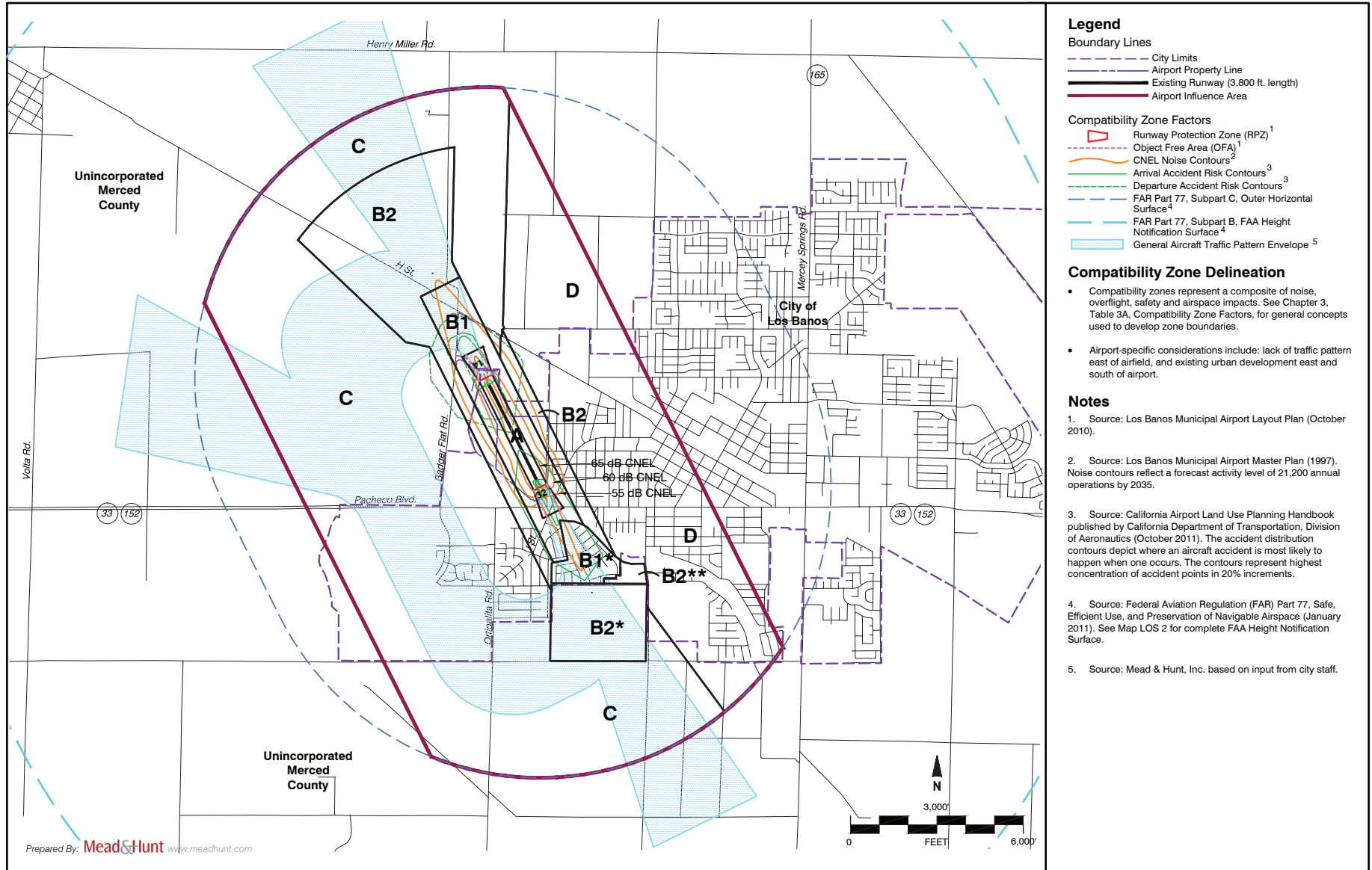
Vibration

Vibration is an oscillating motion that is transmitted in waves through the earth or solid objects. It is generally felt rather than heard. High levels of ground-borne vibration can be due to rock blasting, construction, or railway and transit movement.

Since the UPRR facilities are abandoned, they are no longer a vibration source of concern. Studies by Caltrans found that vibration levels measured on freeway shoulders (five meters from the centerline of the nearest lane) do not exceed the maximum

safe level for historic buildings and ancient ruins even under the worst combinations of heavy trucks and poor roadway conditions. Therefore, vibration from on-road vehicle traffic is not a significant concern. Certain construction activities, such as pile driving and the use of vibratory rollers, may generate unacceptable levels of vibration when close to sensitive buildings and structures and should be mitigated where necessary to reduce the possibility of architectural damage.

SAFETY AND NOISE ELEMENT



Sources: Merced County, 2019; PlaceWorks 2022

Figure 7-8
Los Banos Municipal Airport Noise Contours

Goals, Policies, and Actions

GOAL S-1

Minimize risks of property damage and personal injury posed by seismic hazards, soil hazards, and erosion.

POLICIES

- Policy S-P1.1 Review proposed development sites at the earliest stage of the planning process to locate any potential geologic or seismic hazards.
- Policy S-P1.2 Require mitigation for buildings that change occupancy or use that require a permit for structural alterations, especially unreinforced masonry buildings, to ensure structural safety.
- Policy S-P1.3 Require utilities be designed to withstand probable seismic forces to be encountered in Los Banos.
- Policy S-P1.4 Require preparation of a soils report as part of the development review and/or building permit process.

- Policy S-P1.5 Control erosion of graded areas with revegetation or other acceptable methods.
- Policy S-P1.6 Maintain grading and landscaping regulations to reduce soil erosion potential, including:
- Planning and conducting operations and construction activities in a manner that will not disturb extensive areas of soil or that will disrupt local drainage;
 - Prohibiting organic or earthen material from being discharged into any canals or waterways or placed at locations where they can pass into canals or waterways in quantities that could impair any beneficial use of the water.
- Policy S-P1.7 Require that alterations to existing buildings and all new buildings be built according to the seismic requirements of the current California Building Code.
- Policy S-P1.8 Require aboveground storage tanks to be located and regularly inspected to minimize potential risks to life and property.



GOAL
S-2

Protect the community from risks to lives and property posed by flooding and stormwater runoff.

POLICIES

- Policy S-P2.1 Require new development to prepare hydrologic studies and implement appropriate mitigation measures to minimize surface water run-off and reduce the risk of flooding.

- Policy S-P2.2 Require developers to provide for the ongoing maintenance of detention basins.

- Policy S-P2.3 Ensure that City staff and Emergency Response Services are trained to respond to a catastrophic dam failure, according to emergency procedures outlined by Merced County Office of Emergency Services' Multi-jurisdictional Hazard Mitigation Plan.

ACTIONS

- Action S-A2.1* Determine, locate, and improve deficiencies in the existing drainage infrastructure in partnership with regional and federal agencies.

- Action S-A2.2* Maintain and regularly update the Storm Drain Master Plan.

- Action S-A2.3* Coordinate with the Merced County Department of Public Works, Merced County Office of Emergency Services, California Department of Water Resources, California Governor's Office of Emergency Services, and the U.S. Army Corps of Engineers on potential flooding risks, including risks associated with dam failure.

GOAL S-3

Protect Los Banos' ecosystem and residents from harm resulting from the improper production, use, storage, disposal, or transportation of hazardous materials.

POLICIES

- Policy S-P3.1 Apply provisions on the Merced County Hazardous Waste Management Plan to decisions involving hazardous materials in Los Banos as appropriate.
- Policy S-P3.2 Discourage the placement or expansion of businesses producing, using, or storing hazardous materials within a quarter mile of schools, hospitals, and residential neighborhoods. If hazardous materials facilities are within a quarter-mile, require effective mitigation measures.
- Policy S-P3.3 Require that any proposed new development on identified or suspected hazardous materials sites address hazardous materials through the preparation of Phase I or Phase II hazardous materials studies for each identified site as part of the design phase for each project.

- Policy S-P3.4 Require remediation and cleanup of sites contaminated with hazardous substances.

ACTIONS

- Action S-A3.1* Coordinate enforcement of the Hazardous Material Disclosure Program with the Merced County Health Department to identify facilities producing, using, or storing hazardous wastes.
- Action S-A3.2* Promote the reduction, recycling, and safe disposal of household hazardous wastes through public education and awareness.
- Action S-A3.3* Review, update, and implement the City's Hazardous Material Plan on a continual basis. This will include preparing guidelines on transporting hazardous material and the need for coordination with the California Highway Patrol.



GOAL
S-4

Protect Los Banos’ residents and businesses from potential wildfire and structural fire hazards through data-driven decision-making and community planning efforts.

POLICIES

- Policy S-P4.1 Maintain a five- to six-minute response standard for fire service within a 1.5-mile radius of a fire station.
- Policy S-P4.2 Require adequate firefighting infrastructure and access for emergency vehicles in all new development, including adequate street width, vertical clearance on new streets, high-visibility street signs in all conditions, and minimum water pressure necessary for sustained fire suppression.
- Policy S-P4.3 Ensure Fire Department personnel are trained in wildfire prevention, response, and evacuation procedures.

ACTIONS

- Action S-A4.1* Assess the manpower, facility, and equipment needs of police and fire services as the city undergoes expansion to provide all residents with an optimal level of protection.
- Action S-A4.2* Maintain mutual aid agreements with Merced County, Cal Fire, and nearby cities.
- Action S-A4.3* Create a public awareness and weed abatement program to highlight the dangers of open burning and how homeowners can protect their properties from wildfires.

GOAL
S-5

Maintain and enhance the City’s capacity for law enforcement.

POLICIES

- Policy S-P5.1 Promote crime prevention strategies and provide a high level of response to incidents. Reduce crime in Los Banos through a comprehensive strategy that includes rapid response to calls and regular patrols in

neighborhoods with above-average crime rates.

ACTIONS

- Action S-A5.1* Support public education programs involving crime prevention and safety issues.
- Action S-A5.2* Maintain mutual aid agreements with Merced County, neighboring law enforcement agencies, and the California Highway Patrol.

GOAL S-6

Minimize the risk of personal injury, property damage, and environmental damage from both natural and human-made disasters and improve natural disaster response capabilities through a variety of emergency preparedness measures.

POLICIES

- Policy S-P6.1* Increase the resilience of important or critical-use structures (such as hospitals, schools, fire, police, cooling centers, and public assembly facilities, substations, and utilities) through input during site selection and a comprehensive investigation into existing fire,

flooding, and geotechnical conditions and to ensure that these facilities are operable both mid- and post-disaster events that affect Los Banos.

- Policy S-P6.2* The Merced County Multi-jurisdictional Hazard Mitigation Plan, approved by the Federal Emergency Management Agency (FEMA) in 2021, is incorporated by reference into this Safety Element in accordance with Assembly Bill 2140.

ACTIONS

- Action S-A6.1* Continue to participate in County-led efforts to regularly update and implement the Merced County Multi-jurisdictional Hazard Mitigation Plan (MJHMP), consistent with guidelines of the Federal Emergency Management Agency (FEMA) and the Disaster Act of 2000.
- Action S-A6.2* Work with owners and operators of critical-use facilities (i.e., hospitals, police stations, public assembly facilities, transportation services) to ensure that they can provide alternate sources of electricity, water, and sewerage in the event



that regular utilities are interrupted in a disaster.

Action S-A6.3 Maintain and improve current early-warning systems and response facilities (Local Emergency Operations Center, National Warning System, civil preparedness radio systems, etc.).

Action S-A6.4 Coordinate regular emergency drills with City and County emergency service providers.

Action S-A6.5 Collaborate and exchange information with other local, state, and federal agencies and with utility service providers in activities related to terrorism prevention and response.

Action S-A6.6 Develop and adopt an emergency evacuation route network of roadways accounting for how natural hazards could impact the feasibility of each route and work with the County of Merced Office of Emergency Services to ensure that each route connects to regional evacuation routes.

**GOAL
S-7**

Improve Los Banos’ resilience to existing and future climate change hazards, such as drier conditions, warmer temperatures, flooding, increased wildfire risks, and increased energy use to address changing temperatures and weather patterns.

ACTIONS

Action S-A7.1 Identify areas of the city where climate change is anticipated to create or increase hazard risks, such as flooding. Identify development methods to reduce hazard risks and increase the resilience of any projects in these areas.

Action S-A7.2 Pursue and support opportunities to retrofit and harden important sets of infrastructure, such as roadways, bridges, flood-control channels, telecommunications, and energy delivery systems.

Action S-A7.3 Update the Safety Element on a regular basis, as required by the California Government Code, in concert with the Los Banos’ General Plan Housing Element to ensure the document’s relevance to future safety conditions in the city. When updates to other

7 SAFETY AND NOISE

safety documents occur, incorporate, and make the Safety Element consistent with these updates.

Action S-A7.4 Incorporate nature-based environmental design and green infrastructure (e.g., permeable surfaces to encourage natural drainage, drought-adapted species to reduce water consumption, plantings with strong root systems to reduce erosion) into existing and new development, as feasible.

Action S-A7.5 Collaborate on existing and future hazard risks stemming from climate change with Merced County and the Merced County Association of Governments.

Action S-A7.6 Continue to pursue local energy generation and resilience projects, such as the Wright Solar power plant, rooftop renewable energy systems, and battery storage systems.

Action S-A7.7 Pursue grant funding from programs, such as the California Department of Conservation’s Best Practices Pilot Program, that increase the resilience and sustainability of future development in Los Banos.

Action S-A7.8 Support the development of resilience hubs throughout the city that can function as refuge centers for evacuees or victims otherwise impacted by hazards as well as command centers with energy and communications redundancies to support government operations during and after a hazard event.

GOAL S-8

Strive to achieve an acceptable noise environment for the present and future residents of Los Banos.

POLICIES

Policy S-P8.1 Use the community noise level exposure standards, shown in Figure 7-10, as review criteria for new land uses.

Policy S-P8.2 Require a noise study and mitigation measures for all projects that have noise exposure greater than “normally acceptable” levels based on Table 7-3. Require that new multifamily and single-family housing projects, hotels, and motels exposed to a Community Noise Equivalent Level (CNEL) of 60 decibels (dB) or greater have a detailed acoustical



analysis describing how the project will provide an interior CNEL of 45 dB or less, pursuant to Title 24, Part 2, of the California Code of Regulations. These measures may include, but are not limited to, the following actions:

- Screen and control noise sources, such as parking and loading facilities, outdoor activities, and mechanical equipment;
- Increase setbacks for noise sources from adjacent dwellings;
- Install fences, walls, and landscaping that serve as noise buffers;
- Use forced-air mechanical ventilation and soundproofing materials and double-glazed windows, or a combination thereof; and
- Control hours of operation, including deliveries and trash pickup, to minimize noise impacts.

Policy S-P8.3 Promote the use of noise attenuation measures to improve the acoustic environment inside residences where existing single-family residential development is located on an arterial street.

Policy S-P8.4 Discourage sound walls, except along freeways, unless they are needed as a measure of last resort. In all other instances, permit sound walls only upon finding that alternative noise attenuation measures are not available. As an alternative to sound walls, use “quiet pavement,” such as rubberized asphalt or open-grade asphalt concrete overlays. Roadway noise reduction of up to 6-7 dBA compared to conventional asphalt overlay may be possible, but the effective lifespan of such pavement should be considered.

Policy S-P8.5 Protect especially sensitive uses, including schools, hospitals, and senior care facilities, from excessive noise.

Policy S-P8.6 Require the use of Best Available Control Technology (BACT) to minimize noise from all stationary sources as well as mobile/temporary sources, such as operation of construction equipment.

ACTIONS

Action S-A8.1 Prohibit long-term noise increases above the following at existing sensitive receptor property lines (e.g., from traffic noise increases), or new uses that generate noise levels at a sensitive receptor property line:

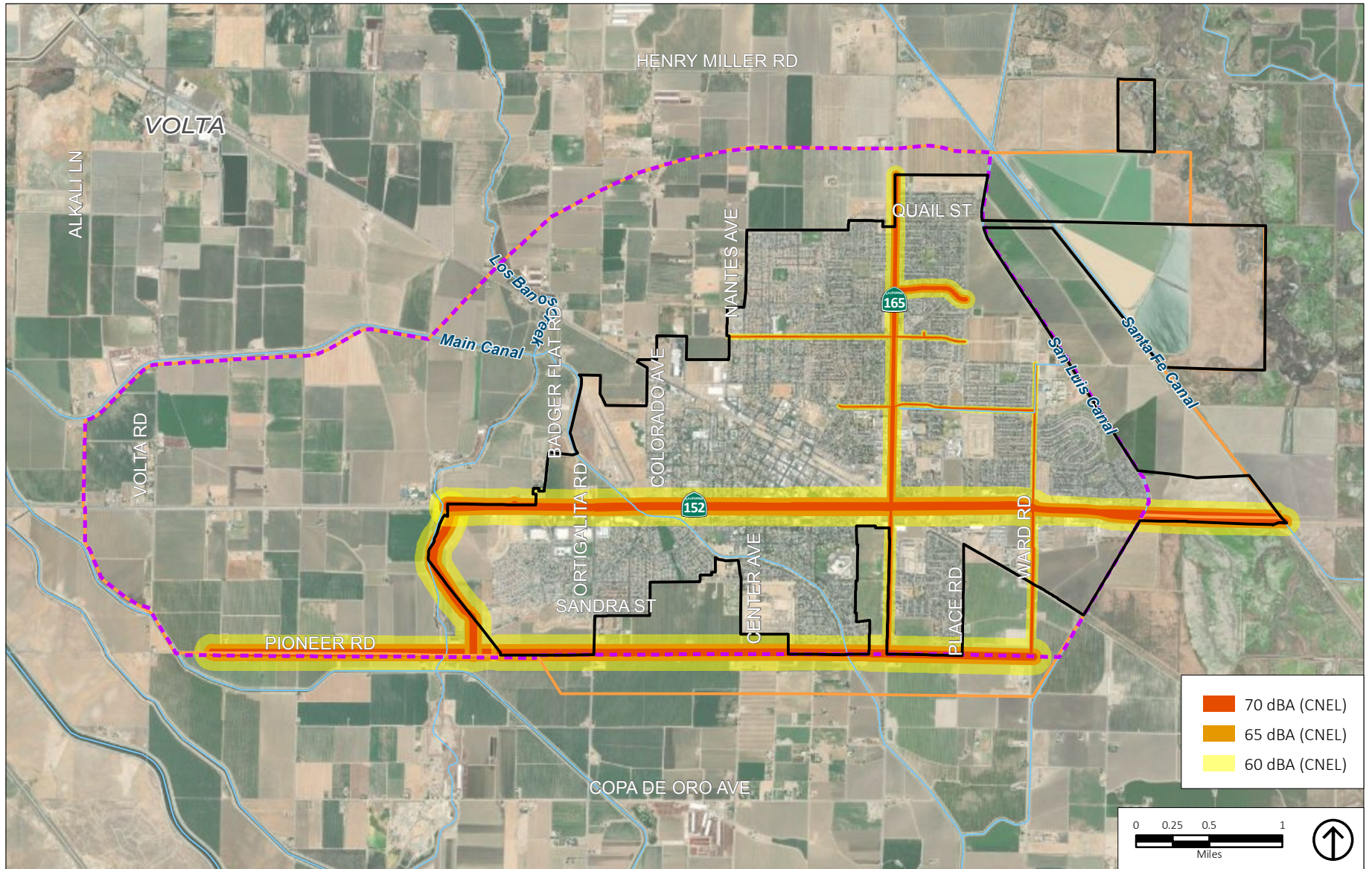
- Greater than 1.5 dBA CNEL increase for ambient noise environments of 65 dBA CNEL and higher;
- Greater than 3 dBA CNEL increase for ambient noise environments of 60 - 64 CNEL; and
- Greater than 5 dBA CNEL increase for ambient noise environments of less than 60 dBA CNEL.

For projects that exceed these noise increases due to project-generated traffic noise, a “fair share” fund shall be considered where projects exceeding these increases pay into a fund for roadway improvements (e.g., repaving with “quiet pavement” to reduce traffic noise levels).

Action S-A8.2 Work with the Los Banos Airport to minimize noise impacts of flight operations on existing noise-sensitive development.

Action S-A8.3 The City shall establish and adopt a list of construction best management practices to be implemented during the construction phase and incorporated into Los Banos Municipal Code Article 27, *Noise Control*, to protect noise sensitive receptors (e.g., residences, schools, and hospitals) from the temporary effects of construction noise. The City of Los Banos Building Department shall verify that construction best management practices, as appropriate, are on the demolition, grading, and construction plans prior to issuance of demolition, grading and/or building permits.

SAFETY AND NOISE ELEMENT

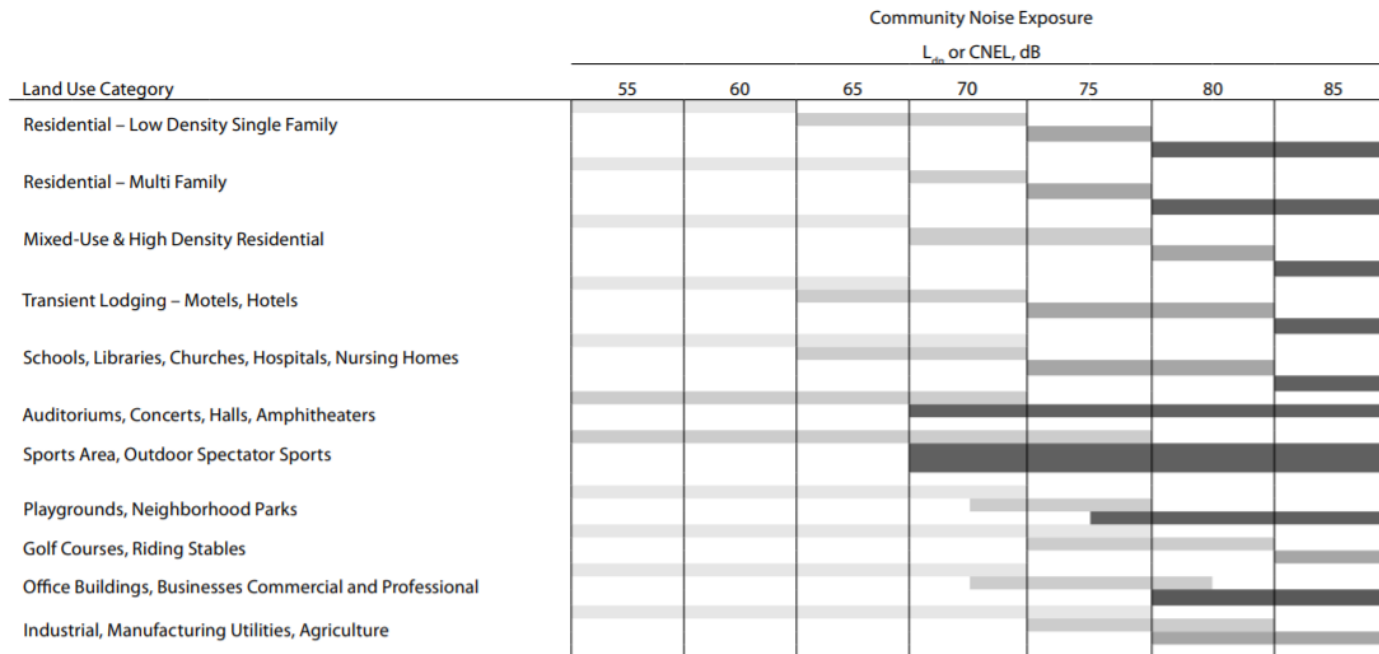


Source: National Resource Conservation Service, 2021; PlaceWorks, 2022.

City Limit
 Urban Growth Boundary (UGB)
 Sphere of Influence (SOI)

Figure 7-9
Future 2042 Noise Contours

Figure 7-10 Land Use Compatibility for Community Noise Environments



Legend:

	Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements.
	Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
	Normally Unacceptable	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
	Clearly Unacceptable	New construction or development should not be undertaken.

Source: City of Los Banos, 2007.



This page intentionally left blank.

8 PUBLIC FACILITIES AND SERVICES

The Public Facilities and Services Element addresses public facility and infrastructure needs for Los Banos and establishes goals, policies, and actions to ensure that public facilities and services are available to serve existing and new development. This Element focuses on specific functional needs of the City’s public services and facilities, and clearly distinguishes issues related to City services from those related to other service providers over which the City has no control. It addresses schools, community facilities, water, stormwater, wastewater, solid waste and recycling services, and energy, as well as ensuring that these services and facilities are available to all residents of Los Banos. Public safety services, including police and fire, are covered in Chapter 7, Safety and Noise.

Contents

- 1 Schools and Community Facilities
- 2 Water, Stormwater, and Wastewater
- 3 Solid Waste Management and Recycling
- 4 Energy
- 5 Environmental Justice
- 6 Goals, Policies, and Actions

Table 8-1 summarizes community services in the City of Los Banos by service provider.

TABLE 8-1: COMMUNITY SERVICE BY SERVICE PROVIDER

Type of Service	Providing Agency
Schools (K-12)	Los Banos Unified School District
Schools (College)	Merced Community College District
Parks and Recreation	City of Los Banos
Police	City of Los Banos
Fire Protection	City of Los Banos
Street Maintenance	City of Los Banos
Water Service	City of Los Banos
Storm Drainage	City of Los Banos
Solid Waste	City of Los Banos
Sewer Service/ Wastewater Treatment	City of Los Banos
Electricity	Pacific Gas & Electric
Natural Gas	Pacific Gas & Electric
Telephone	AT&T



Schools and Community Facilities

Schools

Public schools in the Planning Area are operated by the Los Banos Unified School District (LBUSD). Figure 8-1 shows all school facilities in the Planning Area. All schools are within a quarter-mile walking distance of either a park or school open space facility. LBUSD also operates an adult education program, preschool, transitional kindergarten center, and Learning Educational Activities Program (LEAP), a before/after school program.

The LBUSD controls the exact size and location of future school sites and determines need for new facilities based on capacity of existing facilities, current and projected enrollment of students, and projected residential growth. New school facilities are required to be located within walking distance of neighborhoods so that they are safe and accessible to students and families. The City and LBUSD have a well-established relationship and communicate regularly regarding planned development, projections of new students, and need for new or enlarged facilities. LBUSD and the City also work closely together to maintain joint access to playground and sports facilities, as noted in Chapter 6, Parks, Open Space, and Conservation.

In addition, children in Los Banos attend a range of religious, charter, and private schools.

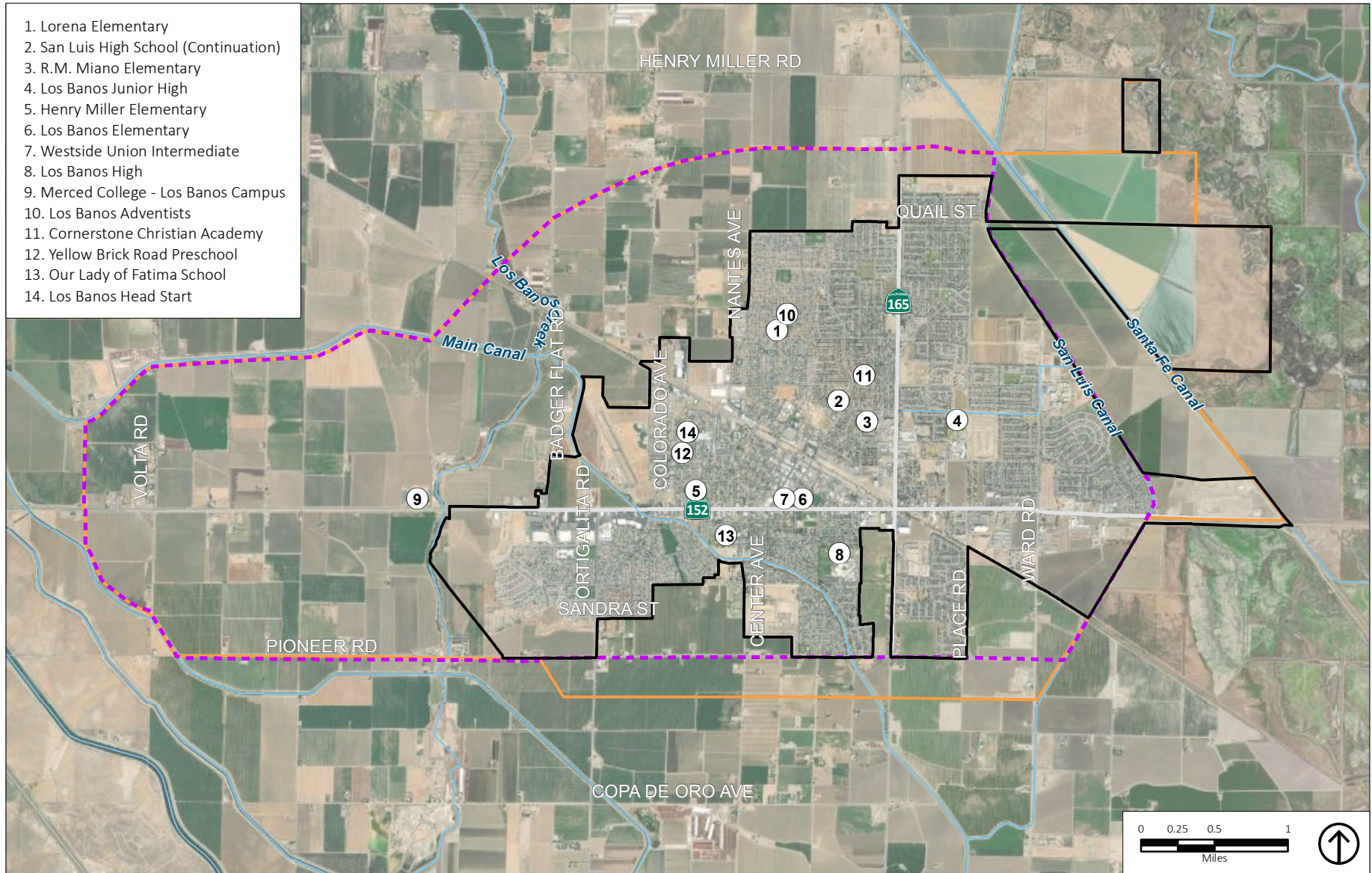
The Merced College Los Banos campus is west of Los Banos Creek on the north side of State Route (SR-) 152. At the Los Banos campus, students can earn associate's degrees in arts or science programs, as well as complete various certificate programs and workforce-oriented classes.

Community Facilities

Community facilities are the network of public and private institutions that support the civic and social needs of the population. They offer a variety of recreational, artistic, and educational programs and special events. These facilities can be grouped into the following categories:

- **Community Centers.** Facilities designed to meet the needs of the population for civic meetings, recreational activities, social gatherings, and cultural enrichment.
- **Cultural Facilities.** These facilities house scientific and historical exhibits or offer space for artistic performances and presentations.
- **Civic Buildings.** These include City and County administrative and public buildings.
- **Libraries.** Facilities in which literary, artistic, and reference materials are kept for public use and circulation. The Los Banos Branch Merced County Library at 1312 Seventh Street near Downtown is one of the most heavily used services in the city.

PUBLIC FACILITIES & SERVICES ELEMENT



Source: Merced County, 2019; PlaceWorks, 2022.

- City Limit
- Urban Growth Boundary (UGB)
- Sphere of Influence (SOI)
- Schools
- ②

Figure 8-1
Schools



- **Medical Facilities.** These include hospitals, public and private clinics, care facilities, and medical offices. The Memorial Hospital Los Banos (MHLB) is the largest health care provider in the city and serves residents as far as Dos Palos or Firebaugh. The MHLB has a landing pad adjacent to the hospital and is connected by helicopter with Memorial Hospital in Modesto.
- **Religious Facilities.** Religious facilities include houses of worship and other related uses.

Water, Stormwater, and Wastewater

The Public Works Department is responsible for providing water, wastewater, and stormwater services to residents. Long-term facility planning is done with master plans, which are updated to implement this General Plan.

Water Distribution System

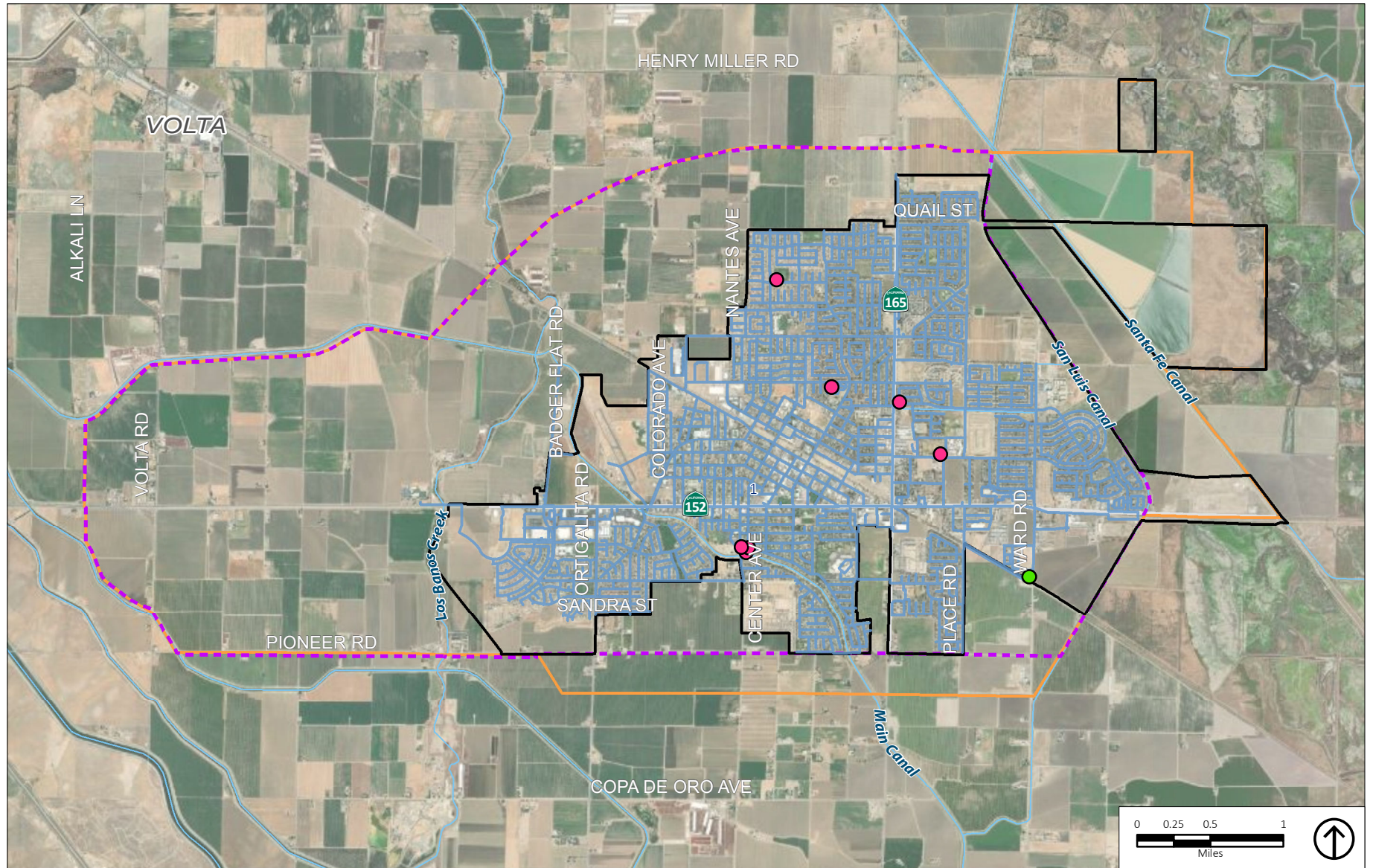
Los Banos is in the San Joaquin River Hydrologic Region and extracts groundwater through wells from the Delta-Mendota Subbasin to meet the city's water supply needs. The wells are owned and operated by the City and deliver the water to aboveground storage tanks. The Public Works Department operates and maintains the tanks, drainage pipes, pump stations, and other infrastructure that distribute the water to residents and businesses. Figure 8-2 shows the water distribution system, including the locations of the wells throughout the city, which are generally within Los Banos city limits.

The Public Works Department is responsible for assessing water needs through regular updates to the Water Master Plan to describe the water distribution system, water usage and water demand, supply capacity and proposed improvements, and prioritization of future capital improvement projects to meet the projected increase in population demand. The Public Works Department also develops facilities and infrastructure, such as pipelines, tanks, and storage tanks.

Fire water pressure must be considered when planning capacity increases for new development. Standard minimum water flow for residential development is considered to be 2,000 gallons per minute (gpm), while for commercial and industrial development it is considered to be 3,500 gpm.

Although not required by law, the City conducted a Water Supply Assessment for General Plan 2042 and determined that there are sufficient water supplies available for the development that would be allowed under this General Plan. As annual use increases, the City will be faced with the challenge of finding alternative sources of water to supplement groundwater and provide good quality potable water. The City will continue to coordinate with the Central California Irrigation District, the San Joaquin River Exchange Contractors (SJREC) GSP Group, and other agencies to monitor groundwater levels in the Delta-Mendota Subbasin and explore other means to supplement groundwater. The City will also require new development to document the availability of water supply capacity, quality, and infrastructure prior to approval of new development.

PUBLIC FACILITIES & SERVICES ELEMENT



Source: Merced County, 2019; PlaceWorks, 2022.

- City Limit
- Sphere of Influence (SOI)
- Urban Growth Boundary (UGB)
- Groundwater Well
- Groundwater Tank
- Water Pipeline

Figure 8-2
Water Distribution System



Water Providers

The City of Los Banos is the primary provider to meet domestic, industrial, and commercial water demands. The Central California Irrigation District (CCID) is the primary supplier for agricultural irrigation water, drawn from surface water and groundwater supplies. Grassland Water District (GWD) also provides some irrigation water within the city limits. At present, Los Banos does not sell (wholesale) water to other agencies or surrounding regions.

Groundwater Management and Water Conservation

Los Banos is actively managing its water system to maximize resources and meet the groundwater sustainability goals of the Groundwater Sustainability Plan (GSP). The primary factor affecting future potable water supplies is the difficulty of finding new groundwater sources that meet drinking water standards due to naturally occurring arsenic and hexavalent chromium concentrations.

The Sustainable Groundwater Management Act (SGMA), passed in 2014, requires the formation of local Groundwater Sustainability Agencies (GSAs) to oversee the development and implementation of GSPs to ensure the long-term sustainable management of California's groundwater resources.

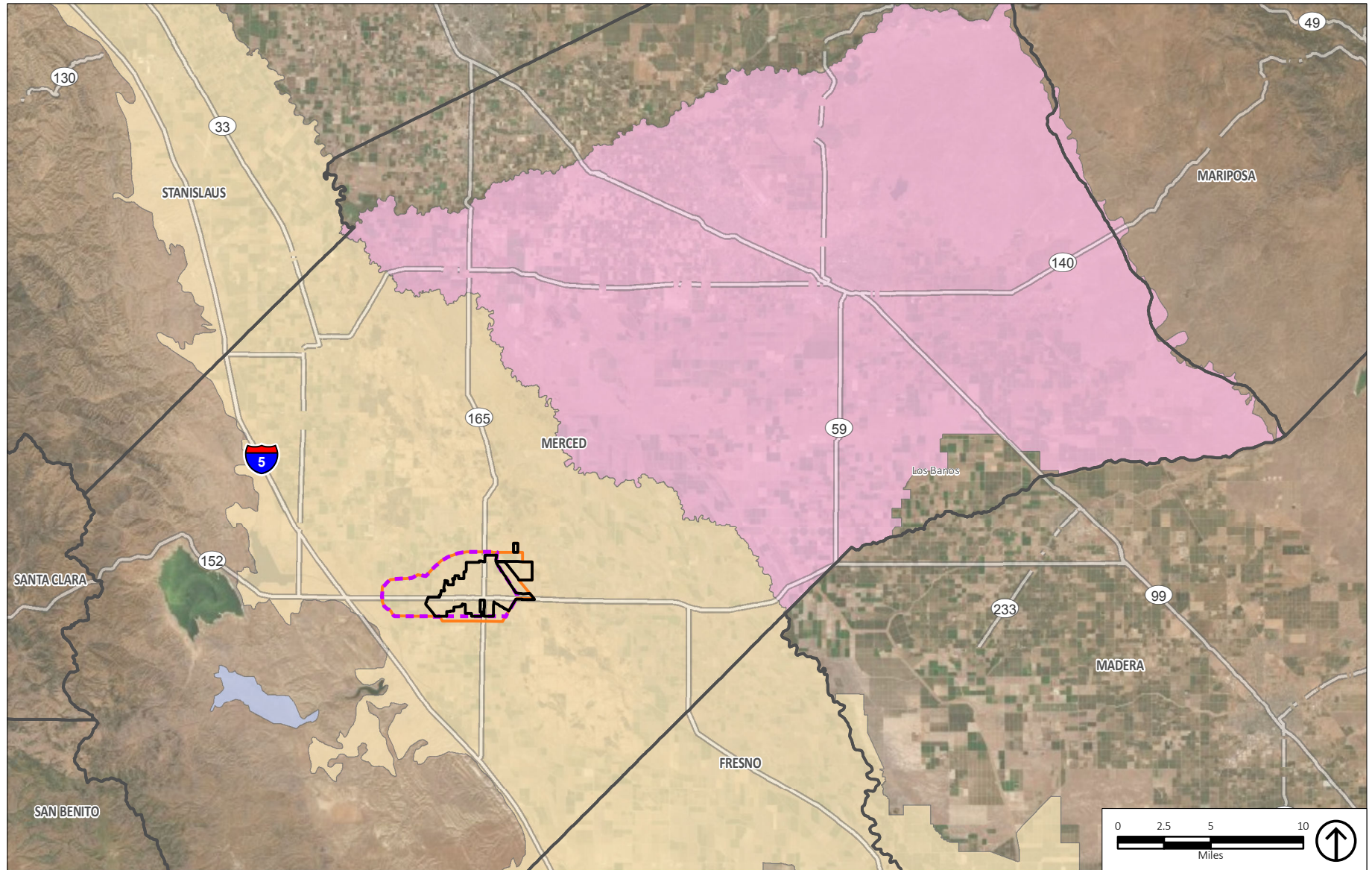
Los Banos draws its water from the Delta-Mendota Subbasin, which the State of California has determined to be a high-priority subbasin and in critical overdraft. The Delta-Mendota Subbasin

has multiple GSPs. Figure 8-3 maps the subbasin, along with other water basins in the region. Los Banos is the largest city in the Delta-Mendota Subbasin. The City also serves as the local GSA and is a member of the SJREC GSP group, which developed the SJREC Group GSP.

The GSP establishes groundwater sustainability goals and management and implementation activities for the basin as well as for each local GSA area, including the Los Banos GSA. However, it does not preempt local land use authority, though any updates to the General Plan would need to coordinate with the goals and activities set by the GSP. The most important components of the General Plan that are directly relevant to the GSP are policies and actions to provide additional groundwater supplies for the proposed buildout of the city while maintaining the groundwater sustainability goals outlined in the GSP.

Several projects have been realized by the SJREC as a result of implementing groundwater sustainability for the basin. One of them is the Los Banos Creek Recharge and Recovery Project, which provides 7,000 acre-feet of water supply to the SJREC during what is termed a "critical year" under the San Joaquin River Exchange Contract. This project also provided water quality benefits to Los Banos through a 2017 water recharge of Los Banos Creek. One of Los Banos' supply wells is near the creek and experienced a reduction in hexavalent chromium as a result of the recharge of higher-quality water from the project. Domestic well users in the area also experienced improvements to their water quality.

PUBLIC FACILITIES & SERVICES ELEMENT



Source: Merced County, 2019; California Natural Resources Agency, 2020; PlaceWorks, 2022.

- | | | |
|-------------------|-----------------------------|------------------------------------|
| County Boundaries | Urban Growth Boundary (UGB) | Los Banos Creek Valley |
| City Limit | Sphere of Influence (SOI) | San Joaquin Valley - Delta Mendota |
| | | San Joaquin Valley - Merced |

Figure 8-3
Groundwater Subbasins



In addition to the GSP, the Los Banos Public Works Department has a Water Conservation Program, established in 1999, to conserve water supply and reduce wastewater. In addition, the Water Shortage Contingency Plan sets limits on watering of lawns to specific days of the week depending on drought conditions. In addition, the City performs water audits on high consumption accounts that are flagged during the billing process. It implements other Demand Management Measures (DMMs), including conservation pricing, water survey programs for residential commercial, and industrial users, and educating the public on water conservation.

Storm Drainage and Green Infrastructure

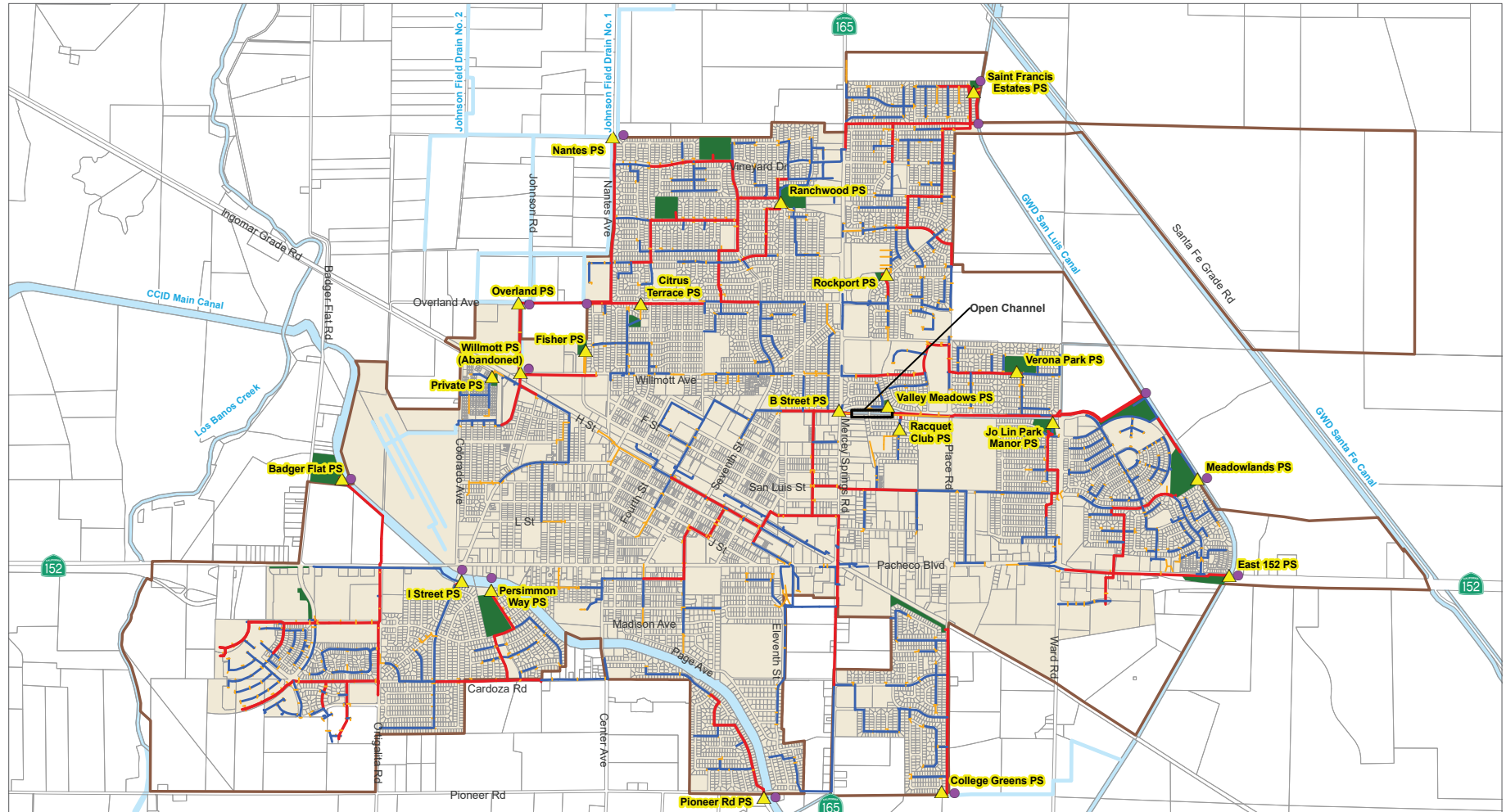
The existing storm drainage system of Los Banos collects, conveys, and discharges surface water runoff throughout the city into canals operated and maintained by the GWD or CCID. Most storm runoff is first captured in storm detention basins and later discharged through water conveyance systems, although a few existing neighborhoods directly discharge to canals. The existing storm drainage system is composed of neighborhood collection systems, detention basins, pump stations, and large-diameter storm drains.

Major water features within the Planning Area include the Los Banos Creek, Mud Slough, and drainage ditch facilities shared with CCID and GWD. These ditches include the GWD San Luis Canal, the GWD Santa Fe Canal, and the CCID Main Canal.

The City has a Storm Drainage Master Plan that recommends various improvements related to disposal of drain water, including standards for detention basins and proposed pump stations. The locations of these pump stations are illustrated in Figure 8-4. The City promotes the use of green infrastructure, which allows surface water to discharge into the ground and alleviate load on the stormwater drainage system by reducing stormwater flow. Some types of green infrastructure include green spaces, bioswales, rain gardens, planter boxes, trees, permeable pavements, collection basins, and stormwater recapture. Green infrastructure may also include improvements and restoration of existing land and features, such as expanding parks, greening public land and schoolyards, or creek and wetland restoration. These green spaces are also tools for improving climate resilience and preserving biodiversity. Green infrastructure improvements can be implemented by public improvement projects as well as incorporated into private development projects.

Refer to Chapter 6, Parks, Open Space, and Conservation, for information and policies related to water quality, and Chapter 7, Safety and Noise, for policies related to flooding and stormwater management.

PUBLIC FACILITIES & SERVICES ELEMENT



Source: Master Plan for Storm Drainage System, March 2010. Carollo Engineers, 2010.



Legend	Storm Drain Diameter	Waterways/Canals	Current Storm Drainage Service Area
Existing Storm Drainage System	12" and Smaller	Storm Basins	Parcels
● Outfall	14" - 24"	City Limits	
▲ Pump Station	27" and Larger		

Figure 8-4
Stormwater System



Wastewater Collection and Disposal

The City provides wastewater collection and treatment service to residents, businesses, and other institutions within the city limits. Wastewater is collected throughout the city via a network of sanitary sewer collection pipelines ranging from 4 to 30 inches in diameter. The City operates sewer lift stations to help pump the influent into the City's wastewater treatment plant (WWTP) in the northeastern area of the city.

The City has a Wastewater Collection System Master Plan that provides an overview of the wastewater collection system, evaluates system capacity and demand, assesses future needs, and identifies capital improvement projects (CIPs) to meet wastewater needs for Los Banos. CIPs are primarily implemented by the Public Works Department (PWD). Wastewater flow to the WWTP is also reduced with the implementation of the Storm Drainage System Master Plan.

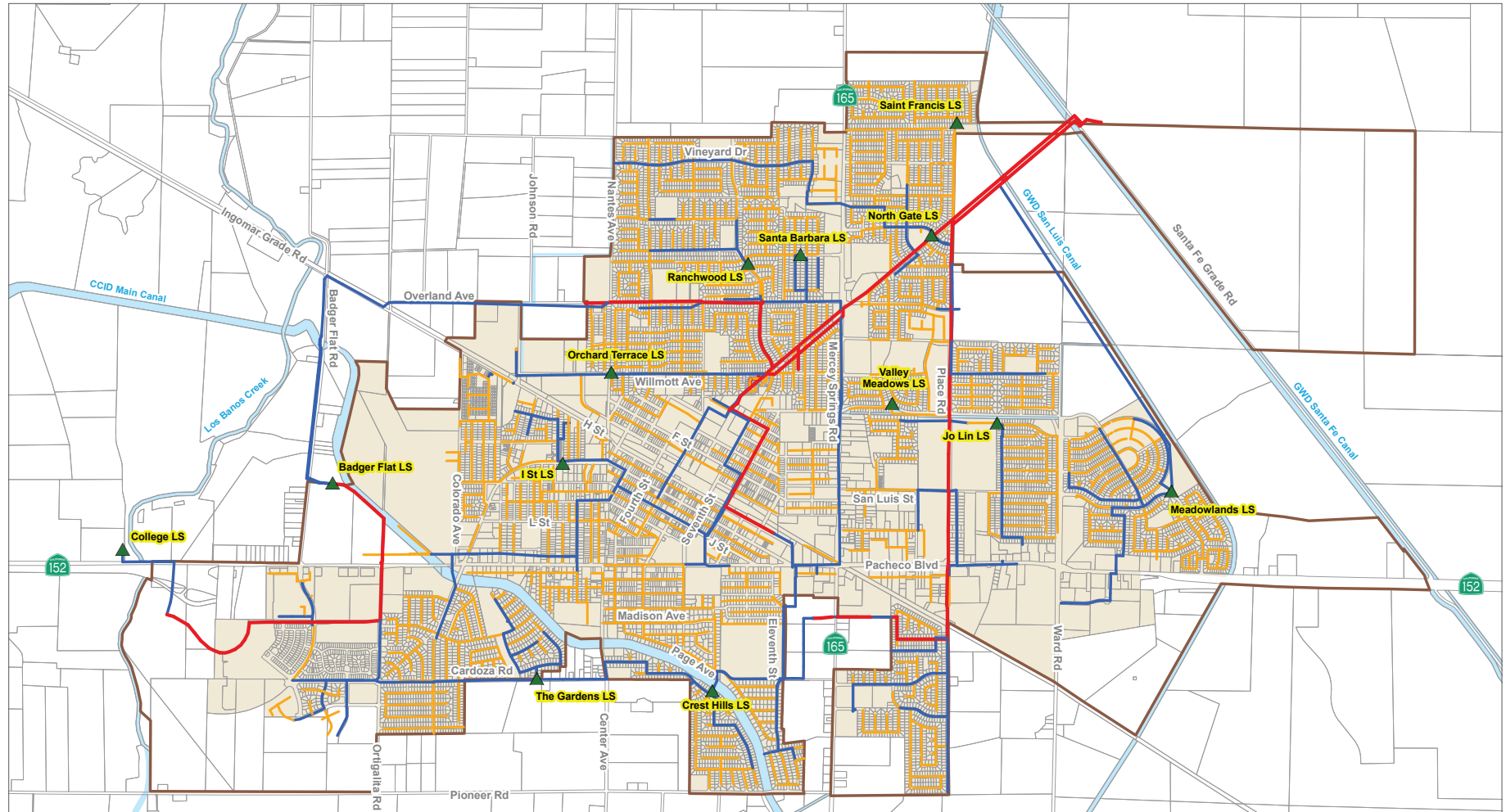
Treated water at the City's WWTP is discharged to wastewater treatment ponds and a portion of the treated effluent is applied as irrigation water on pastureland adjacent to the facility. The City assesses if existing capacity is sufficient and evaluates the expansion of additional irrigation areas for wastewater disposal as part of future improvements. Figure 8-5 maps the wastewater collection system of Los Banos.

Solid Waste Management and Recycling

The City contracts with a private vendor for the collection of solid waste, green waste, and recyclable materials. The City's solid waste is taken to landfills operated by the Merced County Regional Waste Management Authority (MCRWMA), the solid waste management division of the Merced County Association of Governments (MCAG). All of the solid waste from Los Banos is currently transported to Billy Wright Landfill, a Class III facility, on the west side of the county, which has capacity to accept waste until 2050.

The California Waste Management Act mandates local jurisdictions achieve a minimum 50-percent diversion rate annually. Diversion is the reduction of waste going to landfills. The MCRWMA works towards this goal by implementing programs through the Countywide Integrated Waste Management Plan. The MCRWMA provides annual reports to CalRecycle of waste diversion data for evaluation of how well it is achieving this goal. The Los Banos PWD is responsible for implementing programs in the city to help achieve this goal, such as green waste collection and recycling.

PUBLIC FACILITIES & SERVICES ELEMENT



Source: Master Plan for Wastewater Collection System, March 2010. Carollo Engineers, 2010.



Legend	Sewer Pipeline Diameter	Current Wastewater Collection Service Area
Existing Wastewater Collection System	8" and Smaller	Parcels
Lift Station	10 - 18"	Waterways/Canals
	21" and Larger	City Limits

Figure 8-5
Wastewater Collection System



Energy

The Pacific Gas and Electric Company (PG&E) is one service provider to the Los Banos Planning Area and maintains a system of underground and overhead lines to supply electricity to the city. PG&E is a public utility and therefore functions on demand. PG&E also provides natural gas via plastic and steel underground lines to city residents.

In addition, Los Banos offers local clean energy supply options for residents, businesses, and City operations. Los Banos is a member of the Peninsula Clean Energy network, a Community Choice Aggregation (CCA) agency. The primary clean energy source is the Wright Solar Project just outside the city's boundaries. As part of the CCA, Los Banos homes and businesses will have the option to choose where their power comes from and have the opportunity to benefit from community programs, including increased access to funding, that will support energy efficiency and renewable energy projects for their homes and businesses.

Renewable Energy

Renewable energy sources provide clean energy for a city, as opposed to fossil-fuel based energies, which generate significant greenhouse gas (GHG) emissions. Renewable energy technologies are continuously evolving, but current, common technologies include wind, solar photovoltaics (PV), and geothermal wells. Transition to cleaner energy sources will help Los Banos reduce GHG emissions citywide and improve

resiliency against climate change-related impacts in the near future.

Renewable and clean energy projects can include “utility-scale” projects, larger stand-alone projects that connect to the main power grid to distribute and sell energy, or on-site projects, which serve only the facilities on the site where the project is installed, such as rooftop solar on a home or business.

Energy Efficiency and Emissions Reductions

Energy is used by buildings, vehicles, equipment, and infrastructure. Reducing energy use and fuel use can help the City meet its goals of reducing GHG emissions locally. Promoting development patterns that would reduce how much and how far people have to drive is one way to direct growth in an energy-efficient manner and thereby reduce fuel use and GHG emissions. Implementing green building strategies and infrastructure through policies and programs within cities and counties help ensure reduction of energy consumption for both existing and new development. The State of California created the Green Building Code (CALGreen) requiring buildings to be energy efficient through design. Cities and counties can also enact local policies to enhance energy efficiency within design, including mandating the use of low-emissions equipment.

Environmental Justice

Senate Bill (SB) 1000 requires local jurisdictions to “promote public facilities” as part of incorporating environmental justice into general plans. Achieving this would require goals, policies, and actions that concern multiple city departments, including the Community and Economic Department and the PWD. Such policies would ensure an overall balance and equitable distribution of public facilities and amenities throughout the city.

Inequitable access to public facilities typically results from communities and neighborhoods lacking safe and adequate access to schools and community facilities, being underserved by public utilities, and receiving services and resources at a lower-quality and/or in less-safe conditions than would be standard and safe for the rest of the city. The characteristics and demographic makeup of the communities having inequitable access to public facilities and services are also a factor in determining the severity of inequity.

Areas that are underserved by public facilities and services may explore alternative solutions for meeting its facility and utility needs. For example, disadvantaged communities (DACs) that are inadequately served by the storm drainage system could benefit greatly from implementation of green infrastructure, which would help discharge surface water runoff, reduce the risk of flooding, and reduce heat island effects through more greening.

Tools that identify disadvantaged communities (DACs), such as CalEnviroScreen, already use methodology to make this determination. In addition to screening for DACs through CalEnviroScreen, Los Banos may conduct further analysis and assessments to more accurately understand how DACs within the Planning Area experience inequality and issues related to public facilities and services. Environmental justice goals, policies, and actions would then be developed to address the issues identified.

Goals, Policies, and Actions

Schools and Community Facilities

GOAL PFS-1

Help create jobs and improve job quality for existing and future Los Banos residents.

POLICIES

- Policy PFS-P1.1 Ensure adequate elementary school sites are reserved in new subdivisions, consistent with the Land Use Diagram and state law.
- Policy PFS-P1.2 Require that elementary schools be located close to residential neighborhoods, and away from major streets to avoid vehicular traffic and noise.



Policy PFS-P1.3 Maintain a close, collaborative relationship with Los Banos Unified School District on all matters of mutual interest.

GOAL PFS-2	Provide public and cultural facilities that contribute to Los Banos' positive image, enhance community identity, and meet the civic and social needs of residents.
-----------------------	---

POLICIES

Policy PFS-P2.1 Locate new Community Centers in mixed-use Neighborhood Centers, Downtown, or in parks, and offer incentives for developers who set aside land for the development of Community Centers.

Policy PFS-P2.2 Support the development of a range of cultural and arts facilities, such as museums, performing art centers, and art exhibition spaces throughout the city.

Policy PFS-P2.3 Require new development to pay its fair share of the costs of expanding library services to maintain current service levels.

Policy PFS-P2.4 Work with healthcare providers to maintain a full range of healthcare facilities and services designed to meet regional and community needs.

Policy PFS-P2.5 Facilitate the provision of safe, affordable, and quality elder care facilities, childcare services, and transitional housing for families who reside or work in Los Banos.

Policy PFS-P2.6 Ensure accessibility for disabled persons to all buildings offering health and social services, consistent with the Americans with Disabilities Act of 1990.

Policy PFS-P2.7 Encourage internet providers to improve access to reliable, fast, affordable internet in Los Banos.

ACTIONS

Action PFS-A2.1 Work with the Los Banos Branch of the Merced County Library to create either a new large library facility or several satellite branches to serve additional population in Los Banos.

Action PFS-A2.2 Explore the feasibility of participating in the Wildfire Smoke Clean Air Centers for Vulnerable Populations Incentive Pilot Program administered by the State of California to retrofit ventilation systems of public facilities to serve as clean air centers during wildfires and other smoke events.

Water, Stormwater, and Wastewater

GOAL PFS-3

Ensure a resilient supply of fresh, safe water to serve existing and future needs of the city.

POLICIES

Policy PFS-P3.1 Promote the conservation of water within Los Banos.

Policy PFS-P3.2 Ensure adequate groundwater reserves are maintained for present and future domestic, commercial, and industrial uses.

Policy PFS-P3.3 Require new development to document that water supply capacity, quality, and infrastructure are in place prior to approval of new development.

Policy PFS-P3.4 Prohibit extension of water and sewer lines beyond the sphere of influence, except in cases of developing regional water and sewer facilities or of existing documented health hazards and in areas where the City has agreements to provide services.

Policy PFS-P3.5 Continue to pursue the identification and acquisition of surface water rights or supply agreements to meet future regional water supply needs.

Policy PFS-P3.6 Work with the Central California Irrigation District (CCID) in all annexed areas so that agricultural production can continue on annexed land until the time of development.

Policy PFS-P3.7 Require all development projects to submit a landscaping plan.

- Commercial, public right-of-way, and park projects will be required to submit planting plans, irrigation plans, irrigation schedules, and water use estimates for City approval prior to issuance of building permits;



- Industrial projects will be required to submit plans for water recycling and explain how water use will meet requirements of the National Pollutant Discharge Elimination System program during the plan review process. They will also be required to submit irrigation plans for proposed landscaping.

- Making water production and treatment facilities available for tours by schools or organized groups;
- Encouraging educators to include water conservation in their curriculums; and
- Providing tips to business groups on water conservation and recycling.

Policy PFS-P3.8 Develop water filtration facilities to ensure the quality of groundwater meets federal and state drinking water standards. The City may place a temporary cap on urban development, if necessary, to allow facilities to catch up with growth.

Policy PFS-P3.9 Promote the use of evapotranspiration (ET) water systems in irrigating agriculture and large parks.

Policy PFS-P3.10 Educate the general public about the importance of water conservation, water recycling, and groundwater recharge through the following means:

ACTIONS

Action PFS-A3.1 Regularly review and update impact mitigation fees to help fund water and sewage services for new development.

Action PFS-A3.2 Become a signatory to the California Urban Water Conservation Council and implement all Demand Management Measures as soon as they become feasible.

Action PFS-A3.3 Implement recommendations set forth in the City's current Urban Water Management Plan, including initiatives such as:

- A water survey program;

- A water conservation program (Water Patrol); and
- A Residential Plumbing retrofit program.

Action PFS-A3.4 Engage the business community in protecting the City's water supply.

GOAL PFS-4

Achieve a sustainable stormwater drainage system that meets the existing and future needs of the city.

POLICIES

Policy PFS-P4.1 Require green infrastructure improvements in new private developments.

Policy PFS-P4.2 Where possible, incorporate green infrastructure improvements in public improvement projects by the City.

Policy PFS-P4.3 Require all new development and redevelopment projects to comply with the City's Low Impact Development Manual and incorporate site design, source control, and stormwater treatment measures as per the

requirements of the City's Phase II Small MS4 permit.

Policy PFS-P4.4 Prior to the issuance of grading permits, require project applicants that create and/or replace 5,000 square feet or more of impervious surfaces to submit a Stormwater Management Checklist to the Public Works Department for review and approval.

ACTION

Action PFS-A4.1 Create an incentive program to promote improvement of existing residential, commercial, and industrial developments and structures with green infrastructure improvements.

Action PFS-A4.2 Develop a water quality monitoring plan for discharge of stormwater into CCID and GWD canals.

Action PFS-A4.3 Implement a maintenance program for stormwater outfall meters and provide flow and water quality monitoring data to CCID and GWD on a regular basis.



Action PFS-A4.4 Work with CCID and GWD to develop a regional plan for accommodating future stormwater runoff.

GOAL PFS-5	Ensure that adequate, safe wastewater treatment capacity is available to serve existing and future needs of the city.
-----------------------	--

POLICIES

Policy PFS-P5.1 Design stormwater and wastewater collection and treatment facilities to serve expected buildout of the areas served by these facilities.

Policy PFS-P5.2 In partnership with county, state, and federal agencies, work to prevent illegal wastewater disposal or chemical disposal practices.

Policy PFS-P5.3 Encourage the use of reclaimed water for irrigation and landscaping purposes.

ACTIONS

Action PFS-A5.1 Implement recommendations put forth by the City’s current Wastewater Management Plan with regards to:

- The future expansion of existing treatment facilities beyond 4.9 million gallons per day (mgd), and/or the construction of a new membrane bi-reactor (MBR) facility to meet projected population growth; and
- The acquisition of land for treatment purposes.

Action PFS-A5.2 Study the feasibility of expanding the use of wastewater effluent for irrigation of pasturelands.

Action PFS-A5.3 Evaluate the potential for the use of reclaimed water (purple pipe) throughout the city.

Solid Waste

GOAL PFS-6

Ensure adequate and sustainable solid waste management that meets the existing and future needs of the city and strives to reduce disposable waste over time.

POLICIES

Policy PFS-P6.1 Reduce volumes of solid waste generated in Los Banos through recycling and resource conservation measures, such as:

- Requiring new and refurbished buildings be designed with on-site storage facilities for recycled materials to make recycling more convenient;
- Using post-consumer recycled paper and other recycled materials in all City operations;
- Supporting the commingled-recycling program; and

- Continuing efforts to develop new specialized recycling programs for residential, commercial, industrial, and educational sectors.

Policy PFS-P6.2 Support waste reduction and recycling programs through public education, including writing articles on City websites, newsletters, and other forms of publications.

Policy PFS-P6.3 Work closely with the Merced County Regional Waste Management Authority to ensure adequate landfill space is available to meet projected growth.

ACTION

Action PFS-A6.1 Assess the capacity of Billy Wright Landfill and prioritize planning for an early expansion of Billy Wright Landfill or identifying an alternative landfill space.



Energy

GOAL PFS-7	Promote and increase access to renewable energy.
-----------------------	---

POLICIES

- Policy PFS-P7.1 Establish policies and programs that facilitate and remove barriers towards the siting of new renewable energy generation for the benefit of Los Banos’ residents, businesses, and City operations.

- Policy PFS-P7.2 Pursue and provide economic incentives and creative financing for renewable energy projects, as well as other support for community members or developers seeking funding for such projects.

- Policy PFS-P7.3 Promote, support, and require, as appropriate and to the extent feasible and consistent with state laws, the development of on-site renewable energy projects for residents and businesses to develop on their properties.

Policy PFS-P7.4 Promote distributed generation projects. “Distributed generation” refers to small-scale renewable energy projects that can be installed on buildings in a community. Programs such as the Multifamily Affordable Solar Roofs Program at the California Public Utilities Commission create funding sources specifically for small-scale solar installations in disadvantaged communities.

Policy PFS-P7.5 Pursue opportunities to require or encourage on-site energy storage, such as on-site batteries, within facilities and developments.

ACTIONS

- Action PFS-A7.1* Develop an economic incentives financing program to support renewable energy projects.

- Action PFS-A7.2* Conduct a community land and resources audit that assesses current land uses, characteristics, and zoning designations to find areas best suited to primary use solar development; identifies needed zoning code changes; and creates siting standards that minimize impacts on sensitive resources.

Environmental Justice

GOAL PFS-8

Ensure equitable distribution and quality of public facilities, infrastructure, and services throughout Los Banos so that the fundamental needs of all residents are met and all residents can access the services they need

POLICIES

- Policy PFS-P8.1 Maintain and improve access to transit stops and stations for mobility-challenged population groups such as youth, people with disabilities, and seniors.
- Policy PFS-P8.2 Prioritize investments in public facilities, infrastructure, and services that benefit disadvantaged communities and respond to the needs identified by residents in those communities.
- Policy PFS-P8.3 Assist disadvantaged communities in establishing funding and financing mechanisms, including City-initiated mechanisms like landscape and lighting improvement districts, to provide community-desired public facilities and services.

ACTIONS

- Action PFS-A8.1* Prioritize needs and services in disadvantaged communities as part of the annual budgeting process.
- Action PFS-A8.2* Compile, maintain, and make easily available a list of numbers to call for basic needs, such as code enforcement, housing assistance, food assistance, and healthcare. Provide this information in multiple languages.
- Action PFS-A8.3* Explore the feasibility of participating in the Green Infrastructure Program administered by the State of California Natural Resources Agency to implement green infrastructure projects.



**GOAL
PFS-9**

Ensure equitable and convenient access to health services throughout Los Banos so that all residents can find the physical and behavioral healthcare services they need within their community.

POLICIES

- Policy PFS-P9.1 Work with community-based organizations to expand community health-related outreach, analysis, and implementation.
- Policy PFS-P9.2 Collaborate with non-profit partners to attract medical clinics, behavioral health facilities, and pharmacies in areas that lack access to healthcare.

The General Plan provides specific policy guidance for implementation of plan concepts in each of the Plan elements. This framework establishes a basis for coordinated action by the City, adjacent jurisdictions, Merced County, and regional agencies. This chapter describes the process in general terms and the major actions to be undertaken by the City; the implementing policies in each element of the Plan provide details that will guide program development.

Contents

- 1 Responsibilities
- 2 The Regulatory System
- 3 Capital Improvements Programming
- 4 Implementation Actions for Plan Policies

The major implementation process for the land use proposals will be administration of the Zoning Ordinance through the Zoning Map. The Zoning Ordinance will need to be amended to be consistent with the General Plan's policies. The Subdivision Ordinance also should be amended to add additional requirements for land dedication for schools and parks, to provide flexibility in street design, and ensure adequate provision of bike and pedestrian facilities and connections between neighborhoods, schools, and parks, consistent with Plan policies.

The Capital Improvement Program will be the primary means of scheduling and funding infrastructure improvements of city-wide benefit. Based on the recommendations made in the General Plan, a new Impact Fee analysis will be required to determine the level of impact fees to be charged to developers. Special assessment districts or other means of financing improvements benefiting specific areas, such as for Downtown, the Airport Site, and the Business Opportunity Area also may be used.

In many areas, General Plan implementation will depend on actions of other public agencies and of the private sector, which will fund most of the development expected to occur in the Planning Area. The General Plan will serve a coordinating function for private-sector decisions; it also provides a basis for City action on individual subdivision and development applications, which must be found to be consistent with the General Plan if they are to be approved.



Responsibilities

Implementing the General Plan will involve the City Council, the Planning Commission, other City boards and commissions, and City departments. The City also will need to consult with Merced County and other public agencies about implementation proposals that affect their respective areas of jurisdiction. The principal responsibilities that City officials and staff have for General Plan implementation are briefly summarized herein; details on their powers and duties are in the Los Banos Municipal Code.

City Council

The City Council is responsible for the overall management of municipal affairs; it acts as the legislative body and is responsible for adoption of the General Plan and any amendments to the General Plan. The City Council appoints the City Manager who is the chief administrator of the City and has overall responsibility for the day-to-day implementation of the Plan. The City Council also appoints other boards and commissions established under the Municipal Code.

The City Council's role in implementing the General Plan will be to set implementation priorities and approve zoning map and text amendments, consistent with the General Plan, and a Capital Improvement Program and budget to carry out the Plan.

Planning Commission

The Planning Commission is responsible for preparing and recommending adoption or amendment of the General Plan, Zoning, and Subdivision ordinances and other regulations, resources conservation plans, and programs and legislation needed to implement the General Plan. The Planning Commission also may prepare and recommend adoption of specific plans, neighborhood plans, or special plans, as needed for General Plan implementation.

Community and Economic Development Department

The Community and Economic Development Department is responsible for the general planning and development review functions undertaken by the City. Specific duties related to General Plan implementation include preparing ordinance amendments, design guidelines, reviewing development applications, conducting investigations, and making reports and recommendations on planning and land use, zoning, subdivisions, development plans, and environmental controls. The department will also coordinate activities with the Los Banos Unified School District related to school sites and the Los Banos Municipal Airport in consultation with Merced County and the Airport Land Use Commission. Finally, the Community and Economic Development Department will have the primary responsibility for preparing the annual report on the General Plan and conducting the five-year review. These reporting requirements are described in Chapter 1 of the General Plan.

The Community and Economic Development Department will be responsible for actions pertaining to marketing, industrial targeting, workforce preparedness, improving Los Banos' business climate, and other actions highlighted in Chapter 2, Economic Development Element, of the General Plan.

Public Works Department

The Public Works Department provides engineering and maintenance services.

- **The Public Works Engineering Services Department** is responsible for the review of subdivision maps, grading permits, public improvement plans, encroachment permits, development in the flood zone, and sewer permits. It also does construction inspection for permits it issues and is responsible for the design and construction of capital improvement projects.
- **The Public Works Maintenance Services Department** is responsible for transportation planning and operations, signing, striping and street maintenance, infrastructure maintenance, and parks and facilities maintenance. Specific implementing responsibilities are established in the Land Use, Circulation, and Public Facilities and Services Elements of the General Plan.

Parks and Facilities Division

The Parks and Facilities Division of the Public Works Department is responsible for managing the City's recreation services, its parks and open spaces, and various facilities such as sports complexes. Specific implementing responsibilities are established in the Parks, Open Space, and Conservation Element of the General Plan. The division is also charged with the task of maintaining and improving all City-owned street trees, park trees, and all other trees considered to be publicly owned.

Police and Fire Departments

Within the city, responsibility for public safety is assigned to the Police and Fire Departments. The Police Department is responsible for preventing crime and maintaining law and order, while the Fire Department is responsible for fighting urban and wildland fires as well as emergency response and rescue. Both departments also coordinate with the County on mutual aid. Specific implementing responsibilities under the General Plan are established in the Safety and Noise Element of the General Plan.

Other Boards and Commissions

The City Council is assisted by the following three citizen commissions and one committee:

- Parks and Recreation Commission
- Planning Commission
- Airport Advisory Commission
- Traffic Safety Committee



The General Plan does not envision any substantive change in the responsibilities assigned to these boards and commissions. They will be administering new or amended regulations adopted pursuant to General Plan policies and their actions will need to be consistent with the General Plan.

The Regulatory System

The City will use a variety of regulatory mechanisms and administrative procedures to implement the General Plan. Overall responsibility for plan implementation is vested in the Planning Agency, consisting of the City Council, Planning Commission, and the Community and Economic Development Director. Under California Law, Los Banos is required to have the Zoning Ordinance be consistent with the General Plan; moreover, establishing and maintaining consistency is good planning policy and is called for in the General Plan. In fact, the consistency requirement is the keystone of General Plan implementation. Without a consistency requirement, there is no assurance that General Plan policies will be implemented and that environmental resources earmarked for protection in the plan will be preserved. Other regulatory mechanisms, including subdivision approvals, building and housing codes, capital improvement programs, and environmental review procedures also will be used to implement plan policies. All project approvals must be found consistent with the General Plan.

Zoning Regulations

The City's Zoning Ordinance will translate plan policies into specific use regulations, development standards, and performance criteria that will govern development on individual properties. The General Plan establishes the policy framework, while the Zoning Ordinance prescribes standards, rules, and procedures for development. The Zoning Map will provide more detail than the General Plan Land Use Diagram.

The General Plan calls for several new zoning districts. Regulations for these districts will be established as part of the comprehensive zoning update currently being undertaken. The use regulations and development standards for existing zoning districts will need to be amended to conform to General Plan policies. Density and intensity limits, consistent with the plan's land use classifications, also should be established. For purposes of evaluating General Plan consistency, the density of proposed projects will be rounded up or down to the nearest whole number, as appropriate.

The City will bring both the Zoning Ordinance and the Zoning Map into conformity with the General Plan. When the General Plan is subsequently amended, the Zoning Ordinance and Zoning Map also may need to be amended to maintain consistency between the plan and zoning.

Subdivision Regulations

No subdivision of land may be approved under California law and the City's subdivision regulations unless its design and proposed improvements are found to be consistent with the General Plan. Dedication of land for park facilities is required for subdivisions above a certain size, consistent with the policies and standards prescribed by the General Plan. The precise threshold will be established on a case-by-case basis and depends on whether there are neighborhood parks in the vicinity that can serve new residents. The subdivision regulations also can require dedication of land for riparian habitat and reservation of land for fire stations, libraries, bike paths, transit facilities, and other public facilities.

After adoption of the General Plan, the City's subdivision regulations will need to be amended to conform to plan policies and explicitly require findings of consistency with the General Plan as a condition of approving major and minor subdivisions. Reservation requirements for bus turnout facilities and bike and pedestrian facilities also will need to be added to carry out plan policies. The Subdivision Ordinance should require connection between new streets and existing streets, wherever possible, and allow for reduced, right-of-way dimensions to maintain neighborhood character. Consideration of passive solar energy techniques in street and lot layout and landscaping will also be required and the ordinance may require access easements in new subdivisions.

Building and Housing Codes

No building permit may be issued under California law (Government Code Section 65567), unless the proposed development is consistent with the City's open space plan and conforms to the policies of the Parks, Open Space, and Conservation Element. To provide an administrative mechanism to ensure consistency, it may be appropriate to require applicants for building permits and grading permits to secure a "zoning certificate" or other form of zoning clearance before these permits can be issued.

Consistency Between the General Plan and the Zoning Ordinance

Los Banos will implement many General Plan policies through the City's Zoning Ordinance. Zoning must be consistent with the General Plan if the City's land use, housing, and open space policies are to be realized. A fundamental link between the General Plan and zoning is land use/zoning consistency. Table 9-1 shows how zoning districts in Los Banos are consistent with the land use designations of this General Plan.



TABLE 9-1: CONSISTENCY BETWEEN THE GENERAL PLAN AND ZONING

General Plan Land Use Designations	Consistent Zoning District
Low Density Residential	R-1
Medium Density Residential	R-2
High Density Residential	R-3
Downtown Mixed Use	M-X, R-C, H-C
Neighborhood Commercial	C-N
Commercial	C-1, H-C
Office/Professional	P-O
Employment Park	*EP, P-O, L-I, H-C
Industrial	I, L-I
Agriculture/Rural	*AG
Parks	PARK
Civil/Institutional	P-F

* Zoning district would need to be created.

- Acquisition of land for public purposes
- Disposition of land
- Street vacations
- Authorization or construction of public buildings or structures

The Planning Agency has 40 days to comment on such actions, and under state law, these recommendations are advisory only; the City Council may make its own determinations of consistency. The Planning Agency also has the right to comment on CIPs prepared by Los Banos Unified School District and utility providers. These CIPs, and any annual revision proposed to them, are to be forwarded to the Planning Commission at least 60 days prior to adoption for the Commission’s review for consistency with the General Plan.

Capital Improvements Programming

The Capital Improvements Program (CIP) includes a list of public works projects that the City intends to design and construct in coming years. Under California law, the Planning Agency has responsibility for reviewing the CIP to determine whether it conforms to the General Plan. Specifically, the Government Code requires the Planning Agency to review for conformity with the General Plan CIP projects requiring any of the following actions:

Implementation Actions for Plan Policies

Tables 9-2 through 9-7 on the following pages summarize implementation actions that the City will undertake to carry out the policies proposed in each element of the General Plan.

TABLE 9-2: IMPLEMENTATION ACTIONS FOR ECONOMIC DEVELOPMENT

		Primary Responsibility	Supporting Departments and Agencies
ED-A1.1	<p>Actively promote Los Banos as a good place for business through the following:</p> <ul style="list-style-type: none"> Continue to attend trade shows, retail conventions, or other gatherings for targeted industries; Regularly schedule face-to-face meetings between City representatives and leaders of key local businesses for business retention purposes; Prepare effective and informative collateral materials to distribute to interested businesses; Publish an inventory of assets that Los Banos offers in newsletters and on the web; Create materials to keep businesses and industry groups informed of local services using electronic newsletter, postcards, and specialized promotional packages. 	Community & Economic Development	Chamber of Commerce
ED-A1.2	Create and market a unified and unique city image through a branding strategy that differentiates Los Banos from other communities in Merced County, the San Joaquin Valley, and California.	Community & Economic Development	Merced County
ED-A2.1	<p>Prepare an outreach strategy for targeted industries, focusing on:</p> <ul style="list-style-type: none"> Industries/businesses that indicate an interest in, and/or represent a good geographical fit with the San Joaquin Valley, Merced County, and/or Los Banos; 	Community & Economic Development	



TABLE 9-2: IMPLEMENTATION ACTIONS FOR ECONOMIC DEVELOPMENT

		Primary Responsibility	Supporting Departments and Agencies
	<ul style="list-style-type: none"> Industries whose labor requirements match the occupations and skills of the local labor force and local educational institutions; Businesses that rely on ground and air transportation; Businesses that can add to or leverage existing industrial clusters or firms; Public or private enterprises appropriate to strengthening the health/education/services sector, or those that would improve the quality of life for residents and help to attract higher-income households to Los Banos; and Partnerships with area educational institutions to assist with training for a new workforce. 		
ED-A2.2	Continue to have economic development staff contact and visit target companies and industry associations, including businesses, real estate brokers, and site consultants.	Community & Economic Development	
ED-A2.3	In partnership with the Chamber of Commerce and the Merced County Economic Development Team, continuously track local, state, and national economic trends to identify new candidate businesses/industries for Los Banos.	Community & Economic Development	Chamber of Commerce, Merced County Community and Economic Development
ED-A2.4	Encourage the establishment and expansion of value-added food processing businesses in Los Banos that use local agricultural products.	Community & Economic Development	
ED-A2.5	Explore including the warehousing and logistics industry as a recruitment target, including, but not limited to, research into the benefits and barriers to development of major warehouse and distribution centers similar in Patterson and Tracy.	Community & Economic Development	

TABLE 9-2: IMPLEMENTATION ACTIONS FOR ECONOMIC DEVELOPMENT

		Primary Responsibility	Supporting Departments and Agencies
ED-A2.6	Explore possible expansion of the existing medical center, including location, facility size, infrastructure needs, and service capacity, etc.	Community & Economic Development	Sutter Health and/or other healthcare providers
ED-A2.7	Continue to explore the possible relocation or closure of the Los Banos Airport with redevelopment of the site to potentially include regional recreation facilities, as well as retail, office, industrial, and residential uses.	Community & Economic Development	Merced County Federal Aviation Authority
ED-A2.8	Continue to explore establishment of a business park that would provide shovel-ready land, as well as speculative and built-to-suit office and industrial buildings, with ready access to high-capacity utilities (i.e., water, sewer, electrical, broadband) and transportation infrastructure.	Community & Economic Development	
ED-A2.9	<p>Establish Los Banos as a tourism destination by promoting activities associated with the O’Neil Forebay, Grassland Ecological Area, and other points of interest around the city. Specific initiatives may include the following:</p> <ul style="list-style-type: none"> • Promoting commerce associated with the O’Neil Forebay as a summer recreation area, and the Tule Elk Reserve for wildlife viewing; • Promoting commerce associated with private recreational activities within the Grassland Ecological Area, such as wildlife viewing and hunting; • Establishing easy access to visitor information, such as lodging, dining, recreation, and cultural offerings in the city and surrounding area; and • Providing clear signage on roads leading to points of interest. 	Community & Economic Development	Grassland Water District



TABLE 9-2: IMPLEMENTATION ACTIONS FOR ECONOMIC DEVELOPMENT

		Primary Responsibility	Supporting Departments and Agencies
ED-A2.10	Investigate the benefits that senior communities may bring to Los Banos and, if appropriate, pursue development of such communities in appropriate locations.	Community & Economic Development	Merced Housing Authority
ED-A2.11	Promote youth-related businesses and those that provide activities families can enjoy together.	Community & Economic Development	
ED-A2.12	Explore the feasibility of creating an Auto Mall at the eastern or western end of Pacheco Boulevard, near the State Route 152 bypass intersections.	Community & Economic Development	
ED-A3.1	Actively recruit vocational institutions to locate in Los Banos, and support development of a vocational education certificate program at Merced Community College that can address the gaps for technical skills needed by the city's major industries.	Community & Economic Development	Merced College
ED-A3.2	Actively recruit University of California Merced staff and students to network with Los Banos for research and development, pilot, or training opportunities.	Community & Economic Development	University of California Merced
ED-A3.3	Work with high schools, the Community College, University of California Merced, other educational providers, and major employers to develop internship, mentoring, and apprenticeship programs.	Community & Economic Development	Merced College University of California Merced Los Banos Unified School District

TABLE 9-2: IMPLEMENTATION ACTIONS FOR ECONOMIC DEVELOPMENT

		Primary Responsibility	Supporting Departments and Agencies
ED-A4.1	<p>Improve the ease of doing business within the City to ensure the growth, development, and prosperity of Los Banos’ business community by:</p> <ul style="list-style-type: none"> Continuing to maintain an inventory of “shovel-ready” sites, with information about their location, size, configuration, infrastructure availability, zoning, and other data that indicates readiness for development; Continuing to provide business assistance services, including visitation to existing businesses; Adopting a streamlined permit process and expediting permit decisions; and Creating a one-stop web portal for economic development. 	Community & Economic Development	
ED-A4.2	Establish financing plans for existing businesses seeking to expand in Los Banos for whom payment of fees “upfront” may represent a major financial burden.	Community & Economic Development	
ED-A4.3	Develop an incubator program to foster the development of local start-ups.	Community & Economic Development	
ED-A4.4	Establish a “Citizens’ Academy” to educate the public and businesses regarding the role of government in providing high-quality, but fiscally efficient, public services.	City Manager’s Office	
ED-A5.1	In partnership with the Downtown Association, Chamber of Commerce, Downtown store owners, and local hotels, promote a varied seasonal calendar of parades, festivals, celebrations, promotional sales, and sporting events in Downtown that will draw visitors to the area.	Community & Economic Development	Downtown Association Chamber of Commerce



TABLE 9-2: IMPLEMENTATION ACTIONS FOR ECONOMIC DEVELOPMENT

		Primary Responsibility	Supporting Departments and Agencies
ED-A5.2	Encourage establishment of both temporary and permanent cultural attractions and entertainment venues within the Downtown to help establish it as a local destination.	Community & Economic Development	
ED-A5.3	Explore establishing an entertainment district in the Downtown with a discrete boundary and strategies to promote entertainment uses, such as: (New Action) <ul style="list-style-type: none"> • Reducing permit requirements; • Providing incentives for pubs and restaurants; • Allowing for reduced or shared parking; and • Delineating an area in which to facilitate food trucks and pop-up businesses. 	Community & Economic Development	Downtown Association Chamber of Commerce
ED-A6.1	Continue to work with regional economic development organizations to foster the economic health of the area.	Community & Economic Development	Merced County Community and Economic Development
ED-A6.2	Continue to periodically survey the business community for evaluation of City services and improvement suggestions.	Community & Economic Development	Chamber of Commerce
ED-A7.1	Continue to identify, pursue, and secure funding from available local, state, and federal sources for economic development.	Community & Economic Development	

TABLE 9-3: IMPLEMENTATION ACTIONS FOR LAND USE

		Primary Responsibility	Supporting Departments and Agencies
LU-A1.1	Seek Local Agency Formation Commission (LAFCO) approval of a sphere of influence (SOI) line corresponding with the General Plan designation for the proposed SOI.	Community & Economic Development	Merced County LAFCO
LU-A1.2	Review and update Title 9 of the City Municipal Code (Planning and Zoning) and Zoning Map, as necessary, to ensure consistency with the General Plan.	Community & Economic Development	
LU-A1.3	Adopt a Growth Management Program to monitor growth and ensure that provision of public facilities and utilities are aligned with development and track the amount of growth relative to what was analyzed in the General Plan Environmental Impact Report.	Community & Economic Development	
LU-A1.4	Regularly evaluate and implement adjustments to the City's fee structure to encourage development in areas where infrastructure is already present and ensure that non-infill development pays its fair share of anticipated citywide capital facilities and operational costs.	Community & Economic Development	Public Works
LU-A1.5	Provide comments to Merced County on proposed significant development projects within the Planning Area to request consistency with this General Plan and other City regulations.	Community & Economic Development	Merced County
LU-A1.6	Participate in the Merced County Association of Governments (MCAG) regional planning programs and coordinate City plans and programs with those of MCAG, including the Regional Transportation Plan/Sustainable Communities Strategy, and work with non-profit organizations also engaging in these planning programs.	Community & Economic Development	



TABLE 9-3: IMPLEMENTATION ACTIONS FOR LAND USE

		Primary Responsibility	Supporting Departments and Agencies
LU-A1.7	Coordinate with Merced Community College (Los Banos Campus) to ensure the development of roadways, utilities, and expansion of campus facilities, is consistent with City plans.	Community & Economic Development Public Works	Merced Community College
LU-A2.1	Periodically review the City’s development impact fees to determine whether they should be adjusted to reflect the City’s priorities for parks, community centers, and libraries that serve the surrounding neighborhoods.	Community & Economic Development	Public Works
LU-A2.2	Create fee structures that incentivize the creation of attached, small-lot, and small-floorplan size ownership housing units to provide opportunities for many families to participate in the home-ownership market.	Community & Economic Development	
LU-A2.3	Adopt ordinances that preserve affordable housing options while ensuring that housing meets habitability requirements and City codes.	Community & Economic Development	
LU-A2.4	Maintain appropriate density bonuses for developers meeting State criteria for affordable housing, and create an additional density bonus for projects undertaking elective off-site improvements (such as streetscape improvements) that further the City’s community design and/or open space objectives. This latter bonus cannot be combined with the affordable housing bonus. Off-site improvements directly resulting from a project’s impacts, as specified in the Zoning Ordinance, may still be required; the bonus is intended for improvements that go beyond the required minimum.	Community & Economic Development	Public Works
LU-A2.5	Continue to review development applications to confirm consistency with the adopted Community Design Standards.	Community & Economic Development	

TABLE 9-3: IMPLEMENTATION ACTIONS FOR LAND USE

		Primary Responsibility	Supporting Departments and Agencies
LU-A2.6	Amend the Zoning Ordinance in Title 9 of the City Municipal Code to permit multifamily residential development at a density between 20 to 30 units per net acre on Regional Commercial lots of 40 acres or larger in size.	Community & Economic Development	
LU-A4.1	Adopt a dark sky ordinance, including lighting standards and enforcement provisions that reduce light pollution. In the interim, refer to guidelines from the International Dark Sky Association during the review of major projects involving night lighting.	Community & Economic Development	Public Works
LU-A6.1	Adopt flexible zoning and encourage a mix of residential, retail, and office in the heart of Downtown.	Community & Economic Development	
LU-A6.2	Establish zoning, review procedures, and fees that encourage rehabilitation, renovation, preservation, and reuse of Downtown buildings with a mix of commercial, entertainment, and residential uses that promote around-the-clock activity.	Community & Economic Development	
LU-A6.3	Target individual vacant and underutilized infill sites that are not part of larger neighborhood developments for additional high-density residential development.	Community & Economic Development	
LU-A6.4	Establish incentives for anchor retail to locate in strategic areas of Downtown to maximize foot traffic and interest	Community & Economic Development	Downtown Association
LU-A6.5	Amend Title 9 of the City Municipal Code (Planning and Zoning) to provide flexibility for redevelopment of historic structures in the Downtown to meet current needs while maintaining the overall historic value.	Community & Economic Development	California Office of Historic Preservation
LU-A6.6	Facilitate planning and permitting for building renovations to ensure they are economically feasible and enable new uses that meet contemporary needs	Community & Economic Development	



TABLE 9-3: IMPLEMENTATION ACTIONS FOR LAND USE

		Primary Responsibility	Supporting Departments and Agencies
LU-A6.7	Work with other public agencies and organizations to develop and use all available financing tools and incentives to stimulate investment in the Downtown, including areas within the Rail Corridor Master Plan.	Community & Economic Development	Downtown Association
LU-A6.8	Evaluate and implement adjustments to the Public Facilities Fee structure to promote development in the Downtown.	Community & Economic Development	Public Works
LU-A6.9	Implement the policies and strategies contained in the Downtown Strategic Plan, including by amending Title 9 of the City Municipal Code (Planning and Zoning) and permitting procedures/fees, as necessary.	Community & Economic Development	
LU-A6.10	Explore the possibility of creating a commercial parking center to alleviate problems of on-street truck parking.	Community & Economic Development	
LU-A6.11	Improve Downtown lighting, potentially including installation of new streetlamps or suspended street lighting, and/or requirements for new development to incorporate pedestrian-scale lighting.	Public Works	Community & Economic Development
LU-A6.12	Improve Downtown wayfinding for vehicles and pedestrians to direct visitors to key destinations throughout the Downtown.	Public Works	Community & Economic Development
LU-A6.13	Improve sidewalk maintenance in the Downtown and explore widening key sidewalks to provide space for outdoor seating and tree plantings.	Public Works	Community & Economic Development
LU-A6.14	Implement complete streets projects to improve bicycle and pedestrian safety in the Downtown.	Public Works	Community & Economic Development

TABLE 9-4: IMPLEMENTATION ACTIONS FOR CIRCULATION

		Primary Responsibility	Supporting Departments and Agencies
C-A1.1	Work with the Merced County Association of Governments and Caltrans to implement technologies that can improve the performance, reliability, and safety of the transportation system, such as signal coordination, centralized traffic control, red-light and speed enforcement cameras, and real-time travel information.	Community & Economic Development	MCAG Caltrans
C-A1.2	Adopt street standards that provide flexibility in design, especially in residential neighborhoods. Revise right-of-way and pavement standards to reflect adjacent land use and/or anticipated traffic and permit reduced right-of-way dimensions where necessary to maintain neighborhood character.	Community & Economic Development	Public Works
C-A1.3	Adopt updated street standards to reflect complete streets principles, focusing on bicycle and pedestrian safety and multi-modal uses.	Community & Economic Development	Public Works
C-A1.4	Plan for a frontage road on the south side of the SR-152 bypass to facilitate traffic circulation.	Community & Economic Development	Public Works
C-A1.5	Work with regional and state agencies to plan for the future SR-152 bypass.	Community & Economic Development	
C-A1.6	Establish landscaping standards along the SR-152 bypass and the Pioneer Road/Ward Road/West Connector.	Community & Economic Development	Public Works
C-A2.1	Participate in regional efforts to develop guidelines for calculating the projected VMT associated with future development projects and transportation improvements. The guidelines also should cover administration, screening criteria, and appropriate Transportation Demand Management measures and monitoring procedures. All VMT metrics should be routinely reassessed and revised as needed to reflect changing conditions.	Community & Economic Development	MCAG Public Works



TABLE 9-4: IMPLEMENTATION ACTIONS FOR CIRCULATION

		Primary Responsibility	Supporting Departments and Agencies
C-A2.2	Study the feasibility of a Trip Reduction Ordinance (TRO) to support achievement of the State-mandated reductions in VMT.	Community & Economic Development	Public Works
C-A2.3	Perform routine, ongoing evaluation of the efficiency of the urban street traffic-control system, with emphasis on traffic signal timing, phasing, and coordination to optimize traffic flow along arterial corridors. Use traffic control systems to balance arterial street utilization (e.g., timing and phasing for turn movements, peak period, and off-peak signal timing plans).	Community & Economic Development	Public Works
C-A2.4	Establish and implement additional programs to maintain adequate peak-hour level of service at intersections and along roadway segments as circumstances warrant.	Community & Economic Development	Public Works
C-A3.1	Develop a multi-modal transit system map integrating bicycle, public transportation, pedestrian, and vehicle linkages within the city to ensure circulation gaps are being met.	Community & Economic Development	Public Works
C-A5.1	Assess and address parking needs of downtown commercial businesses by: <ul style="list-style-type: none"> • Considering the need for the construction of a new parking structure for public convenience and to promote economic development; and • Establishing parking exemptions for small stores and restaurants. 	Community & Economic Development	
C-A5.2	Amend the Zoning Ordinance to allow shared parking for mixed uses where peak parking demands do not overlap.	Community & Economic Development	
C-A6.1	Study the feasibility of relocating the airport outside the urban area, with access to the state highway system, at a location that will minimize environmental impacts.	Community & Economic Development	

TABLE 9-4: IMPLEMENTATION ACTIONS FOR CIRCULATION

		Primary Responsibility	Supporting Departments and Agencies
C-A6.2	Work with the County to update the Airport Land Use Compatibility Plan to accommodate a relocated airport and its operations.	Community & Economic Development	Merced County
C-A6.3	Establish, maintain, and enforce truck routes in the city to provide direct access to Commercial, Office, and Industrial areas and to avoid disadvantaged communities. This program should include standards for designating truck routes, signage, and enforcement mechanisms.	Community & Economic Development	Public Works
C-A7.1	Develop and implement Safe-Routes-to-School plans to ensure that routes for safe walking, bicycling, and transit to schools exist. Prioritize the development and maintenance of sidewalks, crosswalks, street lighting, bicycling infrastructure, transit stop amenities, traffic calming, and other safety improvements in disadvantaged communities.	Community & Economic Development	Public Works
C-A7.2	Promote programs where people can apply for partial and/or temporary street closures for amenities such as parklets and community events such as farmers' markets, block parties, or bicycle and pedestrian events.	Community & Economic Development	



TABLE 9-5: IMPLEMENTATION ACTIONS FOR PARKS, OPEN SPACE, AND CONSERVATION

		Primary Responsibility	Supporting Departments and Agencies
P-A1.1	Acquire and develop parks and open spaces, consistent with the ability of the City to finance acquisition and operation, to reach a functional goal of at least 5 acres per 1,000 residents and a park within a quarter-mile access for each resident.	Community & Economic Development	Public Works
P-A1.2	Establish the following minimum criteria as a guide to improving the park system: <ul style="list-style-type: none"> • Neighborhood parks should have a minimum size of two to nine acres and a general service area of one-half mile radius; and • Community parks should have a minimum size of 10 acres and a general service area of a 2-mile radius. 	Community & Economic Development	Public Works
P-A1.3	Continue to develop existing trails and linkages and create new trails where feasible: <ul style="list-style-type: none"> • Rail Corridor Park. Continue to develop the Rail Corridor Park and implement developments in the Rail Corridor Master Plan • HG Fawcett Parkway. Continue to improve and expand the HG Fawcett Parkway with active daytime uses consistent with Central California Irrigation District (CCID) use agreement, which may include exercise equipment, park furniture, and landscaping. • Los Banos Creek Trail. Prepare and adopt a Los Banos Creek Parkway Plan prior to development of creekside properties. 	Public Works	Community & Economic Development
P-A2.1	Amend the Subdivision Ordinance to require developers to dedicate and improve any portion of a planned bike path or trail system that passes through their development project sites, including any needed linkages to the regional bicycle and trail system.	Community & Economic Development	

TABLE 9-5: IMPLEMENTATION ACTIONS FOR PARKS, OPEN SPACE, AND CONSERVATION

		Primary Responsibility	Supporting Departments and Agencies
P-A2.2	Include funding for trail acquisition and trail improvements in the Park Development Fee Program.	Community & Economic Development	
P-A3.1	Coordinate with park districts to prepare a parks, recreation, and open space needs assessment for each disadvantaged community. Based on the results of the assessment for each community, implement improvements that address barriers to outdoor physical activity, such as inadequate infrastructure and safety concerns. Prioritize park, recreation, and open space improvement activities to lower-income and higher-density areas, which may have a demonstrably greater need for these amenities.	Community & Economic Development	Public Works
P-A3.2	Work with recreation and the school district to identify indoor recreational and athletic facilities to serve as emergency housing and cooling centers in disadvantaged communities for natural hazards or extreme heat events. In addition, work with these districts to prepare a list of priority improvements at these facilities to implement in preparation for emergency events.	Community & Economic Development	Public Works Los Banos Unified School District
P-A5.1	Establish priorities for open space preservation and acquisition based on an evaluation of: <ul style="list-style-type: none"> • Significant natural areas that are historically, ecologically, or scientifically unique or are outstanding, important, or threatened; • Wildlife habitats and fragile ecosystems in need of protection; • Watersheds or significant water recharge areas; • Open space for safety and public health; • Lands suitable for recreation, such as biking, photography or nature study; 	Community & Economic Development	



TABLE 9-5: IMPLEMENTATION ACTIONS FOR PARKS, OPEN SPACE, AND CONSERVATION

		Primary Responsibility	Supporting Departments and Agencies
	<ul style="list-style-type: none"> Preserving or restoring natural features and ecosystem processes that can increase resiliency to climate change; and Land suitable for agricultural production. 		
P-A5.2	Establish and maintain a protection zone around wetlands, riparian corridors, and identified habitat areas where development shall not occur, except as part of a parkway enhancement program (e.g., trails and bikeways).	Community & Economic Development	
P-A5.3	Work with the Grassland Water District to create a greenbelt/open space buffer around the perimeter of the city that provides a clear sense of identity and protects the Grassland Ecological Area.	Community & Economic Development	Grassland Water District
P-A5.4	Work with the Grassland Water District to establish a “no net loss” policy for wetlands and vernal pools within and adjacent to the Planning Area.	Community & Economic Development	Grassland Water District
P-A6.1	Develop buffer zones around Los Banos Creek Corridor and the grassland wetland areas to the east to enhance groundwater recharge and minimize impacts to habitat and species.	Community & Economic Development	Grassland Water District
P-A7.1	<p>Explore feasible and implementable policies and mitigation measures to address impacts to agricultural land, including:</p> <ul style="list-style-type: none"> Participating in a Countywide agricultural mitigation program, if established, that preserves one acre of farmland for every acre converted. Establishing or participating in a program to restore or improve land in Merced County to a level that meets the criteria of Prime Farmland, Unique Farmland, or 	Community & Economic Development	Merced County Central California Irrigation District Merced County Farm Bureau

TABLE 9-5: IMPLEMENTATION ACTIONS FOR PARKS, OPEN SPACE, AND CONSERVATION

		Primary Responsibility	Supporting Departments and Agencies
	<p>Farmland of Statewide Importance, in order to create new farmland in addition to preserving existing farmland.</p> <ul style="list-style-type: none"> Establishing a local right-to-farm ordinance. 		
P-A7.2	Establish and maintain a Grassland Resources Overlay Zone (GROZ) for the inter-canal area between the San Luis Canal and the Santa Fe Canal north of SR-152 where lands within the GROZ (allowing for the bypass) shall remain in agricultural and open space uses.	Community & Economic Development	
P-A8.1	Identify vacant lots and underutilized public land that can be turned into neighborhood-run community gardens.	Community & Economic Development	
P-A8.2	Explore opportunities for community-supported agriculture within the community.	Community & Economic Development	
P-A9.1	Monitor groundwater quality and quantity throughout the Planning Area.	Public Works	Community & Economic Development
P-A9.2	Work with Central California Irrigation District to investigate a possible water recharge program.	Community & Economic Development	Central California Irrigation District
P-A9.3	Seek funding from the Department of Water Resources' Sustainable Groundwater Planning Grant Program (SGWP) to fund projects that promote the sustainable use of groundwater.	Community & Economic Development	California Department of Water Resources



TABLE 9-5: IMPLEMENTATION ACTIONS FOR PARKS, OPEN SPACE, AND CONSERVATION

		Primary Responsibility	Supporting Departments and Agencies
P-A9.4	Explore the feasibility of surface water transfers from Central California Irrigation District and Grassland Water District to alleviate groundwater overdraft and groundwater quality issues.	Community & Economic Development	Central California Irrigation District Grassland Water District
P-A10.1	Explore the feasibility of creating a heritage trail linking significant historical landmarks in Los Banos.	Community & Economic Development	Public Works
P-A10.2	Retain a qualified architectural historian to undertake a survey to identify historic properties and historic districts eligible for listing on the National Register of Historic Places and in the California Register of Historical Resources.	Community & Economic Development	
P-A10.3	Update the City's building regulations to implement the State Historic Building Code for alterations to designated historic properties.	Community & Economic Development	
P-A11.1	Develop and implement a plan to provide clean air refuges during times when outdoor air quality is unhealthy.	Community & Economic Development	
P-A11.2	Purchase hybrid gasoline-electric or bio-diesel fuel vehicles for the City fleet and provide incentives to City employees who carpool or use hybrid vehicles.	Community & Economic Development	Public Works
P-A12.1	Prepare a Climate Action Plan (CAP) to achieve the GHG reduction targets of Senate Bill 32 for year 2030. Updated the CAP every five years to ensure the City is monitoring the plan's progress toward achieving the City's greenhouse gas (GHG) reduction target and to require amendment if the plan is not achieving specified level.	Community & Economic Development	
P-A13.1	Complete an urban forest master plan that includes quantified goals and tracking methods, prioritizing disadvantaged communities.	Community & Economic Development	

TABLE 9-6: IMPLEMENTATION ACTIONS FOR SAFETY AND NOISE

		Primary Responsibility	Supporting Departments and Agencies
S-A2.1	Determine, locate, and improve deficiencies in the existing drainage infrastructure in partnership with regional and federal agencies.	Public Works	Community & Economic Development Merced County
S-A2.2	Maintain and regularly update the Storm Drain Master Plan.	Public Works	
S-A2.3	Coordinate with the Merced County Department of Public Works, Merced County Office of Emergency Services, California Department of Water Resources, California Governor’s Office of Emergency Services, and the U.S. Army Corps of Engineers on potential flooding risks, including risks associated with dam failure.	Community & Economic Development Fire Police Public Works	Merced County Department of Public Works Merced County Office of Emergency Services California Department of Water Resources California Governor’s Office of Emergency Services U.S. Army Corps of Engineers
S-A3.1	Coordinate enforcement of the Hazardous Material Disclosure Program with the Merced County Health Department to identify facilities producing, using, or storing hazardous wastes.	Community & Economic Development	Merced County Health Department
S-A3.2	Promote the reduction, recycling, and safe disposal of household hazardous wastes through public education and awareness.	Community & Economic Development	



TABLE 9-6: IMPLEMENTATION ACTIONS FOR SAFETY AND NOISE

		Primary Responsibility	Supporting Departments and Agencies
S-A3.3	Review, update, and implement the City’s Hazardous Material Plan on a continual basis. This will include preparing guidelines on transporting hazardous material and the need for coordination with the California Highway Patrol.	Community & Economic Development Public Works	California Highway Patrol
S-A4.1	Regularly assess the staffing levels, facility, and equipment needs of police and fire services as the city grows.	Fire Police	
S-A4.2	Maintain Automatic/Mutual aid agreements with Merced County, Cal Fire, and nearby cities.	Fire	Merced County Cal Fire Nearby cities
S-A4.3	Create a public awareness and weed abatement program to highlight the dangers of open burning and how homeowners can protect their properties from wildfires.	Fire	
S-A5.1	Support public education programs involving crime prevention and safety issues.	Police	
S-A5.2	Maintain mutual aid agreements with Merced County, neighboring law enforcement agencies, and the California Highway Patrol.	Police Fire	Merced County California Highway Patrol
S-A6.1	Continue to participate in County-led efforts to regularly update and implement the Merced County Multi-jurisdictional Hazard Mitigation Plan (MJHMP) , consistent with guidelines of the Federal Emergency Management Agency (FEMA) and the Disaster Act of 2000.	Community & Economic Development	Merced County

TABLE 9-6: IMPLEMENTATION ACTIONS FOR SAFETY AND NOISE

		Primary Responsibility	Supporting Departments and Agencies
S-A6.2	Work with owners and operators of critical use facilities (i.e., hospitals, police stations, public assembly facilities, transportation services) to ensure that they can provide alternate sources of electricity, water, and sewerage in the event that regular utilities are interrupted in a disaster.	Community & Economic Development	Sutter Health
S-A6.3	Maintain and improve current early-warning systems and response facilities (Local Emergency Operations Center, National Warning System, civil preparedness radio systems, etc.).	Fire Police	
S-A6.4	Coordinate regular emergency drills with City and County emergency service providers.	Fire Police	Merced County Office of Emergency Services
S-A6.5	Collaborate, and exchange information with other local, state, and federal agencies and with utility service providers in activities related to terrorism prevention and response.	Police	
S-A6.6	Develop and adopt an emergency evacuation route network of roadways accounting for how natural hazards could impact the feasibility of each route and work with the County of Merced Office of Emergency Services to ensure that each route connects to regional evacuation routes.	Fire Police	Merced County Office of Emergency Services
S-A7.1	Identify areas of the city where climate change is anticipated to create or increase hazard risks, such as flooding. Identify development methods to reduce hazard risks and increase the resilience of any projects in these areas.	Community & Economic Development	
S-A7.2	Pursue and support opportunities to retrofit and harden important sets of infrastructure, such as roadways, bridges, flood-control channels, telecommunications, and energy delivery systems.	Public Works	



TABLE 9-6: IMPLEMENTATION ACTIONS FOR SAFETY AND NOISE

		Primary Responsibility	Supporting Departments and Agencies
S-A7.3	Update the Safety Element on a regular basis, as required by the California Government Code, in concert with the Los Banos' General Plan Housing Element to ensure the document's relevance to future safety conditions in the city. When updates to other safety documents occur, incorporate, and make the Safety Element consistent with these updates.	Community & Economic Development	
S-A7.4	Incorporate nature-based environmental design and green infrastructure (e.g., permeable surfaces to encourage natural drainage, drought-adapted species to reduce water consumption, plantings with strong root systems to reduce erosion) into existing and new development, as feasible.	Community & Economic Development	Public Works
S-A7.5	Collaborate on existing and future hazard risks stemming from climate change with Merced County and the Merced County Association of Governments.	Community & Economic Development	Merced County MCAG
S-A7.6	Continue to pursue local energy generation and resilience projects, such as the Wright Solar power plant, rooftop renewable energy systems, and battery storage systems.	Community & Economic Development	Public Works
S-A7.7	Pursue grant funding from programs, such as the California Department of Conservation's Best Practices Pilot Program, that increase the resilience and sustainability of future development in Los Banos.	Community & Economic Development	
S-A7.8	Support the development of resilience hubs throughout the city that can function as refuge centers for evacuees or victims otherwise impacted by hazards as well as command centers with energy and communications redundancies to support government operations during and after a hazard event.	Community & Economic Development	Fire Police Public Works

TABLE 9-6: IMPLEMENTATION ACTIONS FOR SAFETY AND NOISE

		Primary Responsibility	Supporting Departments and Agencies
S-A8.1	<p>Prohibit long-term noise increases above the following at existing sensitive receptor property lines (e.g., from traffic noise increases), or new uses that generate noise levels at a sensitive receptor property line:</p> <ul style="list-style-type: none"> • Greater than 1.5 dBA CNEL increase for ambient noise environments of 65 dBA CNEL and higher; • Greater than 3 dBA CNEL increase for ambient noise environments of 60 - 64 CNEL; and • Greater than 5 dBA CNEL increase for ambient noise environments of less than 60 dBA CNEL. <p>For projects that exceed these noise increases due to project-generated traffic noise, a “fair share” fund shall be considered where projects exceeding these increases pay into a fund for roadway improvements (e.g., repaving with “quiet pavement” to reduce traffic noise levels).</p>	Community & Economic Development	
S-A8.2	Work with the Los Banos Airport to minimize noise impacts of flight operations on existing noise-sensitive development.	Community & Economic Development	Los Banos Municipal Airport
S-A8.3	<p>The City shall establish and adopt a list of construction best management practices to be implemented during the construction phase and incorporated into Los Banos Municipal Code Article 27, <i>Noise Control</i>, to protect noise sensitive receptors (e.g., residences, schools, and hospitals) from the temporary effects of construction noise.</p> <p>The City of Los Banos Building Department shall verify that construction best management practices, as appropriate, are on the demolition, grading, and construction plans prior to issuance of demolition, grading and/or building permits.</p>	Community & Economic Development	Public Works



TABLE 9-7: IMPLEMENTATION ACTIONS FOR PUBLIC FACILITIES AND SERVICES

		Primary Responsibility	Supporting Departments and Agencies
PFS-A2.1	Work with the Los Banos Branch of the Merced County Library to create either a new large library facility or several satellite branches to serve additional population in Los Banos.	Community & Economic Development	Merced County Library
PFS-A2.2	Explore the feasibility of participating in the Wildfire Smoke Clean Air Centers for Vulnerable Populations Incentive Pilot Program administered by the State of California to retrofit ventilation systems of public facilities to serve as clean air centers during wildfires and other smoke events.	Public Works	
PFS-A3.1	Regularly review and update impact mitigation fees to help fund water and sewage services for new development.	Community & Economic Development	Public Works
PFS-A3.2	Become a signatory to the California Urban Water Conservation Council and implement all Demand Management Measures as soon as they become feasible.	Public Works	Community & Economic Development
PFS-A3.3	Implement recommendations set forth in the City's current Urban Water Management Plan, including initiatives such as: <ul style="list-style-type: none"> • A water survey program; • A water conservation program (Water Patrol); and • A Residential Plumbing retrofit program. 	Public Works	
PFS-A3.4	Engage the business community in protecting the City's water supply.	Community & Economic Development	Chamber of Commerce

TABLE 9-7: IMPLEMENTATION ACTIONS FOR PUBLIC FACILITIES AND SERVICES

		Primary Responsibility	Supporting Departments and Agencies
PFS-A4.1	Create an incentive program to promote improvement of existing residential, commercial, and industrial developments and structures with green infrastructure improvements.	Community & Economic Development	
PFS-A4.2	Develop a water quality monitoring plan for discharge of stormwater into CCID and GWD canals.	Public Works	
PFS-A4.3	Implement a maintenance program for stormwater outfall meters and provide flow and water quality monitoring data to CCID and GWD on a regular basis.	Public Works	
PFS-A4.4	Work with CCID and GWD to develop a regional plan for accommodating future stormwater runoff.	Public Works Community & Economic Development	
PFS-A5.1	Implement recommendations put forth by the City's current Wastewater Management Plan with regards to: <ul style="list-style-type: none"> The future expansion of existing treatment facilities beyond 4.9 million gallons per day (mgd), and/or the construction of a new membrane bi-reactor (MBR) facility to meet projected population growth; and The acquisition of land for treatment purposes. 	Public Works	
PFS-A5.2	Study the feasibility of expanding the use of wastewater effluent for irrigation of pasturelands.	Public Works	
PFS-A5.3	Evaluate the potential for the use of reclaimed water (purple pipe) throughout the city.	Public Works	



TABLE 9-7: IMPLEMENTATION ACTIONS FOR PUBLIC FACILITIES AND SERVICES

		Primary Responsibility	Supporting Departments and Agencies
PFS-A6.1	Assess the capacity of Billy Wright Landfill and prioritize planning for an early expansion of Billy Wright Landfill or identifying an alternative landfill space.	Public Works	
PFS-A7.1	Develop an economic incentives financing program to support renewable energy projects.	Community & Economic Development	
PFS-A7.2	Conduct a community land and resources audit that assesses current land uses, characteristics, and zoning designations to find areas best suited to primary use solar development; identifies needed zoning code changes; and creates siting standards that minimize impacts on sensitive resources.	Community & Economic Development	
PFS-A8.1	Prioritize needs and services in disadvantaged communities as part of the annual budgeting process.	Community & Economic Development	
PFS-A8.2	Compile, maintain, and make easily available a list of numbers to call for basic needs, such as code enforcement, housing assistance, food assistance, and healthcare. Provide this information in multiple languages.	Community & Economic Development	
PFS-A8.3	Explore the feasibility of participating in the Green Infrastructure Program administered by the State of California Natural Resources Agency to implement green infrastructure projects.	Community & Economic Development Public Works	

Attachment A:

Biological Resources Assessment for the Los Banos General Plan Update

Biological Resources Assessment for the Los Banos General Plan Update

Merced County, California

Prepared For:

The City of Los Banos

Prepared By:



2525 Warren Drive
Rocklin, California 95677

April 2022

CONTENTS

1.0 INTRODUCTION 1

 1.1 EIR Study Area Location 1

 1.2 Purpose of this Biological Resources Assessment 1

2.0 REGULATORY SETTING 3

 2.1 Federal Regulations 3

 2.1.1 Federal Endangered Species Act 3

 2.1.2 Essential Fish Habitat 4

 2.1.3 Migratory Bird Treaty Act 4

 2.1.4 Bald and Golden Eagle Protection Act 4

 2.1.5 Federal Clean Water Act 5

 2.2 State or Local Regulations 5

 2.2.1 California Fish and Game Code 5

 2.2.2 Species of Special Concern 7

 2.2.3 California Rare Plant Ranks 7

 2.2.4 Porter-Cologne Water Quality Act 8

 2.2.5 California Environmental Quality Act 8

3.0 METHODS 10

 3.1 Literature Review 10

 3.2 Special-Status Species Considered for the Project 10

4.0 RESULTS 11

 4.1 Site Characteristics and Land Use 11

 4.2 Plant Communities 11

 4.2.1 Mixed Agriculture 11

 4.2.2 Ruderal 11

 4.2.3 Mixed Riparian Woodland 12

 4.2.4 Nonnative Annual Grassland 12

 4.2.5 Fresh Emergent Wetland 12

 4.3 Soils 12

 4.4 California Aquatic Resource Inventory 14

 4.5 Evaluation of Species Identified in the Literature Search 14

 4.6 Wildlife Movement Corridors, Linkages, and Significant Ecological Areas 32

 4.7 Critical Habitat and Essential Fish Habitat 33

 4.8 Sensitive Natural Communities 33

5.0 RECOMMENDATIONS 33

5.1	Aquatic Resources	33
5.2	Special-Status Species.....	34
5.2.1	Plants.....	34
5.2.2	Invertebrates	35
5.2.3	Amphibians.....	35
5.2.4	Reptiles.....	36
5.2.5	Birds.....	37
5.2.6	Mammals	38
6.0	REFERENCES.....	40

LIST OF FIGURES

Figure 1-1. EIR Study Area Location and Vicinity	2
--	---

LIST OF TABLES

Table 4-1. Soil Units Occurring within the EIR Study Area ¹	13
Table 4-2. Potentially Occurring Special-Status Species	14

LIST OF ATTACHMENTS

- Attachment A – Special-Status Species Descriptions
- Attachment B – Literature Review Species Lists

LIST OF ACRONYMS AND ABBREVIATIONS

Term	Description
BA	Biological Assessment
BCC	Bird of Conservation Concern
BO	Biological Opinion
BRA	Biological Resources Assessment
CARI	California Aquatic Resource Inventory
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Ranks
CTS	California tiger salamander

Term	Description
CWA	Clean Water Act
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
GGS	Giant garter snake
GPS	Global Positioning System
HCP	Habitat Conservation Plan
ITP	Incidental Take Permit
MBTA	Migratory Bird Treaty Act
NAIP	National Agricultural Imagery Program
NAS	Nelson's antelope squirrel
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
OHWM	Ordinary High Water Mark
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Application
SFEI	San Francisco Estuary Institute
SJKF	San Joaquin Kit Fox
SSC	Species of Special Concern
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VELB	Valley elderberry longhorn beetle

1.0 INTRODUCTION

At the request of the City of Los Banos (City), ECORP Consulting, Inc. conducted a Biological Resources Assessment (BRA) for the Los Banos General Plan Environmental Impact Report (EIR) Study Area. As part of this assessment, ECORP collected information on the biological resources present within the EIR Study Area, identified regulatory requirements relating to those resources, and presented recommendations for protecting sensitive resources during future buildout of the General Plan.

1.1 EIR Study Area Location

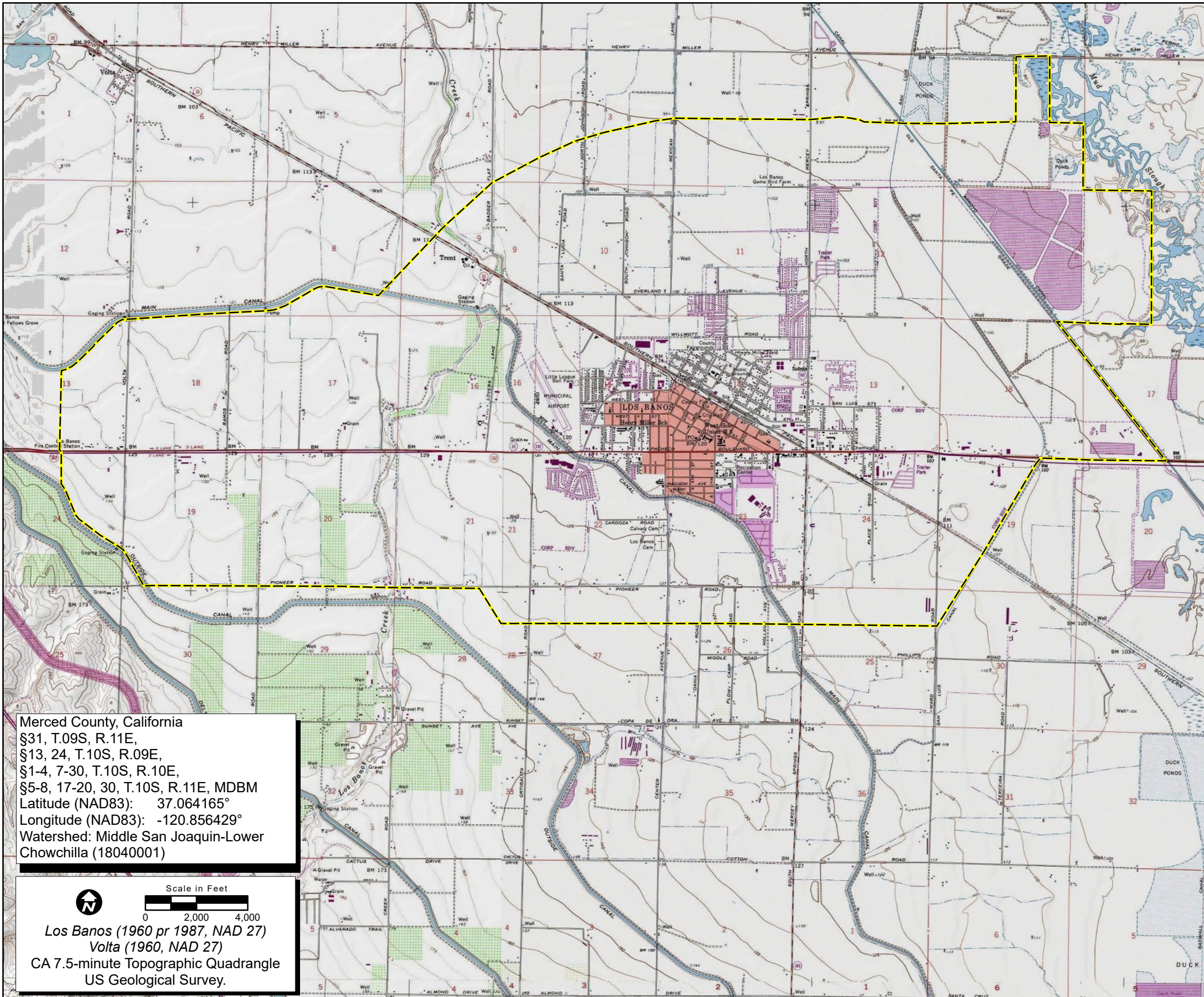
The approximately 14,559-acre EIR Study Area occurs within Section 31, Township 9 South, Range 11 East; Sections 13 and 24, Township 10 South, and Range 9 East; Sections 1-4 and 7-30, Township 10 South, Range 10 East; and Sections 5-8, 17-20, and 30; Township 10 South, Range 11 East (Mount Diablo Base and Meridian) of the "Los Banos, California" and "Volta, California" California 7.5-minute quadrangles (U.S. Geological Survey [USGS] 1960a and 1960b, respectively; Figure 1). The approximate center of the EIR Study Area is located at 37.064165° North and -120.856429° West within the Middle San Joaquin-Lower Chowchilla Watershed (Hydrological Unit Code #18040001; Natural Resources Conservation Service [NRCS], et al. 2016).

1.2 Purpose of this Biological Resources Assessment

The purpose of this BRA is to assess the potential for occurrence of special-status plant and animal species or their habitat, and other sensitive resources such as wetlands or migratory wildlife corridors, within the EIR Study Area. This assessment does not include determinate field surveys conducted according to agency-promulgated protocols. The conclusions and recommendations presented in this report are based upon a review of the literature referenced in this report.

For the purposes of this assessment, special-status species are defined as plants or animals that:

- are listed, proposed for listing, or candidates for future listing as threatened or endangered under the federal Endangered Species Act (ESA);
- are listed or candidates for future listing as threatened or endangered under the California ESA;
- meet the definitions of endangered or rare under Section 15380 of the California Environmental Quality Act (CEQA) Guidelines;
- are identified as a Species of Special Concern (SSC) by the California Department of Fish and Wildlife (CDFW);
- are birds identified as Birds of Conservation Concern (BCC) by the U.S. Fish and Wildlife Service (USFWS);



Map Contents

EIR Study Area - 14,559 acres

Sources: ESRI, USGS

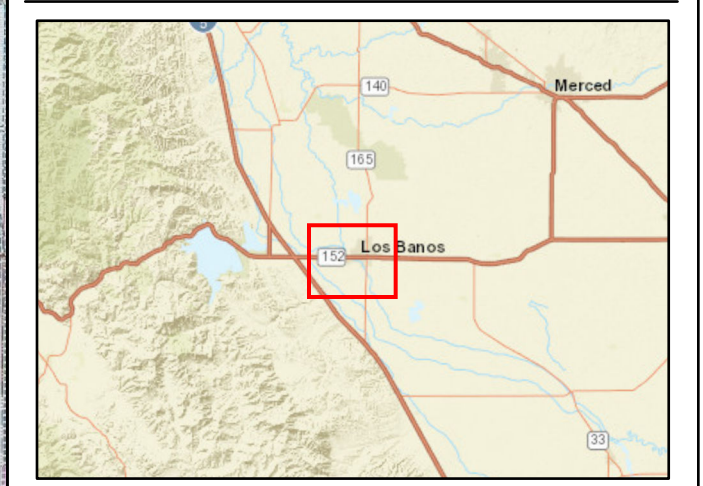


Figure 1. EIR Study Area Location and Vicinity

Location: N:\2021\2021-293 Los Banos General Plan Update\WAPS\Location_Vicinity\LBGP_LnV.aprx - LBGPO_LnV_20220119 (klumquist - 1/19/2022)

- are plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (California Rare Plant Ranks [CRPR] 1 and 2); plants for which more information is needed to determine their status (CRPR 3), or plants of limited distribution (CRPR 4);
- are plants listed as rare under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.); or
- are fully protected in California in accordance with the California Fish and Game Code, Sections 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes).

Only species that fall into one of the above-listed groups were considered for this assessment. Other species (e.g., California Natural Diversity Database [CNDDDB] tracked species) sometimes found in database searches or within the literature were not included within this analysis.

2.0 REGULATORY SETTING

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The ESA protects plants and animals that are listed as endangered or threatened by the USFWS or the National Marine Fisheries Service (NMFS). Section 9 of ESA prohibits the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 U.S. Code [USC] 1538). Under Section 7 of ESA, federal agencies are required to consult with the USFWS or NMFS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a Biological Opinion (BO), the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise lawful activity provided the activity will not jeopardize the continued existence of the species. The BO may recommend *reasonable and prudent alternatives* to the project to avoid jeopardizing or adversely modifying habitat. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary, provided a Habitat Conservation Plan (HCP) is developed.

Critical Habitat is defined in Section 3 of ESA as:

1. the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and
2. specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Critical Habitat designations identify, to the extent known and using the best scientific data available, habitat areas that provide Primary Physical and Biological Features essential to the conservation of the species and that may require special management considerations or protection. These include but are not limited to the following:

- Space for individual and population growth and for normal behavior;
- Food, water, air, light, minerals, or other nutritional or physiological requirements;
- Cover or shelter;
- Sites for breeding, reproduction, or rearing (or development) of offspring; and
- Habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species.

2.1.2 Essential Fish Habitat

Essential Fish Habitat (EFH) was defined by the U.S. Congress in the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act, or Magnuson-Stevens Act, as "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity." Implementing regulations clarified that waters include all aquatic areas and their physical, chemical, and biological properties; substrate includes the associated biological communities that make these areas suitable for fish habitats, and the description and identification of EFH should include habitats used at any time during the species' life cycle. EFH includes all types of aquatic habitat, such as wetlands, coral reefs, sand, seagrasses, and rivers.

2.1.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The protections of the MBTA extend to disturbances that result in abandonment of a nest with eggs or young. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

2.1.4 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940 (as amended) provides for the protection of bald eagle and golden eagle by prohibiting the take, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or

egg, unless allowed by permit [16 USC 668(a); 50 CFR 22]. The USFWS may authorize take of bald eagles and golden eagles for activities where the take is associated with, but not the purpose of, the activity and cannot practicably be avoided (50 CFR 22.26).

2.1.5 Federal Clean Water Act

The purpose of the federal Clean Water Act (CWA) is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas:

“that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3 7b).

The U.S. Environmental Protection Agency (USEPA) also has authority over wetlands and may override a USACE permit.

Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

2.2 State or Local Regulations

2.2.1 California Fish and Game Code

2.2.1.1 California Endangered Species Act

The California ESA (California Fish and Game Code §§ 2050-2116) generally parallels the main provisions of the federal ESA, but unlike its federal counterpart, the California ESA also applies the take prohibitions to species proposed for listing (called *candidates* by the state). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. *Take* is defined in Section 86 of the California Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The California ESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with the CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered, threatened or candidate species or result in destruction or adverse modification of essential habitat. For local agency projects with no discretionary state approvals, Section 2081 allows CDFW to authorize incidental take permits if certain conditions are met. Permittees must implement species-specific minimization and avoidance measures, and fully mitigate the impacts of the project.

2.2.1.2 Fully Protected Species

The State of California first began to designate species as *fully protected* prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the state and/or federal ESAs. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code § 4700 for mammals, § 3511 for birds, § 5050 for reptiles and amphibians, and § 5515 for fish) provide that fully protected species may not be taken or possessed at any time. Fish and Game Code prohibits any state agency from issuing incidental take permits for fully protected species. The CDFW will issue licenses or permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit.

2.2.1.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 was created with the intent to “preserve, protect and enhance rare and endangered plants in this State.” The NPPA is administered by CDFW and provided in California Fish and Game Code §§ 1900-1913. The Fish and Wildlife Commission has the authority to designate native plants as *endangered* or *rare* and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code §§ 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

2.2.1.4 Birds of Prey

Sections 3800, 3513, and 3503 of the California Fish and Game Code specifically protect birds of prey. Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the commission or a mitigation plan approved by CDFW for mining operations. Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

Section 3503 of the California Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Additionally, Subsection 3503.5 prohibits the take, possession, or destruction of any birds and their nests in the orders Strigiformes (owls) or Falconiformes (hawks and eagles). These provisions, along with the federal MBTA, serve to protect nesting raptors.

2.2.1.5 California Streambed Alteration Notification/Agreement

Section 1602 of the California Fish and Game Code requires that a Streambed Alteration Agreement (SAA) be obtained from CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” CDFW reviews the proposed actions and, if necessary, submits proposed measures to protect affected fish and wildlife resources to the applicant. The SAA is the final proposal mutually agreed upon by CDFW and the applicant. Projects that

require an SAA often also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the SAA overlap.

2.2.2 Species of Special Concern

The CDFW defines SSC as a species, subspecies, or distinct population of an animal native to California that is not legally protected under ESA, the California ESA, or the California Fish and Game Code but currently satisfies one or more of the following criteria:

- The species has been completely extirpated from the state or, as in the case of birds, it has been extirpated from its primary seasonal or breeding role.
- The species is listed as federally (but not state) threatened or endangered, or meets the state definition of threatened or endangered but has not formally been listed.
- The species has or is experiencing serious (nonscyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status.
- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for state threatened or endangered status.
- SSC are typically associated with threatened habitats. Project-related impacts to SSC and state threatened or endangered species are considered significant under CEQA.

2.2.3 California Rare Plant Ranks

The CNPS maintains the Inventory of Rare and Endangered Plants of California (CNPS 2022), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, or have low populations. Plant species meeting one of these criteria are assigned to one of six CRPRs. The rank system was developed in collaboration with government, academia, nongovernmental organizations, and private sector botanists, and is jointly managed by CDFW and the CNPS. The CRPRs are currently recognized in the CNDDDB. The following are definitions of the CNPS CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere.
- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere.
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere.
- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere.
- Rare Plant Rank 3 – a review list of plants about which more information is needed.
- Rare Plant Rank 4 – a watch list of plants of limited distribution.

Additionally, the CNPS has defined Threat Ranks that are added to the CRPR as an extension. Threat Ranks designate the level of threat on a scale of 1 through 3, with 1 being the most threatened and 3 being the

least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California), and some species ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (more than 80 percent of occurrences threatened/high degree and immediacy of threat).
- Threat Rank 0.2 – Moderately threatened in California (20 to 80 percent of occurrences threatened/moderate degree and immediacy of threat).
- Threat Rank 0.3 – Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known).

Factors such as habitat vulnerability and specificity, distribution, and condition of occurrences are considered in setting the Threat Rank; differences in Threat Ranks do not constitute additional or different protection (CNPS 2022). Depending on the policy of the lead agency, substantial impacts to plants ranked 1A, 1B, or 2 are typically considered significant under CEQA Guidelines Section 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 3 or 4.

2.2.4 Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the water of the state” (Water Code 13260(a)). Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code 13050 (e)), and includes waters that are not regulated by the USACE due to a lack of connectivity with a navigable water body. In 2021, the First Appellate District of the California Courts of Appeal issued an opinion that interpreted the RWQCB’s authority to extend to discharges of dredge and fill materials into Waters of the State. The RWQCB may require issuance of Waste Discharge Requirements for these activities.

2.2.5 California Environmental Quality Act

Per CEQA Guidelines Section 15380, a species not protected on a federal or state list may be considered rare or endangered if the species meets certain specified criteria. These criteria follow the definitions in the federal and California ESAs, and Sections 1900-1913 of the California Fish and Game Code, which deal with rare or endangered plants or animals. Section 15380 was included in the CEQA Guidelines primarily to deal with situations where a project under review may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW.

2.2.5.1 California Environmental Quality Act Significance Criteria

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant and are particularly relevant to SSC. Generally, impacts to listed (i.e., rare, threatened, or endangered) species are considered significant and require lead agencies to prepare an EIR to thoroughly analyze and evaluate the impacts. Assessment of *impact significance* to populations of non-listed species (e.g., SSC) usually considers the proportion of the species' range that will be affected by a project, impacts to habitat, and the regional and population level effects.

Specifically, Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. Impacts to biological resources would normally be considered significant if a project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on federally protected Waters of the U.S., including wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish or result in the loss of an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA because although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

3.0 METHODS

3.1 Literature Review

The following resources were reviewed to determine the special-status species that have been documented within or in the vicinity of the EIR Study Area or that otherwise have the potential to occur onsite:

- The CNDDDB for the 12 USGS topographic quadrangles centered on the "Los Banos, California" and "Volta, California" 7.5-minute USGS topographic quadrangles (CDFW 2022).
- The USFWS Federal Endangered and Threatened Species list for the EIR Study Area (USFWS 2022).
- The CNPS electronic Inventory of Rare and Endangered Plants of California for the 12 USGS topographic quadrangles centered on the "Los Banos, California" and "Volta, California" 7.5-minute USGS topographic quadrangles (CNPS 2022).
- The National Oceanic and Atmospheric Administration (NOAA) Critical Habitat and Essential Fish Habitat Mapper (NOAA 2022a, b).

Results of the literature review are provided in Attachment A.

3.2 Special-Status Species Considered for the Project

Based on species occurrence information from the literature review, a list of special-status and CNDDDB-tracked plant and animal species that have the potential to occur within the EIR Study Area was generated and is located in Section 4.0. Each of these species' potential to occur onsite was assessed based on the following criteria:

- **Potential to Occur** – Suitable habitat (including soils and elevation requirements) for the species occurs within the EIR Study Area and the species is known to occur within the vicinity of the EIR Study Area
- **Low Potential to Occur** - Marginal or limited amounts of habitat occur or the species is not known to occur within the vicinity of the EIR Study Area
- **Absent** - No suitable habitat (including soils and elevation requirements) or the species is not known to occur in the vicinity of the EIR Study Area

Due to the size of the EIR Study Area, an on-the-ground site reconnaissance was not conducted by ECORP. Determinations regarding each species potential to occur in the Study Area were made based on information available through the CNDDDB, the available literature, and professional judgement. Final determinations regarding species presence should be made based on site investigations conducted during appropriate survey periods.

4.0 RESULTS

4.1 Site Characteristics and Land Use

The EIR Study Area is located within relatively flat terrain situated at an elevational range of approximately 85 to 140 feet above mean sea level in the San Joaquin Valley Subregion of the Great Central Valley floristic region of California (Baldwin et al. 2012). The average winter low temperature in the vicinity of the EIR Study Area is 39.4 degrees Fahrenheit (°F) and the average summer high temperature is 93.1°F. Average annual precipitation is approximately 9.95 inches, which falls as rain (NOAA 2022a).

This BRA focuses on the undeveloped portions of the EIR Study Area. The central portion of the Study Area is occupied by the existing City of Los Banos, which includes a mix of commercial, industrial, residential, and recreational land uses. Biological resources associated with these developed areas are generally limited to common species that are tolerant of urban environments and would not be impacted by buildout of the General Plan.

The undeveloped portions of the EIR Study Area consist primarily of agriculture mixed with low-density residential uses. Surrounding land uses include agriculture, outdoor recreation, and managed wildlife areas. The Los Banos Wildlife Area and North Grassland Wildlife Areas are located northeast and east of the city, respectively, within the Grassland Resource Conservation District (GRCD). The GRCD is part of a large complex of restored and created wetlands established to provide habitat for nesting and wintering waterfowl and water-dependent migratory birds.

4.2 Plant Communities

Plant communities within the EIR Study Area were identified based on aerial photograph interpretation (National Agricultural Imagery Program [NAIP] 2020) and review of existing available literature, including the Draft EIR for the City of Los Banos 2030 General Plan (Dyett & Bhatia, 2007),

4.2.1 Mixed Agriculture

A large portion of the EIR Study Area consists of mixed agriculture, varying from row crops to orchards, vineyards and irrigated pasture. Row crops comprise the majority of the agricultural lands and occur in parcels of various sizes and shapes. Biodiversity within this plant community type is mostly homogenous, and dominant plant species vary from parcel to parcel. Many species of rodents and birds are adapted to agricultural areas. Agricultural fields may be used by foraging raptors and wintering waterfowl. Depending on the farming practices for each parcel, this plant community may offer foraging and cover opportunities for special-status animal species such as lesser sandhill crane (*Antigone canadensis canadensis*). Flooded pastures, ponds, and ditches associated with agricultural communities also provide potential habitat for aquatic species such as giant garter snake (*Thamnophis gigas*)

4.2.2 Ruderal

The ruderal plant community is dominated by species that are well adapted and have naturalized in areas of frequent disturbance or urbanization. Ruderal plant communities can be found throughout the EIR

Study Area and are common along roadsides and irrigation ditches or within firebreaks. Ruderal species typically are nonnative and invasive plant species, but some native species can occur within this plant community.

4.2.3 Mixed Riparian Woodland

A mixed riparian woodland occurs along Los Banos Creek, which flows through the western portion of the EIR Study Area. This vegetation community consists of an intermittent to dense canopy typically dominated by oak (*Quercus* sp.), cottonwood (*Populus* sp.), and willow (*Salix* sp.). The mixed riparian woodland makes up a small portion of the EIR Study Area but provides roosting, foraging and cover habitat for numerous species of birds and waterfowl, and provides suitable habitat for some special-status species such as western pond turtle (*Actinemys marmorata*).

4.2.4 Nonnative Annual Grassland

Nonnative annual grassland is a plant community dominated by nonnative grasses that have naturalized throughout most of the California Central Valley. Nonnative annual grassland can be found within fallow parcels of the EIR Study Area. Wildlife use of annual grasslands includes common species such as black-tailed jackrabbits (*Lepus californicus*), California vole (*Microtus californicus*), and coyote (*Canis latrans*). This plant community can provide habitat for burrowing animals and some special-status plant and wildlife species, such as San Joaquin kit fox (*Vulpes macrotis mutica*). It also occurs in conjunction with aquatic habitats such as vernal pools or seasonal wetlands.

4.2.5 Fresh Emergent Wetland

Fresh emergent wetlands are primarily limited to the far eastern and northern portions of the EIR Study Area, which overlap with the GRCD. Fresh emergent wetlands are characterized by vegetation adapted to continually or seasonally flooded areas. This vegetation type is dominated by perennial monocots that may grow more than 6 feet tall. Fresh emergent wetlands support a high diversity of wildlife, providing food, water, and cover for numerous birds, mammals, reptiles and amphibians. Special-status species that may occur in this plant community include giant garter snake, lesser sandhill crane, and Aleutian Canada goose.

4.3 Soils

Based on aerial photo interpretation (NAIP 2020), much of the EIR Study Area has been altered due to historical agricultural land use. According to data last updated on September 17, 2021, to the Web Soil Survey for Merced County, Western Part (NRCS 2022a), 29 soil units, or types, have been mapped within the EIR Study Area, as summarized below in Table 4-1. A total of 23 of these soil units contain hydric components that are associated with soils found within basin floors, basin rims, alluvial fans, fan aprons, or sloughs (NRCS 2022b).

Table 4-1. Soil Units Occurring within the EIR Study Area¹		
Soil Unit	Hydric Components²	Hydric Component Landform
101 - Agnal clay loam	Yes	Basin floors
141 - Britto clay loam	Yes	Basin floors
144 - Capay clay loam, 0 percent slopes, dry, MLRA 17	Yes	Alluvial fans
148 - Carranza-Woo , 0 to 2 percent slopes	Yes	Fans
153 - Chinvar loam	Yes	Alluvial fans and fan aprons
162 - Damluis clay loam, 2 to 8 percent slopes	No	-
168 - Dosamigos clay loam, partially drained	Yes	Alluvial fans and fan aprons
169 - Dosamigos clay, partially drained	Yes	Alluvial fans and basin floors
171 - Dospalos clay, partially drained	Yes	Basin floors
175 - Edminster loam	Yes	Basin floors
178 - Elnido sandy loam, partially drained	Yes	Basin floors
180 - Elnido clay loam, partially drained	Yes	Basin floors
186 - Fluvaquents, channeled	Yes	Fans and flood plains
192 - Henmel clay loam, partially drained	Yes	Fan aprons, basin floors, rims
228 - Palazzo sandy loam, partially drained	Yes	Basin Floors
234 - Pedcat loam, 0 to 2 percent slopes	Yes	Fan aprons and basin floors
236 - Pedcat clay loam, leveled, 0 to 2 percent slopes	Yes	Fan aprons, basin floors, rims, alluvial fans
253 - Stanislaus clay loam	Yes	Fan aprons
254 - Stanislaus clay loam, wet	Yes	Fan aprons
255 - Stanislaus-Dosamigos-Urban land complex	No	-
256 - Triangle clay	Yes	Basin floors and rims
274 - Woo loam, 0 to 2 percent slopes	No	-
275 - Woo loam, gravelly substratum, 0 to 2 percent slopes	Yes	Alluvial fans
277 - Woo clay loam, 0 to 2 percent slopes	No	-
280 - Woo clay, 0 to 2 percent slopes	Yes	Alluvial fans
282 - Woo-Urban land , 0 to 2 percent slopes	Yes	Alluvial fans
283 - Xerofluvents, channeled	Yes	Sloughs and basin floors
287 - Water	No	-
289 - Miscellaneous water	No	-

¹Source: NRCS 2022a

²Source: NRCS 2022b

4.4 California Aquatic Resource Inventory

The California Aquatic Resource Inventory (CARI; San Francisco Estuary Institute [SFEI] 2017) is a statewide map of surface waters and related habitats combining multiple national and regional datasets, including the National Wetlands Inventory and the National Hydrography Dataset. CARI includes aquatic resource features mapped using a variety of remote sensing and modeling techniques.

As such, these aquatic features may or may not exist as represented. In addition, CARI data varies in detail, accuracy, and age, and is meant to be used as a tool to assist with an aquatic resource delineation but not as the only source of information (SFEI 2017). Therefore, it is recommended that ground-level surveys are conducted to determine the presence of the aquatic resources within the EIR Study Area that may be within the jurisdiction of state and federal agencies.

According to CARI (SFEI 2017, California Wetlands Monitoring Workgroup 2022), four aquatic feature types have been mapped within the EIR Study Area: fluvial unnatural; fluvial natural; lake, reservoir, and natural vegetation; and pond and associated vegetation.

Fluvial systems are dominated by rivers and streams. The fluvial unnatural aquatic feature type corresponds to the irrigation canals and drainage ditches found throughout the EIR Study Area. Fluvial natural corresponds to portions of Los Banos Creek and the drainage channels within the managed wildlife areas in the eastern and northeastern portions of the EIR Study Area.

Lake, reservoir, and natural vegetation corresponds to the larger ponds and wetlands within the managed wildlife areas in the eastern portions of the EIR Study Area.

Pond and associated vegetation correspond to smaller ponded areas along portions of Los Banos Creek and Main Canal, and within the managed wildlife area along the east side of the EIR Study Area.

4.5 Evaluation of Species Identified in the Literature Search

The CNDDDB, CNPS, and USFWS database searches were conducted in February 2022. These queries reported a total of 89 special-status species historically and/or potentially occurring within the search areas. Table 4-2 lists the species identified through the database queries, presents a brief description of their habitat requirements, and provides determination for their potential to occur onsite.

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
Plants						
Santa Clara thorn-mint <i>(Acanthomintha lanceolata)</i>	-	-	4.2	Rocky areas within often serpentinite chaparral, cismontane woodland, and costal scrub (260'-3,935').	March-June	Absent. No suitable habitat onsite.

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
Forked fiddleneck <i>(Amsinckia furcata)</i>	–	–	4.2	Semi-barren loose shaly slopes in cismontane woodland and valley and foothill grassland (164'–3,281').	February–May	Potential to Occur.
California androsace <i>(Androsace elongata ssp. acuta)</i>	–	–	4.2	Chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, and valley and foothill grassland (492'–4,281').	March–June	Potential to Occur.
Alkali milk-vetch <i>(Astragalus tener var. tener)</i>	–	–	1B.2	Playas, mesic areas within valley and foothill grasslands, and alkaline vernal pools (3'–197').	March–June	Potential to Occur.
Heartscale <i>(Atriplex cordulata var. cordulata)</i>	–	–	1B.2	Alkaline or saline valley and foothill grasslands, meadows and seeps, and chenopod scrub communities (0'–1,837').	April–October	Potential to Occur.
Crownscale <i>(Atriplex coronata var. coronata)</i>	–	–	4.2	Alkaline, often clay substrates in chenopod scrub, valley and foothill grassland, and vernal pools (3'–1,936').	March–October	Potential to Occur.
Lost Hills crownscale <i>(Atriplex coronata var. vallicola)</i>	–	–	1B.2	Alkaline soils in chenopod scrub, valley and foothill grassland and vernal pools (164'–2,087').	April–September	Potential to Occur.
Lesser saltscale <i>(Atriplex minuscula)</i>	–	–	1B.1	Alkaline, sandy soils in chenopod scrub, playas, and valley and foothill grassland (49'–656').	May–October	Potential to Occur.
Vernal pool smallscale <i>(Atriplex persistens)</i>	–	–	1B.2	Alkaline vernal pools (33'–377').	June–October	Low Potential to Occur. Marginally

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
						suitable habitat present onsite.
Lemmon's jewel flower <i>(Caulanthus lemmonii)</i>	-	-	1B.2	Pinyon and juniper woodland and valley and foothill grassland (262'-5,184').	February-May	Potential to Occur.
Parry's rough tarplant <i>(Centromadia parryi ssp. rudis)</i>	-	-	4.2	Alkaline, vernal mesic seeps in valley and foothill grassland and vernal pools, sometimes found on roadsides (0'-328').	May-October	Low Potential to Occur. Marginally suitable habitat present onsite.
Hispid salty bird's-beak <i>(Chloropyron molle ssp. hispidum)</i>	-	-	1B.1	Alkaline soils in meadows and seeps, playas, and valley and foothill grasslands (3'-509').	June-September	Potential to Occur.
Brewer's clarkia <i>(Clarkia breweri)</i>	-	-	4.2	Often within serpentinite chaparral, cismontane woodland, and coastal scrub (705-3,660')	April-June	Absent. No suitable habitat onsite.
Rattan's cryptantha <i>(Cryptantha rattanii)</i>	-	-	4.3	Cismontane woodland, riparian woodland, and valley and foothill grassland (805-3,000').	April-July	Potential to Occur.
Recurved larkspur <i>(Delphinium recurvatum)</i>	-	-	1B.2	Chenopod scrub, cismontane woodland, and valley and foothill grasslands (10'-2,592').	March-June	Potential to Occur.
Protruding buckwheat <i>(Eriogonum nudum var. indictum)</i>	-	-	4.2	Within clay or serpentinite areas of chaparral, chenopod scrub, and cismontane woodland (490-4,800').	March-October	Absent. No suitable habitat onsite.
Idria buckwheat <i>(Eriogonum vestitum)</i>	-	-	4.3	Valley and foothill grassland (770-2,955').	April-August	Potential to Occur.

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
Delta button-celery <i>(Eryngium racemosum)</i>	–	CE	1B.1	Vernally mesic clay depressions in riparian scrub communities (10'–98').	June–October	Low Potential to Occur. Marginally suitable habitat present onsite.
Spiny-sepaled button-celery <i>(Eryngium spinosepalum)</i>	–	–	1B.2	Swales, roadside ditches, vernal pools and valley and foothill grassland (262'–3,199').	April–June	Potential to Occur.
Hoover's spurge <i>(Euphorbia hooveri)</i>	FT	–	1B.2	Vernal pools (82'–821').	July–September	Low Potential to Occur. Marginally suitable habitat present onsite.
Hogwallow starfish <i>(Hesperevax caulescens)</i>	–	–	4.2	Mesic areas with clay soil within valley and foothill grassland and shallow vernal pools; sometimes in alkaline areas (0'–1,657').	March–June	Low Potential to Occur. Marginally suitable habitat present onsite.
Alkali-sink goldfields <i>(Lasthenia chrysantha)</i>	–	–	1B.1	Alkaline vernal pools (0–656').	February–April	Low Potential to Occur. Marginally suitable habitat present onsite.
Ferris' goldfields <i>(Lasthenia ferrisiae)</i>	–	–	4.2	Alkaline and clay vernal pools (66'–2,297').	February–May	Low Potential to Occur. Marginally suitable habitat present onsite.
Coulter's goldfields <i>(Lasthenia glabrata ssp. coulteri)</i>	–	–	1B.1	Coastal marshes and swamps, playas, and vernal pools (3'–4,003').	February–June	Potential to Occur.
Serpentine leptosiphon <i>(Leptosiphon ambiguus)</i>	–	–	4.2	Usually serpentinite soils of Cismontane woodland, coastal scrub, and valley and foothill grassland (395'–3710').	March–June	Low Potential to Occur. Marginally suitable habitat present onsite.
Hall's bush-mallow <i>(Malacothamnus hallii)</i>	–	–	1B.2	Chaparral and coastal scrub (32'–2,493').	May–September	Absent. No suitable habitat onsite.
Little mousetail	–	–	3.1	Mesic areas of valley and foothill grassland	March–June	Potential to Occur.

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
<i>(Myosurus minimus ssp. apus)</i>				and alkaline vernal pools (66'–2,100').		
Shining navarretia <i>(Navarretia nigelliformis ssp. radians)</i>	–	–	1B.2	Vernal pools within cismontane woodland and valley or foothill grassland (213'–3,281').	April–July	Potential to Occur.
Prostrate vernal pool navarretia <i>(Navarretia prostrata)</i>	–	–	1B.1	Mesic soils within coastal scrub, meadows and seeps, alkaline valley and foothill grassland, and vernal pools (10'–3,970').	April–July	Potential to Occur.
Colusa Grass <i>(Neostapfia colusana)</i>	FT	CE	1B.1	Large vernal pools with adobe soils (16'–656').	May–August	Low Potential to Occur. Marginally suitable habitat present onsite.
California alkali grass <i>(Puccinellia simplex)</i>	–	–	1B.2	Alkaline, vernal mesic areas and sinks, flats and lake margins within chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools (7'–3,051').	March–May	Potential to Occur.
Sanford's arrowhead <i>(Sagittaria sanfordii)</i>	–	–	1B.2	Shallow marshes and freshwater swamps (0'–2,133').	May–October	Low Potential to Occur. Marginally suitable habitat present onsite.
Chaparral ragwort <i>(Senecio aphanactis)</i>	–	–	2B.2	Chaparral, cismontane woodland, coastal scrub; sometimes in alkaline soils (49'–2,625').	January–April	Absent. No suitable habitat onsite.
Arburua Ranch jewelflower <i>(Streptanthus insignis ssp. lyonia)</i>	-	-	1B.2	Grassland and chaparral habitat, usually on serpentine soils (755–2,805').	March–May	Absent. No suitable habitat onsite.
Slender-leaved pondweed	–	–	2B.2	Assorted shallow freshwater marshes	May–July	Low Potential to Occur. Marginally

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
<i>(Stuckenia filiformis ssp. alpina)</i>				and swamps (984'–7,054').		suitable habitat present onsite.
Wright's trichocoronis <i>(Trichocoronis wrightii var. wrightii)</i>	–	–	2B.1	Alkaline soils in meadows and seeps, marshes and swamps, riparian forest, and vernal pools (16'–1,427').	May–September	Low Potential to Occur. Marginally suitable habitat present onsite.
Invertebrates						
Conservancy fairy shrimp <i>(Branchinecta conservatio)</i>	FE	-	-	Vernal pools/wetlands.	November–April	Potential to Occur.
Longhorn fairy shrimp <i>(Branchinecta longiantenna)</i>	FE	-	-	Vernal pools/wetlands.	November–April	Potential to Occur.
Vernal pool fairy shrimp <i>(Branchinecta lynchi)</i>	FT	-	-	Vernal pools/wetlands.	November–April	Potential to Occur.
Monarch butterfly <i>(Danaus plexippus)</i>	FC	-	-	Adult monarchs west of the Rocky Mountains typically overwinter in sheltered wooded groves of Monterey pine, Monterey cypress, and gum eucalyptus along coastal California, then disperse in spring throughout California, Nevada, Arizona, and parts of Oregon and Washington. Adults require milkweed and additional nectar sources during the breeding season. Larval caterpillars feed exclusively on milkweed.	Any season	Potential to Occur.
Valley elderberry longhorn beetle	FT	-	-	Elderberry shrubs.	Any season	Potential to Occur.

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
<i>(Desmocerus californicus dimorphus)</i>						
Vernal pool tadpole shrimp <i>(Lepidurus packardii)</i>	FE	-	-	Vernal pools/wetlands.	November-April	Potential to Occur.
Fish						
Hardhead <i>(Mylopharodon conocephalus)</i>	-	-	SSC	Relatively undisturbed streams at low to mid elevations in the Sacramento-San Joaquin and Russian River drainages. In the San Joaquin River, scattered populations found in tributary streams, but only rarely in the valley reaches of the San Joaquin River.	N/A	Absent. No suitable habitat onsite.
Steelhead (CA Central Valley DPS) <i>(Oncorhynchus mykiss)</i>	FT	-	-	Undammed rivers, streams, creeks.	N/A	Absent. No suitable habitat onsite.
Amphibians						
California tiger salamander (Central California DPS) <i>(Ambystoma californiense)</i>	FT	CT	SSC	Vernal pools, wetlands (breeding) and adjacent grassland or oak woodland; needs underground refuge (e.g., ground squirrel and/or gopher burrows). Largely terrestrial as adults.	March-May	Potential to Occur.
Northern leopard frog <i>(Lithobates pipiens)</i>	-	-	SSC	Near permanent or semi-permanent water in a variety of habitats east of the Sierra Nevada-Cascade Crest. This highly aquatic species requires shoreline cover as well as	March - October	Absent. Outside of known range.

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
				submerged and emergent aquatic vegetation.		
Foothill yellow-legged frog <i>(Rana boylei)</i>	-	CE	SSC	Foothill yellow-legged frogs can be active all year in warmer locations but may become inactive or hibernate in colder climates. At lower elevations, foothill yellow-legged frogs likely spend most of the year in or near streams. Adult frogs, primarily males, will gather along main-stem rivers during spring to breed.	May–October	Absent. No suitable habitat onsite.
California red-legged frog <i>(Rana draytonii)</i>	FT	-	SSC	Lowlands or foothills at waters with dense shrubby or emergent riparian vegetation. Adults must have aestivation habitat to endure summer dry down.	May 1– November 1	Absent. Outside of known range.
Western spadefoot <i>(Spea hammondi)</i>	-	-	SSC	California endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley.	March–May	Potential to Occur.
Reptiles						
Northern legless lizard <i>(Anniella pulchra)</i>	-	-	SSC	The most widespread of California's <i>Anniella</i> species. Occurs in sandy or loose soils under sparse vegetation from Antioch south coastally to Ventura. Bush lupine is often an indicator plant,	Generally spring, but depends on location and conditions	Low Potential to Occur. Marginally suitable habitat present onsite.

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
				and two melanistic populations are known.		
Northwestern pond turtle <i>(Actinemys marmorata)</i>	-	-	SSC	Uses ponds, streams, detention basins, and irrigation ditches. Requires basking sites and upland habitats up to 0.5 km from water for egg laying.	April–September	Potential to Occur.
Blunt-nosed leopard lizard <i>(Gambelia sila)</i>	FE	CE	FP	Occurs in sparsely vegetated alkali scrub habitats in the southern San Joaquin Valley. Uses mammal burrows, shrubs and other structures for shade.	April–July	Absent. No suitable habitat onsite.
San Joaquin coachwhip <i>(Coluber flagellum ruddocki)</i>	-	-	SSC	Occurs in open, dry, usually flat habitats in Valley grassland and saltbush scrub with little to no shrub cover in the San Joaquin Valley. A dietary generalist.	March–October	Low Potential to Occur. Marginally suitable habitat present onsite.
Giant garter snake <i>(Thamnophis gigas)</i>	FT	CT	-	Freshwater ditches, sloughs, and marshes in the Central Valley. Almost extirpated from the southern parts of its range.	April–October	Low Potential to Occur. Marginally suitable habitat present onsite except for managed wetland areas to east.
Birds						
Aleutian cackling goose <i>(Branta hutchinsii leucopareia)</i>	De-listed	-	CDFW WL	Pasture, marsh (Sacramento/San Joaquin Valley and Delta)	October–March	Potential to Occur. Suitable habitat present onsite.
Clark’s grebe <i>(Aechmophorus clarkii)</i>	-	-	BCC	Winters on salt or brackish bays, estuaries, sheltered seacoasts, freshwater lakes, and rivers. Breeds on freshwater to brackish marshes,	June-August (breeding)	Absent. No suitable habitat onsite.

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
				lakes, reservoirs and ponds, with a preference for large stretches of open water fringed with emergent vegetation.		
Yellow rail <i>(Coturnicops noveboracensis)</i>	-	-	BCC, SSC	Found in sedge meadows, dense stands of bulrush, high marshlands dominated by sedges and grasses (in California, found in Lassen, Plumas, Siskiyou, Modoc counties, and San Francisco Bay and Tomales Bay regions)	May- September	Absent. No suitable habitat onsite.
Lesser sandhill crane <i>(Antigone canadensis canadensis)</i>	-	-	SSC	Breeds in Siberia, Alaska, and arctic Canada; winters in southwest US, including CA, south into Mexico. In winter, they forage in burned grasslands, pastures, and feed on waste grain in a variety of agricultural settings (e.g., corn, wheat, milo, rice, oats, and barley), tilled fields, recently planted fields, alfalfa fields, row crops and burned rice fields.	September- March (wintering)	Potential to Occur. Suitable wintering habitat onsite.
American avocet <i>(Recurvirostra americana)</i>			BCC	Nests in scrapes on the ground around wetlands, dikes/levees; or islands.	April-August	Potential to Occur.
Mountain plover <i>(Charadrius montanus)</i>	-	-	BCC, SSC	Breeds in the Great Plains/Midwestern US; winters in California, Arizona, Texas, and Mexico; wintering	September- March (wintering)	Potential to Occur.

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
				habitat in California includes tilled fields, heavily grazed open grassland, burned fields, and alfalfa fields.		
Long-billed curlew <i>(Numenius americanus)</i>	-	-	BCC	Breeds east of the Cascades in Washington, Oregon, northeastern California (Siskiyou, Modoc, Lassen counties), east-central California (Inyo County), through Great Basin region into Great Plains. Winters in California, Texas, and Louisiana. Wintering habitat includes tidal mudflats and estuaries, wet pastures, sandy beaches, salt marsh, managed wetlands, evaporation ponds, sewage ponds, and grasslands.	September– March (wintering)	Potential to Occur. Suitable wintering habitat onsite.
Willet <i>(Tringa semipalmata)</i>	-	-	BCC	Breeds locally in interior of western North America. In California, breeding range includes the Klamath Basin and Modoc Plateau and portions of Mono and possibly Inyo counties. Breeding habitat includes prairies, wetlands and grasslands on semiarid plains; in uplands near brackish or saline wetlands; prefers temporary, seasonal, and alkali	April–August	Absent. No suitable habitat onsite.

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
				wetlands over semipermanent and permanent wetlands.		
Black tern <i>(Chlidonias niger)</i>	-	-	BCC, SSC	Breeding range includes northeastern California, Central Valley, Great Plains of U.S. and Canada; winters in Central and South America; nesting habitat includes shallow freshwater marsh with emergent vegetation, prairie sloughs, lake margins, river islands, and cultivated rice fields.	May–August	Absent. No suitable habitat onsite.
White-tailed kite <i>(Elanus leucurus)</i>	-	-	CFP	Nesting occurs within trees in low elevation grassland, agricultural, wetland, oak woodland, riparian, savannah, and urban habitats.	March–August	Potential to Occur.
Golden eagle <i>(Aquila chrysaetos)</i>	-	-	BCC, CFP	Nesting habitat includes mountainous canyon land, rimrock terrain of open desert and grasslands, riparian, oak woodland/savannah, and chaparral. Nesting occurs on cliff ledges, riverbanks, trees, and manufactured structures (e.g., windmills, platforms, and transmission towers). Breeding occurs throughout California, except the immediate coast, Central Valley floor, Salton Sea region,	Nest (February–August); winter Central Valley (October–February)	Low Potential to Occur. Marginal foraging habitat present onsite.

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
				and the Colorado River region, where they can be found during Winter.		
Northern harrier <i>(Circus hudsonius)</i>	-	-	BCC, SSC	Nests on the ground in open wetlands, marshy meadows, wet/lightly grazed pastures, (rarely) freshwater/brackish marshes, tundra, grasslands, prairies, croplands, desert, shrub-steppe, and (rarely) riparian woodland communities.	April– September	Potential to Occur. Foraging habitat present onsite.
Cooper’s hawk <i>(Accipiter cooperii)</i>	-	-	CDFW WL	Nests in trees in riparian woodlands in deciduous, mixed and evergreen forests, as well as urban landscapes.	March–July	Low Potential to Occur. Marginal nesting habitat present onsite.
Bald eagle <i>(Haliaeetus leucocephalus)</i>	Delisted	CE	CFP, BCC	Typically nests in forested areas near large bodies of water in the northern half of California; nests in trees and rarely on cliffs; wintering habitat includes forest and woodland communities near water bodies (e.g., rivers, lakes), wetlands, flooded agricultural fields, open grasslands.	February– September (nesting); October– March (wintering)	Low Potential to Occur. Marginal foraging habitat present onsite.
Swainson’s hawk <i>(Buteo swainsoni)</i>	-	CT	BCC	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly	March–August	Potential to Occur.

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
				during disking/ harvesting, and irrigated pastures.		
Ferruginous hawk <i>(Buteo regalis)</i>	-	-	BCC, CDFW WL	Rarely breeds in California (Lassen County); winter range includes grassland and shrubsteppe habitats from Northern California (except northeast and northwest corners) south to Mexico and east to Oklahoma, Nebraska, and Texas.	September– March (wintering)	Potential to Occur. Suitable foraging habitat present onsite.
Burrowing owl <i>(Athene cunicularia)</i>	-	-	BCC, SSC	Nests in burrows or burrow surrogates in open, treeless areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g., prairie dogs, California ground squirrels). May also use manufactured habitat such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds.	February– August	Potential to Occur.
Nuttall's woodpecker <i>(Dryobates nuttallii)</i>	-	-	BCC	Resident from northern California south to Baja California. Nests in tree cavities in oak woodlands and riparian woodlands.	April–July	Potential to Occur.
Merlin <i>(Falco columbarius)</i>	-	-	CDFW WL	Breeds in Oregon, Washington and north into Canada. Winters in southern Canada to South America, including California. Breeds near forest	September– April (wintering in the Central Valley); does not breed in California	Low Potential to Occur. Marginal wintering habitat present onsite.

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
				openings, fragmented woodlots, and riparian areas. Wintering habitat includes wide variety, open forests, grasslands, tidal flats, plains, and urban settings.		
Prairie falcon <i>(Falco mexicanus)</i>	-	-	CDFW WL	Found in open habitat at all elevations up to 3,350 meters. Nests on cliffs and bluffs in arid plains and steppes. In California, nests throughout state except northwest corner, along immediate coast, and the Central Valley floor. Winters throughout California, in open habitats, such as grasslands in Central Valley.	March–July (breeding); September–February (wintering in Central Valley)	Potential to Occur. Suitable foraging habitat onsite.
Loggerhead shrike <i>(Lanius ludovicianus)</i>	-	-	BCC, SSC	Found throughout California in open country with short vegetation, pastures, old orchards, grasslands, agricultural areas, open woodlands. Not found in heavily forested habitats.	March–July	Potential to Occur.
Yellow-billed magpie <i>(Pica nuttallii)</i>	-	-	BCC	Endemic to California; found in the Central Valley and coast range south of San Francisco Bay and north of Los Angeles County; nesting habitat includes oak savannah with large expanses of open ground; also found in	April–June	Potential to Occur.

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
				urban parklike settings.		
California horned lark <i>(Eremophila alpestris actia)</i>	-	-	CDFW WL	San Joaquin Valley, coast range from Sonoma County south to Baja California; grassland and agricultural areas.	March–July	Potential to Occur.
Song sparrow "Modesto" <i>(Melospiza melodia heermanni)</i>	-	-	SSC	Resident in central and southwest California, including Central Valley; nests in marsh and scrub habitats.	April–June	Potential to Occur. Suitable nesting habitat present onsite.
Yellow-headed blackbird <i>(Xanthocephalus xanthocephalus)</i>	-	-	SSC	In California, breeds in the Great Basin region, along Colorado River south to Baja California, Salton Sea, Kern, Ventura, Riverside, San Diego and possibly Orange and Lake counties, and locally in the Central Valley. Nests are constructed over deep water in emergent vegetation of prairie wetlands, quaking aspen parklands, mountain meadows, forest edges, large lakes.	April–July	Low Potential to Occur. Marginal wintering habitat present onsite.
Bullock's oriole <i>(Icterus bullockii)</i>			BCC	Breeding habitat includes riparian and oak woodlands.	March–July	Potential to Occur.
Tricolored blackbird <i>(Agelaius tricolor)</i>	-	CT	BCC, SSC	Breeds locally west of Cascade-Sierra Nevada and southeastern deserts from Humboldt and Shasta counties south to San Bernardino, Riverside and San	March–August	Potential to Occur.

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
				Diego counties. Central California, Sierra Nevada foothills and Central Valley, Siskiyou, Modoc and Lassen counties. Nests colonially in freshwater marsh, blackberry bramble, milk thistle, triticale fields, weedy (i.e., mustard, mallow) fields, giant cane, safflower, stinging nettles, tamarisk, riparian scrublands and forests, fiddleneck and fava bean fields.		
Saltmarsh common yellowthroat <i>(Geothlypis trichas sinuosa)</i>	-	-	BCC, SSC	Breeds in salt marshes of San Francisco Bay; winters San Francisco south along coast to San Diego County	March–July	Absent. No suitable habitat onsite.
Mammals						
Nelson's antelope squirrel <i>(Ammospermophilus nelsoni)</i>	-	CT	-	Dry, sparsely vegetated areas with loam soils in chenopod scrub habitats in the western San Joaquin Valley from 200-1200 feet in elevation. Needs widely scattered shrubs, forbs, and grasses in broken terrain with gullies and washes.	Any season	Low Potential to Occur. On the edge of the known range for the species.
Giant kangaroo rat <i>(Dipodomys ingens)</i>	FE	CE	-	Annual grasslands on the western side of the San Joaquin Valley. Marginal habitat in alkali scrub. Needs level terrain	Any season	Absent. Outside known range for the species.

Table 4-2. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
				and sandy loam soils for burrowing.		
Fresno kangaroo rat <i>(Dipodomys nitratoideus exilis)</i>	FE	CE	-	Elevated grassy patches on alkali plains or in grassy terrain with scattered alkali patches. Friable soils for burrow digging and annual and native forbs and grasses for foraging are necessary habitat components. Distribution is limited to the flat San Joaquin Valley Floor from Merced County to the northern border of Kings County.	Any season	Absent. Outside known range for the species.
Western mastiff bat <i>(Eumops perotis californicus)</i>	-	-	SSC	Primarily a cliff-dwelling species, found in similar crevices in large boulders and buildings.	April-September	Low Potential to Occur. Marginal roosting habitat present.
Hoary bat <i>(Lasiurus cinereus)</i>	-	-	SSC	Dense foliage of medium to large trees; roost primarily in foliage of both coniferous and deciduous trees. Roosts are usually at the edge of a clearing. Some unusual roosting situations have been reported in caves, beneath a rock ledge, in a woodpecker hole, in a grey squirrel nest, under a driftwood plank, and clinging to the side of a building.	April-September	Potential to Occur.
American badger <i>(Taxidea taxus)</i>	-	-	SSC	Drier open stages of most shrub, forest, and herbaceous	Any season	Low Potential to Occur. Marginal

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA/ NPPA	Other			
				habitats with friable soils.		habitat present onsite.
San Joaquin kit fox <i>(Vulpes macrotis mutica)</i>	FE	CT	-	Native and nonnative grasslands, oak savannah adjacent to grasslands, agricultural lands, lands that are dryland farmed, alkali scrub, and ruderal land.	May 1– November 1	Potential to Occur.

Status Codes:

- FESA Federal Endangered Species Act
- CESA California Endangered Species Act
- FE FESA listed, Endangered.
- FP FESA listed, Protected
- FT FESA listed, Threatened
- FC Candidate for FESA listing as Threatened or Endangered
- BCC USFWS Bird of Conservation Concern (USFWS 2021)
- CT CESA- or NPPA listed, Threatened
- CE CESA or NPPA listed, Endangered
- CFP California Fish and Game Code Fully Protected Species (§ 3511-birds, § 4700-mammals, §5 050-reptiles/amphibians)
- CDFW WL CDFW Watch List
- SSC CDFW Species of Special Concern
- 1B CRPR/Rare or Endangered in California and elsewhere
- 2B CRPR/Plants rare, threatened, or endangered in California but more common elsewhere
- 3 CRPR/Plants About Which More Information is Needed – A Review List
- 4 CRPR/Plants of Limited Distribution – A Watch List
- 0.1 Threat Rank/Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
- 0.2 Threat Rank/Moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat)
- 0.3 Threat Rank/Not very threatened in California (<20 percent of occurrences threatened / low degree and immediacy of threat or no current threats known)
- Delisted Formally Delisted (delisted species are monitored for five years)

A total of 30 special-status plants, 6 invertebrates, 2 amphibians, 4 reptiles, 23 birds, and 5 mammal species were found to have some potential to occur within the EIR Study Area based on the literature review. Detailed descriptions of these species are provided in Attachment A.

4.6 Wildlife Movement Corridors, Linkages, and Significant Ecological Areas

The EIR Study Area was assessed for its ability to function as a wildlife corridor. The concept of habitat corridors addresses the linkage between large blocks of habitat that allow safe movement for mammals and other wildlife species from one habitat area to another. The definition of a corridor is varied, but corridors may include areas such as greenbelts, refuges, underpasses, riparian areas, creeks, and

biogeographic land bridges. In general, a corridor can be described as a linear habitat embedded within a dissimilar matrix that connects two or more larger blocks of habitat.

Habitat for wildlife species within the EIR Study Area is mainly fragmented by irrigation canals, Highways 165 and 33, and urban development. The agricultural fields and nonnative annual grassland habitats provide potential opportunities for wildlife movement through the EIR Study Area. Wildlife movement through these areas is likely limited to periods when vehicle traffic is at a minimum or when agricultural machinery is not in operation. The mixed riparian woodland within Los Banos Creek, which transects the western portion of the EIR Study Area, may serve as a wildlife corridor but is constrained by the narrow width of the corridor and lack of continuous vegetation cover.

The far eastern portion of the EIR Study Area overlaps with managed wetlands that are part of the GRCD. The GRCD contains approximately 75,000 acres and encompasses several state wildlife areas. The area is part of the largest contiguous block of wetlands remaining in California's Central Valley and is a major wintering ground for migratory waterfowl and shorebirds along the Pacific Flyway. The U.S. Fish and Wildlife Service ranks the habitat provided by the GRCD as the most important complex of wetlands in the San Joaquin Valley (GRCD, 2022).

4.7 Critical Habitat and Essential Fish Habitat

There is no designated critical habitat or essential fish habitat in the EIR Study Area.

4.8 Sensitive Natural Communities

Five sensitive natural communities were identified as having potential to occur within the EIR Study Area based on the literature review (CDFW 2022). These included Valley Sink Scrub, Cismontane Alkali Marsh, Coastal and Valley Freshwater Marsh, Great Valley Cottonwood Riparian Forest, and Sycamore Alluvial Woodland.

A review of aerial imagery shows historical and current land use impacts within the EIR Study Area. Past disturbance, urbanization, agricultural development, and introduction of non-native species limit the presence of sensitive natural communities; however, portions of the EIR Study Area support riparian woodland and freshwater wetlands habitats, as described in Section 3.

5.0 RECOMMENDATIONS

The following recommendations are included with the assumption that properties within the EIR Study Area will be developed, or the current land use will be altered in the future. Prior to development or change in land use within a property, the following measures are recommended to avoid and minimize potential impacts to biological resources.

5.1 Aquatic Resources

It is recommended that an aquatic resources delineation be conducted to detect potential Waters of the U.S./State that may be present within a proposed project area. The following mitigation measures are recommended to minimize any proposed impacts to Waters of the U.S./State:

- Obtain authorization to fill wetlands and other Waters of the U.S. under the Section 404 of the federal CWA (Section 404 Permit) from USACE prior to discharging any dredged or fill materials into any Waters of the U.S. Develop mitigation measures as part of the Section 404 Permit to ensure no net loss of wetland function and values.
- Obtain a Water Quality Certification or waiver pursuant to Section 401 of the CWA from the RWQCB for Section 404 permit actions.
- Pursuant to the Porter-Cologne Water Quality Act, obtain a permit authorization from the RWQCB prior to the discharge of material in an area that could affect Waters of the State.

If there are aquatic features present within a proposed project area that may be subject to CDFW Section 1602 jurisdiction, the following measure is recommended to minimize any proposed impacts to the bed, bank, or channel of rivers, streams, or lakes:

- Obtain an SAA pursuant to Section 1602 of the California Fish and Game Code for any activity that will impact the bed, bank, or channel of any river, stream, or lake. Develop mitigation measures in consultation with CDFW as part of the SAA process to ensure protections for affected fish and wildlife resources.

5.2 Special-Status Species

The EIR Study Area provides potential habitat for 70 special status plant and wildlife species. For proposed projects within the EIR Study Area, it is recommended that a BRA and a ground-level assessment be conducted to determine if there are any special-status species or their habitats that may be impacted by the project.

5.2.1 Plants

If the BRA conducted for a proposed project identifies there is habitat for special-status plants, the following measures are recommended to minimize potential impacts to special-status plants:

- Perform focused special-status plant surveys of the proposed project area according to CDFW, CNPS, and USFWS protocols (CDFW 2018; CNPS 2001; USFWS 2000). Surveys should be timed according to the blooming period for target species, and known reference populations should be visited prior to surveys to confirm the species is blooming where known to occur.
- If surveys identify any special-status plants within the proposed project area, the plant populations should be marked with flagging and avoided during project construction activities. If avoidance is not feasible, minimization or avoidance measures should be developed in consultation with CDFW and/or USFWS.
- If no special-status plants are found during the surveys, no further measures are necessary.

5.2.2 Invertebrates

If the BRA conducted for a proposed project identifies there is habitat for special-status invertebrates, the following measures are recommended to minimize potential impacts to special-status invertebrates such as federally listed large branchiopods (e.g., longhorn fairy shrimp, vernal pool fairy shrimp, conservancy fairy shrimp, and tadpole shrimp), monarch butterfly, and VELB.

5.2.2.1 Large Branchiopods

- Conduct a survey for federally listed large branchiopods pursuant to the USFWS *Survey Guidelines for the Listed Large Branchiopods* (USFWS 2017a) within the aquatic resources that are suitable habitat within the proposed project area.
- If surveys identify the presence of listed large branchiopods within an aquatic feature, project-related impacts to that aquatic feature should be avoided. If avoidance is not feasible, minimization or avoidance measures should be developed in consultation with USFWS and incidental take authorization obtained pursuant to federal ESA Section 7 or Section 10.

5.2.2.2 Valley Elderberry Longhorn Beetle

- Per the USFWS *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS 2017b), conduct an assessment for VELB habitat (i.e., elderberry shrubs) within the proposed project area and a 165-foot buffer area.
- If elderberry shrubs are not present, no further action or mitigation is necessary.
- If elderberry shrubs are present within the survey area, project activities may occur up to 20 feet from the dripline of the elderberry shrubs if precautions are implemented to minimize the potential for indirect impacts (USFWS 2017b). If proposed impacts to the elderberry shrub are unavoidable, mitigation measures should be developed in consultation with USFWS and incidental take authorization obtained pursuant to federal ESA Section 7 or Section 10.

5.2.3 Amphibians

5.2.3.1 California Tiger Salamander (Central California DPS)

The EIR Study Area contains potential habitat for CTS. The following measures are recommended to avoid and minimize impacts to this species:

- Conduct a survey for CTS habitat within the proposed project area as outlined within the *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander* (USFWS 2003). Additional surveys may be required in consultation with USFWS and CDFW (USFWS 2003).

- If the proposed project area supports CTS habitat, project-related impacts to that habitat should be avoided, and avoidance measures should be developed in consultation with USFWS and CDFW.
- If CTS breeding habitat is present within the proposed project area and proposed impacts are unavoidable, minimization or avoidance measures should be developed in consultation with USFWS and incidental take authorization obtained pursuant to federal ESA Section 7 or Section 10. In addition, a CDFW Incidental Take Permit (ITP) should be obtained pursuant to California ESA Section 2081.

5.2.3.2 Western Spadefoot

The EIR Study Area contains potential habitat for western spadefoot. To avoid or minimize impacts to western spadefoot, the following measures are recommended:

- Preconstruction surveys for western spadefoot should be conducted within the limits of construction to detect adults, larvae, and/or egg masses within 14 days prior to the start of construction.
- If no western spadefoots are found, no further measures pertaining to this species are necessary.
- If adults, larvae, or egg masses are found, they should be relocated to suitable habitat in consultation with CDFW.

5.2.4 Reptiles

The EIR Study Area contains potential habitat for four special-status reptile species. Recommendations relating to GGS are described in Section 5.2.4.1. The following measures are recommended to avoid and minimize impacts to northwestern pond turtle, northern legless lizard, and San Joaquin coachwhip:

- Preconstruction surveys should be conducted within 48 hours prior to the start of construction.
- If northwestern pond turtle, northern legless lizard, and San Joaquin coachwhip are not found, no further measures pertaining to these species are necessary.
- If any of the special-status reptiles are found within an area proposed for impact, a qualified biologist should relocate the animal to a suitable location away from the proposed work area, in consultation with CDFW.

5.2.4.1 Giant Garter Snake

The EIR Study Area contains potential habitat for the GGS. The following measures are recommended to avoid and minimize impacts this species:

- Conduct an assessment for GGS habitat as described in the *Draft Recovery Plan for the Giant Garter Snake* (USFWS 1999a). If GGS habitat is absent from the proposed project area, and CDFW

and USFWS concur with the assessment, no further measures pertaining to this species are necessary.

- If the proposed project area supports GGS habitat, project-related impacts to that habitat should be avoided, and avoidance measures should be developed in consultation with USFWS and CDFW.
- If proposed impacts to GGS habitat are unavoidable, minimization or avoidance measures should be developed in consultation with USFWS and incidental take authorization obtained pursuant to the federal ESA Section 7 or Section 10. In addition, a CDFW ITP should be obtained pursuant to California ESA Section 2081.

5.2.5 Birds

Suitable nesting habitat for several special-status birds is present within the EIR Study Area. In addition to the special-status birds, all native birds, including raptors, are protected under the California Fish and Game Code and the MBTA. If present, proposed projects could result in harassment to or take of nesting individuals. To avoid and minimize impacts to protected birds and/or active nests, the following measures are recommended.

5.2.5.1 Nesting Birds

A preconstruction survey for nesting birds should be conducted by a qualified wildlife biologist within the proposed project area and a 100-foot buffer. If an active nest is located, a no-disturbance buffer should be established as determined by the biologist in consultation with CDFW and maintained until it is confirmed by the biologist that nestlings have fledged or the nest is otherwise no longer active.

5.2.5.2 Raptors

A preconstruction survey for nesting raptors should be conducted by a qualified wildlife biologist within the proposed project area and a 500-foot buffer. If an active nest is located, a no-disturbance buffer should be established as determined by the biologist in consultation with CDFW and maintained until a qualified biologist determines that nestlings have fledged or the nest is otherwise no longer active.

5.2.5.3 Swainson's Hawk

A preconstruction survey for nesting raptors should be conducted by a qualified wildlife biologist within the proposed project area and a 0.25-mile buffer. If Swainson's hawks are found to be nesting in the survey area, a no-disturbance buffer should be established in consultation with CDFW and maintained until a qualified biologist determines that nestlings have fledged or the nest is otherwise no longer active.

5.2.5.4 Burrowing Owl

The EIR Study Area contains suitable habitat for the burrowing owl. The following measures are recommended to avoid and minimize impacts to this species:

- A habitat assessment for burrowing owl habitat should be conducted within the proposed project area and a 500-foot buffer in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). No further measures are necessary if the habitat assessment finds that the Proposed Project Area does not contain suitable burrowing owl habitat.
- If the proposed project area contains suitable habitat for burrowing owl, preconstruction surveys should be conducted to identify potential and active burrows.
- If the proposed project area supports suitable burrowing owl burrows, project-related impacts to those burrows should be avoided, and avoidance measures should be developed in consultation with CDFW. If proposed impacts to suitable burrowing owl burrows are unavoidable, exclusion and relocation measures should be developed in consultation with CDFW.

5.2.6 Mammals

5.2.6.1 *Nelson's Antelope Squirrel*

The Nelson's antelope squirrel (NAS) has low potential to occur within the EIR Study Area, and the EIR Study Area is on the edge of the known range of this species. The following are recommendations to minimize impacts to Nelson's antelope squirrel that may occur within a proposed project area:

- Conduct an assessment within the proposed project area for NAS habitat as described in *Annual Report on the Status of California State Listed Threatened and Endangered Animal and Plants* (CDFG 2005), and the *Recovery Plan for Upland Species of the San Joaquin Valley, California* (USFWS 1998). If NAS habitat is absent and CDFW concurs with the assessment, no further measures pertaining to this species are necessary.
- If the proposed project area supports NAS habitat, preconstruction surveys should be conducted to identify potential and active burrows.
- If the proposed project area supports suitable NAS burrows, project-related impacts to those burrows should be avoided, and avoidance measures should be developed in consultation with CDFW. If proposed impacts to suitable NAS burrows are unavoidable, minimization or alternative mitigation measures should be developed in consultation with CDFW.

5.2.6.2 *Western Mastiff Bat and Hoary Bat*

The EIR Study Area contains roosting habitat for western mastiff bat and hoary bat. To avoid and minimize impacts to special-status bats, the following measures are recommended:

- A preconstruction habitat assessment should be conducted to identify features that provide suitable bat-roosting habitat (e.g., trees with cavities or exfoliating bark, rock outcrops). Suitable habitat features should be surveyed for evidence of roosting bats (e.g., guano and urine staining), and if necessary, evening emergence surveys and/or acoustic monitoring should be conducted to determine the extent of use by bats.

- If any special-status bats are found, additional minimization and avoidance measure should be developed in consultation with CDFW.

5.2.6.3 American Badger

American badger has low potential to occur within the EIR Study Area; however, the EIR Study Area is within the known range of this species. The following measures are recommended to avoid and minimize impacts to American badger:

- A biologist should conduct a preconstruction survey 24 to 48 hours prior to the initiation of project construction for large mammal dens that occur onsite. If a large mammal den is encountered and contains sign of American badger activity, additional minimization and avoidance measures should be developed in consultation with CDFW.

5.2.6.4 San Joaquin Kit Fox

The EIR Study Area contains potential habitat for San Joaquin kit fox (SJKF). The following are recommendations to avoid and minimize impacts to SJKF that may occur within a proposed project area:

- Conduct an early evaluation survey for the proposed project area as outlined in the USFWS *San Joaquin Kit Fox Survey Protocol for the Northern Range* (USFWS 1999b). Additional surveys and avoidance measures may be required upon consultation with USFWS to determine if the proposed project will result in take of SJKF (USFWS 1999b).
- If the proposed project will result in take of SJKF, project modification or minimization measures should be developed in consultation with USFWS pursuant to Section 7 or Section 10 of the federal ESA.
- Prior to and during ground disturbance activities of a proposed project, preconstruction surveys and avoidance measures should be followed as outlined in the USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance (USFWS 2011).

6.0 REFERENCES

- Baldwin, B. G., G. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, D. H. Wilken. 2012. *The Jepson Manual; Vascular Plants of California, Second Edition*. Berkeley, CA: University of California Press.
- California Department of Fish and Game (CDFG). 2012. Staff Report on Burrowing Owl Mitigation. Dated March 7, 2012.
- _____. 2005. Annual Report on the Status of California State Listed Threatened and Endangered Animal and Plants. California Department of Fish and Game. Sacramento, California.
- California Department of Fish and Wildlife (CDFW). 2022. Rarefind 5. Online Version, commercial version. California Natural Diversity Database. The Resources Agency, Sacramento. <https://wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>. Accessed February 2022.
- _____. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. Sacramento, California.
- California Native Plant Society (CNPS). 2022. Inventory of Rare and Endangered Plants in California (online edition, v9-01 1.0). California Native Plant Society. Sacramento, CA. Available online: <https://rareplants.cnps.org>. Accessed February 2022.
- _____. 2001. CNPS Botanical Survey Guidelines. California Native Plant Society. Available online: http://www.cnps.org/cnps/rareplants/pdf/cnps_survey_guidelines.pdf.
- California Wetlands Monitoring Workgroup 2022. EcoAtlas. <https://www.EcoAtlas.org>.
- Dyett & Bhatia. 2007. City of Los Banos 2030 General Plan, Draft Environmental Impact Report. September 2007.
- Grassland Resource Conservation District (GRCD). 2022. *"Who We Are"* Available online at: gwdwater.org.
- National Agricultural Imagery Program (NAIP). 2020. Farm Service Agency, U.S. Department of Agriculture. Orthorectified aerial photographs.
- National Oceanic and Atmospheric Administration (NOAA). 2022a. National Climatic Data Center 1981-2010 Climate Normals for Los Banos, California. <https://www.ncdc.noaa.gov/cdo-web/datatools/normal>. Accessed February 2022.
- _____. 2022b. NOAA Critical Habitat – Maps and GIS Data (West Coast Region). Last updated February 1, 2022. Available online: <https://www.fisheries.noaa.gov/resource/map/critical-habitat-maps-and-gis-data-west-coast-region>. Accessed February 2022.
- Natural Resources Conservation Service (NRCS). 2022a. Web Soil Survey. <http://websoilsurvey.nrcs.usda.gov/>. Accessed February 2022.
- _____. 2022b. Soil Data Access Hydric Soils List. <https://www.nrcs.usda.gov/wps/portal/nrcs/mail/soils/use/hydric/>. Accessed February 2022.

- Natural Resources Conservation Service (NRCS), U.S. Geological Survey (USGS), U.S. Environmental Protection Agency (USEPA). 2016. Watershed Boundary Dataset for California.
<http://datagateway.nrcs.usda.gov>.
- San Francisco Estuary Institute (SFEI). California Aquatic Resource Inventory (CARI) Version 0.3. 2017.
<http://www.sfei.org/data/california-aquatic-resource-inventory-cari-version-03-gis-data#sthash.0SjnlwfO.dpbs>.
- U.S. Fish and Wildlife Service (USFWS). 2022. USFWS Resource Report List. Information for Planning and Conservation. Internet website: <http://ecos.fws.gov/ipac/>. Accessed February 2022.
- _____. 2021. Birds of Conservation Concern 2021. U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. (online version available at <http://migratorybirds.fws.gov/reports/bcc2002.pdf>).
- _____. 2017a. Survey guidelines for the listed large branchiopods. U.S. Fish and Wildlife Service. Pacific Southwest Region. Sacramento, California. p. 24. Revised November 7, 2017.
- _____. 2017b. Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). U.S. Fish and Wildlife Service; Sacramento, California. 28 pp
- _____. 2011. Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance. U.S. Fish and Wildlife Service, Sacramento, California. January 2011.
- _____. 2003. Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander. October 2003.
- _____. 2000. Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants. January 2000.
- _____. 1999a. Draft recovery plan for the giant garter snake (*Thamnophis gigas*). Sacramento Fish and Wildlife Office.
- _____. 1999b. U.S. Fish and Wildlife Service San Joaquin Kit Survey Protocol for the Northern Range. Sacramento Fish and Wildlife Office. Date June 1999.
- _____. 1998. Endangered Species Recovery Program, Recovery Plan for Upland Species of the San Joaquin Valley, California. California State University, Stanislaus.
- U.S. Geological Survey (USGS). 1960a, (photorevised 1987). "Los Banos, California" 7.5-minute Quadrangle. In: Survey. G, editor. Denver, Colorado.
- _____. 1960b. "Volta, California" 7.5-minute Quadrangle. In: Survey. G, editor. Denver, Colorado.

LIST OF ATTACHMENTS

Attachment A – Special-Status Species Descriptions

Attachment B – Literature Review Species Lists

ATTACHMENT A

Special-Status Species Descriptions

Attachment A

Special-Status Species Descriptions

Plants

Forked Fiddleneck

Forked fiddleneck (*Amsinckia furcata*) is not listed pursuant to either the federal or California Endangered Species Acts (ESA), but is designated as a California Rare Plant Rank (CRPR) 4.2 species. This species is an herbaceous annual that occurs in cismontane woodland and valley and foothill grassland. Forked fiddleneck blooms from February through May and is known to occur at elevations ranging from 165 to 3,280 feet above mean sea level (MSL). Forked fiddleneck is endemic to California; its current range includes Fresno, Kings, Kern, Merced, San Benito, and San Luis Obispo counties (California Native Plant Society [CNPS] 2022).

No California Natural Diversity Database (CNDDDB) occurrences of forked fiddleneck have been reported within 15 miles of the Environmental Impact Report (EIR) Study Area (California Department of Fish and Wildlife [CDFW] 2022); however, the nonnative annual grassland and ruderal areas within the EIR Study Area provides suitable habitat for this species. Forked fiddleneck has potential to occur within the EIR Study Area.

California Androsace

California androsace (*Androsace elongata* ssp. *acuta*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, and valley and foothill grassland. California androsace blooms from March through June and is known to occur at elevations ranging from 490 to 4,280 feet above MSL. The current range of this species in California includes Alameda, Contra Costa, Colusa, Fresno, Glenn, Kern, Los Angeles, Merced, Monterey, Riverside, San Bernardino, San Benito, Santa Clara, San Diego, Siskiyou, San Joaquin, San Luis Obispo, San Mateo, Stanislaus, and Tehama counties (CNPS 2022).

No CNDDDB occurrences of California androsace have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, the nonnative annual grassland and ruderal areas within the EIR Study Area provides suitable habitat for this species. California androsace has potential to occur within the EIR Study Area.

Akali Milk-Vetch

Alkali milk-vetch (*Astragalus tener* var. *tener*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in alkaline areas of playas, adobe clay valley and foothill grasslands, and vernal pools. Alkali milk-vetch blooms from March through June and is known to occur at elevations ranging from 5 to 195 feet above MSL. Alkali milk-vetch is endemic to California; the current range of this species includes Alameda, Contra Costa, Merced, Monterey, Napa, San Benito, Santa Clara, San Francisco, San Joaquin, Solano, Sonoma, Stanislaus, and Yolo counties; it is likely extirpated from Contra Costa, Monterey, San Benito, Santa Clara, San Francisco, San Joaquin, Sonoma, and Stanislaus counties (CNPS 2022).

Three CNDDDB occurrences of alkali milk-vetch have been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland and ruderal areas within the EIR Study Area provide suitable habitat for this species. Alkali milk-vetch has potential to occur within the EIR Study Area.

Heartscale

Heartscale (*Atriplex cordulata* var. *cordulata*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual found within alkaline or saline sandy valley and foothill grasslands, meadows and seeps, and chenopod scrub communities. Heartscale flowers from April through October and is known to occur at elevations ranging from sea level to 1,835 feet above MSL. Heartscale is endemic to California; the current range of this species includes Alameda, Butte, Contra Costa, Colusa, Fresno, Glenn, Kern, Kings, Madera, Merced, San Joaquin, Solano, Stanislaus, Tulare, and Yolo counties; it is considered extirpated from San Joaquin, Stanislaus, and Yolo counties (CNPS 2022).

Ten CNDDDB occurrences of heartscale have been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland, ruderal areas, and agriculture fields within the EIR Study Area provide suitable habitat for this species. Heartscale has potential to occur within the EIR Study Area.

Crownscale

Crownscale (*Atriplex coronata* var. *coronata*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in alkaline and often clay soils within chenopod scrub, valley and foothill grassland, and vernal pools. Crownscale blooms from March through October and is known to occur at elevations ranging from 5 to 1,935 feet above MSL. Crownscale is endemic to California; the current range of this species includes Alameda, Contra Costa, Fresno, Kings, Kern, Merced, Monterey, San Benito, San Luis Obispo, Solano, Stanislaus, and Tulare counties (CNPS 2022).

No CNDDDB occurrences of crownscale have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, the nonnative annual grassland, ruderal areas, and agriculture fields within the EIR Study Area provide suitable habitat for this species. Crownscale has potential to occur within the EIR Study Area.

Lost Hills Crownscale

Lost Hills crownscale (*Atriplex coronata* var. *vallicola*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in alkaline soils in chenopod scrub, valley and foothill grassland, and alkaline vernal pools. Lost Hills crownscale differs from heartscale primarily in the shape and size of the fruiting bracts. Lost Hills crownscale flowers from April through September and is known to occur at elevations ranging from 165 feet to 2,085 feet above MSL. Lost Hills crownscale is endemic to California; the current range of this species includes Fresno, Kings, Kern, Merced, Monterey, San Benito, San Luis Obispo, and Tulare counties (CNPS 2022).

Three CNDDDB occurrences of Lost Hills crownscale have been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland, ruderal areas, and agriculture fields within the EIR Study Area provide suitable habitat for this species. Lost Hills crownscale has potential to occur within the EIR Study Area.

Lesser Saltscale

Lesser saltscale (*Atriplex minuscula*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in alkaline and sandy soils in chenopod scrub, playas, and valley and foothill grassland. Lesser saltscale blooms from May through October and is known to occur from 50 to 655 feet above MSL. Lesser saltscale is endemic to California; the current range of this species includes Alameda, Butte, Fresno, Kern, Kings, Madera, Merced, Stanislaus, and Tulare counties. It is likely extirpated from Stanislaus County (CNPS 2022).

One CNDDDB occurrence of lesser saltscale has been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland, ruderal areas, and agriculture fields within the EIR Study Area provide suitable habitat for this species. Lesser saltscale has potential to occur within the EIR Study Area.

Vernal Pool Smallscale

Vernal pool smallscale (*Atriplex persistens*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in alkaline vernal pools. Vernal pool smallscale blooms from June through October and is known to occur at elevations ranging from 35 to 375 feet above MSL. Vernal pool small scale is endemic to California; the current range of this species includes Colusa, Glenn, Madera, Merced, Solano, Stanislaus, and Tulare counties. It is likely extirpated in Stanislaus County (CNPS 2022).

Eight CNDDDB occurrences of vernal pool smallscale have been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grasslands within the EIR Study Area provide marginally suitable habitat for this species. Vernal pool smallscale has low potential to occur within the EIR Study Area.

Lemmon's Jewel Flower

Lemmon's jewel flower (*Caulanthus lemmonii*) is not listed pursuant to either the federal or California ESAs, but is designated a CRPR 1B.2 species. This species is an herbaceous annual that occurs in pinyon and juniper woodlands, and valley and foothill grasslands at elevations from 262 to 5,184 feet above MSL (CNPS 2022). Lemmon's jewel flower blooms from February through May (CNPS 2022). This species is endemic to California; its current range includes Alameda, Fresno, Kings, Kern, Merced, Monterey, Santa Barbara, San Benito, San Joaquin, San Luis Obispo, Stanislaus, and Ventura counties. It is considered extirpated from Alameda County (CNPS 2022).

One CNDDDB occurrence of Lemmon's jewel flower has been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland and ruderal areas within the EIR Study Area provide suitable habitat for this species. Lemmon's jewel flower has potential to occur within the EIR Study Area.

Parry's Rough Tarplant

Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in vernal pools and valley and foothill grassland with alkaline and vernal mesic soils, seeps, and sometimes roadsides. Parry's rough tarplant blooms from May through October and is known to occur at elevations ranging from sea level to 328 feet above MSL. Parry's rough tarplant is endemic to California; its current range includes Butte, Colusa, Glenn, Lake, Merced, Modoc, Sacramento, San Joaquin, Solano, Stanislaus, Sutter, and Yolo counties (CNPS 2022).

No CNDDDB occurrences of Parry's rough tarplant have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, nonnative annual grassland and ruderal areas within the EIR Study Area provide marginally suitable habitat for this species. Parry's rough tarplant has low potential to occur within the EIR Study Area.

Hispid Salty Bird's-beak

Hispid salty bird's-beak (*Chloropyron molle* ssp. *hispidum*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species. This species is an herbaceous, hemiparasite annual that occurs on alkaline soils in meadows and seeps, playas, and valley and foothill grasslands. Hispid salty bird's-beak blooms from June through September and is known to occur at elevations ranging from three feet to 509 feet above MSL (CNPS 2022). Hispid salty bird's-beak is endemic to California; the current range of this species includes Alameda, Fresno, Kern, Merced, Placer, and Solano counties (CNPS 2022).

Twenty-nine CNDDDB occurrences of hispid salty bird's-beak have been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland and ruderal areas within the EIR Study Area provide suitable habitat for this species. Hispid salty bird's-beak has potential to occur within the EIR Study Area.

Rattan's Cryptantha

Rattan's cryptantha (*Cryptantha rattanii*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.3 species. This species is an herbaceous annual that occurs within cismontane woodland, riparian woodland, and valley and foothill grassland. Rattan's cryptantha blooms from April through July, and is known to occur at elevations ranging from 805 to 3,000 feet above MSL (CNPS 2022). This species endemic to California is its current range includes Fresno, Merced, Monterey, San Benito, Santa Barbara, Santa Clara, and Stanislaus counties (CNPS 2022).

No CNDDDB occurrences of Rattan's cryptantha have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, nonnative annual grassland and ruderal areas within the EIR Study Area provide suitable habitat for this species. Rattan's cryptantha has potential to occur within the EIR Study Area.

Recurved Larkspur

Recurved larkspur (*Delphinium recurvatum*) is not listed pursuant to either the federal or California ESAs, but is designated a CRPR 1B.2 species. This species is an herbaceous perennial that occurs in alkaline substrates in chenopod scrub, cismontane woodland, and valley and foothill grasslands. Recurved larkspur blooms from March through June and is known to occur at elevations ranging from 9 to 2,592 feet above MSL (CNPS 2022). Recurved larkspur is endemic to California; the current range of this species includes Alameda, Butte, Contra Costa, Colusa, Fresno, Glenn, Kings, Kern, Madera, Merced, Monterey, San Joaquin, San Luis Obispo, Solano, Sutter, and Tulare counties. The species is presumed extirpated from Butte and Colusa counties (CNPS 2022).

Two CNDDDB occurrences of recurved larkspur have been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland and ruderal areas within the EIR Study Area provide suitable habitat for this species. Recurved larkspur has potential to occur within the EIR Study Area.

Idria buckwheat

Idria buckwheat (*Eriogonum vestitum*) is not listed pursuant to either the federal or California ESAs, but is designated a CRPR 4.3 species. This species is an herbaceous annual that occurs in valley and foothill grasslands. Idria buckwheat blooms from April through August and is known to occur at elevations ranging from 770 to 2,955 feet above MSL (CNPS 2022). Idria buckwheat is endemic to California, and its current range includes Fresno, Merced, and San Benito counties (CNPS 2022).

No CNDDDB occurrences of Idria buckwheat have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, nonnative annual grassland and ruderal areas within the EIR Study Area provide suitable habitat for this species. Idria buckwheat has potential to occur within the EIR Study Area.

Delta Button-celery

Delta button-celery (*Eryngium racemosum*) is not listed pursuant to the federal ESA but is listed as endangered pursuant to the California ESA and is designated as a CRPR 1B.1 species. This species is an herbaceous annual / perennial that occurs in vernal mesic clay depressions in riparian scrub

communities. Delta button-celery blooms from June through October and is known to occur at elevations ranging from 10 to 98 feet above MSL (CNPS 2022). Delta button-celery is endemic to California; the current range of this species includes Calaveras, Contra Costa, Merced, San Joaquin, and Stanislaus counties. It is believed to be extirpated from San Joaquin County (CNPS 2022).

Twelve CNDDDB occurrences of Delta button-celery have been reported within 15 miles of the EIR Study Area (CDFW 2022); the mixed riparian areas within the EIR Study Area provide marginally suitable habitat for this species. Delta button-celery has low potential to occur within the EIR Study Area.

Spiny-sepaled Button-celery

Spiny-sepaled button-celery (*Eryngium spinosepalum*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual/perennial that occurs in valley and foothill grassland and vernal pools (CNPS 2022). Spiny-sepaled button-celery blooms from April through June and is known to occur at elevations ranging from 262 to 3,199 feet above MSL (CNPS 2022). Spiny-sepaled button-celery is endemic to California; the current range of this species includes Contra Costa, Fresno, Kern, Madera, Merced, San Luis Obispo, Stanislaus, Tulare, and Tuolumne counties (CNPS 2022).

Two CNDDDB occurrences of spiny-sepaled button-celery have been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland, ruderal areas, and ditches within the EIR Study Area provides suitable habitat for this species. Spiny-sepaled button-celery has potential to occur within the EIR Study Area.

Hoover's Spurge

Hoover's spurge (*Euphorbia hooveri*) is listed as threatened pursuant to the federal ESA, is not listed pursuant to the California ESA, and is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in vernal pools (CNPS 2022). Hoover's spurge blooms from July through September and is known to occur at elevations ranging from 82 to 820 feet above MSL (CNPS 2022). Hoover's spurge is endemic to California; its current range includes Butte, Colusa, Glenn, Merced, Stanislaus, Tehama, and Tulare counties (CNPS 2022).

One CNDDDB occurrence of Hoover's spurge has been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland within the EIR Study Area provides marginally suitable habitat for this species. Hoover's spurge has low potential to occur within the EIR Study Area.

Hogwallow Starfish

Hogwallow starfish (*Hesperevax caulescens*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in mesic, clay areas within valley and foothill grassland and shallow vernal pools, sometimes in alkaline areas.

Hogwallow starfish blooms from March through June and is known to occur from sea level to 1,655 feet above MSL. Hogwallow starfish is endemic to California; the current range of this species includes Alameda, Amador, Butte, Colusa, Contra Costa, Fresno, Glenn, Kern, Mariposa, Merced, Monterey,

Sacramento, San Diego, San Joaquin, San Luis Obispo, Solano, Sonoma, Stanislaus, Sutter, Tehama, Tuolumne, Yolo, and Yuba counties. It is presumed extirpated in San Diego County (CNPS 2022).

No CNDDDB occurrences of hogwallow starfish have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, nonnative annual grassland found within the EIR Study Area provides marginally suitable habitat for this species. Hogwallow starfish has low potential to occur within the EIR Study Area.

Alkali-sink Goldfields

Alkali-sink goldfields (*Lasthenia chrysantha*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in alkaline vernal pools (CNPS 2022). Alkali-sink goldfields blooms from February through April and is known to occur at elevations ranging from sea level to 600 feet above MSL (CNPS 2022). Alkali-sink goldfields is endemic to California; its current range includes Fresno, Kern, Kings, Madera, Merced, Sacramento, Solano, Stanislaus, and Tulare counties (CNPS 2022).

Two CNDDDB occurrences of alkali-sink goldfields have been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland within the EIR Study Area provides marginally suitable habitat for this species. Alkali-sink goldfields has low potential to occur within the EIR Study Area.

Ferris' Goldfields

Ferris goldfields (*Lasthenia ferrisiae*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in alkaline and clay soils in vernal pools. Ferris goldfields blooms from February through May and is known to occur at elevations ranging from 66 to 2,297 feet above MSL. Ferris goldfields is endemic to California; its current range includes Alameda, Butte, Contra Costa, Colusa, Fresno, Kings, Kern, Merced, Monterey, Sacramento, San Benito, San Joaquin, San Luis Obispo, Solano, Stanislaus, Tulare, Ventura, and Yolo counties (CNPS 2022).

No CNDDDB occurrences of Ferris' goldfields have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, nonnative annual grassland within the EIR Study Area provides marginally suitable habitat for this species. Ferris' goldfields has low potential to occur within the EIR Study Area.

Coulter's Goldfields

Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in coastal salt marshes and swamps, playas, and vernal pools (CNPS 2022). Coulter's goldfields blooms from February through June and is known to occur at elevations ranging from three to 4,003 feet above MSL (CNPS 2022). The current range of this species in California includes Colusa, Kern, Los Angeles, Merced, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, San Luis Obispo, Solano, Santa Rosa Island, Tehama, Tulare, Ventura, and Yolo counties. It is presumed extirpated in Kern, Los Angeles, and San Bernardino counties and its distribution is uncertain in Tulare County (CNPS 2022).

One CNDDDB occurrence of Coulter's goldfields has been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland within the EIR Study Area provides suitable habitat for this species. Coulter's goldfields has potential to occur within the EIR Study Area.

Serpentine Leptosiphon

Serpentine leptosiphon (*Leptosiphon ambiguus*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that usually occurs in serpentine soil within cismontane woodland, coastal scrub, and valley and foothill grassland (CNPS 2022). Serpentine leptosiphon blooms from March through June and is known to occur at elevations ranging from 393 to 3,707 feet above MSL (CNPS 2022). Serpentine bird's-beak is endemic to California; its current range includes Alameda, Contra Costa, Merced, San Benito, Santa Clara, Santa Cruz, San Joaquin, San Mateo, and Stanislaus counties (CNPS 2022).

No CNDDDB occurrences of serpentine leptosiphon have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, nonnative annual grassland within the EIR Study Area provides marginally suitable habitat for this species. Serpentine leptosiphon has low potential to occur within the EIR Study Area.

Little Mousetail

Little mousetail (*Myosurus minimus* ssp. *apus*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 3.1 species. This species is an herbaceous annual that occurs in mesic areas of valley and foothill grassland and alkaline vernal pools (CNPS 2022). Little mousetail blooms from March through June and is known to occur at elevations ranging from 66 to 2,100 feet above MSL (CNPS 2022). The current range of little mousetail in California includes Alameda, Contra Costa, Colusa, Lake, Merced, Riverside, San Bernardino, San Diego, Solano, Tulare, and Yolo counties (CNPS 2022).

No CNDDDB occurrences of little mousetail have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, nonnative annual grassland within the EIR Study Area provides suitable habitat for this species. Little mousetail has potential to occur within the EIR Study Area.

Shining Navarretia

Shining navarretia (*Navarretia nigelliformis* ssp. *radians*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in cismontane woodland, valley and foothill grassland, and vernal pools, sometimes in clayey soils (CNPS 2022). Shining navarretia blooms from April through July and is known to occur at elevations ranging from 213 to 3,281 feet above MSL (CNPS 2022). Shining navarretia is endemic to California; its current range includes Alameda, Contra Costa, Colusa, Fresno, Madera, Merced, Monterey, San Benito, San Joaquin, San Luis Obispo, Stanislaus, and Tulare counties (CNPS 2022).

One CNDDDB occurrence of shining navarretia has been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland within the EIR Study Area provides suitable habitat for this species. Shining navarretia has potential to occur within the EIR Study Area.

Prostrate Vernal Pool Navarretia

Prostrate vernal pool navarretia (*Navarretia prostrata*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in mesic soils within coastal scrub, meadows and seeps, alkaline soils in valley and foothill grasslands, and vernal pools (CNPS 2022). Prostrate vernal pool navarretia blooms from April through July and is known to occur at elevations ranging from 10 to 3,970 feet above MSL (CNPS 2022). Prostrate vernal pool navarretia is endemic to California; the current range of this species includes Alameda, Fresno, Los Angeles, Merced, Monterey, Orange, Riverside, San Bernardino, San Benito, Santa Clara, San Diego, and San Luis Obispo counties (CNPS 2022).

Seven CNDDDB occurrences of prostrate vernal pool navarretia have been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland within the EIR Study Area provides suitable habitat for this species. Prostrate vernal pool navarretia has potential to occur within the EIR Study Area.

Colusa Grass

Colusa grass (*Neostapfia colusana*) is listed as threatened pursuant to the federal ESA, as endangered pursuant to the California ESA, and is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in large vernal pools with adobe soils (CNPS 2022). Colusa grass blooms from May through August and is known to occur at elevations ranging from 16 to 656 feet above MSL (CNPS 2022). Colusa grass is endemic to California; the current range of this species includes Colusa, Glenn, Merced, Solano, Stanislaus, and Yolo counties. It is likely extirpated from Colusa County (CNPS 2022).

One CNDDDB occurrence of Colusa grass has been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland within the EIR Study Area provides marginally suitable habitat for this species. Colusa grass has low potential to occur within the EIR Study Area.

California Akali Grass

California alkali grass (*Puccinellia simplex*) is not listed pursuant to either the federal or California ESAs, and is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in alkaline, vernal mesic chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools along sinks, flats, and lake margins (CNPS 2022). California alkali grass blooms between March and May and is known to occur at elevations ranging from seven to 3,051 feet above MSL (CNPS 2022). The current range for this species in California includes Alameda, Butte, Contra Costa, Colusa, Fresno, Glenn, Kings, Kern, Lake, Los Angeles, Madera, Merced, Napa, San Bernardino, Santa Clara, Santa Cruz, San Luis Obispo, Solano, Stanislaus, Tulare, and Yolo counties. It is presumed extirpated in Kings County (CNPS 2022).

Four CNDDDB occurrences of California alkali grass have been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland within the EIR Study Area provides suitable habitat for this species. California alkali grass has potential to occur within the EIR Study Area.

Sanford's Arrowhead

Sanford's arrowhead (*Sagittaria sanfordii*) is not listed pursuant to the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is a perennial rhizomatous herb that occurs in shallow, freshwater marshes and swamps (CNPS 2022). Sanford's arrowhead blooms from May through October and is known to occur at elevations ranging from sea level to 2,135 feet above MSL (CNPS 2022).

Sanford's arrowhead is endemic to California; the current range of this species includes Butte, Del Norte, El Dorado, Fresno, Madera, Marin, Mariposa, Merced, Napa, Sacramento, San Bernardino, San Joaquin, Shasta, Solano, Sutter, Tehama, Tulare, Ventura, and Yuba counties. It is presumed extirpated in Ventura County (CNPS 2022).

Four CNDDDB occurrences of Sanford's arrowhead have been reported within 15 miles of the EIR Study Area (CDFW 2022); drainages or irrigation ditches within the EIR Study Area provide marginally suitable habitat for this species. Sanford's arrowhead has low potential to occur within the EIR Study Area.

Slender-leaved Pondweed

Slender-leaved pondweed (*Stuckenia filiformis* ssp. *alpina*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 2B.2 species. This species is an herbaceous perennial aquatic rhizome that occurs in assorted shallow freshwater marshes and swamps (CNPS 2022). Slender-leaved pondweed blooms from May through July and is known to occur at elevations ranging from 984 to 7,054 feet above MSL (CNPS 2022). The current range of this species in California includes Alameda, Butte, Contra Costa, El Dorado, Lassen, Merced, Mono, Modoc, Mariposa, Nevada, Placer, Santa Clara, Shasta, Sierra, San Mateo, Solano, and Sonoma counties. It is presumed extirpated in Santa Clara County (CNPS 2022).

One CNDDDB occurrence of slender-leaved pondweed has been reported within 15 miles of the EIR Study Area (CDFW 2022); drainages or irrigation ditches within the EIR Study Area provide marginally suitable habitat for this species. Slender-leaved pondweed has low potential to occur within the EIR Study Area.

Wright's Trichocoronis

Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 2B.1 species. This species is an herbaceous annual that occurs on alkaline soils in meadows and seeps, marshes and swamps, riparian forest, and vernal pools (CNPS 2022). Wright's trichocoronis blooms from May through September and is known to occur at elevations ranging from 16 to 1,427 feet above MSL (CNPS 2022). The current range for this species in California includes Colusa, Merced, Riverside, San Joaquin, and Sutter counties. It is believed to be extirpated from Colusa, San Joaquin, and Sutter counties (CNPS 2022).

Four CNDDDB occurrences of Wright's trichocoronis have been reported within 15 miles of the EIR Study Area (CDFW 2022); the mixed riparian woodland and the nonnative annual grassland within the EIR Study Area provide marginally suitable habitat for this species. Wright's trichocoronis has low potential to occur within the EIR Study Area.

Invertebrates

Conservancy Fairy Shrimp

The conservancy fairy shrimp (*Branchinecta conservatio*) is listed as endangered pursuant to the federal ESA. This fairy shrimp is endemic to California and is found in grasslands in the northern two thirds of the Central Valley (Eriksen and Belk 1999). The historic distribution of conservancy fairy shrimp is not known, but it likely occurred throughout a large portion of the Central Valley and Southern Coastal regions of California (U.S. Fish and Wildlife Service [USFWS] 2005a). Until recently, this species has only been known from a few disjunct populations in California, including four clustered populations in the Vina Plains area in Tehama and Butte counties, Jepson Prairie Preserve in Solano County, the Sacramento National Wildlife Refuge in Glenn County, the Tule Ranch Unit of CDFW's Yolo Basin Wildlife Area in Yolo County, the Grasslands Ecological Area in Merced County, one location in Stanislaus County, three locations in the Southern Sierra Foothills Vernal Pool Region, and two locations near the Santa Barbara Vernal Pool Region (USFWS 2003a, 2006). The USFWS reported in April 2007 that a single conservancy fairy shrimp was documented in one vernal pool within the Mariner Conservation Bank in Placer County near the city of Lincoln, California.

The life cycle of conservancy fairy shrimp is reliant on the ephemeral conditions of its vernal habitat. It inhabits a variety of different landforms and soil types, and is often found in large, turbid pools with low conductivity, total dissolved solids, and alkalinity (USFWS 2005a).

Eight CNDDDB occurrences of conservancy shrimp have been reported within 15 miles of the EIR Study Area (CDFW 2022); vernal pools and seasonal wetlands found within the EIR Study Area provide suitable habitat for this species. Conservancy shrimp has potential to occur within the EIR Study Area.

Longhorn Fairy Shrimp

Longhorn fairy shrimp (*Branchinecta longiantenna*) was federally listed as endangered under the ESA on September 19, 1994 (USFWS 1994). The range of longhorn fairy shrimp is restricted to the eastern edge of the Central Coast Ranges. Known occurrences of longhorn fairy shrimp include Kesterson National Wildlife Refuge and Carrizo Plain National Monument (USFWS 2002), Vasco Caves Regional Preserve, Brushy Peak Regional Preserve (Jones & Stokes 2007; USFWS 2002), and on private lands in the Altamont Pass area (CDFW 2022). This species can be found in clear-water depressional pools in sandstone outcrops, grassland vernal pools, and in large playa pools in valley saltbush scrub. Longhorn fairy shrimp cysts (embryonic eggs) hatch soon after pools fill when water temperature is approximately 10°C. Maturation is achieved in 23 days under optimal conditions, but 43 days is more typical (Eriksen and Belk 1999). The species has been observed from late December to mid-May in pools that are filled by winter and spring rains.

Two CNDDDB occurrences of longhorn fairy shrimp have been reported within 15 miles of the EIR Study Area (CDFW 2022); vernal pools and seasonal wetlands found within the EIR Study Area provide suitable habitat for this species. Longhorn fairy shrimp has potential to occur within the EIR Study Area.

Vernal Pool Fairy Shrimp

The vernal pool fairy shrimp (*Branchinecta lynchi*) is listed as threatened pursuant to the federal ESA. Historically, the range of vernal pool fairy shrimp extended throughout the California Central Valley. Vernal pool fairy shrimp populations have been found in several locations throughout California, with habitat extending from Stillwater Plain in Shasta County through the Central Valley to Pixley in Tulare County, and along the Central Coast range from northern Solano County to Pinnacles National Monument in San Benito County (Eng et al. 1990; Fugate 1992; Sugnet and Associates 1993). Additional populations occur in San Luis Obispo, Santa Barbara, and Riverside counties. The historic and current ranges of vernal pool fairy shrimp are very similar in extent; however, the remaining populations are more fragmented and isolated than during historical times (USFWS 2005a).

The life cycle of vernal pool fairy shrimp is adapted to seasonally inundated features such as vernal pools, seasonal wetlands, and seasonal wetland swales. Fairy shrimp embryos survive the dry season in cyst form. Cysts hatch soon after pools become inundated during the wet season. Fairy shrimp complete their life cycle quickly and feed on small particles of detritus, algae, and bacteria (Eriksen and Belk 1999).

Critical Habitat for federally listed vernal pool species was designated in August 2003 by USFWS (2003a) and revised in 2005 (USFWS 2005b) and 2006 (USFWS 2006). The *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (Recovery Plan)* includes vernal pool fairy shrimp conservation strategies (USFWS 2005a). No Critical Habitat occurs in the EIR Study Area.

Nine CNDDDB occurrences of vernal pool fairy shrimp have been reported within 15 miles of the EIR Study Area (CDFW 2022); vernal pools and seasonal wetlands found within the EIR Study Area provide suitable habitat for this species. Vernal pool fairy shrimp has potential to occur within the EIR Study Area.

Monarch

The monarch (*Danaus plexippus*) is a candidate for listing under the federal ESA. This butterfly occurs throughout a variety of habitats and requires blooming nectar resources for adults to feed on during breeding and migration, and milkweed (*Asclepias* spp.) for oviposition and larval feeding. During the breeding season, monarchs lay their eggs on their obligate milkweed host plant (primarily *Asclepias* spp.). Larvae emerge after two to five days and then develop through five larval instars over a period of 9 to 18 days, feeding on milkweed and sequestering toxic cardenolides as a defense against predators. The larvae then pupate into chrysalises before emerging six to 14 days later as adult butterflies. Multiple generations of monarchs are produced during the breeding season, with most adult butterflies living approximately two to five weeks. Overwintering adults enter into reproductive diapause and live six to nine months (USFWS 2020).

Monarchs breed year-round in many regions. Individual monarchs in temperate climates, such as eastern and western North America, undergo long-distance migration. Monarchs may use a variety of roosting trees along fall migration routes. Migratory individuals of eastern and western North America require a specific microclimate at overwintering sites that provides protection from the elements and moderate

temperatures. Migratory monarchs in the western population primarily overwinter in groves of a variety of tree species along the coast of California and Baja California (USFWS 2020).

No CNDDDB occurrences of monarch have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, the mixed riparian woodland and nonnative annual grassland found within the EIR Study Area provide suitable habitat for this species. Monarch has potential to occur within the EIR Study Area.

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*, VELB) is listed as threatened pursuant to the federal ESA (USFWS 1980). The VELB is completely dependent on its larval host plant, elderberry (*Sambucus* sp.), which occurs in riparian and other woodland and scrub communities (USFWS 1999a, 2017a). Elderberry plants are considered to be habitat for the species if located within the range of the beetle and having one or more stems measuring 1.0 inch or greater in diameter at ground level (USFWS 1999a). The adult flight season extends from late March through July (USFWS 2017). During that time, the adults feed on foliage and perhaps flowers, mate, and females lay eggs on living elderberry plants (Barr 1991). The first instar larvae bore into live elderberry stems, where they develop for one to two years feeding on the pith. The fifth instar larvae create exit holes in the stems and then plug the holes and remain in the stems through pupation (Talley et al. 2007).

VELB occurs in metapopulations throughout the Central Valley (Collinge et. al 2001 as cited in USFWS 2017). These metapopulations (subpopulations) occur throughout contiguous riparian habitat and shift temporarily and spatially based on changing environmental conditions. This temporal and spatial shifting of the metapopulations results in a patchy and ever-changing distribution of the species. Research indicates that dense elderberry shrub clumps in healthy riparian habitat is the primary habitat for the VELB (USFWS 2017). The beetle's current distribution extends from Shasta County in the north to Fresno County in the south and includes everything from the valley floor up into the lower foothills (USFWS 2017). The vast majority of VELB occurrences have been recorded below 500 feet (152 meters); however, rare occurrences have been recorded up to approximately 3,000 feet (USFWS 1999a; USFWS 2017).

One CNDDDB occurrence of VELB has been reported within 15 miles of the EIR Study Area (CDFW 2022); the mixed riparian woodland found within the EIR Study Area provides suitable habitat for this species. VELB has potential to occur within the EIR Study Area.

Vernal Pool Tadpole Shrimp

Vernal pool tadpole shrimp (*Lepidurus packardii*) is listed as endangered pursuant to the federal ESA. The historic range of the vernal pool tadpole shrimp likely extended throughout the Central Valley of California, and has been documented from east of Redding in Shasta County south to Fresno County, and from the San Francisco Bay Wildlife Refuge in Alameda County. The historic and current ranges of vernal pool tadpole shrimp are very similar in extent; however, the remaining populations are more fragmented and isolated than during historical times (USFWS 2005a).

This species is associated with low-alkalinity seasonal pools in grasslands throughout the northern and eastern portions of the Central Valley. Suitable vernal pools and seasonal swales are generally underlain

by hardpan or sandstone. Tadpole shrimp embryos survive the dry season in cyst form. Cysts hatch soon after pools become inundated during the wet season. Sexually mature adults may persist three to four weeks after habitat inundation (Sugnet and Associates 1993).

Critical Habitat for federally listed vernal pool species was designated in August 2003 by USFWS (2003a) and revised in 2005 (USFWS 2005b) and 2006 (USFWS 2006). The *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (Recovery Plan)* includes vernal pool tadpole shrimp conservation strategies (USFWS 2005a). No Critical Habitat occurs in the EIR Study Area.

Twelve CNDDDB occurrences of vernal pool tadpole shrimp have been reported within 15 miles of the EIR Study Area (CDFW 2022); vernal pools and seasonal wetlands found within the EIR Study Area provide suitable habitat for this species. Vernal pool tadpole has potential to occur within the EIR Study Area.

Amphibians

California Tiger Salamander – Central Valley DPS (Ambystoma californiense)

The Central Valley Distinct Population Segment (DPS) of California tiger salamander (*Ambystoma californiense*, CTS) was listed as threatened by the USFWS on August 4, 2004 (Federal Register Vol. 69, No. 149: 47212). The Santa Barbara County DPS and Sonoma County DPS, both of which are disjunct from the larger range of the salamander, are federally listed as endangered. As of August 19, 2010, the CTS was listed as a threatened species under the California ESA throughout its range.

California tiger salamanders are endemic to California's Central Valley from Yolo County south to Kern County, and from Santa Barbara County north through the inner coast range to Sonoma County (USFWS 2003b, 2015). Populations at the north and south edges of the historical distribution are extirpated, many populations within the interior of the range have been lost, and abundance has been reduced in many areas. Large areas of habitat conversion to agriculture and urban infrastructure have caused extirpations throughout Central California. Conversion of ephemeral breeding waters to perennial ponds and streams allows the introduction of predators and competitors including fish, crayfish (*Procambarus clarkii*), American bullfrogs (*Lithobates catesbeianus*), and (in some locations) introduced tiger salamanders (*Ambystoma tigrinum*) (Ryan et al. 2009).

This species is most commonly associated with annual grassland habitats and vernal pool landscapes but may also occur within open woodlands in low hills and valleys. Necessary habitat components for California tiger salamanders include intact open terrestrial landscapes used by adults for most of their life history, and ponded aquatic features where reproduction occurs. Tiger salamanders spend most of their adult life within terrestrial subterranean refuges such as California ground squirrel (*Otospermophilus beecheyi*) or Botta's pocket gopher (*Thomomys bottae*) burrows (Stebbins 2003, Loredó et al. 1996). Foraging takes place within these subterranean refugia and out in the open at night or during rains. Suitable breeding sites include vernal pools, seasonal wetlands, stock ponds, or, rarely, slow-moving streams. They may use permanent manufactured ponds if predatory species (e.g., fish, crayfish) are absent.

Nine CNDDDB occurrences of CTS have been reported within 15 miles of the EIR Study Area (CDFW 2022); vernal pools and seasonal wetlands found within the EIR Study Area may provide suitable breeding habitat for this species, and the nonnative annual grassland found within the EIR Study Area provides suitable terrestrial habitat for this species. CTS has potential to occur within the EIR Study Area.

Western Spadefoot

The western spadefoot (*Spea hammondi*) is not listed pursuant to either the California or federal ESAs; however, it is designated as a CDFW species of special concern (SSC). Necessary habitat components of the western spadefoot include loose friable soils in which to burrow in upland habitats and breeding ponds. Breeding sites include temporary rain pools such as vernal pools and seasonal wetlands, or pools within portions of intermittent drainages (Thomson et al. 2016). Spadefoots spend most of their adult life within underground burrows or other suitable refugia such as rodent burrows. In California, western spadefoots are known to occur from the Redding area in Shasta County south to northwestern Baja California at elevations below 4,475 feet (Thomson et al. 2016).

Ten CNDDDB occurrences of western spadefoot have been reported within 15 miles of the EIR Study Area (CDFW 2022); vernal pools and seasonal wetlands found within the EIR Study Area provide suitable breeding habitat for this species, and the nonnative annual grassland found within the EIR Study Area provides suitable terrestrial habitat. Western spadefoot has potential to occur within the EIR Study Area.

Reptiles

Northern Legless Lizard

The northern legless lizard (*Anniella pulchra*) is one of five species of legless lizard in California (Papenfuss and Parham 2013). Although CDFW only recognizes two subspecies (*A. p. pulchra* and *A. p. nigra*), all California legless lizards are considered SSCs. They are not listed under state or federal endangered species acts.

Although lacking legs, the legless lizards (*Anniella*) are decidedly lizards as shown by their eyelids, which are lacking in all snakes. Like snakes, however, these species lack external ear openings. The northern legless lizard has the largest range of all California *Anniella*, ranging from sites in and around Antioch, in the east Bay, south to northern San Luis Obispo County. Two disjunct segments of this species range occur: one in the eastern foothills of Tulare and Fresno counties, and another at the western edge of the Antelope Valley in Kern and Los Angeles counties. A large area of undetermined species status connects those populations to areas occupied by Southern Sierra legless lizard (*A. campi*), Bakersfield legless lizard (*A. grinnelli*), Temblor legless lizard (*A. alexandrae*), and southern California legless lizard (*A. stebbinsi*). Although not recognized by taxonomists, a melanistic form of *A. pulchra* that exists in Monterey Bay is considered to be the subspecies *A. p. nigra* by CDFW.

One CNDDDB occurrence of northern legless lizard has been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland and the ruderal areas found within the EIR Study Area

provide marginally suitable habitat for this species. Northern legless lizard has low potential to occur within the EIR Study Area.

Northwestern Pond Turtle

The northwestern pond turtle (*Actinemys marmorata*) is not listed pursuant to either the California or federal ESAs; however, it is designated an SSC by CDFW. The range of the northwestern pond turtle in California extends from the Oregon border south to the Stockton area in the Central Valley, and the western slope of the Sierra-Cascade (Bury et al. 2012a). The elevational range extends from sea level to 2,000 meters, but it becomes rare at the higher elevations (Stebbins 2003).

Northwestern pond turtles can occur in a variety of waters including ponds, lakes, streams, reservoirs, rivers, settling ponds of wastewater treatment plants, and other permanent and ephemeral wetlands (Bury et al. 2012b). However, in streams and other lotic features they generally require slack- or slow-water aquatic microhabitats (Thomson et al. 2016). Northwestern pond turtles also require basking areas such as logs, rocks, banks, and brush piles for thermoregulation (Bury et al. 2012b).

Northwestern pond turtles are typically active between March or April through October or November, the timing of which depends on variables such as latitude, elevation, and local climate (Bury et al. 2012b). Courtship and mating typically occur during late April and early May, but could occur throughout summer and into fall (Bury et al. 2012b). Suitable nest sites are usually five to 500 meters upland from water in areas with short grasses and forbs (Bury et al. 2012b). Nesting sites are typically south- or west-facing in direct sunlight with soils that have a high silt or clay component (Rathbun et al. 1992, 2002). Hatchling northwestern pond turtles usually overwinter in nests (Reese and Welsh 1997) while adults overwinter on land or in the water depending on specific location and habitat (Bury et al. 2012b).

Nineteen CNDDDB occurrences of northwestern pond turtle have been reported within 15 miles of the EIR Study Area (CDFW 2022); the mixed riparian woodland, irrigation ditches, and fresh emergent wetlands within the EIR Study Area provide suitable habitat for this species. Northwestern pond turtle has potential to occur within the EIR Study Area.

San Joaquin Coachwhip

The San Joaquin coachwhip (*Coluber flagellum ruddocki*) is a California SSC but is not listed pursuant to the federal or California ESAs. The San Joaquin coachwhip is found in dry, open areas (e.g., grassland and saltbush scrub [Thomson et al 2016]) in the western San Joaquin Valley from Colusa County, south along the west side of the San Joaquin Valley to the Grapevine in Kern County and west to the inner South Coast Ranges. An isolated population has been identified in the Sutter Buttes (Hayes and Cliff 1982). San Joaquin coachwhip populations have declined throughout much of their historical range due to habitat loss associated with agricultural and urban development.

The San Joaquin coachwhip, like other *C. flagellum* subspecies, maintains a higher active body temperature than many other snakes (Brattstrom 1965). It will not emerge from its burrow until temperatures reach 28°C; therefore, it does not emerge from the burrow until late in the season (April or May) and late in the day (Hammerson 1977). This snake uses mammal burrows for refuge and for nesting

sites. The San Joaquin coachwhip feeds on lizards, small birds, and small mammals and may eat carrion (Thomson et al. 2016). This species needs large, open areas with little tree cover (Morafka and Banta 1976), and mating occurs in May, with oviposition occurring in June or July (Thomson et al. 2016.).

Eleven CNDDDB occurrences of San Joaquin coachwhip have been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland found within the EIR Study Area provides marginally suitable habitat for this species. San Joaquin coachwhip has low potential to occur within the EIR Study Area.

Giant Garter Snake

The giant garter snake (GGS) is listed as a threatened species pursuant to both the California and federal ESAs. Giant garter snakes typically inhabit perennial ponds, marshes, slow-moving streams, and agricultural ditches containing adequate water during the spring and summer months. Giant garter snakes are most active from early spring through mid-fall (USFWS 1999b). The GGS is endemic to the floors of the Sacramento and San Joaquin Valleys of California and probably occurred historically from Butte County south to Buena Vista Lake in Kern County (USFWS 1999b).

Seasonally, the GGS becomes active in early spring, emerging from overwintering sites to bask on emergent willows, tules, saltbush, and riprap (Hansen and Tremper in Rossman et al. 1996). Live young are born in late July through early September (Hansen and Hansen 1990) and by October, most snakes begin searching for overwintering sites. Most are in hibernacula by November (Hansen and Hansen 1990).

The GGS is one of the most aquatic garter snakes (USFWS 1999b). It is rarely found far from water and occupies habitat such as marshes and sloughs, irrigation and drainage canals, small lakes and ponds, rice agricultural fields, and low gradient streams (USFWS 1999b). Waters inhabited by this species typically feature substrates of soil, mud, or other fines. Giant garter snakes use grassy bank-side habitats for basking and use higher elevation uplands for cover and retreat from floodwaters during the inactive winter season (USFWS 1999b). Essential habitat components required are permanent water to support a sufficient prey base, emergent vegetation for escape cover and foraging habitat, near-bank upland habitat for basking, and higher-elevation habitats for winter refugia (USFWS 1999b).

Networks of canals near rice agriculture (aquatic agriculture) are positively associated with GGS presence; however, population density and body condition are lower in rice agriculture than in natural landscapes (Halstead et al. 2010).

Thirty-three CNDDDB occurrences of GGS have been reported within 15 miles of the EIR Study Area (CDFW 2022); the irrigation ditches within the EIR Study Area provide marginally suitable habitat for this species. Giant garter snake has low potential to occur within these portions EIR Study Area. Wetland communities associated with the managed wildlife areas in the eastern and northeastern portion of the EIR Study Area provide high quality habitat for this species.

Birds

Aleutian Cackling Goose

The Aleutian cackling goose (*Branta hutchinsii leucopareia*) was formerly listed and protected under the Federal ESA. It was considered recovered and delisted in 2001. The Aleutian cackling goose breeds on the outer Aleutian Islands, and winters in California within coastal Humboldt and Del Norte counties, and the Sacramento and San Joaquin Valleys. They can be found foraging on grasses, grains and other vegetation in pastures and wetlands during winter (October through March).

Two CNDDDB occurrence of Aleutian cackling goose have been reported within 15 miles of the EIR Study Area (CDFW 2022); the agricultural fields, nonnative annual grassland, and fresh emergent wetland communities within the EIR Study Area provide suitable wintering habitat for this species. Aleutian cackling goose has potential to occur within the EIR Study Area.

Lesser Sandhill Crane

Lesser sandhill crane (*Antigone canadensis canadensis*) is not listed pursuant to the California or federal ESAs, but is considered a CDFW SSC. This subspecies nests from Alaska south to Oregon and winters in California, in the Central Valley. Wintering habitat includes wetlands and agricultural fields (Gerber et al. 2020).

No CNDDDB occurrences of lesser sandhill crane have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, the agricultural fields, nonnative annual grassland, and fresh emergent wetland communities within the EIR Study Area provide suitable wintering habitat for this species. Lesser sandhill crane has potential to occur within the EIR Study Area.

American Avocet

American avocet (*Recurvirostra americana*) is not listed pursuant to the California or federal ESAs but is considered a USFWS Bird of conservation concern (BCC). In California, American avocets breed from coastal Sonoma County south to the Mexican border; in the Central Valley and other lowland valleys west of the Cascades and Sierra Nevada; in the Antelope Valley, Los Angeles County; and east of the Sierra-Cascades in Siskiyou, Modoc, Lassen, Mono and Inyo counties (Ackerman et al. 2020). American avocets nest on the ground in scrapes around wetlands, on dikes/levees, or on islands (Ackerman et al. 2020). Breeding occurs from April through August.

No CNDDDB occurrences of American avocet have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, the agricultural fields, ditches, nonnative annual grassland, and fresh emergent wetland communities found within the EIR Study Area provide suitable habitat for this species. American avocet has potential to occur within the EIR Study Area.

Mountain Plover

The mountain plover (*Charadrius montanus*) is not listed pursuant to either the California or federal ESAs; however, it is designated as a BCC by the USFWS and as an SSC by the CDFW. This species' breeding range includes Montana, eastern Colorado, Wyoming, New Mexico, Texas, and Oklahoma; the wintering range extends from north-central California to Mexico (Knopf and Wunder 2020). Within their wintering (September through March) range, which consists primarily of the Sacramento, San Joaquin, and Imperial Valleys, mountain plovers can be found in plowed fields, heavily grazed annual grassland, and burned fields (Knopf and Rupert 1995; Knopf and Wunder 2020).

Two CNDDDB occurrences of mountain plover have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, the agricultural fields and nonnative annual grassland found within the EIR Study Area provide suitable wintering habitat for this species. Mountain plover has potential to occur within the EIR Study Area.

Long-billed Curlew

The long-billed curlew (*Numenius americanus*) is not listed pursuant to either the California or federal ESAs but is designated as a BCC by the USFWS and is a CDFW *watch list* species. The breeding range of this species includes the Great Plains, Great Basin and intermontane valleys of the western U.S. and southwestern Canada (Dugger and Dugger 2020). Their wintering range in the U.S. includes California, Louisiana, and Texas. Winter foraging habitat includes rice fields (flooded and unflooded), managed wetlands, evaporation ponds, sewage ponds, and grasslands (Dugger and Dugger 2020).

No CNDDDB occurrences of long-billed curlew have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, the agricultural fields, nonnative annual grassland, and fresh emergent wetland communities found within the EIR Study Area provide suitable wintering habitat for this species. Long-billed curlew has potential to occur within the EIR Study Area.

White-tailed Kite

White-tailed kite (*Elanus leucurus*) is not listed pursuant to either the federal or California ESAS; however, the species is fully protected pursuant to Section 3511 of the California Fish and Game Code. This species is a common resident in the Central Valley and the entire length of the California coast, and all areas up to the Sierra Nevada foothills and southeastern deserts (Dunk 2020). In northern California, white-tailed kite nesting occurs from March through early August, with nesting activity peaking from March through June. Nesting occurs in trees within riparian, oak woodland, savannah, and agricultural communities that are near foraging areas such as low elevation grasslands, agricultural, meadows, farmlands, savannahs, and emergent wetlands (Dunk 2020).

No CNDDDB occurrences of white-tailed kite have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, the mixed riparian woodland, agricultural fields, and nonnative annual grassland found within the EIR Study Area provide suitable habitat for this species. White-tailed kite has potential to occur within the EIR Study Area.

Golden Eagle

The golden eagle (*Aquila chrysaetos*) is not listed pursuant to either the California or federal ESAs. However, it is fully protected under Section 3511 of the California Fish and Game Code and the federal Bald and Golden Eagle Protection Act. Golden eagles generally nest on cliff ledges and/or large lone trees in rolling to mountainous terrain. Golden eagles nest throughout California except the flat portions of the Central Valley, the immediate coast, and portions of southeastern California (Katzner et al. 2020). Occurrences within the Central Valley are usually dispersing post-breeding birds, non-breeding sub-adults, or migrants. Foraging habitat includes open grassland and savannah. Nesting occurs during February through August.

Two CNDDDB occurrences of golden eagle have been reported within 15 miles of the EIR Study Area (CDFW 2022); the agricultural fields and nonnative annual grassland found within the EIR Study Area provide marginally suitable foraging habitat for this species. Golden eagle has low potential to occur within the EIR Study Area.

Northern Harrier

The northern harrier (*Circus hudsonius*) is not listed pursuant to either the California or federal ESAs; however, it is a USFWS BCC and a CDFW SSC. This species is known to nest within the Central Valley, along the Pacific Coast, and in northeastern California. The northern harrier is a ground-nesting species, and typically nests in emergent wetland/marsh, open grasslands, or savannah communities, usually in areas with dense vegetation (Smith et al. 2020). Foraging occurs within a variety of open environments such as marshes, agricultural fields, and grasslands. Nesting occurs during April through September.

Six CNDDDB occurrences of northern harrier have been reported within 15 miles of the EIR Study Area (CDFW 2022); the agricultural fields, nonnative annual grassland, and fresh emergent wetland communities found within the EIR Study Area provide suitable nesting and foraging habitat for this species. Northern harrier has potential to occur within the EIR Study Area.

Cooper's Hawk

The Cooper's hawk (*Accipiter cooperii*) is not listed pursuant to either the California or federal ESAs. However, it is a CDFW *watch list* species and is currently tracked in the CNDDDB. Typical nesting and foraging habitats include riparian woodland, dense oak woodland, and other woodlands near water. Cooper's hawk nests throughout California from Siskiyou County to San Diego County, including the Central Valley (Rosenfield et al. 2020). Breeding occurs during March through July, with a peak from May through July.

No CNDDDB occurrences of Cooper's hawk have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, the mixed riparian woodland found within the EIR Study Area provides marginally suitable habitat for this species. Cooper's hawk has low potential to occur within the EIR Study Area.

Bald Eagle

The bald eagle (*Haliaeetus leucocephalus*) has been delisted under the federal ESA but remains listed as Endangered under the California ESA. It is fully protected pursuant to the California Fish and Game Code Section 3511 and the federal Bald and Golden Eagle Protection Act. It is a Bureau of Land Management sensitive species, and a U.S. Forest Service sensitive species. Bald eagles breed at lower elevations in the northern Sierra Nevada and North Coast ranges. Bald eagles breed in forested areas adjacent to large waterbodies (Buehler 2020). Tree species used for nesting is quite variable and includes conifers (dominant where available), oaks, hickories, cottonwoods and aspens (Buehler 2020). Nest trees are generally the largest tree available in a suitable area (Buehler 2020). Breeding activity occurs during late-February through September, with peaks in activity from March to June.

No CNDDDB occurrences of bald eagle have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, the mixed agricultural fields and nonnative annual grassland found within the EIR Study Area provide marginally suitable foraging habitat for this species. Bald eagle has low potential to occur within the EIR Study Area.

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is listed as a threatened species pursuant to the California ESA. This species nests in North America (Canada, western U.S., and Mexico) and typically winters from South America north to Mexico. However, a small population has been observed wintering in the Sacramento-San Joaquin River Delta (Bechard et al. 2020). In California, the nesting season for Swainson's hawk ranges from mid-March to late August.

Swainson's hawks nest within tall trees in a variety of wooded communities including riparian, oak woodland, roadside landscape corridors, urban areas, and agricultural areas, among others. Foraging habitat includes open grassland, savannah, low-cover row crop fields, and livestock pastures. In the Central Valley, Swainson's hawks typically feed on a combination of California vole (*Microtus californicus*), California ground squirrel (*Spermophilus beecheyi*), ring-necked pheasant (*Phasianus colchicus*), many passerine birds, and grasshoppers (*Melanoplus* species). Swainson's hawks are opportunistic foragers and will readily forage in association with agricultural mowing, harvesting, discing, and irrigating (Estep 1989). The removal of vegetative cover by such farming activities results in more readily available prey items for this species.

Ninety-three CNDDDB occurrences of the Swainson's hawk have been reported within 15 miles of the EIR Study Area (CDFW 2022); the mixed riparian woodland and nonnative annual grassland found within the EIR Study Area provide suitable nesting and foraging habitat for this species. Swainson's hawk has potential to occur within the EIR Study Area.

Ferruginous Hawk

Ferruginous hawks (*Buteo regalis*) are not listed pursuant to either the California or federal ESAs. However, they are a CDFW *watch list* species and USFWS BCC. This species typically occurs in open environments and nests from Oregon to Canada, though nesting has been documented in Lassen County, California (Small 1994). For the remainder of the state, including the Central Valley, ferruginous hawk occurrences are restricted to the non-breeding season (approximately September through March) (Small 1994). Wintering habitat includes a variety of open communities including annual grasslands, agricultural areas, deserts, and savannahs, where there is an abundance of ground squirrels, prairie dogs, lagomorphs, or pocket gophers (Ng et al. 2020).

Twenty-eight CNDDDB occurrences of the ferruginous hawk have been reported within 15 miles of the EIR Study Area (CDFW 2022); the agricultural fields and nonnative annual grassland found within the EIR Study Area provide suitable wintering habitat for this species. Ferruginous hawk has potential to forage within the EIR Study Area.

Burrowing Owl

Burrowing owl (*Athene cunicularia*) is not listed pursuant to either the California or federal ESAs; however, it is designated as a BCC by the USFWS and as an SSC by the CDFW. Burrowing owls inhabit dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. They can also inhabit developed areas such as golf courses, cemeteries, city roadsides, airports, vacant lots in residential areas, school campuses, agricultural areas, and fairgrounds (Poulin et al. 2020). This species typically uses burrows created by fossorial mammals, most notably the California ground squirrel (*Spermophilus beecheyi*), but may also use man-made structures such as concrete culverts or pipes; concrete, asphalt, or wood debris piles; or openings beneath concrete or asphalt pavement (California Department of Fish and Game [CDFG] 2012). The breeding season typically occurs between February 1 and August 31 (California Burrowing Owl Consortium 1993; CDFG 2012).

Eighteen CNDDDB occurrences of burrowing owl have been reported within 15 miles of the EIR Study Area (CDFW 2022); the agricultural fields, nonnative annual grassland, and irrigation ditches found within the EIR Study Area provide suitable habitat for this species. Burrowing owl has potential to occur within the EIR Study Area.

Nuttall's Woodpecker

Nuttall's woodpecker (*Dryobates nuttallii*) is not listed under either the California or federal ESAs but is considered a USFWS BCC. They are resident from Siskiyou County south to Baja California. Nuttall's woodpeckers nest in tree cavities primarily within oak woodlands, but also can be found in riparian woodlands (Lowther et al. 2020). Breeding occurs during April through July.

No CNDDDB occurrences of Nuttall's woodpecker have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, the riparian oak woodland found within the EIR Study Area provides suitable habitat for this species. Nuttall's woodpecker has potential to nest and forage within the EIR Study Area

Merlin

The merlin (*Falco columbarius*) is not listed pursuant to either the California or federal ESAs but is a CDFW *watch list* species and is currently tracked in the CNDDDB. This falcon breeds in Canada and Alaska and occurs in California as a migrant and during the non-breeding season (September through April). Foraging habitat in winter includes open forests, grasslands, and tidal flats (Warkentin et al. 2020).

No CNDDDB occurrences of merlin have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, the agricultural fields and nonnative annual grassland found within the EIR Study Area provide suitable wintering habitat for this species. Merlin has low potential to occur within the EIR Study Area.

Prairie Falcon

Prairie falcons (*Falco mexicanus*) are not listed pursuant to either the California or federal ESAs; however, they are a CDFW *watch list* species. The breeding distribution of prairie falcons includes the entire state except the extreme northwestern part of the state and coastal areas (Steenhof 2020). Breeding habitat includes open habitat at all elevation up to 3,350 meter in arid plains and steppes, wherever cliffs or bluffs are present (Steenhof 2020). They nest primarily on shelves, ledges, or potholes in cliffs, but may also use trees, power line structures, buildings, mine highwalls, caves, or stone quarries (Steenhof 2020). Nesting occurs during March through July. Prairie falcons have not been documented to nest in the Central Valley but may occur as migrants and wintering birds.

Four CNDDDB occurrences of the prairie falcon has been reported within 15 miles of the EIR Study Area (CDFW 2022); the agricultural fields and nonnative annual grassland found within the EIR Study Area provide suitable foraging habitat for this species. Prairie falcon has potential to forage within the EIR Study Area.

Loggerhead Shrike

Loggerhead shrike (*Lanius ludovicianus*) is not listed pursuant to either the California or federal ESAs but is considered an SSC by the CDFW. Loggerhead shrikes nest throughout California except the northwestern corner, montane forests, and high deserts (Small 1994). Loggerhead shrikes nest in small trees and shrubs in open country with short vegetation such as pastures, old orchards, mowed roadsides, cemeteries, golf courses, agricultural fields, riparian areas, and open woodlands (Yosef 2020). The nesting season extends from March through July.

Two CNDDDB occurrences of the loggerhead shrike have been reported within 15 miles of the EIR Study Area (CDFW 2022); the agricultural fields and nonnative annual grassland found within the EIR Study Area provide suitable habitat for this species. Loggerhead shrike has potential to occur within the EIR Study Area

Yellow-Billed Magpie

Yellow-billed magpie (*Pica nuttalli*) is not listed pursuant to either the California or federal ESAs but is considered a USFWS BCC. This endemic species is a yearlong resident of the Central Valley and Coast

Ranges from San Francisco Bay to Santa Barbara County. Yellow-billed magpies build large, bulky nests in trees in a variety of open woodland habitats, typically near grassland, pastures, or cropland. Nest building begins in late January to mid-February and may take up to six to eight weeks to complete, with eggs laid during April through May and fledging occurring during May through June (Koenig and Reynolds 2020). The young leave the nest at about 30 days after hatching (Koenig and Reynolds 2020). Yellow-billed magpies are highly susceptible to West Nile Virus, which may have been the cause of death to thousands of magpies during 2004-2006 (Koenig and Reynolds 2020).

No CNDDDB occurrences of the yellow-billed magpie have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, the mixed riparian woodland and nonnative annual grassland found within the EIR Study Area provide suitable habitat for this species. Yellow-billed magpie has potential to occur within the EIR Study Area.

California Horned Lark

The California horned lark (*Eremophila alpestris actia*) is not listed pursuant to either the California or federal ESAs but is a CDFW *watch list* species. Horned larks are widely distributed throughout North America, with 21 recognized subspecies (American Ornithologists' Union 1957). The California horned lark is one of approximately nine subspecies that breeds and/or winters in California and is found in the Coast Range and southern San Joaquin Valley south into northern Baja California (Beason 2020). The California horned lark is resident and non-migratory. They are found in grasslands and other open habitats with sparse vegetation. Nests are grass-lined and built on the ground. The breeding season extends from March through July, with a peak of activity in May.

Eight CNDDDB occurrences of the California horned lark have been reported within 15 miles of the EIR Study Area (CDFW 2022); the agricultural fields and nonnative annual grassland found within the EIR Study Area provide suitable habitat for this species. California horned lark has potential occur within the EIR Study Area.

Song Sparrow "Modesto" Population

The song sparrow (*Melospiza melodia*) is considered one of the most polytypic songbirds in North America (Miller 1956 as cited in Arcese et al. 2020). The subspecies *Melospiza melodia heermanni* includes synonyms *M. m. mailliardi* (the *Modesto song sparrow*) and *M. m. cooperi* (Arcese et al. 2020). The *Modesto song sparrow* is not listed pursuant to either the California or federal ESAs but is a CDFW SSC. The subspecies *M. m. heermanni* can be found in central and southwestern California to northwestern Baja California (Arcese et al. 2020). Song sparrows in this group may have slight morphological differences but they are genetically indistinguishable. The *Modesto song sparrow* occurs in the Central Valley from Colusa County south to Stanislaus County, and east of the Suisun Marshes (Grinnell and Miller 1944). Nesting habitat includes riparian thickets and freshwater marsh communities, with nesting occurring from April through June.

No CNDDDB occurrences of the song sparrow have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, the mixed riparian woodland found within the EIR Study Area provides suitable nesting habitat for this species. Song sparrow has potential to nest within the EIR Study Area.

Yellow-headed Blackbird

The yellow-headed blackbird (*Xanthocephalus xanthocephalus*) is not listed pursuant to either the California or federal ESAs but is a CDFW SSC. In California, yellow-headed blackbirds breed along the lower Colorado River; at the Salton Sea; locally in Kern Ventura, Riverside, San Diego, and possibly Orange counties; at Clear Lake in Lake County; locally in the Central Valley from Tehama to Kern counties; in the Klamath Basin and Modoc Plateau; and in the Mono Basin (Twedt and Crawford 2020). Yellow-headed blackbirds nest in colonies in emergent vegetation of deep-water palustrine wetlands (Twedt and Crawford 2020). Foraging occurs in emergent marsh, along shorelines, or in adjacent grasslands and croplands. Nesting generally occurs from April through July.

One CNDDDB occurrence of the yellow-headed blackbird has been reported within 15 miles of the EIR Study Area (CDFW 2022); the agricultural fields, nonnative annual grassland, and fresh emergent wetland communities found within the EIR Study Area provides marginally suitable wintering habitat for this species. Yellow-headed blackbird has low potential to occur within the EIR Study Area.

Bullock's Oriole

The Bullock's oriole (*Icterus bullockii*) is not listed pursuant to either the California or federal ESAs but is a USFWS BCC. In California, Bullock's orioles are found throughout the state except at the higher elevations of mountain ranges and the eastern deserts (Small 1994). They are found in riparian and oak woodlands where nests are built in deciduous trees, but may also use orchards, conifers, and eucalyptus trees (Flood et al 2020). Nesting occurs from March through July.

No CNDDDB occurrences of Bullock's oriole have been reported within 15 miles of the EIR Study Area (CDFW 2022); however, the mixed riparian woodland found within the EIR Study Area provides suitable nesting and foraging habitat for this species. Bullock's oriole has potential to occur within the EIR Study Area.

Tricolored Blackbird

Tricolored blackbird (*Agelaius tricolor*) was granted emergency listing for protection under the California ESA in December 2014, but the listing status was not renewed in June 2015. After an extensive status review, the California Fish and Game Commission listed tricolored blackbirds as a threatened species in 2018. In addition, it is a USFWS BCC and a CDFW SSC. This colonial nesting species is distributed widely throughout the Central Valley, Coast Range, and into Oregon, Washington, Nevada, and Baja California (Beedy et al. 2020). Tricolored blackbirds nest in colonies that can range from several pairs to several thousand pairs depending on prey availability, the presence of predators, or level of human disturbance. Tricolored blackbird nesting habitat includes emergent marsh, riparian woodland/scrub, blackberry thickets, and densely vegetated agricultural and idle fields (e.g., wheat, triticale, safflower, fava bean fields,

thistle, mustard, cane, and fiddleneck), usually with some nearby standing water or ground saturation (Beedy et al. 2020). They feed mainly on grasshoppers during the breeding season, but may also forage upon a variety of other insects, grains, and seeds in open grasslands, wetlands, feedlots, dairies, and agricultural fields (Beedy et al. 2020). The nesting season is generally from March through August.

Forty-eight CNDDDB occurrences of the tricolored blackbird have been reported within 15 miles of the EIR Study Area (CDFW 2022); the agricultural fields, nonnative annual grassland, and fresh emergent wetland communities within the EIR Study Area provide suitable nesting and foraging habitat for this species. Tricolored blackbird has potential to nest and forage within the EIR Study Area.

Mammals

Nelson's Antelope Squirrel

Nelson's antelope squirrel (*Ammospermophilus nelsoni*, NAS) is listed as threatened pursuant to the California ESA. The species' historical range included the western and southern portions of the Tulare Basin; San Joaquin Valley, Kern County to near Tipton (Tulare County); the upper Cuyama Valley; and the Carrizo and Elkhorn Plains (Williams and Kilburn 1992). Grinnell and Dixon (1918) noted that this species was unevenly distributed and occurred in abundance in only a few localities (Williams and Kilburn 1992). Today, only the Carrizo and Elkhorn Plains and western Kern County, around Elk Hills, support significant populations of NAS. Smaller populations also inhabit marginal habitat in the foothills of the western edge of the San Joaquin Valley (CDFG 2005). The NAS inhabits dry grasslands with sandy loam soils, widely spaced alkali scrub vegetation, and dry washes. NAS population declines are due to the conversion of approximately 80 percent of the species' original geographic range to agriculture, and no prime habitat remains within the San Joaquin Valley (CDFG 2005).

Two CNDDDB occurrences of NAS have been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland found within the EIR Study Area provide marginally suitable habitat for this species. The NAS has low potential to occur within the EIR Study Area.

Western Mastiff Bat

Western mastiff bat (*Eumops perotis californicus*) is not listed pursuant to either the California or federal ESAs; however, it is designated as an SSC by the CDFW. This species is distributed from central California to central Mexico and northern Argentina (Harvey et al. 2011). It is most commonly found in rugged rocky canyons and cliffs, where day roosting is available in crevices (Harvey et al. 2011). Colonies are usually fewer than 100, with adult males sometimes found in maternity colonies (Harvey et al. 2011). Roosting sites may be occupied year-round, but the four seasons are usually spent in different roosts (Harvey et al. 2011). One offspring is usually born between May and September in the United States, with twins occurring rarely. (Harvey et al. 2011).

One CNDDDB occurrence of western mastiff bat has been reported within 15 miles of the EIR Study Area (CDFW 2022); the roofing of rural or abandoned structures found within the EIR Study Area provide

marginally suitable habitat for this species. Western mastiff bat has low potential to roost within the EIR Study Area.

Hoary Bat

Hoary bat (*Lasiurus cinereus*) is not listed pursuant to either the California or federal ESAs; however, this species is a CDFW SSC. Hoary bats can be distinguished from other species by a combination of its large size, frosted fur, and golden coloration around the face. This bat is widespread in California, although distribution is patchy in the southern deserts. Hoary bats are solitary roosters, concealing themselves in the foliage of both coniferous and deciduous trees. Suitable roosting habitat includes woodlands and forests with medium- to large-size trees and dense foliage, to elevations up to 13,000 feet. This species is highly migratory, making long migrations to and from warmer winter habitats. Sexes are separated geographically throughout most of the summer range. Hoary bats feed primarily on moths, foraging in open areas or along habitat edges (Zeiner et al. 1990).

One CNDDDB occurrence of hoary bat has been reported within 15 miles of the EIR Study Area (CDFW 2022); the mixed riparian woodland found within the EIR Study Area provides suitable roosting habitat for this species. Hoary bat has potential to roost within the EIR Study Area.

American Badger

American badger (*Taxidea taxus*) is designated in California as an SSC. The species historically ranged throughout much of the state except in humid coastal forests. Badgers were once numerous in the Central Valley; however, populations now occur in low numbers in the surrounding peripheral parts of the valley and in the adjacent lowlands of eastern Monterey, San Benito, and San Luis Obispo counties (Williams 1986). Badgers occupy a variety of habitats including grasslands and savannas. The principal requirements seem to be significant food supply, friable soils, and relatively open, uncultivated ground (Williams 1986).

Twelve CNDDDB occurrences of American badger have been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland found within the EIR Study Area provides marginal habitat for this species. American badger has low potential to occur within the EIR Study Area.

San Joaquin Kit fox

The San Joaquin kit fox (*Vulpes macrotis mutica*) is listed as threatened under the California ESA and as endangered under the federal ESA. Although the precise historical range of the San Joaquin kit fox is unknown, Grinnell et al. (1937) believed that prior to 1930 San Joaquin kit fox occupied most of the San Joaquin Valley from southern Kern County north to Tracy, San Joaquin County, on the west side, and near La Grange, Stanislaus County, on the east side. Since then, the San Joaquin kit fox population has declined primarily as a result of habitat loss to agricultural, urban, industrial and mineral development in the San Joaquin Valley. San Joaquin kit fox has been listed as endangered for more than 30 years, yet despite the loss of habitat and apparent decline in numbers since the early 1970s, there has never been a comprehensive survey of its entire range or habitat that was once thought to be occupied (USFWS 1983;

Morrell 1975). Local surveys, research projects and incidental sightings indicate that kit foxes currently inhabit some areas of suitable habitat on the San Joaquin Valley floor and in the surrounding foothills of the coastal ranges and Sierra Nevada; Tehachapi Mountains, from southern Kern County north to Contra Costa, Alameda, and San Joaquin counties on the west; near La Grange in Stanislaus County on the east side of the Valley (Williams in litt. 1990); and across some of the larger scattered islands of natural land on the valley floor in Kern, Tulare, Kings, Fresno, Madera, and Merced counties (USFWS 1998).

In the central and northern portions of the range, the kit fox is associated with valley sink scrub, interior Coast Range saltbush scrub, upper Sonoran subshrub scrub, annual grassland, valley oak woodland, and the remaining native grasslands. Agriculture dominates this region where kit foxes mostly inhabit grazed, non-irrigated grasslands, but also live next to and forage in tilled or fallow fields, irrigated row crops, orchards, and vineyards (Bell 1994; Hall 1983; USFWS 1998). They usually inhabit areas with loose-textured (friable) soils, suitable for den excavation (USFWS 1983). Where soils make digging difficult, the foxes frequently use and modify burrows built by other animals (Orloff et al. 1986). Structures such as culverts, abandoned pipelines, and well casings also may be used as den sites (USFWS 1983).

Kit foxes are primarily nocturnal and carnivorous, but are commonly seen during the day in the late spring and early summer (Orloff et al. 1986). Major prey includes kangaroo rats, black-tailed hares, desert cottontails, deer mice, California ground squirrels, ground nesting birds, and insects (Scrivner et al. 1987).

Sixty CNDDDB occurrences of San Joaquin kit fox have been reported within 15 miles of the EIR Study Area (CDFW 2022); the nonnative annual grassland, agricultural fields, and ruderal areas found within the EIR Study Area provide suitable habitat for this species. San Joaquin kit fox has potential to occur within the EIR Study Area.

REFERENCES

- Ackerman, J. T., C. A. Hartman, M. P. Herzog, J. Y. Takekawa, J. A. Robinson, L. W. Oring, J. P. Skorupa, and R. Boettcher. 2020. American Avocet (*Recurvirostra americana*), version 1.0. In *Birds of the World* (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.ameavo.01>.
- American Ornithologists' Union. 1957. Check-list of North American birds. 5th ed. American Ornithol. Union, Washington, D.C.
- Arcese, P., M. K. Sogge, A. B. Marr, and M. A. Patten. 2020. Song Sparrow (*Melospiza melodia*), version 1.0. In *Birds of the World* (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.sonspa.01>.
- Barr, C. B. 1991. The distribution, habitat and status of the valley elderberry longhorn beetle *Desmocerus californicus dimorphus* Fisher (Coleoptera: Cerambycidae). U.S. Fish and Wildlife Service, Sacramento, California
- Beason, R. C. 2020. Horned Lark (*Eremophila alpestris*), version 1.0. In *Birds of the World* (S. M. Billerman, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.horlar.01>.
- Bechard, M. J., C. S. Houston, J. H. Saransola, and A. S. England. 2020. Swainson's Hawk (*Buteo swainsoni*), version 1.0. In *Birds of the World* (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.swahaw.01>.
- Beedy, E. C., W. J. Hamilton, III, R. J. Meese, D. A. Airola, and P. Pyle. 2020. Tricolored Blackbird (*Agelaius tricolor*), version 1.0. In *Birds of the World* (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.tribla.01>.
- Bell, H. M., J. A. Alvarez, L. L. Eberhardt, and K. Ralls. 1994. Distribution and abundance of San Joaquin kit fox. California Dept. Fish and Game, Sacramento, Nongame Bird and Mammal Sec., Unpublished. Report.
- Brattstrom, B. H. 1965. Body temperatures of reptiles. *American Midland Naturalist* 73: 376 – 422.
- Buehler, D. A. 2020. Bald Eagle (*Haliaeetus leucocephalus*), version 1.0. In *Birds of the World* (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.baleag.01>.
- Bury, R. B., H. H. Welsh Jr., D. J. Germano, and D. A. Ashton. 2012a. Objectives, nomenclature and taxonomy, description, status, and needs for sampling. Pages 1 – 7 in Bury, R. B., H. H. Welsh Jr., D. J. Germano, and D. A. Ashton, editors. Western Pond Turtle: Biology, Sampling Techniques, Inventory and Monitoring, Conservation, and Management. Northwest Fauna No. 7.
- Bury, R. B., D. T. Ashton, H. H. Welsh Jr., D. A. Reese, and D. J. Germano. 2012b. Synopsis of Biology. Pages 9 – 19 in Bury, R. B., H. H. Welsh Jr., D. J. Germano, and D. A. Ashton, editors. Western Pond

- Turtle: Biology, Sampling Techniques, Inventory and Monitoring, Conservation, and Management. Northwest Fauna No. 7.
- California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. Dated April 1993.
- California Department of Fish and Game (CDFG). 2012. Staff Report on Burrowing Owl Mitigation. Dated March 7, 2012.
- _____. 2005. Annual Report on the Status of California State Listed Threatened and Endangered Animal and Plants. California Department of Fish and Game. Sacramento, California.
- California Department of Fish and Wildlife (CDFW). 2022. Rarefind 5. Online Version, commercial version. California Natural Diversity Database. The Resources Agency, Sacramento.
<https://wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>. Accessed February 2022.
- California Native Plant Society (CNPS). 2022. Inventory of Rare and Endangered Plants in California (online edition, v9-01 1.0). California Native Plant Society. Sacramento, CA. Available online:
<https://rareplants.cnps.org>. Accessed February 2022.
- Dugger, B. D. and K. M. Dugger. 2020. Long-billed Curlew (*Numenius americanus*), version 1.0. In *Birds of the World* (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA.
<https://doi.org/10.2173/bow.lobcur.01>.
- Dunk, J. R. 2020. White-tailed Kite (*Elanus leucurus*), version 1.0. In *Birds of the World* (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.whtkit.01>.
- Eng, L.L., Belk D., and C.H. Eriksen. 1990. California anostraca: distribution, habitat, and status. *J. Crus. Biol.* 10:247-277.
- Eriksen, C. H. and D. Belk. 1999. *Fairy Shrimps of California's Puddles, Pools, and Playas*. Mad River Press, Inc. Eureka, California.
- Estep, J.A. 1989. Biology, movements, and habitat relationships of the Swainson's hawk in the Central Valley of California, 1986-1987. California Department of Fish and Game, Nongame Bird and Mammal Section Report.
- Flood, N. J., C. L. Schlueter, M. W. Reudink, P. Pyle, M. A. Patten, J. D. Rising, and P. L. Williams. 2020. Bullock's Oriole (*Icterus bullockii*), version 1.0. In *Birds of the World* (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. Available online at: <https://doi.org/10.2173/bow.bulori.01>.
- Fugate, M.L. 1992. Speciation in the fairy shrimp genus *Branchinecta* (Crustacea: Anostraca) from North America. Ph.D. dissertation. Department of Biology, University of California, Riverside, California.
- Gerber, B. D., J. F. Dwyer, S. A. Nesbitt, R. C. Drewien, C. D. Littlefield, T. C. Tacha, and P. A. Vohs. 2020. Sandhill Crane (*Antigone canadensis*), version 1.0. In *Birds of the World* (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.sancra.01>.

- Grinnell, J., and J. Dixon. 1918. Natural History of the Ground Squirrels of California. Monthly Bulletin of the State Commission of Horticulture. Volume VII, Numbers 11-12, Pages 597-708.
- Grinnell, J., J. Dixon, and J. Linsdale. 1937. *Fur-bearing mammals of California*. University of California Press. Berkeley, California.
- Grinnell, J., and A. H. Miller. 1944. *The Distribution of the Birds of California*. Cooper Ornithological Club, Berkeley (reprinted 1986 by Artemisia Press, Lee Vining, California).
- Hall, F. A. 1983. Status of the San Joaquin kit fox, *Vulpes macrotis mutica*, at the Bethany wind turbine generating site, Alameda County, California. Unpublished Report, California Dept. Fish and Game, Sacramento, 34 pp.
- Halstead, B. J., G. D. Wylie, and M. L. Casazza. 2010. Habitat suitability and conservation of the giant garter snake (*Thamnophis gigas*) in the Sacramento Valley of California. *Copeia* 2010: 591-599.
- Hammerson, G. A. 1977. Head body temperature differences monitored by telemetry in the snake *Masticophis flagellum piceus*. *Comparative Biochemistry and Physiology* 57: 399 – 402.
- Hansen, R. W. and G. E. Hansen. 1990. *Thamnophis gigas*. Reproduction. *Herpetological Review* 21:93–94.
- Harvey, M. J., S. J. Altenbach, T. L. Best. 2011. *Bats of the United States and Canada*. The Johns Hopkins University Press, Baltimore Maryland.
- Hayes, M. P. and F. S. Cliff. 1982. A checklist of the herpetofauna of Butte County, the Butte Sink, and Sutter Buttes, California. *Herpetological Review* 13:85–87.
- Jones & Stokes Associates, Inc. 2007. *Final East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan*. Sacramento, California.
- Katzner, T. E., M. N. Kochert, K. Steenhof, C. L. McIntyre, E. H. Craig, and T. A. Miller. 2020. Golden Eagle (*Aquila chrysaetos*), version 2.0. In *Birds of the World* (P. G. Rodewald and B. K. Keeney, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.goleag.02>.
- Knopf, F. L. and J. R. Rupert. 1995. Habits and habitats of Mountain Plovers in California. *Condor* 97: 743–751.
- Knopf, F. L. and M. B. Wunder. 2020. Mountain Plover (*Charadrius montanus*), version 1.0. In *Birds of the World* (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. Available online at: <https://doi.org/10.2173/bow.mouplo.01>.
- Koenig, W. D. and M. D. Reynolds. 2020. Yellow-billed Magpie (*Pica nuttalli*), version 1.0. In *Birds of the World* (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.yebmag.01>.
- Loredo, I., D. Van Vuren, and M. L. Morrison. 1996. Habitat use and migration behavior of the California tiger salamander. *Journal of Herpetology* 30:282–285.

- Lowther, P. E., P. Pyle, and M. A. Patten. 2020. Nuttall's Woodpecker (*Dryobates nuttallii*), version 1.0. In *Birds of the World* (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.nutwoo.01>.
- Morafka, D. J. and B. H. Banta. 1976. Ecological relationships of the recent herpetofauna of Pinnacles National Monument, Monterey, and San Benito Counties, California. *The Wasmann Journal of Biology* 34:304–324.
- Morrell, S. H. 1975. San Joaquin kit fox distribution and abundance in 1975. California Department of Fish and Game, Sacramento, Wildlife Management Branch, Admin. Rep. No. 75-3, 28 pp.
- Ng, J., M. D. Giovanni, M. J. Bechard, J. K. Schmutz, and P. Pyle. 2020. Ferruginous Hawk (*Buteo regalis*), version 1.0. In *Birds of the World* (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.ferhaw.01>.
- Orloff, S., F. Hall, and L. Spiegel. 1986. Distribution and habitat requirements of the San Joaquin kit fox in the northern extreme of their range. *Trans. West. Sect. Wildl. Soc.* 22:60–70.
- Papenfuss, T. J. and J. F. Parham. 2013. Four New Species of California Legless Lizards (*Anniella*). *Breviora* 536:1-17.
- Poulin, R. G., L. D. Todd, E. A. Haug, B. A. Millsap, and M. S. Martell. 2020. Burrowing Owl (*Athene cunicularia*), version 1.0. In *Birds of the World* (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.buowl.01>.
- Rathbun, G. B., N. J. Scott Jr., and T. G. Murphey. 2002. Terrestrial habitat use by pacific pond turtles in a Mediterranean climate. *Southwestern Naturalist* 47:225–235.
- Rathbun, G. B., N. Siepel, and D. Holland. 1992. Nesting behavior and movements of western pond turtles, *Clemmys marmorata*. *Southwestern Naturalist* 37:319-324.
- Reese, D. A., and H. H. Welsh Jr. 1997. Use of terrestrial habitat by western pond turtles, *Clemmys marmorata*: implications for management. In J. van Abbema, editor. Proceedings: conservation, restoration, and management of tortoises and turtles-an international conference. Wildlife Conservation Society Turtle Recovery Program, and the New York Turtle and Tortoise Society. New York, New York.
- Rosenfield, R. N., K. K. Madden, J. Bielefeldt, and O. E. Curtis. 2020. Cooper's Hawk (*Accipiter cooperii*), version 1.0. In *Birds of the World* (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY. <https://doi.org/10.2173/bow.coohaw.01>.
- Rossman, D. A., N. B. Ford, and R. A. Seigel. 1996. *The Garter Snakes: Evolution and Ecology*. University of Oklahoma Press, Norman. 332 pp.
- Ryan, M. E., J. R. Johnson, and B. M. Fitzpatrick. 2009. Invasive hybrid tiger salamander genotypes impact native amphibians. *Proceedings of the National Academy of Sciences* 106:27.

- Scrivner, J. H., T. P. O'Farrell, T. T. Kato, and M. K. Johnson. 1987a. *Diet of the San Joaquin kit fox, Vulpes macrotis mutica, on Naval Petroleum Reserve #1, Kern County, California, 1980-1984*. Rep. No. EGG 10282-2168, EG&G Energy Measurements, Goleta, CA, 26 pp.
- Small, A. 1994. *California Birds: Their Status and Distribution*. Ibis Publishing Company. Vista, California. 342 pp.
- Smith, K. G., S. R. Wittenberg, R. B. Macwhirter, and K. L. Bildstein. 2020. Northern Harrier (*Circus hudsonius*), version 1.0. In *Birds of the World* (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.norhar2.01>.
- Stebbins, R.C. 2003. *A Field Guide to Western Reptiles and Amphibians*. 3d ed. Houghton Mifflin, Boston
- Steenhof, K. 2020. Prairie Falcon (*Falco mexicanus*), version 1.0. In *Birds of the World* (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.prafal.01>.
- Sugnet and Associates. 1993. *Preliminary compilation of documented distribution, fairy shrimp and tadpole shrimp proposed for listing*. Sugnets and Associates Environmental Consultants, Roseville, California. 22 pp. + 3 maps.
- Talley, T. S., E. Fleishman, M. Holyoak, D. D. Murphy, and A. Ballard. 2007. Rethinking a rare-species conservation strategy in an urban landscape: The case of the valley elderberry longhorn beetle. *Biological Conservation* 135(2007):21-32.
- Thomson, R. C., A. N. Wright, and H. B. Shaffer. 2016. *California Amphibian and Reptile Species of Special Concern*. University of California Press, Oakland, California.
- Twedt, D. J. and R. D. Crawford. 2020. Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*), version 1.0. In *Birds of the World* (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.yehbla.01>.
- U.S. Fish and Wildlife Service (USFWS). 2020. Monarch (*Danaus plexippus*) Species Status Assessment Report, version 2.1 September 2020. Available online at: <https://ecos.fws.gov/ServCat/DownloadFile/191345>. Accessed August 2021.
- _____. 2017. Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). U.S. Fish and Wildlife Service; Sacramento, California. 28 pp
- _____. 2015. Draft recovery plan for the Central California distinct population segment of the California tiger salamander (*Ambystoma californiense*). U. S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California. 53 pp.
- _____. 2006. Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Final Rule. Federal Register. February 10, 2006 (Volume 71, Number 28).
- _____. 2005a. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Portland Oregon. xxvi+ 606 pages.

- _____. 2005b. Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Evaluation of Economic Exclusions From August 2003 Final Designation; Final Rule. Federal Register: Volume 70, Number 154 (August 11, 2005).
- _____. 2003a. Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Final Rule. Federal Register 68(151):46684-46867.
- _____. 2003b. Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander. October 2003.
- _____. 2002. Draft Recovery Plan for Chaparral and Scrub Community Species East of San Francisco Bay, California. Region 1, Portland, OR.
- _____. 1999a. Conservation Guidelines for the Valley Elderberry Longhorn Beetle. Sacramento Fish and Wildlife Office. Dated July 9, 1999
- _____. 1999b. Draft recovery plan for the giant garter snake (*Thamnophis gigas*). Sacramento Fish and Wildlife Office.
- _____. 1998. Endangered Species Recovery Program, Recovery Plan for Upland Species of the San Joaquin Valley, California. California State University, Stanislaus.
- _____. 1994. Endangered and threatened wildlife and plants; determination of endangered status for the Conservancy fairy shrimp, longhorn fairy shrimp, and the vernal pool tadpole shrimp threatened status for the vernal pool fairy shrimp. September 9, 1994. Federal Register 59: 48136-48153.
- _____. 1983. San Joaquin kit fox recovery plan. U.S. Fish and Wildlife Service, Portland, OR, 84 pp.
- _____. 1980. Listing the Valley Elderberry Longhorn Beetle as a Threatened Species with Critical Habitat; Final Rule. Federal Register Volume 45, Number 155 (August 8, 1980).
- Warkentin, I. G., N. S. Sodhi, R. H. M. Espie, A. F. Poole, L. W. Oliphant, and P. C. James. 2020. Merlin (*Falco columbarius*), version 1.0. In *Birds of the World* (S. M. Billerman, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.merlin.01>.
- Williams, D.F. 1990. Assessment of potential habitat for the blunt-nosed leopard lizard and San Joaquin kit fox in western Madera County, California. U.S. Fish and Wildlife Service, Endangered Species Office, Sacramento, CA, 31 pp.
- _____. 1986. Mammalian Species of Special Concern in California. State of California Department of Fish and Game, Wildlife Management Division. Sacramento, California. 112 pp.
- Williams, D. F. and K. S. Kilburn. 1992. The conservation status of the endemic mammals of the San Joaquin Faunal Region, California. In press in D.F. Williams, S. Byrne, and T. Rado, eds. *Endangered and Sensitive Species of the San Joaquin Valley, California*. The California Energy Commission, Sacramento.

Yosef, R. 2020. Loggerhead Shrike (*Lanius ludovicianus*), version 1.0. In *Birds of the World* (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA.

<https://doi.org/10.2173/bow.logshr.01>.

Zeiner, D. C., W. F. Laudenslayer, Jr., K. E. Mayer, and M. White (eds). 1990. California's Wildlife, Volume III, Mammals. California Statewide Wildlife Habitat Relationships System. California Department of Fish and Game, Sacramento, California.

ATTACHMENT B

Literature Review Species Lists



Selected Elements by Element Code
 California Department of Fish and Wildlife
 California Natural Diversity Database



Query Criteria: Quad (Volta (3712018) OR Los Banos (3712017) OR Howard Ranch (3712121) OR Ingomar (3712028) OR San Luis Ranch (3712027) OR Turner Ranch (3712026) OR Delta Ranch (3712016) OR Dos Palos (3612086) OR Charleston School (3612087) OR Ortigalita Peak NW (3612088) OR Los Banos Valley (3612181) OR San Luis Dam (3712111))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAAAA01181	<i>Ambystoma californiense pop. 1</i> California tiger salamander - central California DPS	Threatened	Threatened	G2G3	S3	WL
AAABF02020	<i>Spea hammondi</i> western spadefoot	None	None	G2G3	S3	SSC
AAABH01022	<i>Rana draytonii</i> California red-legged frog	Threatened	None	G2G3	S2S3	SSC
AAABH01050	<i>Rana boylei</i> foothill yellow-legged frog	None	Endangered	G3	S3	SSC
AAABH01170	<i>Lithobates pipiens</i> northern leopard frog	None	None	G5	S2	SSC
ABNJB05035	<i>Branta hutchinsii leucopareia</i> cackling (=Aleutian Canada) goose	Delisted	None	G5T3	S3	WL
ABNKC11011	<i>Circus hudsonius</i> northern harrier	None	None	G5	S3	SSC
ABNKC19070	<i>Buteo swainsoni</i> Swainson's hawk	None	Threatened	G5	S3	
ABNKC19120	<i>Buteo regalis</i> ferruginous hawk	None	None	G4	S3S4	WL
ABNKC22010	<i>Aquila chrysaetos</i> golden eagle	None	None	G5	S3	FP
ABNKD06090	<i>Falco mexicanus</i> prairie falcon	None	None	G5	S4	WL
ABNME01010	<i>Coturnicops noveboracensis</i> yellow rail	None	None	G4	S1S2	SSC
ABNNB03100	<i>Charadrius montanus</i> mountain plover	None	None	G3	S2S3	SSC
ABNSB10010	<i>Athene cunicularia</i> burrowing owl	None	None	G4	S3	SSC
ABPAT02011	<i>Eremophila alpestris actia</i> California horned lark	None	None	G5T4Q	S4	WL
ABPBR01030	<i>Lanius ludovicianus</i> loggerhead shrike	None	None	G4	S4	SSC
ABPBXB0020	<i>Agelaius tricolor</i> tricolored blackbird	None	Threatened	G1G2	S1S2	SSC
ABPBXB3010	<i>Xanthocephalus xanthocephalus</i> yellow-headed blackbird	None	None	G5	S3	SSC



Selected Elements by Element Code
California Department of Fish and Wildlife
California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AFCHA0209K	<i>Oncorhynchus mykiss irideus pop. 11</i> steelhead - Central Valley DPS	Threatened	None	G5T2Q	S2	
AFCJB25010	<i>Mylopharodon conocephalus</i> hardhead	None	None	G3	S3	SSC
AMACC01020	<i>Myotis yumanensis</i> Yuma myotis	None	None	G5	S4	
AMACC05030	<i>Lasiurus cinereus</i> hoary bat	None	None	G3G4	S4	
AMACD02011	<i>Eumops perotis californicus</i> western mastiff bat	None	None	G4G5T4	S3S4	SSC
AMAFB04040	<i>Ammospermophilus nelsoni</i> Nelson's (=San Joaquin) antelope squirrel	None	Threatened	G2G3	S2S3	
AMAFD01060	<i>Perognathus inornatus</i> San Joaquin pocket mouse	None	None	G2G3	S2S3	
AMAFD03080	<i>Dipodomys ingens</i> giant kangaroo rat	Endangered	Endangered	G1G2	S1S2	
AMAJA03041	<i>Vulpes macrotis mutica</i> San Joaquin kit fox	Endangered	Threatened	G4T2	S2	
AMAJF04010	<i>Taxidea taxus</i> American badger	None	None	G5	S3	SSC
ARAAD02030	<i>Emys marmorata</i> western pond turtle	None	None	G3G4	S3	SSC
ARACC01020	<i>Anniella pulchra</i> Northern California legless lizard	None	None	G3	S3	SSC
ARACF07010	<i>Gambelia sila</i> blunt-nosed leopard lizard	Endangered	Endangered	G1	S1	FP
ARADB21021	<i>Masticophis flagellum ruddocki</i> San Joaquin coachwhip	None	None	G5T2T3	S2?	SSC
ARADB36150	<i>Thamnophis gigas</i> giant gartersnake	Threatened	Threatened	G2	S2	
CTT36210CA	<i>Valley Sink Scrub</i> Valley Sink Scrub	None	None	G1	S1.1	
CTT42120CA	<i>Valley Sacaton Grassland</i> Valley Sacaton Grassland	None	None	G1	S1.1	
CTT45320CA	<i>Alkali Seep</i> Alkali Seep	None	None	G3	S2.1	
CTT52310CA	<i>Cismontane Alkali Marsh</i> Cismontane Alkali Marsh	None	None	G1	S1.1	
CTT52410CA	<i>Coastal and Valley Freshwater Marsh</i> Coastal and Valley Freshwater Marsh	None	None	G3	S2.1	
CTT61410CA	<i>Great Valley Cottonwood Riparian Forest</i> Great Valley Cottonwood Riparian Forest	None	None	G2	S2.1	



Selected Elements by Element Code
 California Department of Fish and Wildlife
 California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
CTT62100CA	Sycamore Alluvial Woodland Sycamore Alluvial Woodland	None	None	G1	S1.1	
ICBRA03010	Branchinecta conservatio Conservancy fairy shrimp	Endangered	None	G2	S2	
ICBRA03020	Branchinecta longiantenna longhorn fairy shrimp	Endangered	None	G1	S1S2	
ICBRA03030	Branchinecta lynchi vernal pool fairy shrimp	Threatened	None	G3	S3	
ICBRA06010	Linderiella occidentalis California linderiella	None	None	G2G3	S2S3	
ICBRA10010	Lepidurus packardii vernal pool tadpole shrimp	Endangered	None	G4	S3S4	
IICOL48011	Desmocerus californicus dimorphus valley elderberry longhorn beetle	Threatened	None	G3T2	S3	
IIHYM24480	Bombus crotchii Crotch bumble bee	None	None	G3G4	S1S2	
IMBIV19010	Gonidea angulata western ridged mussel	None	None	G3	S1S2	
PDAPI0Z0S0	Eryngium racemosum Delta button-celery	None	Endangered	G1	S1	1B.1
PDAPI0Z0Y0	Eryngium spinosepalum spiny-sepaled button-celery	None	None	G2	S2	1B.2
PDAST5L030	Lasthenia chrysantha alkali-sink goldfields	None	None	G2	S2	1B.1
PDAST5L0A1	Lasthenia glabrata ssp. coulteri Coulter's goldfields	None	None	G4T2	S2	1B.1
PDAST8H060	Senecio aphanactis chaparral ragwort	None	None	G3	S2	2B.2
PDAST9F031	Trichocoronis wrightii var. wrightii Wright's trichocoronis	None	None	G4T3	S1	2B.1
PDBRA0M0E0	Caulanthus lemmonii Lemmon's jewelflower	None	None	G3	S3	1B.2
PDBRA2G0Q1	Streptanthus insignis ssp. lyonii Arburua Ranch jewelflower	None	None	G3G4T2	S2	1B.2
PDCHE040B0	Atriplex cordulata var. cordulata heartscale	None	None	G3T2	S2	1B.2
PDCHE042M0	Atriplex minuscula lesser saltscale	None	None	G2	S2	1B.1
PDCHE042P0	Atriplex persistens vernal pool smallscale	None	None	G2	S2	1B.2
PDCHE04371	Atriplex coronata var. vallicola Lost Hills crownscale	None	None	G4T3	S3	1B.2



Selected Elements by Element Code
California Department of Fish and Wildlife
California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDEUP0D150	<i>Euphorbia hooveri</i> Hoover's spurge	Threatened	None	G1	S1	1B.2
PDFAB0F8R1	<i>Astragalus tener var. tener</i> alkali milk-vetch	None	None	G2T1	S1	1B.2
PDMAL0Q0F0	<i>Malacothamnus hallii</i> Hall's bush-mallow	None	None	G2	S2	1B.2
PDPLM0C0J2	<i>Navarretia nigelliformis ssp. radians</i> shining navarretia	None	None	G4T2	S2	1B.2
PDPLM0C0Q0	<i>Navarretia prostrata</i> prostrate vernal pool navarretia	None	None	G2	S2	1B.2
PDRAN0B1J0	<i>Delphinium recurvatum</i> recurved larkspur	None	None	G2?	S2?	1B.2
PDSCR0J0D1	<i>Chloropyron molle ssp. hispidum</i> hispid salty bird's-beak	None	None	G2T1	S1	1B.1
PMALI040Q0	<i>Sagittaria sanfordii</i> Sanford's arrowhead	None	None	G3	S3	1B.2
PMPOA4C010	<i>Neostapfia colusana</i> Colusa grass	Threatened	Endangered	G1	S1	1B.1
PMPOA53110	<i>Puccinellia simplex</i> California alkali grass	None	None	G3	S2	1B.2
PMPOA03091	<i>Stuckenia filiformis ssp. alpina</i> northern slender pondweed	None	None	G5T5	S2S3	2B.2

Record Count: 71

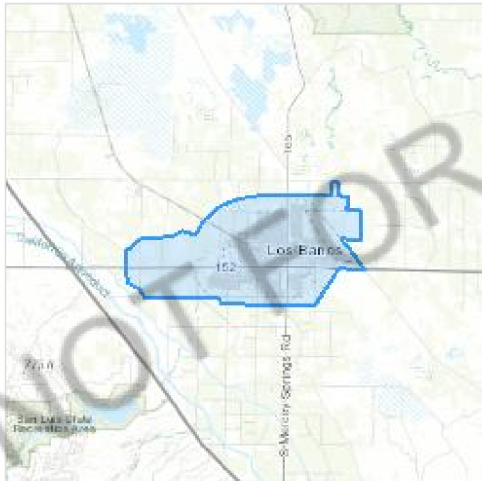
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Merced County, California



Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📅 (916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
 2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Fresno Kangaroo Rat <i>Dipodomys nitratoides exilis</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/5150	Endangered

San Joaquin Kit Fox <i>Vulpes macrotis mutica</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2873	Endangered
--	------------

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard <i>Gambelia silus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/625	Endangered

Giant Garter Snake <i>Thamnophis gigas</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened
---	------------

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2891	Threatened

California Tiger Salamander <i>Ambystoma californiense</i> There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2076	Threatened
---	------------

Fishes

NAME	STATUS
------	--------

Delta Smelt *Hypomesus transpacificus*

Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/321>

Insects

NAME

STATUS

Monarch Butterfly *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*

Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/7850>

Crustaceans

NAME

STATUS

Vernal Pool Fairy Shrimp *Branchinecta lynchi*

Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/498>

Vernal Pool Tadpole Shrimp *Lepidurus packardii*

Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/2246>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A
BREEDING SEASON IS INDICATED
FOR A BIRD ON YOUR LIST, THE
BIRD MAY BREED IN YOUR
PROJECT AREA SOMETIME WITHIN
THE TIMEFRAME SPECIFIED,
WHICH IS A VERY LIBERAL
ESTIMATE OF THE DATES INSIDE

WHICH THE BIRD BREEDS
ACROSS ITS ENTIRE RANGE.
"BREEDS ELSEWHERE" INDICATES
THAT THE BIRD DOES NOT LIKELY
BREED IN YOUR PROJECT AREA.)

Bald Eagle *Haliaeetus leucocephalus*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Breeds Jan 1 to Aug 31

Black Tern *Chlidonias niger*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3093>

Breeds May 15 to Aug 20

Clark's Grebe *Aechmophorus clarkii*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Jun 1 to Aug 31

Common Yellowthroat *Geothlypis trichas sinuosa*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/2084>

Breeds May 20 to Jul 31

Golden Eagle *Aquila chrysaetos*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

Breeds Jan 1 to Aug 31

Nuttall's Woodpecker *Picoides nuttallii*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9410>

Breeds Apr 1 to Jul 20

Tricolored Blackbird *Agelaius tricolor*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3910>

Breeds Mar 15 to Aug 10

Willet *Tringa semipalmata*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9726>

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

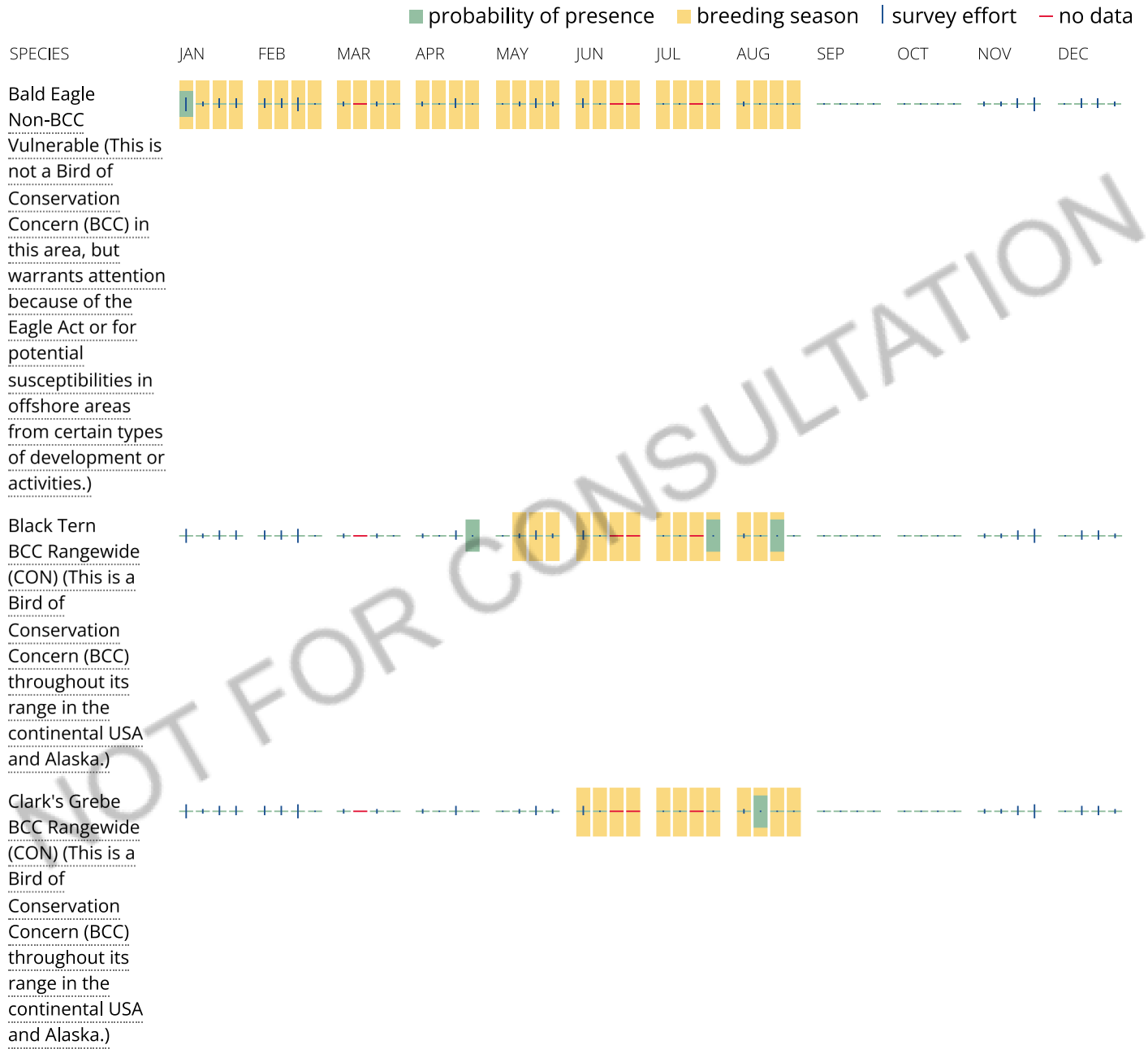
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Willet
BCC Rangewide
(CON) (This is a
Bird of
Conservation
Concern (BCC)
throughout its
range in the
continental USA
and Alaska.)



Yellow-billed
Magpie
BCC Rangewide
(CON) (This is a
Bird of
Conservation
Concern (BCC)
throughout its
range in the
continental USA
and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring

in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1K](#)
[PEM1A](#)
[PEM1C](#)
[PEM1Fh](#)
[PEM1Ch](#)
[PEM1Kx](#)
[PEM1F](#)
[PEM1Cx](#)
[PEM1Ah](#)

FRESHWATER FORESTED/SHRUB WETLAND

[PFOC](#)
[PSSC](#)
[PSSCh](#)

FRESHWATER POND

[PUBGh](#)
[PABFh](#)
[PABKx](#)
[PUBKx](#)
[PUBK](#)
[PUBHh](#)
[PUBF](#)
[PUSC](#)

LAKE

[L2ABKx](#)
[L2UBGh](#)

RIVERINE

[R2UBHx](#)
[R5UBFx](#)
[R2UBH](#)
[R4SBCx](#)
[R5UBF](#)
[R4SBC](#)
[R2USC](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions







Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION



Search Results

36 matches found. Click on scientific name for details

Search Criteria: Quad is one of [3712121:3712111:3612181:3612088:3612087:3712016:3712026:3712028:3712027:3612086:3712018:3712017]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
<u><i>Acanthomintha lanceolata</i></u>	Santa Clara thorn-mint	Lamiaceae	annual herb	Mar-Jun	None	None	G4	S4	4.2	 © 2005 Barry Breckling
<u><i>Amsinckia furcata</i></u>	forked fiddleneck	Boraginaceae	annual herb	Feb-May	None	None	G4	S4	4.2	 © 2017 Keir Morse
<u><i>Androsace elongata</i> ssp. <i>acuta</i></u>	California androsace	Primulaceae	annual herb	Mar-Jun	None	None	G5?T3T4	S3S4	4.2	 © 2008 Aaron Schusteff
<u><i>Astragalus tener</i> var. <i>tener</i></u>	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	None	None	G2T1	S1	1B.2	No Photo Available
<u><i>Atriplex cordulata</i> var. <i>cordulata</i></u>	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G3T2	S2	1B.2	 © 1994 Robert E. Preston, Ph.D.
<u><i>Atriplex coronata</i> var. <i>coronata</i></u>	crownscale	Chenopodiaceae	annual herb	Mar-Oct	None	None	G4T3	S3	4.2	 © 1994 Robert E. Preston, Ph.D.
<u><i>Atriplex coronata</i> var. <i>vallicola</i></u>	Lost Hills crownscale	Chenopodiaceae	annual herb	Apr-Sep	None	None	G4T3	S3	1B.2	No Photo Available
<u><i>Atriplex minuscula</i></u>	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	None	None	G2	S2	1B.1	 © 2000

Robert E.
Preston,
Ph.D.

<i>Atriplex persistens</i>	vernal pool smallscale	Chenopodiaceae	annual herb	Jun-Oct	None	None	G2	S2	1B.2	No Photo Available
<i>Caulanthus lemmonii</i>	Lemmon's jewelflower	Brassicaceae	annual herb	Feb-May	None	None	G3	S3	1B.2	No Photo Available
<i>Centromadia parryi ssp. rudis</i>	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	None	None	G3T3	S3	4.2	No Photo Available
<i>Chloropyron molle ssp. hispidum</i>	hispid salty bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Sep	None	None	G2T1	S1	1B.1	No Photo Available
<i>Clarkia breweri</i>	Brewer's clarkia	Onagraceae	annual herb	Apr-Jun	None	None	G4	S4	4.2	No Photo Available
<i>Cryptantha rattanii</i>	Rattan's cryptantha	Boraginaceae	annual herb	Apr-Jul	None	None	G4	S4	4.3	No Photo Available
<i>Delphinium recurvatum</i>	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2?	1B.2	No Photo Available
<i>Eriogonum nudum var. indictum</i>	protruding buckwheat	Polygonaceae	perennial herb	(Apr)May- Oct(Dec)	None	None	G5T4	S4	4.2	No Photo Available
<i>Eriogonum vestitum</i>	Idria buckwheat	Polygonaceae	annual herb	Apr-Aug	None	None	G3	S3	4.3	No Photo Available
<i>Eryngium racemosum</i>	Delta button- celery	Apiaceae	annual/perennial herb	(May)Jun- Oct	None	CE	G1	S1	1B.1	No Photo Available
<i>Eryngium spinosepalum</i>	spiny-sepaled button-celery	Apiaceae	annual/perennial herb	Apr-Jun	None	None	G2	S2	1B.2	No Photo Available
<i>Euphorbia hooveri</i>	Hoover's spurge	Euphorbiaceae	annual herb	Jul- Sep(Oct)	FT	None	G1	S1	1B.2	No Photo Available
<i>Hesperervax caulescens</i>	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	None	None	G3	S3	4.2	 © 2017 John Doyen
<i>Lasthenia chrysantha</i>	alkali-sink goldfields	Asteraceae	annual herb	Feb-Apr	None	None	G2	S2	1B.1	 © 2009 California State University,

<i>Lasthenia ferrisiae</i>	Ferris' goldfields	Asteraceae	annual herb	Feb-May	None	None	G3	S3	4.2	 © 2009 Zoya Akulova
<i>Lasthenia glabrata ssp. coulteri</i>	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	None	None	G4T2	S2	1B.1	 © 2013 Keir Morse
<i>Leptosiphon ambiguus</i>	serpentine leptosiphon	Polemoniaceae	annual herb	Mar-Jun	None	None	G4	S4	4.2	 © 2010 Aaron Schusteff
<i>Malacothamnus hallii</i>	Hall's bush-mallow	Malvaceae	perennial deciduous shrub	(Apr)May-Sep(Oct)	None	None	G2	S2	1B.2	 © 2017 Keir Morse
<i>Myosurus minimus ssp. apus</i>	little mousetail	Ranunculaceae	annual herb	Mar-Jun	None	None	G5T2Q	S2	3.1	No Photo Available
<i>Navarretia nigelliformis ssp. radians</i>	shining navarretia	Polemoniaceae	annual herb	(Mar)Apr-Jul	None	None	G4T2	S2	1B.2	No Photo Available
<i>Navarretia prostrata</i>	prostrate vernal pool navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	G2	S2	1B.2	No Photo Available
<i>Neostapfia colusana</i>	Colusa grass	Poaceae	annual herb	May-Aug	FT	CE	G1	S1	1B.1	No Photo Available
<i>Puccinellia simplex</i>	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G3	S2	1B.2	No Photo Available
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	No Photo Available
<i>Senecio aphanactis</i>	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	None	None	G3	S2	2B.2	No Photo Available
<i>Streptanthus insignis ssp. lyonii</i>	Arburua Ranch jewelflower	Brassicaceae	annual herb	Mar-May	None	None	G3G4T2	S2	1B.2	No Photo Available
<i>Stuckenia filiformis ssp. alpina</i>	northern slender pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	None	None	G5T5	S2S3	2B.2	 Dana York (2016)

<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	Wright's trichocoronis	Asteraceae	annual herb	May-Sep	None	None	G4T3	S1	2B.1	No Photo Available
--	------------------------	------------	-------------	---------	------	------	------	----	------	--------------------

Showing 1 to 36 of 36 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2022. Inventory of Rare and Endangered Plants of California (online edition, v9-01 1.0). Website <https://www.rareplants.cnps.org> [accessed 2 February 2022].

<p>CONTACT US</p> <p>Send questions and comments to rareplants@cnps.org.</p>  <p>Developed by Rincon Consultants, Inc.</p>	<p>ABOUT THIS WEBSITE</p> <p>About the Inventory Release Notes Advanced Search Glossary</p>	<p>ABOUT CNPS</p> <p>About the Rare Plant Program CNPS Home Page About CNPS Join CNPS</p>	<p>CONTRIBUTORS</p> <p>The Calflora Database The California Lichen Society California Natural Diversity Database The Jepson Flora Project The Consortium of California Herbaria CalPhotos</p>
--	---	---	---

Copyright © 2010-2022 [California Native Plant Society](#). All rights reserved.



City of
Los Banos
At the Crossroads of California





City of
Los Banos
At the Crossroads of California
