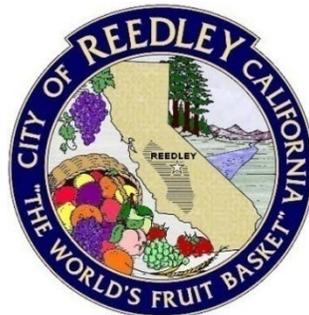


*The City of*  
**REEDLEY**  
*California*



# General Plan 2030

Adopted: February 18, 2014



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# *Chapter One*

## *Introduction*

### **1.0 INTRODUCTION**

In 2006 the City of Reedley initiated the General Plan 2030 Update. The Update was initiated to look at the Reedley General Plan from a comprehensive perspective, incorporate adopted specific plans and streamline or simplify the organization of the document. The City of Reedley has prepared this General Plan 2030 Update in response to a number of changing conditions in and near the City limits. The General Plan 2030 Update is designed to provide increased attention to development policies and to assist in addressing development issues. Attention is directed at expanding the economic base of the community and attracting a more diversified economy to the City. The City recognizes that residential growth is beneficial; however, it is also understood that growth must be balanced with local jobs and increased sales tax revenues to support continued City services.

The Reedley General Plan is a vision for the City that incorporates the ideas, thoughts and goals of the many citizens, businesses and public officials that took the time to participate in the planning process. The City of Reedley General Plan serves as the City's constitution and blueprint for community growth and development across this planning horizon. This Plan is a long range planning document which will guide the growth and development of the City over the next 25 years. The resulting plan embraces the community and reflects current values of maintaining Reedley as a vibrant, growing community with a history linked to agriculture.

### **1.1 GENERAL PLAN PURPOSE**

The purpose of the General Plan 2030 Update is to develop a document that includes the vision of the City of Reedley, is easy to read and complies with the laws of California. This General Plan will supersede the previously adopted General Plans, and is directing expansion and diversification of the City's economic base. The City recognizes that residential growth is beneficial; however, it is also understood that growth must be balanced with local employment opportunities, City services, and increased sales tax revenues to support continued City services. The General Plan addresses the need for master planning local infrastructure to accommodate growth. The document will define what kind of community Reedley should be in the future.

The City Council chose to take the opportunity to revisit where the City is today and plan for its vision in the future. California State Planning and Zoning Law (Government Code Section 65300) also requires that the City periodically prepare and adopt a general plan. The overarching goal of the City of Reedley General Plan 2030 Update is to accomplish the following focal points:

- (a) Establish a long range vision and plan for the community that reflects the need and desire of the citizenry.
- (b) Maintain Reedley's small town atmosphere.

- (c) Incorporate the Reedley Specific Plan, the Rail Corridor Master Plan and the Southeast Reedley Industrial Area Specific Plan into a single document.
- (d) Ensure neighborhood connectivity and walkability orientation through subdivision design.
- (e) Provide more opportunities for mixed use projects.
- (f) Preserve and expand the core of Reedley.
- (g) Encourage more variety and blends of housing types.
- (h) Provide adequate educational facilities.
- (i) To provide economic stability, encourage a diversified job base, expand local economy while enhancing local and regional shopping opportunities.

## **1.2 STATE OF CALIFORNIA GENERAL PLAN REQUIREMENTS**

Each City in California is required to prepare and adopt a comprehensive general plan that will guide the physical development of that City and any land outside its boundaries that have a relationship to its planning. The California Supreme Court has called the general plan the “constitution for future development”. A general plan expresses the community’s goals and defines the public policies relative to the distribution of land uses.

A general plan is required to include seven mandatory elements: Land Use, Circulation, Housing, Open Space, Conservation, Safety and Noise. The mandated elements of a general plan must be legally adequate and internally consistent with one another. In addition, state law permits the city to address additional issues such as public facilities and services, energy, recreation, or any other subject that relates to the physical development of a City. The issues discussed in each element are described below:

The Land Use Element designates the type, intensity, and general distribution of land uses for housing, business, industry, open space, public buildings and grounds and other categories of public and private uses.

The Circulation Element is correlated with the land use element and identifies the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities.

The Housing Element is to identify the community's housing needs, state the community's goals and objectives with regard to housing production, rehabilitation, and conservation to meet those needs, and to define the policies and programs that the community will implement to achieve the stated goals and objectives. State law also requires cities to address the needs of all income groups in their Housing Elements. In addition, it embodies policies for providing adequate housing and includes action programs for that purpose.

The Conservation Element addresses the conservation, development, and use of natural resources, including water, forests, soils, rivers, and mineral deposits.

The Open-Space Element details plans and measures for the long-range preservation and conservation of open-space lands, including open space for the preservation of natural resources, the managed production of resources (including agricultural lands), outdoor recreation, and public health and safety. The Reedley General Plan combines the conservation and open space elements and recreation services into the Conservation, Open Space and Recreation Element.

The Noise Element identifies and appraises noise problems within the community and forms the basis for land use distribution.

The Safety Element establishes policies and programs to protect the community from risks associated with seismic, geologic, flood, and wildfire hazards.

The depth of discussion on each issue in the General Plan depends upon local conditions and the relative local importance of that issue. A local general plan may also include other topics of local interest.

The General Plan Update will also include the development of policies that will address the current laws, AB 32 and SB 375. Because air quality is an important issue in Reedley and the Central Valley, air quality issues are also addressed in this document. City of Reedley staff participated in the San Joaquin Valley Blueprint process and includes the concepts of compact, concentric growth in many of the new or revised policies.

In 2009, the City Council adopted a resolution for Healthy Cities Initiative. Many of the concepts and policies encouraged in the sample policies have been incorporated into existing or new goals or policies.

The City of Reedley must ensure that all the elements of its General Plan are integrated and internally consistent. This update consists of an update to the Land Use, Circulation, Conservation, Open Space and Recreation, Noise and Safety Elements of the General Plan. The Housing Element must be updated on a five-year schedule and will be updated separately.

### **1.3 BACKGROUND**

Reedley is situated approximately 25 miles southeast of the City of Fresno and equidistant from the City of Visalia, also southeast of Reedley. Manning Avenue, a four-lane divided major arterial street, connects the City with State Highway 99 which is 12 miles to the west. State Highway 180 is located eight miles north of the City, and both highways are heavily used by local, regional, and national residents, travelers, and motor carriers. In addition to its location near these major highways, the community lies adjacent to the Tulare Valley Railroad and the Southern Pacific Railroad lines.

Reedley is located in the central San Joaquin Valley portion of California, lying inland between the State's coastal mountain ranges and the Sierra Nevada Mountains. Reedley's economy continues as predominantly based upon agricultural production and agriculturally-oriented

industry. The valley floor is the richest intensive agricultural production area in the world. Although there has been economic diversification in recent years, local economy continues to be significantly dependent upon the underlying agricultural character of the region. The City's local and regional setting is shown in Figure 1-1 and Figure 1-2.

#### **1.4 HISTORICAL PERSPECTIVE**

The people in Reedley are some of the friendliest and most neighborly people you will meet. Reedley's citizens are a community comprised of many converging cultures and peoples, from Asian, African, Central American, European, Mexican, Native American and South American. This makes for a rich community that provides exposure to a mixture of social and cultural influences, all living in one place.

Civil war hero Thomas Law Reed settled here to provide wheat for Gold Rush miners in the mid 1800s. His donation of land for a railroad station site established the town as the center of the Valley's booming wheat business. Railroad officials commemorated his vision by naming the fledgling City in his honor. When wheat demand slackened, Kings River water was diverted for crop irrigation, and the region began its over 100-year tradition of bountiful field, tree, and vine fruit harvests.

With water and railroad services in place, farming families of European immigrants were recruited, and the settlement was incorporated in 1913, with Ordinance No. 1 adopting and prescribing the style of a Common Seal on February 25, 1913. An important element in the early town was a colony of German Mennonites, whose strong traditions and values still shape Reedley's culture. The population today is diverse and multi-cultural and Reedley boasts a current population of 24,622. Each of the town's major ethnic groups has shown strong civic leadership, a desire to retain cultural and religious traditions, and the ability to work successfully together for Reedley's betterment. In 2013, Reedley will celebrate 100 years of incorporation.

Among the community's 25 churches are Armenian, Baptist, Buddhist, Catholic, and many other congregations. The area's 41 organizations and 12 civic clubs include Filipino community organizations, a Finnish organization, and American Lebanese Women's Club, several Hispanic and Latin American organizations, and a Japanese organization among the many sports, cultural, conservation, charitable, and civic associations. In 1988, Reedley celebrated the first 100 years of its multi-cultural heritage and the 75th anniversary of incorporation.

Education is a vital part of community life, with seven elementary, three junior, and two high schools, both public and private. Over 6,000 students are served by these facilities as part of the Kings Canyon Unified School District. For 70 years, Reedley College has capped the local educational structure, providing area residents with a lively assortment of classes, programs, activities, and community events.

Reedley College enhances our community with its multitude of programs and student exchange efforts. From pre-school to High School, our educational facilities are some of the very best in the Central Valley; from public to private we can surpass your expectations. Part of a 106 campus and 71 district California Community College system, it has a total on and off-campus enrollment of over 6,252. Small classes, on-campus housing, an excellent library, strong career guidance resources, and a spirited athletic

program add to the college's appeal. Students can select certificate or associate degree programs in a wide variety of educational majors.

Within a 30 mile radius of the City are California State University Fresno, Fresno City College, College of the Sequoias (Visalia), two law schools, a Christian college, and a graduate professional psychology school. Local television and radio stations, the Reedley Exponent newspaper which provides local communication and perspective opportunities, a full range of newspapers from around the country, a local branch public library, and an active historical society and local museum complete the community's education profile.

Reedley contributes a wide variety of agricultural products to the County's economy. The area's rich, fertile soil produces the finest fruit, nut, vegetable, grain and cotton varieties. Since 1946, Reedley has been known as the Fruit Basket of the World because we lead the nation in the shipping of fresh fruit. Thirty fruit and vegetable packing and cold storage facilities, including the world's largest plant, along with nearby wineries, supply tree and vine fruit products of consistently high quality. Related manufacturing industries in Reedley include boxes and packing machinery, and automatic packing equipment.

The Council-Manager form of government administers a general fund operating budget of over \$4,700,000 with a total budget in excess of \$15,000,000. The City has had a Planning Commission since the 1940s and provides full City services, including a municipal airport, water system, sewer plant, and trash collection. A modern, acute-care hospital with a new birthing center provides comprehensive medical coverage. The active Chamber of Commerce & Visitor's Bureau and Reedley Downtown Association are responsible for significant on-going revitalization and beautification.

Key to Reedley, however, is its exceptional recreational amenities. On the banks of the Kings River, sandy beaches and clear stretches of open water lure enthusiasts for swimming, fishing, boating and water-skiing. Parks along the river draw families and friends from great distances for frequent picnics and festivities. The City's public parks, swimming pool, and comprehensive recreational program, along with its annual community-wide pageants and festivals, complete with three area golf courses, nearby Pine Flat Reservoir and the redwoods, lakes, streams, and hiking trails minutes away in the mountains. Reedley's spectacular setting is enhanced by the entertainment and shopping radius surrounding the city center, and its success in combining the best of its rural heritage and contemporary urban comforts.

## **1.5 GENERAL PLAN UPDATE PROCESS**

The City of Reedley General Plan 2030 Update began in 2008 and has included many opportunities for public engagement and involvement. The 2030 Update began with the City Council authorizing the formation of a Committee charged with the sole task of completing a general plan update. The Committee consists of two City Council members and two Planning Commission members. Generally, the Committee meets on a monthly basis to discuss, take input from the public, and provide direction to staff on the various aspects of the General Plan. The result is a General Plan that has been shaped by the community.

## COMMUNITY INVOLVEMENT

### General Plan Update Committee

The General Plan Update Committee is comprised of the Reedley City Council and Planning Commission members. The Committee started meeting in March of 2008.

### Community Workshops

Through the process, the General Plan Update Committee held many workshops. At each workshop, the public was encouraged to attend and participate. A description of each workshop is as follows:

Workshop 1

The purpose and content of a general plan

Workshop 2

Growth forecasting, direction of development and economic development

Workshop 3

General Plan law and housing elements

Workshop 4

General Plan land use designations and zoning

Workshop 5

Housing element analysis of vacant and underutilized land

Workshop 6

Proposed land use designations and mapping

Workshop 7

City-wide flyer sent out for feedback on the proposed land use designations and mapping

Workshop 8

Circulation element and consolidation of Specific and Master Plans

Workshop 9

Planning area-wide flyer sent out for feedback on the proposed land use designations and mapping, key policy commitments and the CEQA process

### Community Mailings and Notices

As part of the City's comprehensive outreach effort, for each Community Workshop, a public notice was prepared and published in the Reedley Exponent. Moreover, for Workshop 7 (Proposed Land-Use Designations) and Workshop 9 (Land-Use Policy Commitments) a mailer and separate flyer were sent out to all property owners within the City limits of Reedley. The City also used the reverse call system to inform residents of the meetings.

## 1.6 GENERAL PLAN ORGANIZATION

The City of Reedley 2012 General Plan consisted of a single document that contained the Land Use, Circulation, Conservation, Open Space, Safety and Noise Elements. This general plan update is also designed to incorporate the goals and policies of the various adopted specific plans including the Reedley Specific Plan, Rail Corridor Master Plan and the Southeast Reedley Industrial Area Specific Plan.

Although part of the General Plan, the Housing Element is a separate document that is updated every five years on a schedule determined by the State of California. The General Plan Update consists of a Land Use Element, Circulation Element, Conservation, Open Space, Parks and Recreation Element, Safety Element and Noise Element. Two new elements are being added, the Economic Element and Community Health Element, both located in Chapter Two as Sections 2.8 and 2.9, respectively. As part of the effort to ensure Reedley's economic viability, the Economic Development Element will contain goals and policies that promote economic stability, encourage a diversified job base, expand the local economy and provide more local and regional shopping opportunities. The Community Health Element will contain goals and policies that encourage healthy living and lifestyles.

The General Plan document consists of chapters containing each element. The Housing Element will be under separate cover and will be updated according to state-mandated time frames. The contents of the General Plan chapters are as follows:

Chapter One – Introduction

Chapter Two – Land Use Element

Chapter Three – Circulation Element

Chapter Four – Conservation, Open Space, Parks and Recreation Element

Chapter Five – Safety Element

Chapter Six – Noise Element

The Reedley General Plan 2030 Update is composed of text and maps. The text identifies and analyzes the principal physical development issues facing the Planning Area, describes plan proposals, and includes statement of goals, objectives and policies. General Plan implementation methods and procedures are presented as policy statements. The General Plan Diagram shows the planned land uses and street and highway classifications. Other descriptive illustrative maps are also found in this document.

The General Plan is intended to present a clear and concise statement of City goals and policies toward development and to accommodate additions and modification necessary for future updating. Each element of the General Plan contains brief background information to establish the context for the policies in the element. The background information is followed by a list of goals and policies that will be used to guide the future development of the City of Reedley.

## Goals

A goal is a policy statement which describes a long-term vision or future condition that the City desires to achieve, and is a general expression of community values. Following each goal(s) is a series of policy statements. These policy statements are implementation, or action necessary to achieve the goal.

Goals are contained within each Element are highlighted in a shade box. Within each box each goal is assigned by a combination of letters corresponding to the Element. Goals and policies are then placed in ascending numerical order. For example, goals within the Land Use Element will be identified by (LU), Circulation Element (C), Conservation, Open Space, Parks and Recreation (COSPR), Safety (S), Noise (N), Economic Development (ED), Community Health (HS).

Policies are statements that describe the course of action to achieve a specific goal. Policies of the General Plan will be identified by the Chapter they are located in and followed by a number.

*For Example:*

### Goals

**LU 2.4A** -Preserve and enhance Reedley's unique character and achieve an optimal balance of residential, commercial, industrial, public and open space land uses.

### Policies

LU2.4.1 - Develop design standards for structures, landscaping and parking areas to facilitate compatibility with surrounding uses and overall character of the City of Reedley.

## **1.7 STUDY AREA**

The Study Area is the area generally bounded by Adams Avenue to the north, Floral Avenue to the south, Englehart Avenue to the east and Lac Jac Avenue to the west, as shown in Figure 1.3. The Study Area encompasses 10,620 acres. The current city limits consists of 3,133 acres and the sphere of influence (SOI) contains approximately 5,053 acres. The proposed SOI expansion includes an additional 2,860 acres, totaling approximately 7,913 acres. The proposed areas for expansion to the Sphere of Influence boundary are identified in Figure 1.4.

Within this area, the General Plan has identified new growth areas and designated an expanded Sphere of Influence boundary, which will require approval by the Fresno Local Agency Formation Commission (LAFCo). To implement the approved General Plan 2030 Update, the City will prepare and submit to the Fresno Local Agency Formation Commission (LAFCo) an annexation application.

## **1.8 PLANNING PERIOD**

The General Plan 2030 Update planning horizon is proposed through the year 2030. The Plan may also be periodically amended to reflect changes in the economy, social characteristics, development patterns or other variables identified within the community. Proposed Policy adjustments required by changing public attitudes and differing circumstances can be made to each of the mandatory elements of the Plan as often as necessary to fully implement the overarching goals of the Plan. With opportunities for review and update insures that the plan can remain current and relative, thus extending its continued effectiveness to the City as an expression of official policies concerning the future.

## **1.9 COMMUNITY PROFILE**

### Population

In 1992, when the General Plan was last updated, the City of Reedley had a population of 17,386 persons. The California Department of Finance estimated that the population of Reedley was 24,909, in January of 2009.

### Agriculture

An important facet of Reedley's economy is agriculture. A wide variety of vegetables, stone fruits and nuts thrive in the area's fertile soil and are packed, stored and shipped to areas throughout the world. California grapes and raisins are important items in national and international trade, with Reedley playing an integral part in their production.

### Education

Public elementary and secondary education in the community is provided by the Kings Canyon Unified School District (KCUSD). Within the Planning Area, the majority of the area is serviced by KCUSD. There is a small portion of the study area at the southwest corner that is within the Clay Union School District as shown on the School Boundaries Map, Figure 1.5.

Reedley College, located between Reed Avenue and the Kings River north of Manning Avenue in Reedley, is a part of the California Community College District (SCCCD). Reedley is a two-year college offering more than 80 major degrees and certificates.

### Medical Services

The City is served by one hospital and has numerous physicians, dentists and optometrists practicing in the area. Adventist Medical Center is a 43-bed hospital facility that offers a wide range of services, including emergency care, on-site laboratory, radiology, surgical units, and therapy and counseling services. In addition, the state-of-the-art birthing center was built in the fall of 2010. Ambulance service is provided by the Sequoia Safety Council which provides paramedic level emergency care in Reedley and the surrounding area. Reedley also has three skilled nursing facilities.

## Transportation and Shipping

Highways: State Route 99 is 12 miles west of Reedley. State Route 180 is eight miles north of Reedley. Manning Avenue is a four-lane, divided road connecting Reedley to State Route 99.

Railroads: Freight service is available from Burlington Northern Santa Fe and San Joaquin Valley Railroads.

Air Transportation: For private aircraft, Reedley has a modern municipal airport five miles north of the city with a 3,300 foot paved and lighted runway. Features of the airport include, hangars available for lease, 24-hour access to fuel, a full-time fixed base operator, mechanic and transient tiedown area are also available. The Fresno Air Terminal (Fresno Yosemite International Airport) is located approximately 25 miles northwest of the city and provides regularly scheduled passenger and freight service.

## Utilities

The City of Reedley is the main utility provider of water, sewer, storm drainage and solid waste disposal services in the area. Natural gas is supplied by the Southern California Gas Company. Pacific Gas and Electrical Company is the major supplier of electricity. Telephone service is provided by Verizon.

### **1.10 SAN JOAQUIN VALLEY BLUEPRINT**

The City has actively been involved in the San Joaquin Valley Blueprint planning process. The Valley Blueprint process began in 2006, and is made up of seven Valley Council of Government (COG) members and one Regional Transportation Planning Agency representing the San Joaquin Valley. In 2010, the San Joaquin Valley Blueprint Council, the decision-making body, approved the adoption of 12 Growth Principles. The growth principles reflect the vision for the future of the San Joaquin Valley. In the process of updating the Reedley General Plan, the Growth Principles have been used to develop or update many, if not all, of the policies within the General Plan Update.

The San Joaquin Valley Blueprint Smart Growth Principles:

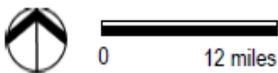
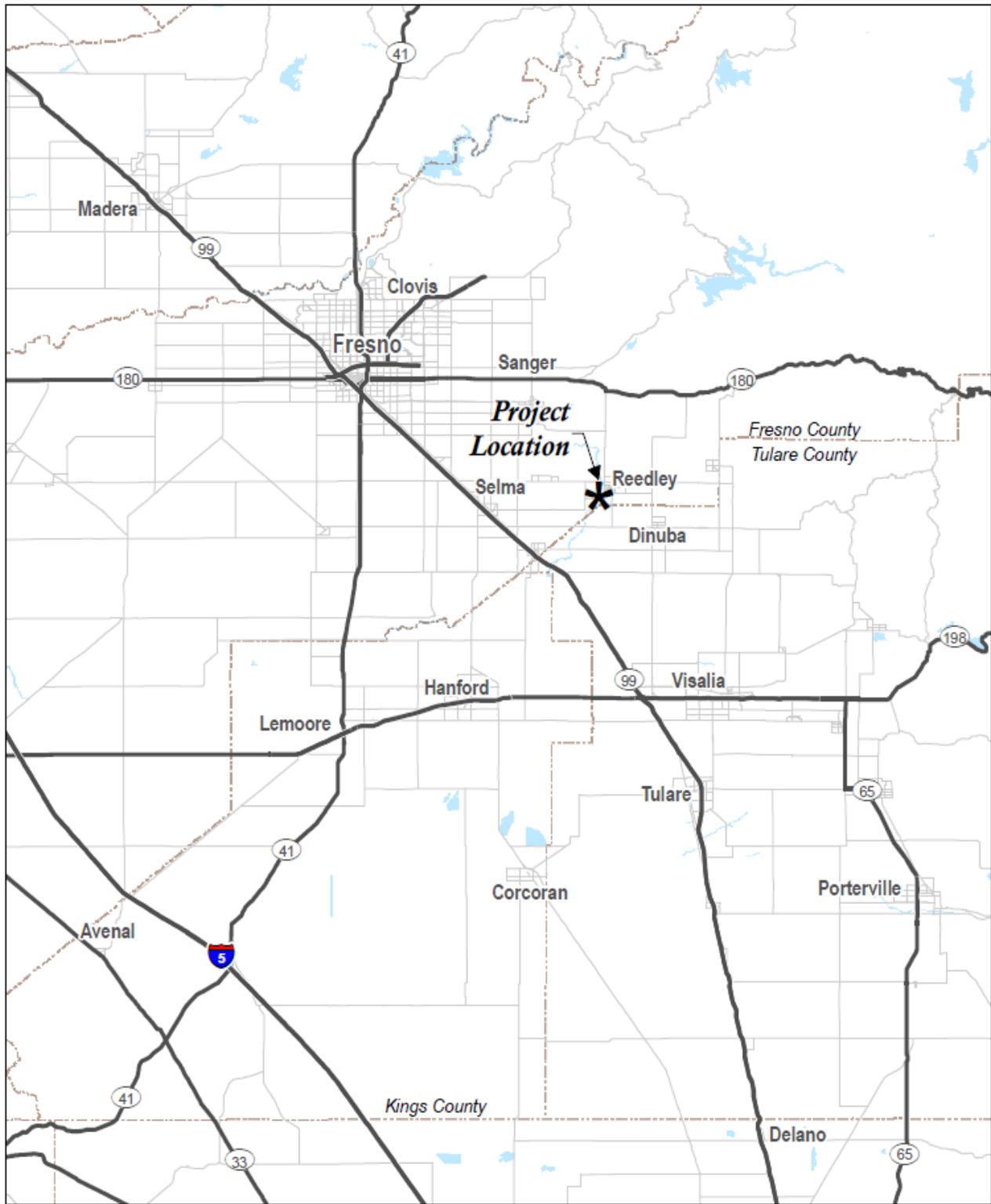
- (a) Create a range of housing opportunities and choices.
- (b) Create walkable neighborhoods.
- (c) Encourage community and stakeholder collaboration.
- (d) Foster distinctive, attractive communities with a strong sense of place.
- (e) Make development decisions predictable, fair, and cost-effective.
- (f) Mix land uses.
- (g) Preserve open space, farmland, natural beauty, and critical environmental areas.

- (h) Provide a variety of transportation choices.
- (i) Strengthen and direct development towards existing communities.
- (j) Take advantage of compact building design.
- (k) Enhance the economic vitality of the region.
- (l) Support actions that encourage environmental resource management.

Figure 1.1 – Location Map



Figure 1.2 – Regional Map



Source: ESRI StreetMap North America 2010

Figure 1.3 – Study Area Map

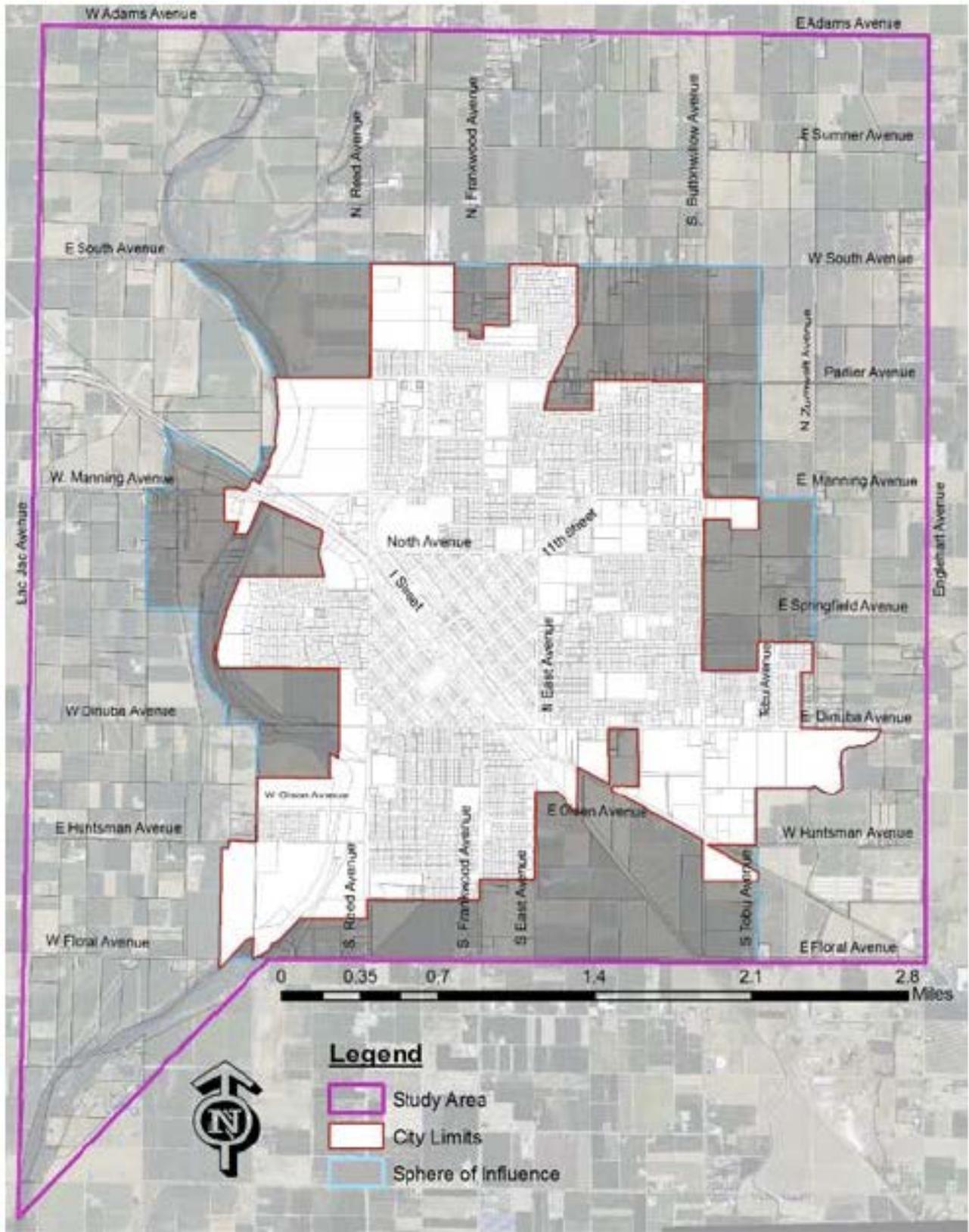
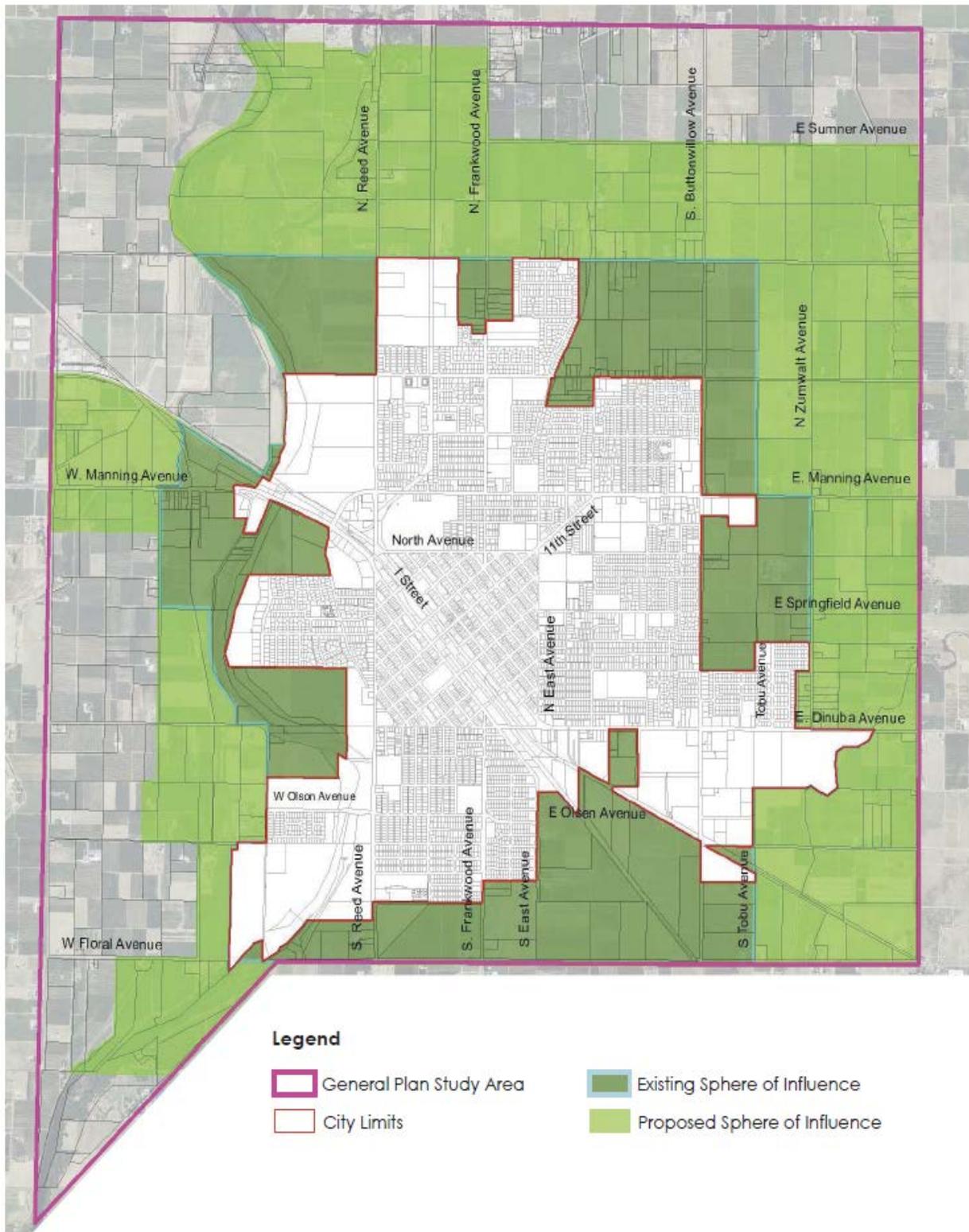
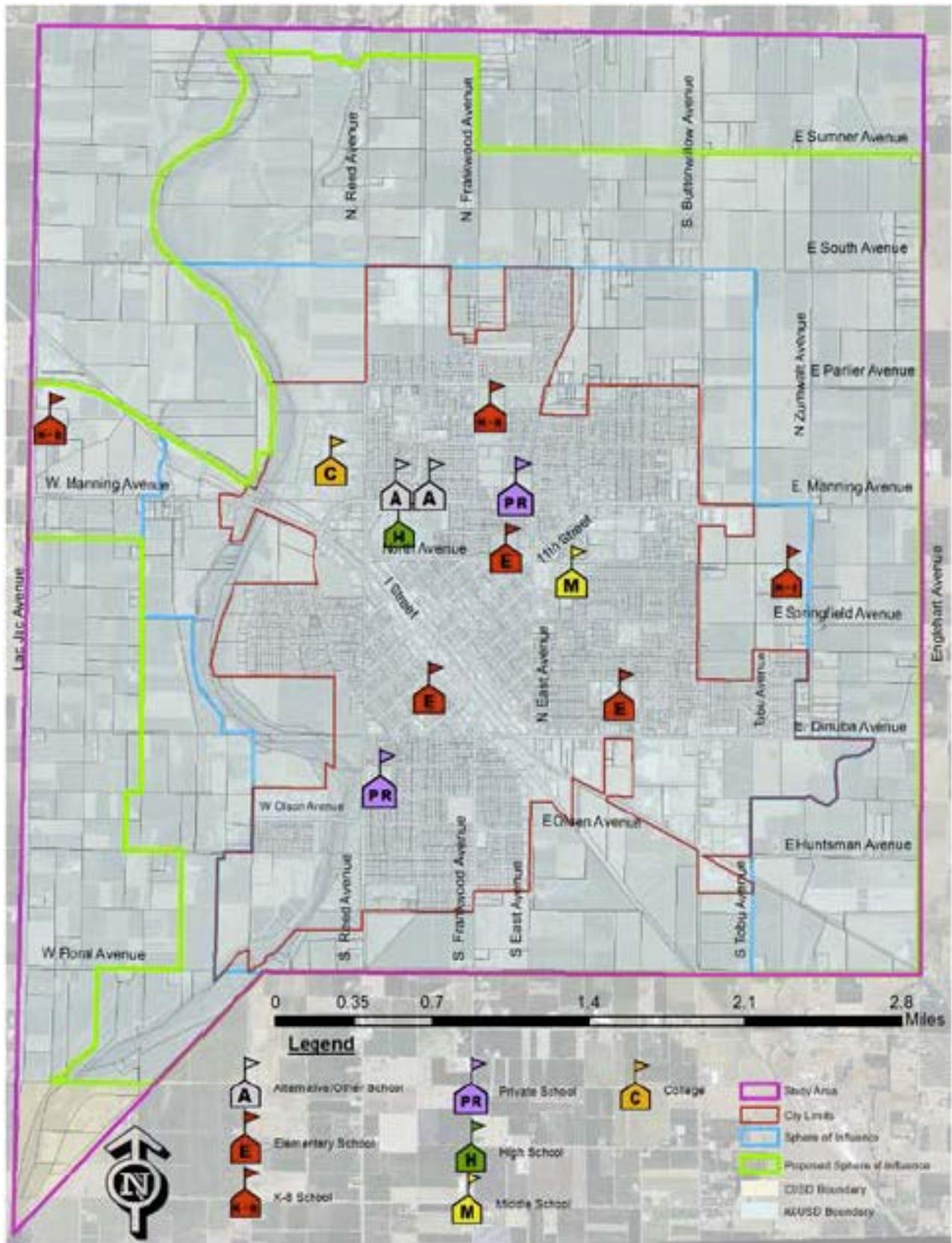


Figure 1.4 – Proposed Sphere Expansion Map



Source: City of Reedley 2011

Figure 1.5 – School Locations Map



# *Chapter Two*

## *Land Use Element*

### **2.0 INTRODUCTION**

California Government Code Section 65302(a) requires that a land use element of the General Plan include; and more specifically, mandates that the element address the following:

“... the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, open space, including agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other categories of public and private uses of land. The Land Use Element shall include a statement of the standards of population density and building intensity recommended for the various districts and other territory covered by the plan.”

The development of land is generally a benefit of property ownership; however, it can create competing interests if improperly planned or developed. Reedley’s past and present economic base is closely tied to agriculture. The loss of prime agricultural land to intensive development could adversely affect Reedley’s agricultural ties and economic base. Improper planned growth patterns could: (a) strain the City’s ability to provide necessary infrastructure and services; (b) inadvertently allow inconsistent, conflicting and/or competing land use patterns; and (c) result in improper development of flood prone areas where soil or geologic conditions pose severe limitations to orderly development.

The Land Use Element evaluates and anticipates Reedley’s growth and describes a pattern of development within the City and the larger proposed Planning Area. The Element establishes urban development goals, policies and land use patterns which seek to maximize orderly development, while minimizing potential competing interests and adverse impacts of development on the local economy and physical environment.

The Land Use Element is viewed as one of the core elements of the General Plan and is frequently the most referenced element. The General Plan Land Use Map designates land uses on a parcel by parcel basis for all lands within the City and Sphere of Influence. The Land Use Map also depicts the community’s intended physical form and areas for future growth.

Incorporated into this General Plan 2030 Update are three previously adopted specific plans; the 2001 Reedley Specific Plan, the 1985 Southeast Industrial Area Specific Plan, and the 2002 Rail Corridor Master Plan. These plans will be repealed as part of adoption of the General Plan 2030 Update.

## 2.1 BACKGROUND

This section of the Land Use Element evaluates the many potential growth-inducing factors and limits to development, which will determine the extent and rate of future urban growth within the Reedley Planning Area. As such, these factors provide the basis for the illustrative maps and policy statements which follow in this Chapter and in subsequent elements of the General Plan.

### Population

The City of Reedley's historic population data is presented in Table 2-1. Between 1990 and 2010, Reedley experienced an average annual growth rate of 2.73% per year. In the last ten years, the average growth rate was 2.54% per year, and in the last five years the average growth rate was 3.59% per year. These trends are one of the major indicators of the City's potential growth over the planning horizon. By analyzing past growth trends, in comparison to the State Department of Finance projections for growth in the San Joaquin Valley, an average annual growth rate of 3% to 2030 has been identified as a mean. Using this mean Table 2-2 represents the Population Forecast for the City of Reedley to 2030. The table also indicates that the City can anticipate a 137 percent increase in population between 2000 and 2030. The project increase in population would also suggest that there will be an increasing demand for urbanized land within the Planning Area.

Table 2-1- Historic Population Data

YEAR	POPULATION	AVERAGE ANNUAL % INCREASE
4/1/1990	15,791	
1/1/1991	16,232	2.79
1/1/1992	17,183	5.86
1/1/1993	18,061	5.11
1/1/1994	18,393	1.84
1/1/1995	18,757	1.98
1/1/1996	19,069	1.66
1/1/1997	19,392	1.69
1/1/1998	19,934	2.79
1/1/1999	20,291	1.79
1/1/2000	20,459	0.83
1/1/2001	20,983	2.56
1/1/2002	21,208	1.07
1/1/2003	21,459	1.18
1/1/2004	21,808	1.63
1/1/2005	22,540	3.36
1/1/2006	23,295	3.35
1/1/2007	24,793	6.43
1/1/2008	25,587	3.20
1/1/2009	25,687	0.58
1/1/2010	26,227	2.10

Table 2-2 Population Forecast

BASED ON 3% GROWTH RATE	
1/1/2010	26,227
2011	27,014
2012	27,824
2013	28,659
2014	29,519
2015	30,404
2016	31,316
2017	32,256
2018	33,224
2019	34,220
2020	35,247
2021	36,304
2022	37,393
2023	38,515
2024	39,671
2025	40,861
2026	42,087
2027	43,349
2028	44,650
2029	45,989
2030	47,369

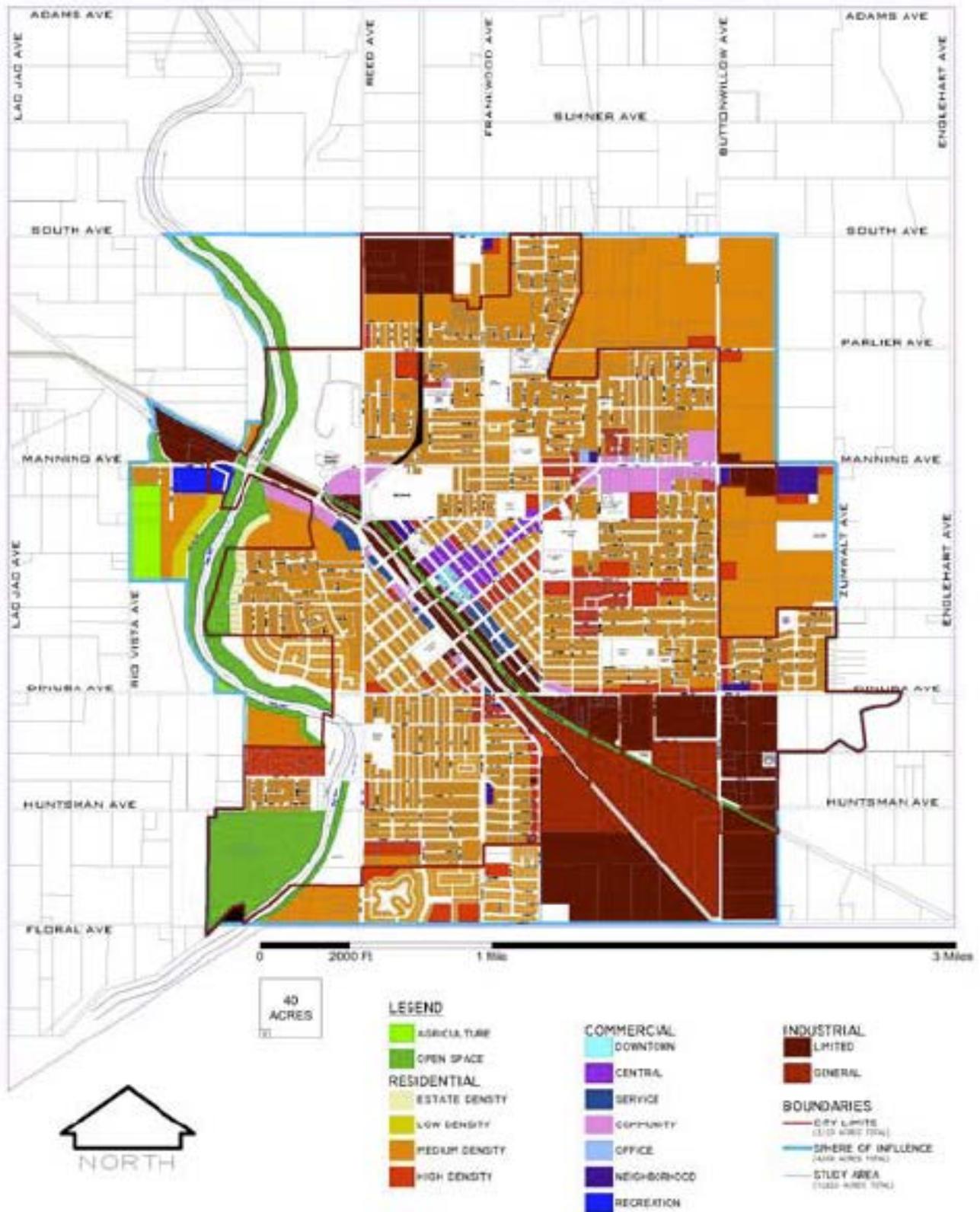
Existing Land Use

According to the General Plan 2012 the existing Planning Area and planned land uses are shown on Figure 2.1. Existing land uses are primarily residential and industrial. Single-family residential represents 56.4% of overall land use and industrial 12.5%, are shown in Table 2-4.

Land Availability

The current city limits consists of 3,133 acres and the sphere of influence (SOI) contains approximately 5,053 acres. The proposed SOI expansion in this General Plan Update includes an additional 2,860 acres, totaling approximately 7,913 acres. The balance of land is within the unincorporated area of Fresno County and is designated for future development with various land use designations to accommodate anticipated orderly development through the year 2030. The predominant land use designation in the Plan anticipates the allocation of land to approximately 60 percent residential, 9 percent commercial and 12 percent industrial. The current plan consists of 44 percent residential, 4 percent commercial and 18 percent industrial.

Figure 2.1 - General Plan 2012

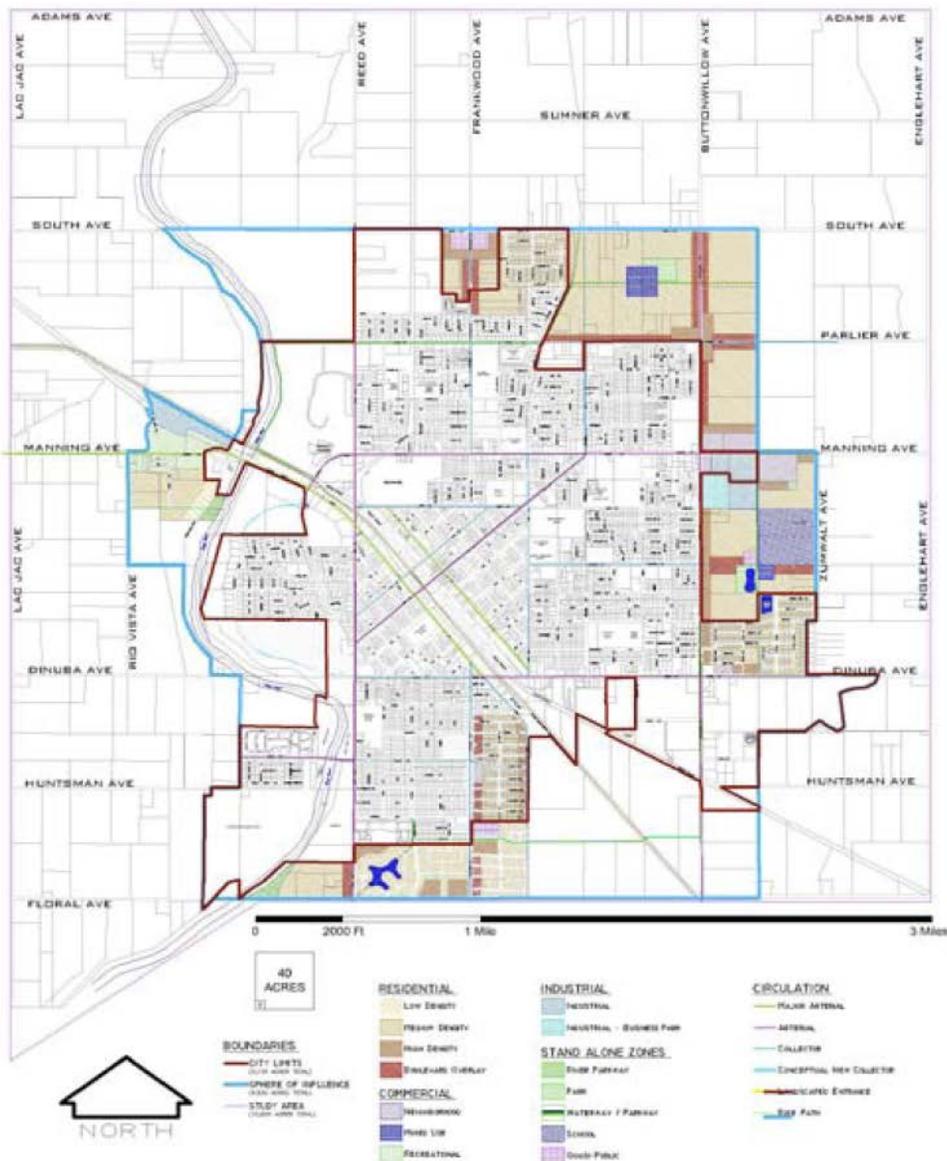


## 2.2 INCORPORATION OF EXISTING SPECIFIC PLANS

### Reedley Specific Plan

In 2001, the City adopted the Reedley Specific Plan (Resolution No. 2001-009) and associated environmental documents (FEIR, SCH #2000031100) to guide future development along the fringe edges of the existing Reedley Planning Area. The stated goals were geared toward achieving the highest quality development that addresses issues such as protecting farmland, improving air quality, building a strong sense of community, energy efficient design and encouraging development that accommodates alternative transportation modes such as walking and bicycling. The Reedley Specific Plan contained goals and policies for residential and commercial growth which have been evaluated and incorporated into this General Plan 2030 Update, Land Use Element. See Figure 2.2 – Reedley Specific Plan Map below.

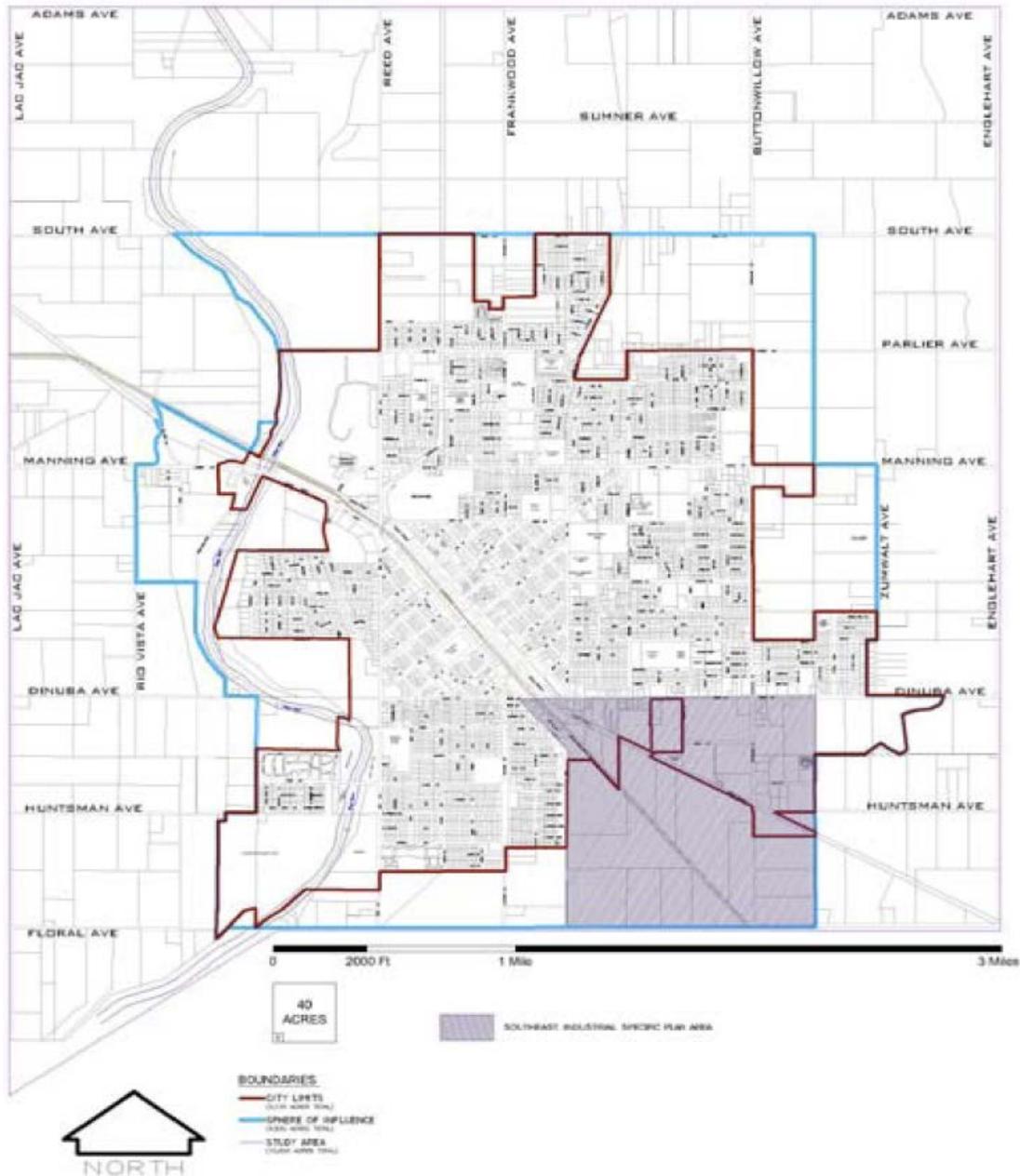
Figure 2.2 - Reedley Specific Plan Map



## Southeast Industrial Area Specific Plan

In 1986, the Southeast Industrial Area Specific Plan was adopted by the City Council (Resolution No. 3732) to address land use, circulation, and public facilities for an approximately 640-acre area in the southeast area of Reedley, Figure 2.3. The specific plan was not updated following the last General Plan Update. As such, there are some inconsistencies that can only be rectified by incorporating the plan into this update. Therefore, one of the many goals of this update is to incorporate the goals and policies from the Specific Plan. The General Plan 2030 Update reflects the goals and policies that focus on maintaining adequate acreage for industrial development and emphasis on the importance of industrial land as an economic tool for Reedley.

Figure 2.3 - Southeast Industrial Specific Plan Area Map



## Rail Corridor Master Plan

During October 2002, the City Council adopted the Rail Corridor Master Plan (Resolution No. 2002-094). The purpose of the Rail Corridor Master Plan was to guide future development in the area focusing around the Reedley Parkway (Rail Trail) from Manning Avenue at the Kings River to the north and south of Dinuba Avenue to the south, Figure 2-4. The Rail Trail has been completed in the Downtown area. The goals and policies from the Rail Corridor Master Plan have been incorporated into the General Plan Update. Primarily, the City shall encourage development of parcels that complement the Parkway and will transition to higher value uses and away from underutilized industrial parcels.

Figure 2.4 - Rail Corridor Master Plan Map



## 2.3 LAND USE ELEMENT GUIDING PRINCIPLES

The overall guiding principles for future land use, as listed below, form the basis for the more detailed statements of goal and policy statements. These principals are derived, in part, from the known changes in physical and social environments which have occurred over time coupled with applicability of specific goals and objectives from previous General Plans and the incorporation of the goals found in the Reedley Specific Plan, Southeast Industrial Area Specific Plan and Rail Corridor Master Plan. A more detailed discussion follows later under the appropriate sections of the Land Use Element.

- (a) Protect the agricultural economic base of the Reedley area by encouraging the preservation of the maximum feasible amount of productive and potentially productive agricultural land.
- (b) Plan for urban growth in a manner that minimizes impacts on agriculture and the consumption of agricultural land.
- (c) Increase residential densities to reduce the impacts related to loss of agricultural lands.
- (d) Establish a pattern of urban development which provides for the economically efficient provision of urban services with particular emphasis on sewer, water and storm drainage infrastructure.
- (e) Seek a balanced and compatible land use pattern which accommodates projected population growth and encourages alternative transportation such as walking, bicycling or transit.
- (f) Provide transitions between various land uses and intensities using high quality design.
- (g) Integrate land use planning, transportation planning, and air quality planning to make the most efficient use of public resources.
- (h) Development in the planning area shall occur in a fashion that protects and enhances air quality and water quality.
- (i) Public open space shall be made an integral part of new development in the planning area.

## 2.4 COMMUNITY CHARACTER/IDENTITY

### Goals

LU 2.4A - Preserve and enhance Reedley's unique character and achieve an optimal balance of residential commercial, industrial, public and open space land uses.

LU 2.4B - Strive to keep Reedley separate and distinct from the nearby communities of Parlier and Dinuba.

LU 2.4C - Maintain and enhance Reedley's small town characteristics.

LU 2.4D - Maintain and preserve the downtown area as Reedley's business and social center.

### Policies

- LU 2.4.1 To facilitate compatibility with surrounding uses and overall character of the City of Reedley develop design standards for structures, landscaping and parking areas.
- LU 2.4.2 Develop well-designed and landscaped major gateways or entrances to the City at the following locations:
- (a) Manning Avenue near the Kings River
  - (b) North and South Reed Avenue
  - (c) Manning Avenue and Buttonwillow Avenue
  - (d) East Dinuba Avenue
- LU 2.4.3 Develop pedestrian amenities in the Downtown area to include open space or plazas, street furniture and lighting and signage.
- LU 2.4.4 Continue to improve the physical aesthetics of the Downtown area.
- LU 2.4.5 Establish an overlay zone in the Downtown area that will allow more flexible or mixed use of existing buildings.
- LU 2.4.6 Consider adoption of a form based code for the overlay district that will allow greater flexibility in design standards and facilitate continued investment in the Downtown area.

## 2.5 URBAN GROWTH MANAGEMENT

This General Plan Update (GPU) anticipates future population and economic growth in the City’s Sphere of Influence (SOI) which will necessitate some demand for potential conversion or re-use of agricultural land to a more urbanized use. The City’s strategy for growth management can best be described as the prudent location and timing of new development to maximize the efficient use of urban facilities and services, while recognizing the important contributions provided by our agricultural community. The City also recognizes the management of urban growth and the ensuing conversion of individual agricultural properties has a potential to cause adjoining parcels to be converted to non-agricultural uses because of various economic conditions such as rising land values, conflicts with other land uses, and the inhibiting effect of increased numbers of people on normal agricultural operations. Therefore, the policies in this Section seek to ensure an orderly growth pattern when extending urbanized areas, while minimizing the premature and unplanned conversion of agriculture.

The City of Reedley is committed to managing its urban growth pattern. Through three General Plans (1964, 1977 and 2012), the City has successfully implemented a strategy whereby the SOI was the primary tool to direct compact growth inward and away from prime agricultural lands. This strategy has been effective when looking at how compact the City has grown over several decades. Development has not leap-frogged, sprawled or created peninsulas. Over this very long planning period the actual number of Prime, Unique, and Farmland of Statewide Importance converted to urban use was 691 acres. In 2013, the City’s incorporated area represents approximately sixty-two percent (62%) of land within the existing SOI. Again, containing and managing the urban growth pattern has effectively reduced the premature conversion of the surrounding agricultural landscape.

If the historical growth pattern were applied to the end of this planning horizon (2030), seventy-five percent (75%) of the SOI would be incorporated. Table 2-1, Land Availability, illustrates the City’s growth since 1977 and the resulting conversion of agricultural lands.

Table 2-3, Historical and Future Effects of SOI Expansion and Annexations on Agricultural Lands

Land Availability – Incorporated/Unincorporated Land Acreage				
	1977*	1992**	2012***	2030****
City Boundaries	1,836acres	2,469acres	3,133acres	3,797acres
Sphere of Influence	4,763acres	5,053acres	5,343acres*	7,091acres*
Remaining Ag Land	@2,927acres	@691acres	@2,210acres	@1,512acres

Sources:

\* Reedley General Plan, 1977

\*\* City of Reedley, General Plan 1992

\*\*\* City of Reedley, General Plan 2012

\*\*\*\* City of Reedley, Proposed Land Use Additions and Changes (Alternative II)

The GPU goals and policies represent the official City position regarding the desirable nature, disposition and quality of development within the community, but also an assessment of the type, quantity and timing of future development. To effectively manage urban growth in the future, this 2030 General Plan Update includes numerous goals and policies promoting compact development, in-fill development, and significant increases to residential and commercial density ranges. By design, these tools are to ensure a managed, controlled and

orderly growth pattern over the entire planning horizon. Implementation of all of the growth management related polices will not wholly mitigate the loss of, or potential for the conversion of, agricultural lands. These measures will significantly reduce the impact by a rational approach that affects the City of Reedley on various levels.

## Goals

LU 2.5A - Support agricultural industries within and surrounding the City by establishing urban growth management policies which seek to minimize the premature conversion of productive agricultural land to more urbanized uses.

LU 2.5B - Minimize leap-frogging, low density, automobile dependent development beyond the edge of service and employment areas, or the creation of peninsula development greater than ¼ mile from existing urban uses.

LU 2.5C - Facilitate orderly transition from rural/agricultural uses to urban land uses.

LU 2.5D - Designate growth areas that can be served by existing and planned infrastructure.

LU2.5E - Encourage a concentrated urban land use pattern that prioritizes development of in-fill and by-passed parcels, provides for the economically efficient provision of urban services, and maintains Downtown as the core of the City.

## Policies

LU 2.5.1: In areas outside the city limits, the City shall encourage Fresno County to:

- a) Maintain an exclusive agricultural zone district.
- b) Maintain a minimum permitted lot size for agricultural land which ensures that the land can be used for commercial agricultural purposes.

LU 2.5.2: ~~New development opportunities in the City shall be sequential and contiguous to existing development to ensure the orderly extension of municipal services and unnecessary conversion of agricultural land. Development standards shall incorporate measures to protect and preserve agricultural land. New development will only be approved in sequential fashion contiguous to existing development to ensure orderly extension of municipal services and unnecessary conversion of agricultural lands. Development standards shall incorporate measures to preserve and protect agricultural land as set forth in Policies LU 2.5.1 through LU 2.5.18 and COSP 4.3.1 through 4.3.4.~~

LU 2.5.3: The City shall oppose formation of new land conservation contracts on land adjacent to the City's boundaries. The City shall also work with owners of land within the SOI who wish to file for non-renewal of Williamson Act contracts in advance of urban development.

- LU 2.5.4: Within one year of the adoption of the GPU, the City shall ~~consider adoption of~~ adopt a right-to-farm ordinance which will require purchasers of residential, industrial and/or commercial properties within close proximity to existing agricultural uses to acknowledge that their land borders, or is in close proximity to, agricultural land and will endure the potential impacts of that interface. The goal of this proposed ordinance is to promote and protect existing agriculture operations, allowing farmers/ranchers to conduct operations when urban land uses extend into natural resource areas or are side-by-side, and, address the subject of frequent nuisance complaints. This Ordinance shall be implemented through a right-to-farm covenant to be recorded against the dominant and subordinate properties.
- LU 2.5.5: The City shall discourage the development of peninsulas of urban development into agricultural lands.
- LU 2.5.6: In cooperation with Fresno County, Fresno Local Agency Formation Commission (LAFCO), community and agricultural industry stakeholders, the City shall adopt and maintain a SOI consistent with the goals and policies of this GPU. The sphere of influence shall serve the mutual interest of the County and City by preserving agricultural uses from incompatible or unplanned urban uses.
- LU 2.5.7: Require contiguous development within the SOI unless it can be demonstrated that the development of contiguous property is infeasible. ~~An analysis of the fiscal, public utilities, surface transportation and service impacts shall be required as part of the application to annex new territory into the City. An~~ analysis of the fiscal impacts on public utilities including water, surface transportation, and service shall be required as part of the application to annex new territory into the City.
- LU 2.5.8: The City shall not support annexing land for residential development until at least ~~sixty-five (65)~~ eighty (80) percent of the existing residentially designated land inside the city limits is developed.
- LU 2.5.9: Work with Fresno County and Fresno LAFCO to maintain agricultural designations in areas outside the Reedley SOI.
- LU 2.5.10: Continue to maintain a Memorandum of Understanding (MOU) with Fresno County which clearly sets forth the following:
- a) The County shall not approve any discretionary development permit for new urban development within the City's SOI unless that development has first been referred to the City.
  - b) That the development is orderly.
  - c) County shall require development standards of the City of Reedley, when development is within the existing SOI.
  - d) The City application for the annexation of any new territory be consistent with the Cortese-Knox Act.

- e) City initiated annexation shall have development eminent, with at least fifty (50) percent of the proposed area having an approved site plan and/or tentative map.

- LU 2.5.11: The Plan should foster the establishment of a concentrated urban development pattern, with land outside the planned urban area being designated exclusively for Agriculture.
- LU 2.5.12: New urban development should occur in an orderly manner with initial development occurring on the available undeveloped properties within the City's limits which would be considered in-fill, by-passed parcels or in parcels in close proximity to the urban core, places of employment and established neighborhoods.
- LU 2.5.13: The City should promote and provide urban services to development within the City as a means of controlling and directing growth.
- LU 2.5.14: Initial development shall incorporate the necessary infrastructure to accommodate future development for the surrounding area consistent with the goals and objectives of the GPU. Reimbursement agreements or other mechanisms may be provided to the developer as a means to share the equitable burden of costs.
- LU 2.5.15: Provide transitional design between land use types and high quality urban uses.
- LU 2.5.16: The City shall encourage in-fill projects that incorporate pedestrian-oriented design.
- LU 2.5.17: The City shall propose plan areas and zone districts that can accommodate mixed use planning that will provide a combination of residential, commercial services and employment opportunities all within close proximity.
- LU 2.5.18: From the adoption date of this GPU, the City shall annex a maximum of five hundred(500) acres from within the existing SOI (@1,797-acres). Only when a Farmland Preservation Program is adopted for implementation shall the City propose additional lands for orderly annexation. The Farmland Preservation Program is discussed in great detail in Section 4.3 Agriculture.

## **2.6 SMART GROWTH/SUSTAINABILITY**

Table 2.3 is a consistency matrix to guide and ensure orderly development over the planning horizon. This matrix creates the linkage between planned land use designation and regulatory zone district designation. This table will also be used to guide future decision-making as the physical environment and development patterns changes over time which warrant a review of the appropriateness of an assigned planned land use or zone district designation.

Table 2-4 - Planned Land Use and Zone District Consistency Matrix

<b><u>Residential Use</u></b>	<b><u>Consistent Zone District</u></b>	<b><u>Consistent Density</u></b>
Suburban	RCO, RE, R-1-6, R-1-7, R-1-9, R-1-12, PUD	(1-4 dwelling units/gross acre)
Low Density	UR, R-1-6 & R-1-7, PUD	(4.1-8 dwelling units/gross acre)
Medium Density	UR, RM-3, PUD	(8.1-15 dwelling units/gross acre)
High Density	RM-2, PUD	(15.1-29 dwelling units/gross acre)
<b><u>Commercial Use</u></b>	<b><u>Consistent Zone District</u></b>	<b><u>Consistent Density</u></b>
Central	PO, C-AO, C-CN, C-CC, C-CS, PUD	
Neighborhood	PO, C-AO, C-CN, PUD	
Community	PO, C-AO, C-CC, C-CS, PUD	
Office	PO, C-AO, C-CC, C-CS, PUD	
Service	PO, C-AO, C-CN, C-CC, C-CS, PUD	
<b><u>Industrial</u></b>	<b><u>Consistent Zone District</u></b>	<b><u>Consistent Density</u></b>
Light	UR, M, MI, PUD	
Heavy	UR, MH, PUD	
<b><u>Other</u></b>	<b><u>Consistent Zone District</u></b>	<b><u>Consistent Density</u></b>
Open Space	RCO, UR, F	
Public/Institutional Facility	RCO, UR, RE, R-1, RM-2, RM-3, PO, C-AO, C-CN, C-CC, C-CS, PUD	
Community Buffer	UR, F	

Goals

- LU 2.6A - New development (residential, commercial and public) shall be designed in a way that creates fully integrated neighborhoods with a variety of land uses arranged so that access by walking or bicycling is possible and encouraged.
- LU 2.6B - New development in the planning area shall be designed on a pedestrian scale, as opposed to the automobile scale.
- LU 2.6C - Street standards shall be revised to allow narrower streets - thereby reducing the amount of land consumed for urban development.
- LU 2.6D- The City shall prepare and implement a policy that supports and encourages infill-development for vacant/undeveloped or by-passed parcels within the existing urban area.
- LU 2.6E - The City shall review and revise parking standards contained in the zoning ordinance and reduce requirements where appropriate. The City shall also encourage shared parking facilities when practical.

LU 2.6F - Street standards shall be revised to reflect Complete Streets design which includes the following:

- (1) Narrow street widths, particularly on local streets, to the maximum extent practical.
- (2) Revised geometrics of street intersections, including smaller turning radii.
- (3) Tree-lined streets, including parkways between the curb and sidewalk.
- (4) Along major streets, landscaped medians shall be constructed.
- (5) Revised street standards shall ensure safe and efficient access for emergency vehicles.
- (6) Roundabouts shall be located at selected street intersections to improve traffic flow, reduce air emissions and to provide community landmarks.
- (7) Circulation plans for pedestrian, bicycle and vehicle traffic shall provide for effective connections to major community facilities, such as the Kings River, Rail Trail, Downtown, Reedley College, Reedley High School, elementary schools and parks and employment areas.
- (8) Street designs for collector and arterial roadways shall include provisions for future fixed route transit systems.

LU 2.6G - In order to provide efficient transportation, new development shall be arranged with a grid street pattern, to the extent practical. The use of cul-de-sac streets shall be kept to a minimum.

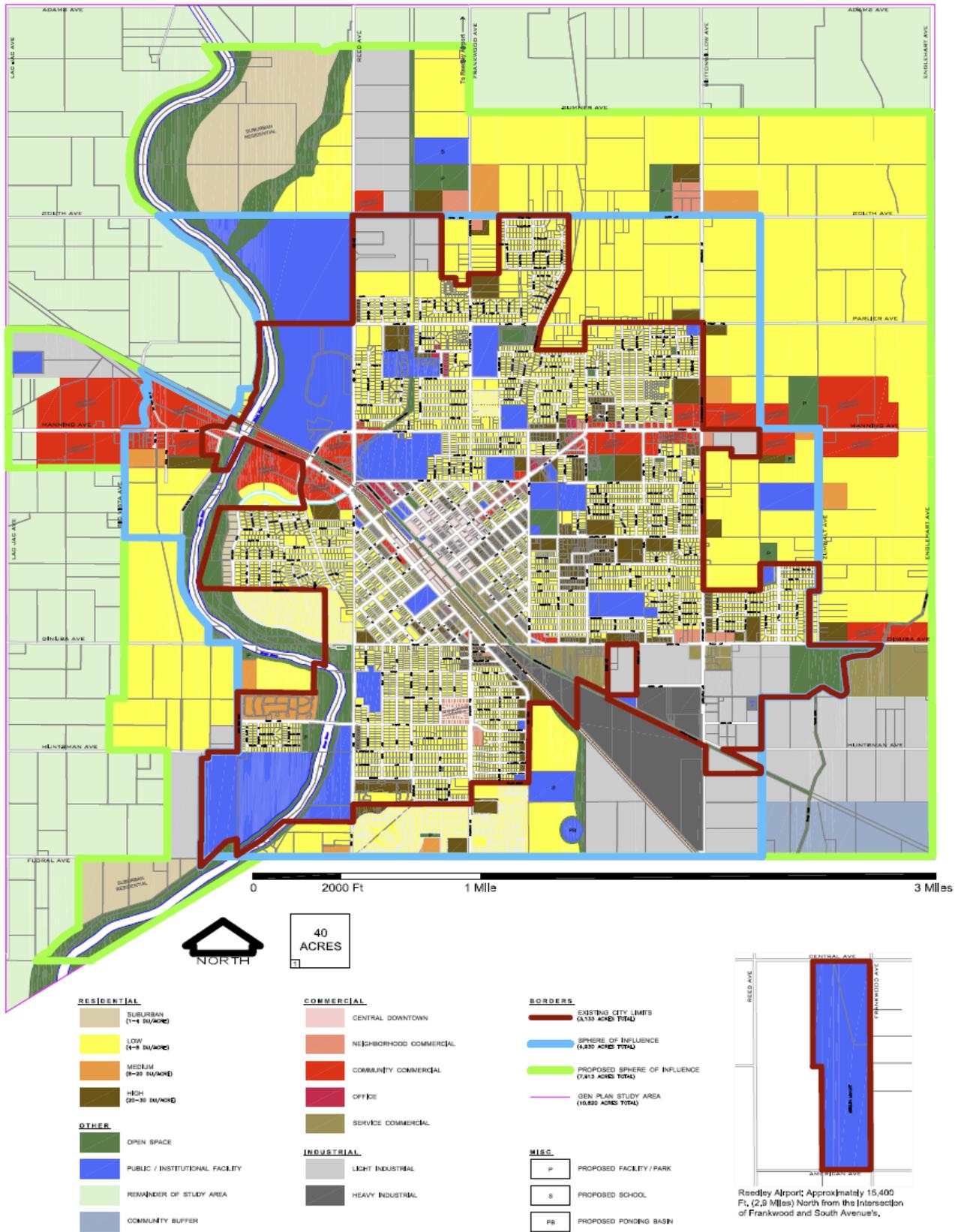
LU 2.6H - Sidewalk standards shall be revised to encourage and facilitate pedestrian activity by increasing sidewalk width, allow meandering sidewalk patterns and incorporating the placement of street trees between the sidewalk and the street.

LU 2.6I - New residential development shall be designed around “activity nodes” which provide commercial uses, employment centers, higher density development, and a complete range of supporting social and cultural facilities to the surrounding neighborhood.

## **2.7 LAND USE DESIGNATIONS**

Planned land use designations typically fall into one of four categories; residential, commercial, industrial and other (e.g. public facility, open space). The planned land use designation is an illustrative representation on the land use map (Figure 2.5 – Proposed Land Use Additions and Changes). The particular land use designation is then further described using goals and policies, as described below.

Figure 2.5 –Proposed Land Use Additions and Changes



This 2030 General Plan update includes changes to those designations which have been eliminated since the last update, or to more accurately describe and guide development have been changed. Figure 2.6 – Land Use Category Changes depicts the proposed visual mapping changes and applicable planned land use designation through the planning horizon. Table 2-4 and Table 2-5 provide additional detailed information related to the proposed land uses.

Figure 2.6 - Land Use Category Changes

<u>CURRENT</u> Land Use Category	Current Map Color	Current Description	<u>NEW</u> Land Use Category	New Map Color	New Description
<b>Stand Alone</b>					
Agriculture		Production of crops and livestock	Eliminated	N/A	Consolidated Into Open Space
Urban Reserve		Limited agriculture that will in the future be designated with an urban land use.	Urban Reserve		Limited Agriculture that will in the future be designated with an urban land use.
<b>Residential</b>					
Estate Density Residential		Single Family detached residential development; not to exceed 30,000 sq. ft. lot area (1.5 Dwelling/per acre).	Suburban Residential		Single Family detached residential development; not to exceed a minimum 10,890 sq. ft. to maximum 1-acre lot area (1-4 Dwelling/per acre).
Low Density Residential		Single Family detached residential development; not to exceed 12,000 sq. ft. lot area (3.6 Dwelling/per acre).	Low Density Residential		Single Family detached residential development; not to exceed a minimum 5,445 sq. ft. lot area (4-8 Dwelling/per acre).
Medium Density Residential		Single Family detached residential development; not to exceed 6,000 sq. ft. lot area (7.2 Dwelling/per acre) [3,000 sq. ft. lot area in certain RM-3 zone district (14.5 dwelling/per acre)].	Medium Density Residential		Single Family detached or Multiple –family residential development; not to exceed a minimum 2,904 sq. ft. to maximum 5,445 sq. ft. lot area (8-15 Dwelling/per acre).
High Density Residential		Single Family detached residential development; not to exceed 1,500 sq. ft. lot area (29 Dwelling/per acre).	High Density Residential		Single Family detached residential development; not to exceed 1,500 sq. ft. (15-29 Dwelling/per acre).

Commercial						
Administrative and Office Commercial	N/A	Provide an alternative commercial use in areas adjacent to or in the vicinity of residential uses in areas which might not be conducive to further development but where commercial uses would need to be limited intensity.		Eliminated	N/A	Consolidated with Office Commercial planned land use.
Office Commercial		Development of administrative, business, medical, professional, and general offices; residential uses are also permitted.		Office Commercial		Development of administrative, business, medical, professional, and general offices; residential uses are also permitted.
Downtown Commercial		No description in the General Plan.		Eliminated	N/A	Consolidated into Central Downtown Commercial planned land use.
Neighborhood Commercial		Various intensities of commercial activities serving a local area; not to exceed 5-acres in size.		Neighborhood Commercial		Various intensities of commercial activities serving a local area; not to exceed 5-acres in size.
Community Commercial		Outside the central core, wide range of retail business and compatible services designed to serve the entire community.		Community Commercial		Outside the central core, wide range of retail business and compatible services designed to serve the entire community.
Central Business Commercial		Commercial center, wide range of retail services, professional and governmental offices concentrated in the community's central location.		Central Business Commercial		Commercial center, wide range of retail services, professional and governmental offices concentrated in the community's urban core.
Service Commercial		General commercial uses, which due to space requirements are not located in commercial centers.		Service Commercial		General commercial uses, which due to space requirements are not located in commercial centers.
Recreation Commercial		Commercial recreation that cater to the traveling and tourist public, permitted through a CUP process.		Eliminated	N/A	Consolidated into Community Commercial.
Floating Neighborhood Commercial	N/A	Neighborhood commercial located at a major intersection; not to exceed 20acres in size, available only on one corner of the intersection, permitted by the CUP.		Eliminated	N/A	Consolidated into Neighborhood Commercial.

Industrial					
Limited Industrial		Restrictive, non-intensive manufacturing, processing and storage activities which do not have the potential for detrimental impacts on surrounding properties.		Limited Industrial	Restrictive, non-intensive manufacturing, processing and storage activities which do not have the potential for detrimental impacts on surrounding properties.
General Industrial		Full range of manufacturing, processing and storage facilities.		General Industrial	Full range of manufacturing, processing and storage facilities
Other					
Public Facilities	Notated	Governmental and quasigovernmental facilities and services.		Public Facilities	Governmental and quasigovernmental facilities and services.
Open Space		Land or water areas which are essentially unimproved, except for recreational facilities; Ag uses may also be permitted.		Open Space	Land or water areas which are essentially unimproved, except for recreational facilities. Agricultural uses may also be permitted.
Buffer	N/A	Urban landscaping that will provide for beautification and protection along selected public areas; may serve as a transition into higher density areas.		Buffer	Urban landscaping that will provide for beautification and protection along selected public areas; may serve as a transition into higher density areas.

Table 2-5 - Land Use Designation Descriptions

Land Use Designation	Abbreviation	Minimum Parcel Size	Maximum Parcel Size	Dwelling Units per Gross Acre
<b>RESIDENTIAL</b>				
Suburban Residential	SR		1 ac.	1.0 – 4.0
Low Density Residential	LDR			4.1 – 8.0
Medium Density Residential	MDR			8.1 – 15.0
High Density Residential	HDR	.5 ac.	4 ac.	15.1-29
<b>COMMERCIAL</b>				
Central Downtown	CD	None	None	0.0 – 30.0
Neighborhood Commercial	NC	1	10	0.0 – 20.0
Community Commercial	CC	5	40	
Office Commercial	OC			
Service Commercial	SC			
<b>INDUSTRIAL</b>				
Light Industrial	LI			

Heavy Industrial	HI			
<b>OTHER</b>				
Open Space	OS			
Public/Institutional Facility	PI			
Urban Reserve	UR			
Community Buffer				

Table 2-6 - Land Use Acreages and Percentages of Total

Land Use Designation	Incorporated		Existing Sphere		Total Planning Area	
	Acres	%	Acres	%	Acres	%
Suburban Residential	9.61	.3	0	0	276.07	3.5
Low Density Residential	1680.39	53.6	926.44	51.6	4074.68	51.5
Medium Density Residential	27.4	.9	38.32	2.1	110.95	1.4
High Density Residential	191.91	6.1	36.35	2	250.52	3.2
Central Downtown	40.46	1.3	0	0	40.46	.5
Neighborhood Commercial	22.75	.7	1.47	.1	44.29	.6
Community Commercial	101.64	3.2	109.64	6.1	434.24	5.5
Office Commercial	16.72	.5	0	0	16.72	.2
Service Commercial	88.49	2.8	0	0	140.26	1.8
Industrial Light	190.61	6.1	167.09	9.3	808.94	10.2
Industrial Heavy	54.84	1.8	124.41	6.9	179.25	2.3
Open Space	170.74	5.4	207.44	11.5	635.87	9.5
Public/Institutional Facility	537.44	17.2	185.84	10.3	752.18	8
Urban Reserve	0	0	0	0	0	0
Community Buffer	0	0	0	0	112.36	.05

## RESIDENTIAL LAND USE

The City should provide for a wide range of housing types, styles and densities. A city with these characteristics insures that housing opportunities are made available for all socio-economic levels.

### Goals

LU 2.7A - Provide for the distribution of varying residential densities throughout the community to ensure that residential development reflects various income and lifestyle options.

LU 2.7B - Residential densities shall be moderately increased to encourage more compact development consistent with smart growth design principles.

LU 2.7C - Preserve existing neighborhoods and create strong new neighborhoods that are well designed and maintained.

LU 2.7D - Promote integration of affordable housing units toward inclusionary development of neighborhoods with mixed income levels.

### Policies

LU 2.7.1 Establish the following residential densities:

- (a) Suburban Residential (1-4 dwelling units per gross acre) – The Suburban Residential density designation is intended for single-family detached residential development. The designation is intended to accommodate larger residential parcels, which generally range from 7,500 square feet to one-acre in size.
- (b) Low Density Residential (4-8 dwelling units per gross acre) – The Low Density Residential designation is intended for single-family detached residential development, attached single family, and low density multi-family uses. The Low Density Residential designation is the predominant residential designation in the City of Reedley. This land use category accommodates the typical residential subdivision in Reedley.
- (c) Medium Density Residential (8-15 dwelling units per gross acre) – The Medium Density Residential designation is intended for single-family or multiple-family development. Medium density development shall be located near or adjacent to collector or arterial intersection and close to shopping and employment opportunities. Multiple family developments may serve as a transition from commercial to single family residential neighborhoods.
- (d) High Density Residential (15-29 dwelling units per gross acre) – High Density is intended for multiple-family development including multi-story condominium or apartment developments.

- LU 2.7.2 Residential development projects shall achieve the minimum density requirements as designated by the General Plan Land Use Map.
- LU 2.7.3 Guide new development into compact neighborhoods around commercial centers, public open space and schools.
- LU 2.7.4 Incorporate interface design standards (e.g. setbacks, fencing) into each residential and commercial zone district to ensure compatibility.
- LU 2.7.5 Encourage and support within existing neighborhoods in-fill development.
- LU 2.7.6 Ensure that residential development occurs in areas that have sufficient infrastructure to accommodate the density of residential development being proposed.
- LU 2.7.7 Residential development shall be designed in a manner so that new development is well connected to the surrounding area and to encourage pedestrian and bicycle transportation.
- LU 2.7.8 Provide incentives for development, such as reduced lot size, setbacks, and narrower street widths for developments, and include amenities such as front porches, increased front yard landscaping, and reduced dominance of the front yard by garages and driveways.
- LU 2.7.9 New subdivisions shall annex into or form a landscape and lighting district to maintain public improvements including but not limited to walls, street trees and lighting.
- LU 2.7.10 Encourage planting of trees on residential lots by providing a brochure outlining the benefit of shade trees, and establish a tree list that maximizes shade and aesthetics and minimizes conflict with sidewalk and curb improvements.
- LU 2.7.11 The City shall use density bonus provisions to provide for density increases in accordance with State Government Code.
- LU 2.7.12 Manufactured housing and modular housing shall be permitted subject to design regulation and existing ordinances.
- LU 2.7.13 Architectural design of medium and high density development shall be compatible with the surrounding character of the residential area.
- LU 2.7.14 Multiple-Family dwelling units may be integrated into single-family residential subdivisions, at specified locations, such as street corners, if entrances are designed to be facing each street.
- LU 2.7.15 Multiple-family developments shall have adequate on-site parking designed to be aesthetically pleasing in a manner that does not distract from the residential character of the area.

- LU 2.7.16 Multiple-family developments shall be designed with the following features:
- (a) Units fronting on streets shall have entryways that face the public street with doorways and windows.
  - (b) Units shall include details that add to the appeal of buildings, such as painted trim, shutters, and arbors.
- LU 2.7.17 High Density residential land uses shall be designed to blend in with the surrounding neighborhood.
- LU 2.7.18 Multiple-family residential projects shall include provisions to ensure the safety and security of residents, the maintenance of buildings and landscaped areas, and effective and responsible management.
- LU 2.7.19 The City shall establish a minimum standard for the provision of open space within new multiple-family projects to meet the needs of both children and adults.
- LU 2.7.20 The City shall require innovative lot and building designs to ensure that affordable single-family housing blends with housing in higher income neighborhoods.
- LU 2.7.21 Mixing of residential uses, densities and lot sizes shall be encouraged, while maintaining traditional neighborhood values and emphasizing concepts for livable, walkable neighborhoods.

### Manufactured Housing

#### Goals

LU 2.7E - Manufactured housing may be permitted in the low and medium residential designations subject to the issuance of a conditional use permit.

LU 2.7F - Accommodate the use of manufactured housing as an alternative residential dwelling type and ensure the compatibility of manufactured housing with surrounding land uses.

#### Policies

- LU 2.7.22 Manufactured housing parks may be permitted in all residential designations in accordance with the following policies:
- (a) The density of the manufactured housing park shall not exceed the maximum permitted density of the underlying residential designation with any applicable density bonus.
  - (b) Manufactured housing development shall have access to a collector or arterial street.

- (c) Manufactured housing park development shall incorporate design standards necessary to protect the quality and integrity of surrounding land uses.
- (d) Manufactured housing park development shall incorporate a comprehensive landscape plan designed to enhance the aesthetic quality of the park and provide buffering necessary to maintain harmony and compatibility with surrounding land uses.

## COMMERCIAL LAND USE

Commercial land uses are intended to provide goods, services and employment opportunities for the citizens of Reedley and surrounding areas. General Plan Commercial designations are Central Downtown Commercial, Neighborhood Commercial, Community Commercial, Office and Service Commercial.

Modern commercial development has typically been designed in a fashion that does not particularly respect traditional neighborhood design or the design identity of the community. Large parking lots often dominate the streetscape creating an environment in which most people do not wish to spend time. A goal of the General Plan is to facilitate commercial development that blends neighborhoods, in terms of scale and architectural appearance.

### Goals

LU 2.7G - Ensure adequate commercial shopping opportunities and office space to meet anticipated need for economic development.

LU 2.7H - Provide for the timely development of planned commercial areas as determined by community needs and the availability of urban services.

LU 2.7I - Enhance the viability of the downtown area and preserve its role as the urban core.

LU 2.7J - Encourage further efforts to strengthen the downtown core, including linking it with other commercial uses along Manning Avenue and "I" Street.

LU 2.7K - Designate sufficient commercial land to accommodate growth for the entire planning horizon.

LU 2.7L - Provide for the compatibility of commercial land uses with surrounding land uses.

LU 2.7M - Encourage "big box" retail to locate in the community commercial planned land use designation.

### Policies

LU 2.7.23 Future commercial development in the planning area shall be well designed to respect neighborhood scale and traditional architectural design. Toward that end, commercial development will be reviewed utilizing the following design standards:

- (a) Parking space requirements shall be minimized for commercial developments. Parking lots should be segmented to minimize the impact of parking on the streetscape. In particular, parking should be located to the rear or to the side of commercial and office buildings.
- (b) Incorporate interface design standards (e.g.; setbacks, fencing) into each residential and commercial zone district to ensure compatibility.
- (c) Commercial development shall be designed to facilitate pedestrian and bicycle access and function, featuring outdoor seating, pedestrian plazas and wide, shade-covered walkways.
- (d) Landscaping, particularly shade trees and drought tolerant plants, shall be maximized in all commercial developments.

LU 2.7.24 Ensure that all commercial land uses are developed and maintained in a manner complementary to and compatible with adjacent residential land uses, to minimize interface problems with the surrounding environment, and to be compatible with public facilities and services. As part of the City's project review process, major emphasis will be given to site and building design in order to ensure and/or preserve functionality and community aesthetics.

- (a) Development projects shall appropriately interface with adjacent properties.
- (b) Shopping Centers shall embrace a unified building, landscaping and signage design.
- (c) Building facades with visible sides of buildings shall not develop with featureless, "blank walls".
- (d) Adequate screen roof-mounted mechanical equipment, and ensure that such equipment adhere to noise standard set forth in the General Plan Noise Element.

LU 2.7.25 Off-street parking for commercial areas shall be designed to adequately support surrounding land use pattern. Off-street parking areas shall also include landscaping to provide shading for at least 50 percent of the surfaced area within 10 years from planting.

LU 2.7.26 Encourage efficient use of land by allowing a percentage of compact car parking spaces.

LU 2.7.27 Planned unit developments shall be permitted in all commercial designations.

LU 2.7.28 Encourage continued efforts to improve the appearance of the commercial areas including the commercial corridor along 11th Street.

- LU 2.7.29 Ensure that the City of Reedley has adequate land designated for Community Commercial to accommodate large scale retail development.

### Central Downtown Land Use

The Central Downtown land use designation is proposing to continue the focus and sustainability of Reedley's historic downtown area. A mix of retail, financial, professional and government office and housing will assist in the continued vitality of the core of Reedley. Central Downtown shall mean land designated for development of a commercial center where a wide range of retail services and professional and governmental offices is concentrated in a location central to most community residents. This land use shall also accommodate mixed use development where appropriate.

#### Policies

- LU 2.7.30 Encourage rehabilitation of existing structures to accommodate residential and office uses in second-story spaces.
- LU 2.7.31 Encourage mixed uses in new and existing structures.
- LU 2.7.32 Create a mixed use overlay zone to include design standards that will allow for creative use and design of both new and existing structures.

### Neighborhood Commercial Land Use

Neighborhood Commercial Centers will be composed of a mix of retail and service-oriented uses that will serve the immediate neighborhoods and provide a destination for local transit and places for social gathering of neighborhood residents. Future commercial centers will be designed with the pedestrian in mind and provide for connectivity to surrounding areas.

#### Policies

- LU 2.7.33 New Neighborhood Commercial planned land uses shall be located no closer than ¼ mile from similar commercial uses.
- LU 2.7.34 Neighborhood Commercial uses shall be sited in locations where they can function as "activity nodes" for surrounding neighborhoods.
- LU 2.7.35 Neighborhood Commercial shopping centers shall be designed to facilitate easy pedestrian and bicycle access from surrounding neighborhoods.
- LU 2.7.36 Neighborhood Commercial shopping centers shall be approximately 1 to 10-acres in size.
- LU 2.7.37 Neighborhood Commercial uses shall provide for various intensities of commercial activities. Such activities may range from a single use to a neighborhood shopping center up to ten acres.
- LU 2.7.38 Neighborhood Commercial uses shall be designed to be compatible with adjacent residential uses by addressing scale, height and architectural.

LU 2.7.39 Locations at an intersection are most appropriate for Neighborhood Commercial uses.

### Community Commercial Land Use

The Community Commercial designation supplements the central business commercial, retail, business, and other services by providing a wide range of consolidated shopping opportunities near residential concentrations. Such activities serve the entire community. Where possible, these uses should be concentrated into unified retail centers.

#### Policies

LU 2.7.40 Community Commercial designations shall be located primarily at the following locations:

- (a) Manning Avenue east of Columbia Avenue
- (b) Manning Avenue west of Reed Avenue
- (c) Dinuba Avenue east of Zumwalt Avenue
- (d) Other locations with Arterial/Arterial intersections that provide for major shopping opportunities.

LU 2.7.41 Community Commercial areas should be concentrated into unified retail centers of five to forty acres in size and shall be comprehensively planned. Visual compatibility with surrounding residential neighborhoods shall be required.

LU 2.7.42 Community Commercial designations shall be primarily at arterial/arterial or arterial/collector intersections to ensure adequate surface transportation accessibility.

### Office Commercial Land Use

Shall mean land designated for development of administrative, business, medical, professional, and general offices.

#### Policies

LU 2.7.43 Office commercial development shall primarily be focused around the Downtown area and the area surrounding the hospital.

LU 2.7.44 Office commercial development shall also be encouraged to be used as a buffer between arterial streets and residential development.

LU 2.7.45 Office Commercial uses are intended as a transition land use between residential and more intensive commercial uses. Residential development would also be appropriate in this land use designation.

## Service Commercial Land Use

Shall mean land designated for general wholesale or heavy commercial uses, which, due to space requirements or the distinctive nature of their operations, are not usually located in other commercial centers. Uses that can be located in Neighborhood and Community Commercial centers should generally be discouraged from locating in Service Commercial areas.

### Policies

- LU 2.7.46 Service Commercial designations shall be primarily located along “I” and “G” Streets, adjacent to the Downtown area, and along Dinuba Avenue near the railroad tracks.
- LU 2.7.47 This land use designation would allow repair, rental, retail sales, storage, overnight lodging and other intensive service oriented commercial activities.
- LU 2.7.48 Service Commercial designations should be located along major streets where adequate vehicular access is available and where the uses will not adversely affect surrounding land uses.

## **INDUSTRIAL LAND USE**

### Light Industrial

The light industrial planned land use is primarily found around the urban area of the City and are designations for limited industrial uses as defined by the zoning ordinance. This land use must be conveniently accessible to transportation networks available to move raw and manufactured products.

### Goals

LU 2.7N - Expand and diversify the industrial economic base.

LU 2.7O - Minimize exposure of the public to toxic air emission and odors from industrial, manufacturing and processing facilities.

LU 2.7P - Maximize the compatibility of planned industrial areas with surrounding non-industrial uses.

LU 2.7Q - Provide adequate sites and acreage for a wide range of industrial development.

### Policies

- LU 2.7.49 Shall restrict land designated for non-intensive manufacturing, processing, and storage activities which do not have a detrimental impact on surrounding properties.
- LU 2.7.50 Encourage development of light industrial uses in areas where the proposed use is compatible with the surrounding planned use.

- LU 2.7.51 During the review of development applications for proposed new light industry, the City shall determine whether pretreatment of industrial wastes shall be required.
- LU 2.7.52 The City should permit only light industrial uses within planned industrial areas adjacent to existing or planned non-industrial property.

### Heavy Industrial

The heavy industrial planned land use designation is an area identified for more intense industrial uses. This highest intensification of land use is also typically surrounded by light industrial land use designation as a potential buffer to protect commercial and residential areas of the City. This land use must be conveniently accessible to transportation networks available to move raw and manufactured products.

#### Policies

- LU 2.7.53 Shall mean land designated for the full range of manufacturing, processing, and storage activities.
- LU 2.7.54 During review of development plans for any proposed new heavy industry, the City shall determine whether pretreatment of industrial wastes shall be required.
- LU 2.7.55 The City may establish conditions on new heavy industrial development to ensure compatibility with surrounding land uses.
- LU 2.7.56 Access to industrial areas should be by streets designed to carry heavy industrial traffic in accordance with development standards found in the Circulation Element.
- LU 2.7.57 Planned heavy industrial uses adjacent to roads carrying significant non-industrial traffic should be designed to have landscaping and building setbacks.
- LU 2.7.58 Heavy industrial planned land uses should be clustered based upon compatibility and operational efficiencies to maximize available infrastructure.
- LU 2.7.59 New heavy industrial uses should be encouraged to concentrate in the southeastern portion of the Planning Area where they are downwind from other less intensive uses.
- LU 2.7.60 Heavy Industrial uses shall be planned to minimize health risks to people resulting from toxic or hazardous air pollutant emissions.
- LU 2.7.61 The City shall limit expansion of manufacturing, industrial and processing facilities that creates significant sources of air pollution unless the impacts to adjacent sensitive areas can be mitigated.
- LU 2.7.62 Protect heavy industrial sites from encroachment by residential and other sensitive uses through appropriate zoning and interface standards.

LU 2.7.63 Planned unit development may be permitted in all industrial land use designations.

## **OTHER LAND USE**

### Open Space

Shall mean land space or water course which is an area essentially unimproved except for recreational facilities and designated for an open space uses. Typical areas include wildlife habitats, floodplain land, and other hazard areas and public and private recreational facilities. Agricultural uses may also be permitted in open space areas.

### Public and Institutional Land Use

Shall mean land use designated for the location of governmental and quasi-governmental facilities and services which are necessary to the general welfare of the community. Typical uses include the waste water treatment plant, retention basins, schools, and cemeteries.

### Goals

LU 2.7R - Provide sites for adequate public facilities to serve projected growth.

LU 2.7S - Provide for the timely and economically efficient development of all public services and facilities necessary for Reedley's planned urban growth.

LU2.7T - Public facilities shall complement and support the creation of livable neighborhoods.

LU 2.7U - Provide transportation and recreation opportunities near schools.

LU 2.7V - Promote schools as a focal point within neighborhoods.

### Policies

LU 2.7.64 Provide in accordance with policies of the Open Space, Conservation, and Recreation Element, park, recreation facilities and open space.

LU 2.7.65 Encourage the Kings Canyon Unified School District to develop new elementary schools as needed at locations shown on the General Plan Land Use map.

LU 2.7.66 The planning area shall contain parks, schools, trails, retention basins and other public improvements deemed appropriate.

LU 2.7.67 Planned unit development may be permitted in areas planned for public or institutional uses.

LU 2.7.68 The City shall coordinate with other public agencies to facilitate the proper location and design of public improvements.

LU 2.7.69 Subdivision developments shall provide open space for pocket parks.

- LU 2.7.70 ~~Canal pipeline easements and canal banks~~ Pipeline easements shall be investigated for use as public open space features, with landscaped pathways within the easement.
- LU 2.7.71 Retention basins shall be developed at appropriate locations to help recharge the groundwater basin. If properly designed, retention basins can also function as local parks.
- LU 2.7.72 Update the water, wastewater and storm drainage master plans, and other master plans related to infrastructure development on a periodic basis of no less than five years.
- LU 2.7.73 Maintain adequate facilities to accommodate sewage disposal for both existing residents and future development.
- LU 2.7.74 Maintain adequate facilities for water and storm drain service to service existing residents and future development.
- LU 2.7.75 Plan for the development of an additional fire station in the City of Reedley to ensure maximum service areas and response times for the Reedley Fire Department.
- LU 2.7.76 The City shall coordinate the location of school sites in the community with the Kings Canyon Unified School District and the State Center Community College District. This will provide the coordination necessary for both the City and the Districts to designate optimum sites for future development.
- LU 2.7.77 Work with Reedley Community College to facilitate expansion plans and provide student housing.

Community Buffer

Shall mean land designated for the purpose of urban landscaping that will provide beautification and protection along selected public streets and serve as a transition to high intensity urban uses. Buffers shall be at least 20 to 50 feet in width from face of curb (this includes public right-of-way and 10 to 40 feet of landscaping). Buffers may incorporate trees, ground cover, sidewalks, walls and architectural design features of aesthetic appeal. Buffer strips may be provided on private property or dedicated to the City for maintenance, subject to establishment of a Lighting and Landscape Maintenance District or similar funding mechanism for maintenance. The proposed buffer strip along the west side of Kings River Road shall be landscaped in a manner which is compatible with the Kings River riparian area.

## 2.8 ECONOMIC DEVELOPMENT STRATEGIES

The City of Reedley is expected to almost double in population over the planning horizon of the General Plan 2030 Update. The City of Reedley is committed to improving economic development opportunities. The Economic Development Element contains goals and policies that will enable the City of Reedley to focus resources and assist in the retention and creation of new business and industry opportunities in the City of Reedley.

To support this anticipated growth, not only will Reedley need to accommodate new and diverse housing opportunities, while providing a greater range of retail shopping, but also engage in development of more employment opportunities for community members. Key ways to create jobs is to continue to focus on the development and improvement of the downtown as a commercial center; establish commercial nodes to accommodate neighborhood and community needs for residence and business; and ensure industrial land for development is available in and around the industrial park and Airport to meet the needs of new and expanding businesses.

### Goals

LU 2.8A-To provide economic stability and encourage a diversified job base.

LU 2.8B - Recruit neighborhood, community and regional retail and industrial activities that meet the needs of citizens of Reedley.

LU 2.8C - Retain, improve and support expansion of existing businesses in Reedley.

LU 2.8D - Maintain an adequate supply of commercial, office and industrial land for potential economic development opportunities.

LU 2.8E - Create an image for the City of Reedley that will attract new residents, businesses and economic activity.

### Policies

- LU 2.8.1 Ensure the availability of sites, land or buildings that are of sufficient size to accommodate potential new business.
- LU 2.8.2 Identify key industry to target for a strong and vibrant economy.
- LU 2.8.3 Pursue funding to develop a marketing program to recruit targeted industries and promote existing businesses.
- LU 2.8.4 Ensure the availability of infrastructure to areas identified for future commercial and industrial growth, including in and around the downtown area.
- LU 2.8.5 Ensure that the local government can respond to applications from existing businesses for expansion or new business. Responses include timely processing of development applications and permits.

- LU 2.8.6 Ensure that the City of Reedley staff continues to proactively seek new and expanding development opportunities in the City of Reedley.
- LU 2.8.7 Ensure that the City of Reedley can provide adequate housing for future employees as a way to attract new business.
- LU 2.8.8 Support existing businesses and recruit new business that can provide new jobs for residents of the City of Reedley.
- LU 2.8.9 Identify advantages the City of Reedley provides to new business and communicates that information to other agencies and brokers.
- LU 2.8.10 Encourage, retain, expand and attract new educational/training institutions to improve workforce capacity and capability for the citizens of Reedley.
- LU 2.8.11 Attract and retain quality jobs in the City of Reedley.
- LU 2.8.12 Ensure a strong workforce that can compete in a regional economy.
- LU 2.8.13 Promote locally owned and cooperative enterprises and businesses in Reedley.
- LU 2.8.14 Prepare a comprehensive assessment of the City of Reedley's economic statistics including types of existing businesses, labor force evaluation and assets.
- LU 2.8.15 Recruit new business and identify existing businesses for expansion opportunities.
- LU 2.8.16 Work with large employers to identify the training and education needs of their businesses.
- LU 2.8.17 Work with the school district and Reedley College to establish programs that will enhance the workforce skills of the community.
- LU 2.8.18 Investigate the opportunity of secondary educational facilities establishing satellite campus in Reedley.
- LU 2.8.19 Identify infrastructure needs to facilitate development of commercial and industrial areas.
- LU 2.8.20 Monitor on an on-going basis the availability of commercial and industrial land to ensure adequate supply at all times.
- LU 2.8.21 Designate sites of sufficient size to accommodate community and regional retail opportunities.
- LU 2.8.22 Review the zoning ordinance for potential streamlining of the development process, such as eliminating the requirement for conditional use permits where appropriate.

## 2.9 COMMUNITY HEALTH

The City of Reedley is responsible for protecting the public health, safety, and welfare of its citizens, and has the ability to do so through implementation of land use plans, policies, and programs to meet the needs of its community. The built environment and land use decisions play an important role in shaping the pattern of community development and in either promoting or discouraging good health for its citizens.

A community's overall health depends on multiple factors, including the environment they live in. A healthier living environment reduces health risks and promotes better lifestyle choices. The overall objective is to make Reedley community health and safety a high priority. Objectives that assist in creating a healthy living environment are outlined below:

- (a) Access to recreation and open space.
- (b) Access to healthy foods.
- (c) Access to medical services.
- (d) Completeness of neighborhoods.
- (e) Safe neighborhoods and public places.

### Goals

LU 2.9A - Improve the infrastructure of our community in order to maximize opportunities for all residents of Reedley to make healthful choices.

### Policies

- LU 2.9.1 The City shall strive through its land use decisions to promote community health for all neighborhoods in the City, with particular attention to those that have been identified as lacking in amenities such as transit, clean air, grocery stores, bike lanes, parks, and other components of a healthy community.
- LU 2.9.2 Encourage patterns of development, such as sidewalks and walking and biking paths that promote physical activity and discourage automobile dependency.
- LU 2.9.3 Support healthy lifestyles among residents through increasing opportunities for regular physical activity.
- LU 2.9.4 Encourage the development of parks and open space, as well as a network of pedestrian walkways for physical activity in all neighborhoods.
- LU 2.9.5 Provide adequate lighting for streets, parks, recreational facilities, sidewalks and bike paths to promote their use.

## Improving Healthy Food Access

Obesity, a leading public health challenge facing California today, is approaching epidemic proportions. Medical experts agree that obesity increases the risk for a number of health hazards, including heart disease, stroke, Type 2 diabetes and some cancers.

### Goals

LU 2.9B - Reduce the incidence of substance abuse and strive for a drug-free community.

LU 2.9C - Establish after-school programs and other constructive activities for youth.

LU 2.9D - Prevent and reduce crime in the community.

### Policies

- LU 2.9.6 Promote accessibility to healthy foods through various opportunities such as farmers markets.
- LU 2.9.7 Develop patterns of development that provides ready access to healthful and nutritious foods.
- LU 2.9.8 Identify previously overlooked opportunities for the City to integrate public health concerns through its land use planning and decision making.
- LU 2.9.9 Evaluate the need and plan for future medical facilities in Reedley by ensuring adequate land is designated to accommodate medical offices or expansion of the hospital.
- LU 2.9.10 Promote establishment of demonstration gardens at schools, churches, and other public facilities.
- LU 2.9.11 Consider utilizing vacant city property for gardening of fruits and vegetables.
- LU 2.9.12 Support the development of educating all age groups in the prevention of substance abuse.
- LU 2.9.13 The City Community Services Department shall work with the school district on appropriate after-school youth activities.
- LU 2.9.14 Encourage building designs that help to reduce crime and improve resident safety.
- LU 2.9.15 Develop a corrective action plan to deal with high crime areas, including implementation measures such as strengthening and expanding neighborhood watch programs, including businesses, and promoting the education of citizens on how not to be a victim.
- LU 2.9.16 Maintain an adequate officer-to-population ratio in all areas, as approved by the City Council.

# *Chapter Three*

## *Circulation Element*

### **3.0 INTRODUCTION**

The Circulation Element is intended to function as a comprehensive transportation plan covering not only streets and highways, but also bikeways, public transportation, railway and airport systems, and truck routes. The Circulation Element consists of text and an accompanying Circulation Diagram which indicates the location of major streets and highways within the Planning Area. In addition, it establishes policies intended to insure optimum efficiency and safety in the movement of people and goods within and beyond the Planning Area.

Mandatory circulation element issues, as defined in the statute, are the following:

- (a) Major Thoroughfares
- (b) Transportation Routes
- (c) Terminals
- (d) Complete Streets
- (e) Other local public utilities and facilities

The Circulation Element is also to a large extent interdependent with the Land Use Element. Careful integration of policies within both Elements is required to ensure that there is sufficient roadway capacity to accommodate existing and future traffic generated by development. The planning of a surface transportation system must be coordinated and integrated with Fresno County and Caltrans efforts.

This Circulation Element of the General Plan satisfies California Government Code, Section 65302(b), which requires the General Plan to include a circulation element indicating the location and extent of existing and proposed major thoroughfares, transportation routes, terminals and facilities.

### **3.1 BACKGROUND**

The Circulation Element was last updated in 1993. It contained a list of objectives, goals and policies pertaining to streets and highways, bikeways, public transportation, railway and airport systems. The City's streets system is based on a functional classification system providing four service levels; major arterials, arterials, collectors and local streets. Circulation in the City of Reedley is complicated by the change from a diagonal street grid pattern within the central older portion of the community, to a more traditional north/south and east/west grid system in the newer areas surrounding the community's core area. This has created some complex and inefficient intersections and movement throughout the City.

In 2001, the City of Reedley adopted by resolution, the Reedley Specific Plan. One of the many goals of the Specific Plan was to rediscover street design concepts of the past where pedestrians and a slower pace of life were the norm. The Plan called for a return to a grid pattern for streets that maximizes access options, calms traffic and reduces traffic congestion. As part of the General Plan 2030 Update, many of the policies in the Reedley Specific Plan have been incorporated into this General Plan Circulation Element. The revised and new policies will apply to all development in the City of Reedley in both existing and new growth areas.

In 2008, the Governor signed Assembly Bill 1358, the California Complete Streets Act. The Act states that communities must make the most efficient use of urban land and transportation infrastructure and improve public health by encouraging physical activity by finding innovative ways to reduce vehicle miles traveled and to shift short trips in an automobile to biking, walking and public transit.

The Circulation Element Update was also prepared with AB 1358 compliance in mind. Suitable to the rural nature of the City of Reedley in providing a balanced multi-modal transportation network on all streets that will provide safety for the pedestrian and those traveling by vehicle.

The City of Reedley is primarily accessible from four major roadways; Reed Avenue from the north, Manning Avenue from the west, Frankwood Avenue from the south, and Dinuba Avenue from the east. Other major roadways provide access to State Route 99 to the west and the neighboring communities of Fresno and Clovis, Dinuba, Orange Cove and Parlier.

Reedley currently provides a localized Dial-A-Ride system and does not have a fixed route bus system. There is also a fully developed parkway/trails systems which runs through the core of the City.

### **3.2 STREET AND HIGHWAY CIRCULATION SYSTEM**

Reedley's surface transportation system is composed of numerous city streets, which, in some cases, connect to county roads on the peripheral of the City. Other system modalities include public transit system, fixed route transit services, paratransit services, general aviation and freight rail services. Where service is available, public transportation is utilized primarily by a transit-dependent population; i.e., the elderly, students, low-income residents and the physically handicapped. These segments of the population generally have limited access to automobiles. Implementation of the Reedley General Plan Circulation Element will improve the existing regional transportation and circulation system.

The Circulation Element identifies a hierarchy of roads based upon their intended function and projected travel levels. The City's surface transportation system of streets and highways is based on a functional classification system providing four levels of service: major arterials, arterials, collectors, and local roads. The hierarchy of roadways is listed and briefly described below in Table 3-1 -Roadway Classifications.

Major Arterial roadways are typically designed with four through lanes, two transition/right-turn lanes and are divided by a raised median providing left-turn lanes. Major Arterial roadways are intended to provide a high capacity in selected high volume corridors. Major arterial roadways are designed with required right-of-way, as described in the City of Reedley, Standard Plans and Specifications.

Table 3-1-Roadway Classifications

Facility Type	Functional Emphasis
Freeway/Highway	Mobility with no direct land access and access limited to interchanges.
Expressway	Mobility with more frequent access to “arterial” but no direct land access.
Arterial	Mobility with access to “collectors”, some “local” streets and major traffic generators.
Collector	Connects “local” streets to “arterials”, also provides access to adjacent land uses; balances mobility and access. May be “major” or “minor” collector streets.
Local	Access to adjacent land uses only; no mobility function.
Alley	Access to adjacent land use only, no mobility function.

Arterial roadways are typically designed with four through lanes and two shoulder/transition lanes and can be divided or undivided by a median. Arterial roadways provide connection to collector streets and access to major traffic generators. Arterial roadways are designed with required right-of-way, as described in the City of Reedley, Standard Plans and Specifications.

Collector roadways are typically designed with four through lanes and two parking/transition lanes and provide connection between arterial streets to local streets. Collector streets can provide some limited access to private properties. Collector roadways are designed with required right-of-way as described in the City of Reedley, Standard Plans and Specifications.

Local streets are typically designed for either industrial or residential carrying capacity. Local streets are intended exclusively to provide direct access to properties and designed to discourage through traffic between major streets. Typically designed for either industrial or residential carrying capacity, these street cross-sections can be found in the City of Reedley, Standard Plans and Specifications. However, local streets are typically not planned by the General Plan 2030 Update, Land Use and/or Circulation Elements, but existing local streets may be shown on exhibits for informational purposes.

The City has also developed surface transportation standards for alleys, frontage roads, secondary and emergency/maintenance access road standards. These standards can be found in the City of Reedley, Standard Plans and Specifications.

Level of Service

“Level of Service” (LOS) is a description of the ability of a street segment or intersection to accommodate levels of traffic demand. LOS is a qualitative measure of traffic operating conditions, whereby a letter grade “A” through “F” is assigned to an intersection or roadway segment representing worsening progressively worsening traffic conditions (See Table 3-2 - Level of Service Description). LOS A, typically represents unrestricted free flow of traffic and excellent comfort for motorists, to LOS F, which represents highly congested forced

flow conditions where traffic exceeds the capacities of streets. The adopted LOS in the General Plan 2012, Circulation Element is LOS C, which is also the recommended LOS for this proposed update.

Table 3-2- Level of Service Description

LOS	Conditions	Description	Intersections		
			Signalized	Unsignalized	All-Way Stop
A	Free Flow	Very slight delay. Progression is very favorable, with turning movements easily made.	≤10.0	≤10.0	≤10.0
B	Stable Operation	Good progression and/or short cycle lengths. Vehicle platooned are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	>10 and ≤20.0	>10 and ≤15.0	>10 and ≤15.0
C	Stable Operation	Higher delays resulting from fair progression and/or longer cycle lengths. Back-ups may develop behind turning vehicles. The number of vehicles stopping is significant and drivers feel somewhat restricted.	>20 and ≤35.0	>15 and ≤25.0	>15 and ≤25.0
D	Approaching Unstable	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios.	>35 and ≤55.0	>25 and ≤35.0	>25 and ≤35.0
E	Unstable Operations	Generally considered to be unacceptable to most drivers. Jammed conditions. Back-ups from other locations restrict or prevent movement. May also occur at high volume-to-capacity ratios.	>55 and ≤80.0	>35 and ≤50.0	>35 and ≤50.0
F	Forced Flow	Generally considered to be unacceptable to most drivers. Often occurs with over saturation. Jammed conditions. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths.	>80.0	>50.0	>50.0

Sources: Highway Capacity Manual 2000

Goals

**CIR 3.2A** - The City will design and maintain a fully integrated local transportation network that provides for the movement of people and goods in an orderly, safe, and efficient manner.

**CIR 3.2B** - Maintain a level of service (LOS) of “C” or better.

**CIR 3.2C** - Plan and develop a street and highway system so as to maximize its effectiveness while minimizing its cost of construction and maintenance.

CIR 3.2D - Minimize the adverse impact of streets and highways on adjacent land uses and on the environment of the Planning Area.

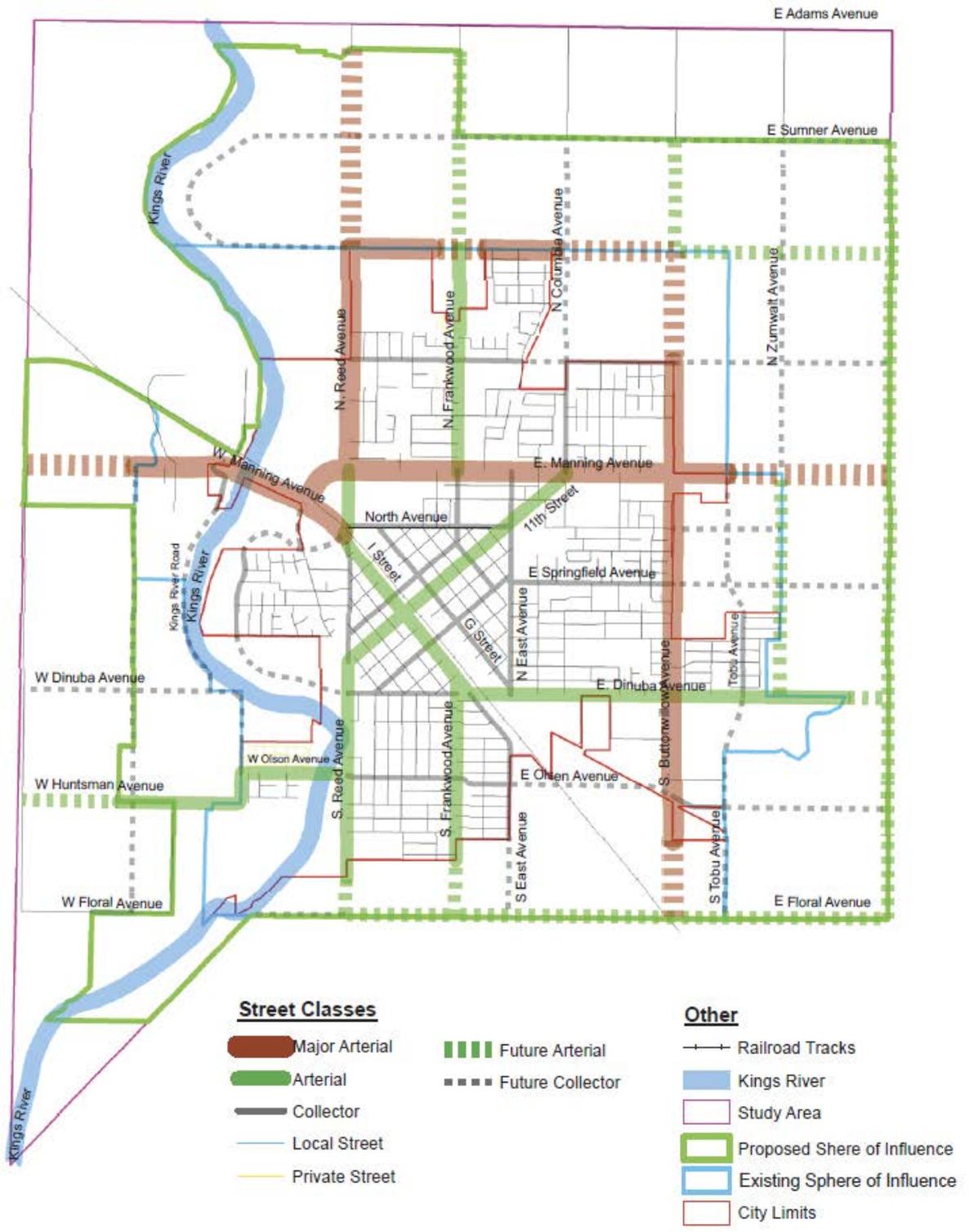
CIR 3.2E - Provide a street and highway system which can accommodate alternative modes of travel.

CIR 3.2F - Provide a street and highway system which is aesthetically pleasant to the user through the incorporation of landscape buffering on applicable medians and right-of-way.

## Policies

- CIR 3.2.1 All street and roadway improvements shall be in conformance with the Circulation Diagram as shown in Figure 3-1.
- CIR 3.2.2 Apply consistent standards for new street development based on traffic carrying capacity and classification.
- CIR 3.2.3 The design of major arterials, arterials, collectors and local streets shall comply with the adopted City of Reedley, Standard Plans and Specifications.
- CIR 3.2.4 Standards for new street development can be altered or refined through the adoption of a specific plan or planned unit development process, with City Engineer approval when it can be demonstrated that projected traffic flows can be accommodated.

Figure 3.1 - Circulation Diagram



Source: City of Reedley 2011

- CIR 3.2.5 The City shall revise roadway standards for future streets to include the following:
- (a) Narrow street widths, particularly on local roadways.
  - (b) Revise geometrics of street intersections, including smaller turning radii, to the maximum extent practical to slow turning movements, thereby, improving safety for pedestrians.
  - (c) Tree lined streets, including parkways between the curb and sidewalk.
  - (d) Along major streets, landscaped medians shall be constructed.
  - (e) Revised Street Standards shall ensure efficient and safe access for emergency vehicles.
  - (f) Roundabouts shall be located at selected street intersections to improve traffic flow, reduce air emissions and to provide community landmarks.
  - (g) Circulation plans for pedestrian, bicycle and vehicle traffic shall provide for effective connections to major community facilities, such as the Kings River, Rail Trail, downtown, Reedley College, Reedley High School, elementary schools, parks and employment areas.
  - (h) Street designs for collector and arterial roadways shall include provisions for future fixed route transit systems.
  - (i) Traffic signals where warrants for traffic demands are met.
- CIR 3.2.6 Street standards shall be developed to include street trees planted in planter strips between the curb and sidewalk in order to shade paved street surfaces.
- CIR 3.2.7 Subdivisions shall be designed to maximize connectivity between subdivisions and surrounding development. Use of a grid pattern with reasonable street lengths to maximize the number of connections to surrounding collector street system is encouraged.
- CIR 3.2.8 A walled-in subdivision shall be discouraged unless noise measurements exceed the threshold for residential development adjacent to roadways.
- CIR 3.2.9 Cul-de-sacs shall feature breaks in the perimeter wall to allow pedestrian and visual access to the neighborhood.
- CIR 3.2.10 Standards for block lengths shall be developed to eliminate overly long blocks that allow for vehicles to reach increased speeds.
- CIR 3.2.11 Major arterials shall provide for through traffic movement on continuous routes with limited direct access to abutting property. Intersections with cross streets are generally at grade and generally spaced a minimum of one-half mile apart.

- CIR 3.2.12 Arterials provide for through traffic movement on continuous routes, joining major traffic generators, major arterials, and other arterials. Access to abutting property should be controlled and limited.
- CIR 3.2.13 Collectors provide internal traffic movement within an area and connect local roads to the arterial system. Access to abutting property is generally permitted.
- CIR 3.2.14 Local streets provide internal traffic movement within an area and primarily serve to provide direct access to abutting property.
- CIR 3.2.15 Street cross sections may deviate from the standards, if the proposed cross section results in increased traffic capacity or circulation. Primarily, deviation should be restricted to older sections of the City that cannot accommodate current standards. All deviations are subject to the approval of the City Engineer.
- CIR 3.2.16 The City shall maintain the landscaping on street rights-of-way on collector and arterial roadways by the use of Landscape and Lighting Districts in new areas.
- CIR 3.2.17 The City shall explore adoption of a city-wide landscape and lighting district to ensure equal maintenance of street rights-of-way.
- CIR 3.2.18 Access to property abutting an arterial or collector roadway will be subject to the following criteria:
- (a) Direct access from an arterial or collector to a major traffic generator should be restricted through design requirements on new developments which provide for frontage roads, access to other roads, or limits on the number and location of direct access points. Major traffic generators may be defined as including, but not limited to, large multiple-family residential development, large commercial developments, industrial developments, educational institutions and medical centers.
  - (b) New residential subdivisions should be designed with a minimum number of lots fronting directly on collector streets and with no lots fronting directly on arterial streets. Vehicular access may be permitted from a frontage road or from other roads. Where direct access is provided from a residential subdivision lot to a collector street, turnaround facilities shall be required for each lot as a condition of subdivision approval so that vehicles do not back out onto the roadway.
  - (c) Turnaround facilities shall be required as a condition for a parcel map approval where the new parcels will have direct access to arterial or collector streets. Such turnaround facilities should insure that vehicles need not back out onto the roadway.
- CIR 3.2.19 Existing landscaped medians should be extended to their logical conclusion within the street and highway system. In particular, Manning Avenue and Kingswood Parkway should be extended as new development occurs.

- CIR 3.2.20 The primary street and highway entrances leading into the community should have landscaped medians. This would include North Reed Avenue, East Dinuba Avenue, North and South Frankwood Avenue and Buttonwillow Avenue between Dinuba and South Avenue.
- CIR 3.2.21 The City should ensure completion of planned arterial and collector streets as they become necessary to serve developing urban areas or unmet traffic demands of the City by the following:
- (a) Adopt a street improvement program based on a needs priority system.
  - (b) Require dedication and improvement of necessary street facilities as a condition of land development.
  - (c) Coordinate the street improvement program with other public service facility improvement programs.
  - (d) Utilize available FCTA, State and Federal funds for street and highway development.
- CIR 3.2.22 The City should insure that planned streets and highways operate to their maximum efficiency by coordinating their multi-modal use as follows:
- (a) Develop bikeways in accordance with the City Bikeways Plan.
  - (b) Consider the need for transit and bikeway facilities when establishing the ultimate rights-of-way of streets and highways.
  - (c) The City should prepare typical roadway cross sections which define standards for transit and bikeway facility improvements.
  - (d) Provide additional rights-of-way and improvements off of the travel way of arterial and collector streets where deemed necessary for public transportation.
  - (e) Provide areas for pedestrian travel which will enhance the safety and efficiency of the street system.
- CIR 3.2.23 The City should minimize the adverse impact of truck traffic on the community by maintaining and enforcing a system of designated truck routes.
- CIR 3.2.24 The City should insure the installation of signals, roundabouts, signs, lighting, and other traffic improvements necessary for the safe and efficient movement of vehicular traffic and pedestrians within the City by the following:
- (a) Adopt and maintain a traffic safety and operations improvement program based on a needs priority system as part of the City street improvement program.

- (b) Require the installation of necessary street improvements as a condition of land development.
- CIR 3.2.25 The City shall encourage the use of traffic calming designs such as roundabouts, bulb-outs, etc., where they will improve the operation or LOS of a street.
- CIR 3.2.26 The City should minimize the adverse environmental impact of street and highway development by utilizing road construction methods which reduce the air, water, and noise pollutions associated with such development.
- CIR 3.2.27 Where a portion of the right-of-way of a planned new street lies outside the boundaries of property proposed for development under a subdivision, site plan review, or conditional use permit application, the applicant may be required, depending on the magnitude of the development and the amount of traffic it will generate, to dedicate sufficient right-of-way width to allow for the development of two travel lanes and one shoulder, curb, gutter and planting area.
- CIR 3.2.28 Development resulting in any of the following shall be required, as part of the special permit approval process, to have a licensed engineer complete a traffic impacts study. The scope of that study shall be determined by the City Engineer and paid for by the developer.
  - (a) 500 vehicle trips per day; or
  - (b) 250 a.m. or p.m. peak hour trips; or
  - (c) 25Percent increase to existing traffic conditions from the development project.
- CIR3.2.29 Continue to seek and secure financing for all components of the transportation system through the use of special taxes, assessment districts, developer dedications and fees, or other appropriate mechanisms to be applied uniformly throughout the City.
  - (a) The City Engineer shall periodically prepare a report with recommendation to the City Council to ensure transportation funding is sufficient to meet the City's LOS standard.
- CIR 3.2.30 Pursue the implementation of city-wide fees on new development sufficient to cover the fair share portion of that development's impact to the street and highway system that is not covered by other funding sources.
- CIR 3.2.31 Review of local and regional transportation plans and capital improvement plans to ensure that only new development projects consistent with this plan are being proposed and funded.
- CIR 3.2.32 Prepare and adopt Official Plan Lines or Director Determination for major streets to preserve right-of-way needed for future improvements.

### 3.3 STREET AND HIGHWAY SYSTEM

The following major arterial, arterial, and collector streets and highways are indicated on the Land Use and Circulation Map.

#### Major Arterials

- (a) Manning Avenue, Rio Vista east to Tobu Avenue.
- (b) I Street from Manning Avenue to Reed Avenue.
- (c) Reed Avenue, Manning Avenue to Adams Avenue.
- (d) South Avenue, Reed Avenue to Buttonwillow Avenue.
- (e) Buttonwillow Avenue, Floral Avenue to South Avenue.

#### Arterials

- (a) South Avenue, from Buttonwillow Avenue to Englehart Avenue.
- (b) Reed Avenue, from 11th Street to Floral Avenue, and from Manning to I Streets.
- (c) I Street, from Reed Avenue to Dinuba Avenue.
- (d) Eleventh Street, from Reed Avenue to Manning Avenue.
- (e) Dinuba Avenue, from Frankwood Avenue to Englehart Avenue.
- (f) Frankwood Avenue, from I Street to Floral Avenue.
- (g) Olson and Huntsman Avenues, from Reed Avenue to Lac Jac.
- (h) Buttonwillow Avenue, from South Avenue to Sumner Avenue.
- (j) Frankwood Avenue, from South Adams Avenue to Manning Avenue.
- (k) Zumwalt Avenue from Dinuba Avenue to Manning Avenue.
- (l) Englehart Avenue from Floral Avenue to Sumner Avenue.
- (m) Floral Avenue from Reed Avenue to Englehart Avenue.

#### Collectors

- (a) Parlier Avenue, from Reed Avenue to Englehart Avenue.
- (b) Columbia Avenue, from Adams Avenue to Manning Avenue.
- (c) Frankwood Avenue, from Manning Avenue to "D" Street.

- (d) "D" Street, from 10th Street to Thirteenth Street.
- (e) Thirteenth Street, from East Avenue to Dinuba Avenue.
- (f) Tenth Street, from "D" Street to Reed Avenue.
- (g) East Avenue, from Manning Avenue to Dinuba Avenue.
- (h) North Avenue, from Reed Avenue to Eleventh Street and from Buttonwillow Avenue to Zumwalt Avenue.
- (i) "G" Street, from North Avenue to Dinuba Avenue.
- (j) Springfield Avenue, from East Avenue to Englehart Avenue.
- (k) Olson Avenue, from Reed Avenue to Buttonwillow Avenue.
- (l) Dinuba Avenue, from Reed Avenue to Frankwood Avenue and from Kings River Road to Rio Vista Drive.
- (m) I Street, from Dinuba Avenue to East Avenue.
- (n) East Avenue, from I Street to E. Floral Avenue.
- (o) Herbert Avenue, from Frankwood Avenue to Buttonwillow Avenue.
- (p) Kingswood Parkway, from the Manning Avenue/I Street intersection to Dinuba Avenue.
- (q) South Avenue, from Reed Avenue to the Kings River.
- (r) Sumner Avenue from Englehart Avenue to the Kings River.
- (s) Tobu Avenue from Floral Avenue to South Avenue.
- (t) Zumwalt Avenue from Manning Avenue to Sumner Avenue.
- (u) Huntsman Avenue from Buttonwillow to Englehart Avenue.
- (v) Kings River Road from Manning Avenue to Dinuba Avenue.
- (w) Rio Vista Drive from Manning Avenue to Floral Avenue.

### Local Streets

All other roads within the Reedley Planning Area are local streets. Their alignments are to be determined on the basis of the land use to be served and the location of the major arterial, arterial, and collector streets and highways. Local alleys are used for service traffic.

## Analysis of Street and Highway System

The street and highway system previously described is based on an evaluation of the existing and planned land use patterns, the existing and potential future traffic volumes, the existing county circulation plans and the previous City circulation plan, and the information developed as a result of citizen participation workshops. In addition, this Circulation Plan seeks to provide for the maximum feasible integration between the planned City and County streets and highway systems to accommodate circulation needs to the year 2030. The analysis also provides the City a qualitatively analysis to anticipate digression of the surface transportation system and to respond appropriately.

### **3.4 BIKEWAYS TRANSPORTATION SYSTEM**

The Reedley Bicycle Transportation Plan is a separate plan adopted consistent with the Reedley General Plan Circulation Element. The plan consists of text and maps that show both existing bikeways and future bikeways. The plan is an expression of the City's intent to properly assess the needs of cyclists and to develop a bikeway system that can best satisfy the needs of cyclists in an efficient and effective manner, both in terms of safety and financial costs. The Circulation Element contains a map depicting a Bikeway Plan, which is the foundation for the Bicycle Transportation Plan which is updated every five years.

A "bikeway" is a general term for any type of facility that explicitly provides for bicycle travel. The bikeway can be anything from an independent, grade-separated facility on a separate right-of-way to just a signed route along a city street. The City of Reedley has three classifications of bikeways: bike paths, bike lanes, and bike routes, based on the degree of exclusivity with which the facility is preserved for bicycle use as shown on Figure 3-2. The two main purposes of bikeways are to guide bicyclists to their destinations and to provide some measure of protection or safety. The types of bikeways included in a bikeway system will determine the measure of safety.

**Bike Path** – is a Class 1 facility which is a special pathway facility for the exclusive use of bicycles which is separated from motor vehicle facilities by space or a physical barrier. A bike path may be located on a portion of a street or highway right-of-way not related to a motor vehicle facility, it may be grade separated, or have street crossings at designated locations. A bike path is identified with guide signing and may also have pavement markings. An example of a Class 1 facility is the Reedley Rail Trail/Parkway which provides a separated bike and pedestrian trail.

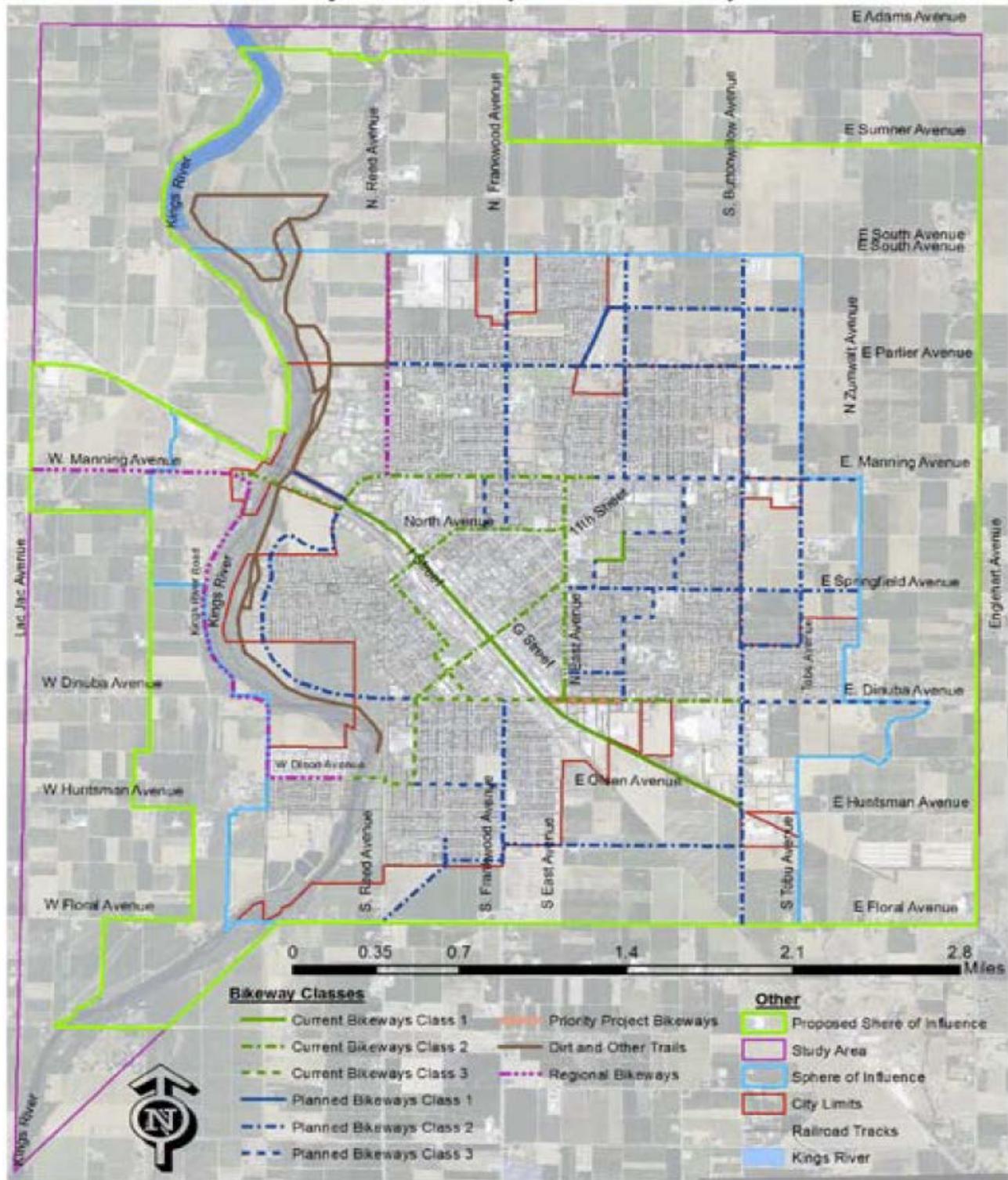
**Bike Lane** – is a Class 2 facility which is a lane on a paved area of road for preferential bicycle use. It is usually located along the right edge of a paved road area or between the parking lane and the first motor vehicle lane. A bike lane is identified by "Bike Lane" or "Bike Route" guide signing, special lane lines and other pavement markings. Bicycles have exclusive use of the bike lane, but must share the facility with motor vehicles and pedestrians crossing it.

**Bike Route** – is a recommended route for bicycle travel along an existing right-of-way which is signed but not striped.

The Bikeway Plan was prepared in conjunction with the updated Reedley Bicycle Master Plan adopted by the City of Reedley in 2011 and updated to include future streets, Figure 3-2. The

County of Fresno adopted an update of the Fresno County Regional Bicycle Master Plan in March 2011. The intent of the Fresno County Regional Bicycle Master Plan is to provide regional connectivity to the unincorporated areas of Fresno County.

Figure 3.2 - Bikeway Plan Map



The proposed Fresno County Regional Bicycle Master Plan identified four bikeway routes affecting Reedley. The routes are as follows:

- (a) Manning Avenue Corridor (Fresno County). A Class II bikeway is planned along Manning Avenue from the California State Corridor Route (Golden State Boulevard) to the Fresno/Tulare County Line (Hills Valley Road) connecting the cities of Parlier and Reedley. The corridor also makes connections with the Kings River Loop Trail Corridor at Newmark and Reed Avenues (10 Miles).
- (b) Kings River Loop Trail Corridor (Fresno County). The route extends from the Manning Avenue Corridor along Newmark Avenue to Rainbow Road connecting the Cities of Parlier and Sanger. The route continues north connecting with the Kings River Trail Corridor at Belmont Avenue. The Loop Corridor continues to Piedra Road then south along Highway 180 at Centerville to Reed Avenue connecting with the City of Reedley and the Manning Avenue Corridor (25 miles).
- (c) Reed Bikeway – A future Class II bikeway on Reed Avenue between the City of Reedley and the community of Minkler.
- (d) Reedley Trail – A future Class II bikeway along the old AT&SF rail corridor between Reedley and the Tulare County Line.

The Reedley bikeway system is designed to serve all major community traffic generators including commercial areas, schools, recreational facilities and major public facilities and connect with regional bicycle facilities. However, the majority of licensed bicycles in Reedley are operated by elementary school children. A principal emphasis of the Plan is to cater to this juvenile cycling population by linking residential areas to schools and recreational facilities.

The Plan generally spaces bikeways no more than one-half mile apart. This is based on the generally recognized standard used both in the United States and abroad for urban bikeways designed to serve utilitarian riders. The City bikeway system is proposed for development along existing roadways, rather than along canal or railroad rights-of-way. This is because bikeway development on the latter would involve more legal constraints and time delays that would their development on streets which are already under City jurisdiction.

## Goals

CIR 3.4A- Encourage the use of bicycles as a viable means of transportation.

CIR 3.4B - Develop a continuous and easily accessible bikeways system which facilitates the use of the bicycle as a viable alternative transportation mode.

CIR 3.4C - Develop programs, standards, ordinances, and procedures to achieve and maintain safe conditions for bicycle use.

CIR 3.4D - Encourage bicycling for reasons of ecology, health, economy, and enjoyment as well as for transportation use.

## Policies

- CIR 3.4.1 Priority should be given to bikeways that will serve the most cyclists and destinations of greatest demand.
- CIR 3.4.2 Bikeways should be designated near major traffic generators such as commercial land employment centers, schools, recreational areas, and major public facilities.
- CIR 3.4.3 Bicycle parking and storage facilities should be provided at major bicycle traffic generators.
- CIR 3.4.4 Bikeways should be provided in both existing and future parks where they will not cause serious conflicts with other uses of the parks.
- CIR 3.4.5 Bikeways should be continuous and should be linked to other bikeways and recreation facilities.
- CIR 3.4.6 Where ever possible, bikeways should be developed in conjunction with street construction and improvement projects occurring along streets and roads where bikeways have been designated on the Bikeways Plan map.
- CIR 3.4.7 The City and County should develop a coordinated program for the construction of bikeways in the Planning Area.
- CIR 3.4.8 The design and construction of a bikeway shall conform to the standards established by the California Department of Transportation and the City of Reedley Standard Plans and Specifications.
- CIR 3.4.9 Work with the City of Dinuba to provide a bicycle/pedestrian trail system that will connect to a similar system in the City of Reedley near the Sports Park.
- CIR 3.4.10 Safe conditions for bicycle use shall be developed and maintained. The following shall apply:
- (a) A visually clear, simple, and consistent bikeway system with clearly defined areas and boundaries should be established.
  - (b) For the safety of those who use the bikeways, the City should consider stopping a bikeway before a major street intersection or dangerous railroad crossing and starting it again after the area has been passed. Within these potentially dangerous areas, bicyclists walk their bicycles or ride with extra caution at their own risk.
  - (c) Through mass media, school, and private efforts, the City of Reedley should encourage a program of education in the rules of the road aimed at both the cyclist and the motorist.

- (d) Bikeways should be constructed and maintained to reduce or eliminate hazards such as unsafe drainage graded, dirt, glass, gravel, and other debris.
- (e) The bikeway system should be monitored and evaluated in order to determine the effectiveness of established bikeway facilities in terms of use, safety, and efficiency.

CIR 3.4.11 Require large scale development projects to provide bike racks to encourage bicycling as an alternative mode of transportation.

### 3.5 PUBLIC TRANSPORTATION SYSTEM

The City of Reedley’s Community Services Department runs an advance reservation van, and on-call door-to-door van service. The twelve-passenger vans operate Monday through Friday between the hours of 7:30 a.m. to 4:30 p.m. These vans provide service to the downtown stores and offices (including City Hall, Post Office and Library), the Hot Meals program at the Community Center, the shopping centers at Buttonwillow and Manning Avenues, the Adventist Medical Center Hospital and the other locations within a two-mile radius of Reedley. The vans are also used to transport children from house to school.

Reedley College operates a bus which connects Sanger, Fowler, Selma, and Parlier with the College. The Kings Canyon Unified School District also provides bus service within its service area. However, both operations are limited solely to students.

Fresno County Regional Transportation Authority (FCRTA) operates Orange Cove Transit, a bus service that runs Monday through Friday, twice a day each way, from Orange Cove to the City of Fresno. There are three stops in the City of Reedley at Manning and Buttonwillow, East and Springfield, and Manning and Reed.

Dinuba Area Regional Transit (DART) operates a bus that runs from Reedley College, Adventist Medical Center Hospital and Palm Village to the Dinuba Transit Center. The service operates at different times ranging from five times a day during the school year to seven times a day in the summer.

#### Goals

CIR 3.5A - Promote the variety of public transit connections with other nearby cities and locations.

#### Policies

CIR 3.5.1 Continue to evaluate public transit needs.

CIR 3.5.2 Explore increased transit opportunities with nearby cities.

### **3.6 RAIL TRANSPORTATION SYSTEM**

The steel rail crossing bridge over the Kings River is the old Atchison, Topeka and Santa Fe Railway (AT&SF) Bridge. The Exeter Branch of the San Joaquin Valley Railroad (formerly Southern Pacific Railroad) bridge was wooded and built in 1887. The AT&SF and the SP provide freight service to the Reedley area. The AT&SF and SP later combined tracks by Reedley College at Manning Ave during the late 60s to share one river crossing on the newer ATSF Bridge, 1914 era. The two rail lines then would split over by the winery which was once served by both railroads.

The ATSF (Santa Fe) Railroad was on property that is now our City's Rail Trail Bike Path through our community. This is what is referred to as the Visalia Branch. This line ran from the Santa Fe Calwa yard. The mainline traveled south through Del Rey, Parlier, Reedley, North Dinuba, Sultana, Cutler (at one time branched from Cutler north to East Orosi, Orange Cove, Navelencia passing between Mt. Campbell and the Jesse Morrow Mt. and connected to the Piedra Line at Hwy 180 and Frankwood), Visalia, Tulare and returned to the mainline in Corcoran. This Visalia Branch line was sold to the Tulare Valley Railroad and was used by the San Joaquin Valley Railroad until it was scrapped for rail steel and wood tie value.

The AT&SF's Visalia branch connects Reedley and eastern Tulare County with the Mainline at the Calwa freight terminal. The route has one run per day, six days a week after the hour of 6:00 p.m. The San Joaquin Valley Railroad's (SJVRR) Exeter branch line links Reedley with Sanger, the Valley Mainline in Fresno, and Ivanhoe, in Tulare County. There is presently one run per day Monday through Friday between noon and 4:00 p.m. The Visalia and Exeter Branch lines run parallel to each other through the center of Reedley.

The railroads have a considerable impact on land use within the community, with existing and planned industrial uses adjacent to the Exeter and Visalia Branch lines. Specifically, the Land Use Element indicates that industry is the most appropriate area adjoining the tracks. In addition, the parallel Exeter and Visalia lines separate largely residential areas south of the tracks from the Central Business District immediately north of the tracks. Access across both branch lines is limited to grade crossings at a total of eight points: Buttonwillow Avenue, Dinuba Avenue, Thirteenth Street, Eleventh Street, Tenth Street, Eighth Street, North and Reed Avenues, and Manning Avenue. Access across the Piedra Branch line, which divides primarily existing and planned residential areas, is limited to Reed, Manning, and Parlier Avenues.

Additional rail spurs may be needed in the future within the proposed industrial area south of Dinuba Avenue, as that area begins to develop with new industry. A new grade crossing of the SJVRR Branch line will be required when a future collector street south of the Huntsman Avenue alignment is developed within the planned industrial area as indicated on the Circulation map.

The City of Reedley is currently processing a request with the Federal Railroad Administration (FRA) to become a quiet zone, which would eliminate the train horns at road crossings. This is important because several crossings are near existing and proposed residential areas.

## Goals

**CIR 3.6A** - Maintain the viability of the rail service to the community of Reedley.

## Policies

- CIR 3.6.1 Ensure that development along the rail corridor complies with noise limits identified in the Noise Element.
- CIR 3.6.2 Pursue the reduction of the noise by eliminating the train horns at intersections in the City of Reedley through the continued pursuit of a quiet zone in the City of Reedley.
- CIR 3.6.3 Maintain the viability of the rail system to encourage continued use for commercial and industrial applications.

### **3.7 AIR TRANSPORTATION SYSTEM**

Reedley Municipal Airport was established in 1979 following acquisition of the former Great Western Airport by the City of Reedley. The airport is located on a 138-acre site and consists of one paved runway serving single and light twin-engine aircraft. The site is located approximately five miles north of the City on the west side of Frankwood Avenue between American and Central Avenues, Figure 3-3.

The airport is a Basic Utility Airport, Stage 1. This type of airport accommodates approximately 75 percent of the propeller aircraft under 12,500 pounds and limits operations largely to single-engine aircraft with some use by light jets and twin-engine aircraft. Such an airport is primarily intended to serve low-activity locations, such as small population centers and remote recreation areas. No commercial air carrier service is to be provided to the proposed municipal airport, and Reedley travelers will still be dependent upon the Fresno Air Terminal or Visalia Airport for such service.

The City of Reedley is currently proceeding with plans for future development of the Reedley Municipal Airport. Installation of VASI's, expansion of the aircraft parking apron, additional hanger units (a 12-unit structure was built in 1981), and 200-foot southward and northward extensions of the runway (bringing the airport to Basic Utility State II standards is among the planned projects).

The City of Reedley contemplates the eventual upgrading of the planned municipal facility to Basic Utility Airport Stage II Standards, if required by future demands, such expansion is not part of the current plan and would be subject to the same County, State, and Federal review and approval process required for the current expansions. See Airport Master Plan for detailed formation.

The Reedley College campus has a short turf strip, suitable only for the occasional delivery of aircraft to its aeronautics department. The College has no plans for expanding or upgrading that facility.

## Goals

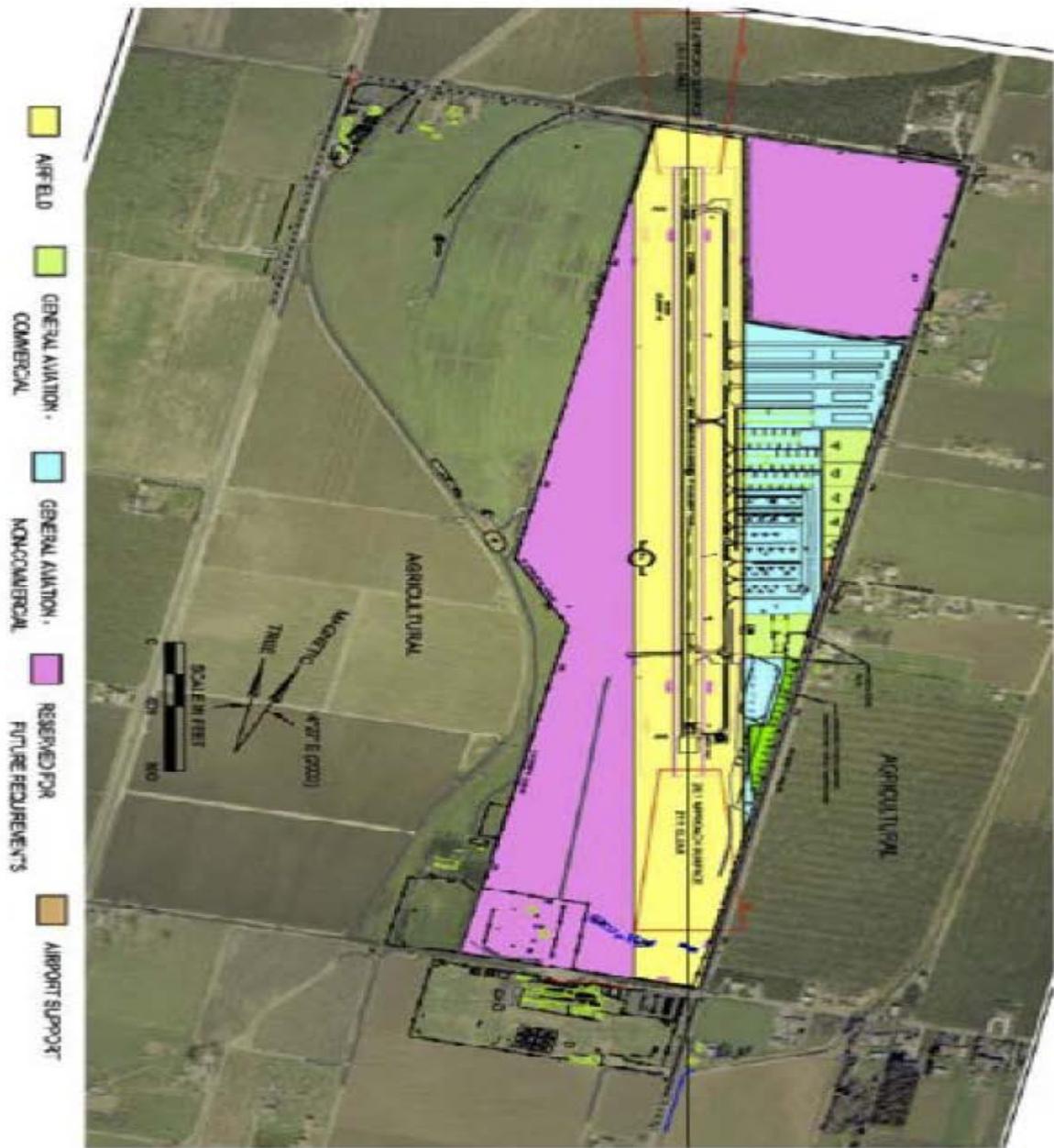
CIR 3.7A - Promote the integrity of the Reedley Municipal Airport.

## Policies

CIR 3.7.1 Land uses surrounding the airport should remain agricultural.

CIR 3.7.2 Coordinate with Fresno County to establish land uses around the airport that will not conflict with airport operations.

Figure 3.3 - Airport Master Plan Map



### 3.8 TRUCK ROUTES SYSTEM

The Reedley City Code authorizes the establishment of truck routes and provides that no truck is permitted to travel on a street which is not designated as a truck route unless it is for the purpose of picking up or delivering supplies within the City limits. A truck is defined as a truck, trailer, wagon or other vehicle that exceeds 10,000 pounds in weight or having a maximum gross vehicle weight (GVW) of five or more tons.

Existing and planned truck routes are indicated of Figure 3.4 – Truck Routes Map. Truck routes are indicated on arterial and collector streets which, because of function, pavement quality, and adjoining land use can best accommodate such traffic.

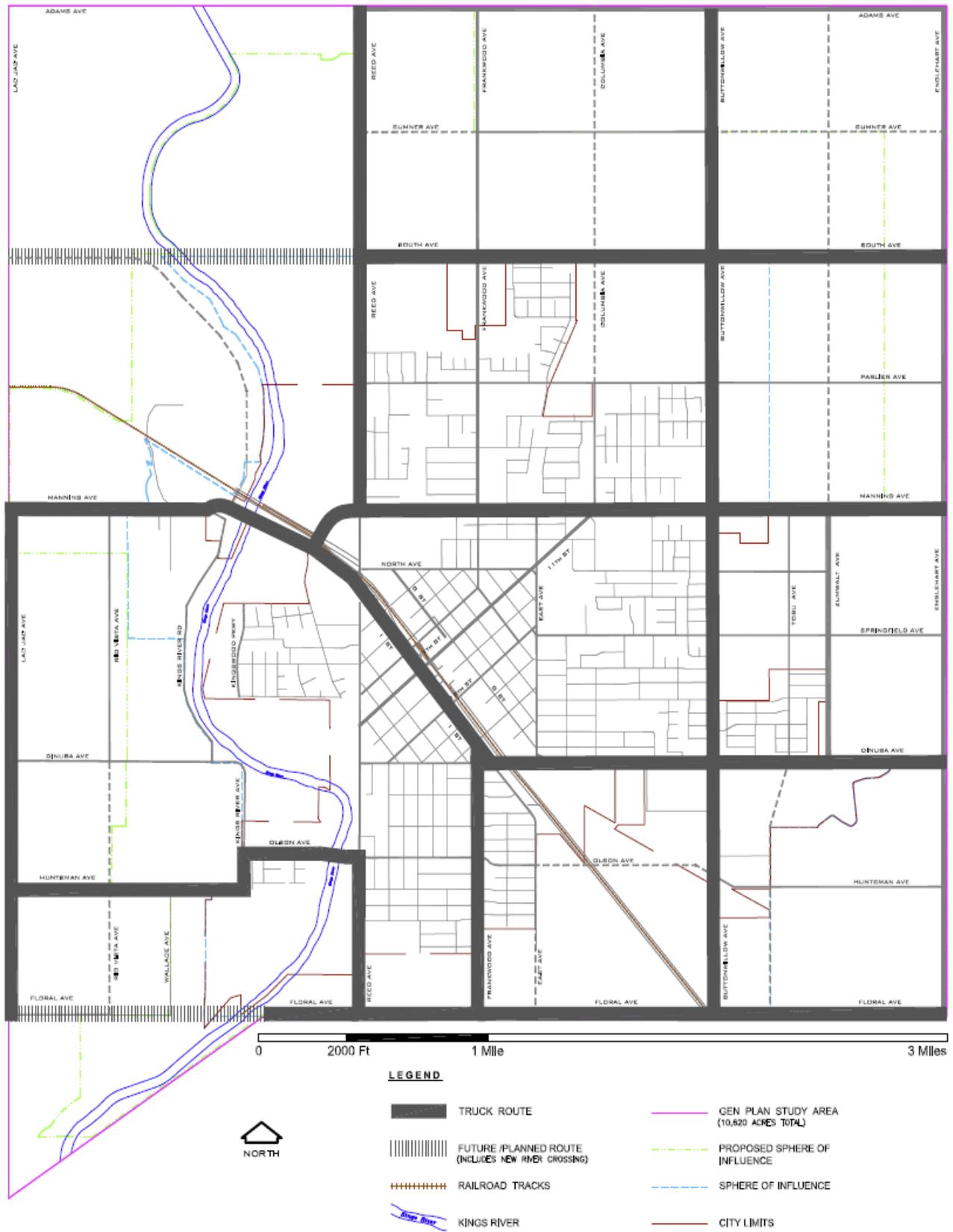
#### Goals

**CIR 3.8A - Provide safe and efficient truck routes into and within the community.**

#### Policies

- CIR 3.8.1 Truck traffic shall be permitted on the designated arterial and collector streets only, as identified in the Circulation Element Truck Route Map, Figure 3-4. Truck access through non-designated routes will only be allowed for purposes of picking up or delivering supplies within City limits.
- CIR 3.8.2 Truck parking shall be prohibited on residential areas for vehicles in excess of 10,000 GVW, or higher than eight feet.
- CIR 3.8.3 Truck parking shall be discouraged on arterial/collector streets outside of the industrial park or other designated areas.

Figure 3.4 - Truck Routes Map



### 3.9 PARKING

#### Goals

CIR 3.9A - Promote a parking program that accommodates the parking needs of each land use type.

#### Policies

- CIR 3.9.1 Adequate parking shall be required of all commercial and industrial land uses to accommodate parking demand.
- CIR 3.9.2 Adequate parking shall be required of all residential developments to accommodate owners and tenants.
- CIR 3.9.3 Parking standards shall be evaluated for new development in the Central Downtown area to ensure that parking is provided within walking distance.
- CIR 3.9.4 Establish parking space standards that include compact parking and parking standards which encourage alternative fuel vehicles.
- CIR 3.9.5 Establish parking lot landscaping standards that require the provision of at least 50% shade coverage.
- CIR 3.9.6 Maintain existing park and ride facilities and explore opportunities of additional sites.

### 3.10 PUBLIC UTILITIES

The capacity of public utilities (water, waste water, and storm water) that serve a community can affect the quality of life of the residents of the community. Many public utility services require a significant investment in infrastructure. The City of Reedley provides water, sewer, storm water services and groundwater recharge for the citizens of Reedley. The City is in the process of updating its Water, Waste Water and Storm Drain Master Plans. As information is available it is being incorporated into the General Plan Update (GPU) as part of the analysis.

#### Water

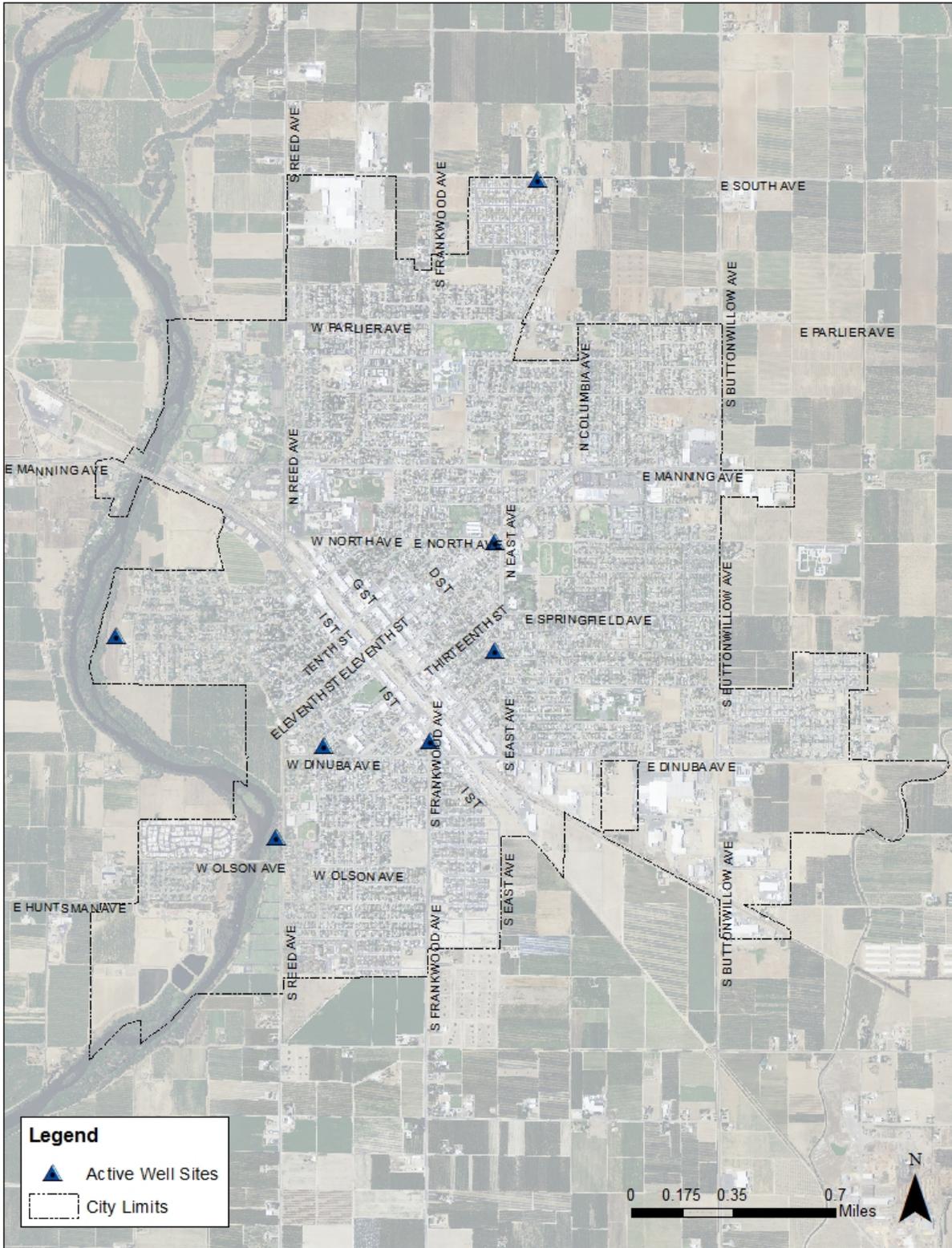
The City of Reedley lies directly over the Kings Basin from which the City extracts its domestic water supply. The Kings Basin is a large groundwater subbasin located within the southern part of the San Joaquin Valley Basin, in the Central Valley of California. The groundwater basin covers an area of 1,530 square miles.

The City of Reedley depends entirely on groundwater pumping from the Kings Basin. The topography of the Reedley area is relatively flat, and the primary slopes within the SOI are those found within the Kings River corridor. Subsurface lateral movement of runoff from the Sierra Nevada Mountains to the east and some general surface runoff in creeks, irrigation ditches and open space, percolation ponds and the Kings River are all a source of replenishment of the groundwater table. The City's groundwater supply is pumped from wells

located entirely on the eastern side of the Kings River. The City does not pump or operate any groundwater wells on the westerly side of the Kings River.

The City has historically provided domestic water supply solely through groundwater extraction. The City operates seven active water wells (with an additional well under construction as of September 2013) and two water storage towers. An additional water storage tower facility is under construction. See Figure 3.5 for a map of the City of Reedley's active well sites. It is common practice for the City to drill its water production wells at depths greater than 800-feet to ensure sufficient supply and meet State Water Quality standards. This is because water quality in the Kings Basin is generally very good and groundwater quality in the Reedley vicinity is also generally good. In the City of Reedley 2011 Water Quality Report, the City reported that after testing for over 100 constituents, the City's groundwater supply met all health related standards established by the California Department of Public Health, and the U.S. Environmental Protection Agency.

Figure 3.5 –Active Well Sites Map



The City of Reedley produced from 2003-2007, 11,474,563,400 gallons of water for public consumption. During the same period the average Annual Daily Per Capita Water Use (gpcd) was 290 gpcd (2010 Urban Water Management Plan, Table 3-3, Base Daily Per Capita Water Use – 5-Year Range). In 2008, the City used 1,959,531,000 gallons of water (City of Reedley, 2008 Water Quality Report). In 2010 the City used 1,538,500,000 gallons of water (City of Reedley, 2010 Water Quality Report), and in 2011, the City used 1,450,120,000 gallons of water (City of Reedley, 2011 Water Quality Report). As such, from 2008 to 2011, the City experienced a significant reduction in annual groundwater production of approximately 1,563 acre-feet. The projected per capita water use from 2008 to 2011 dropped to “180 gpcd” (Urban Water Management Plan, 3.2.2 Projected Water Deliveries, Page 3-6).

The City has adopted, consistent with State law, an updated Urban Water Management Plan(2010 UWMP) entitled 2010 Urban Water Management Plan – City of Reedley. The 2010 UWMP includes substantial analysis of the City’s water supply system and water supplies and addresses all Urban Water Management Planning Act-mandated water supply topics. The 2010 UWMP will serve as an important basis for water supply and development planning in the City as envisioned in the GPU. The substantive chapters of the 2010 UWMP address the description of the City’s water supply system, demands on the system including water demand projections in five-year increments to the year 2035, existing and projected future sources of water (which are planned to be exclusive to groundwater), water supply reliability, and demand management measures.

The 2010 Urban Water Management Plan (2013) states the following:

“The City plans to achieve compliance with the water use targets through water conservation, including metering with commodity rates. The recent implementation of metering and use of commodity rates resulted in a significant reduction in per capita use, from approximately 249 gallons per capita per day (gpcd) in 2006 to 180 gpcd in 2011. The City adopted a tiered rate structure which became effective May 1, 2010. The inclining block structure encourages conservation and discourages waste of potable water supplies by charging higher prices from excessive water uses. (HDR, page 3-10)

This 28% reduction in gpcd exceeds the State mandated 20% reduction by 2020, pursuant to Senate Bill X7-7, also known as the 20x2020 Plan.

Through the Reedley Municipal Code (RMC) the City has implemented regulations for the conservation of potable water. Pursuant to RMC, Water Conservation, Section 8-1-12(A), the goals of this section are to minimize water use and reduce unnecessary use of potable water supplies. This section of the code provides a definition of “waste of water”, irrigation design guidelines, watering schedules and the enforcement process and penalties.

The City has not actively pursued as an alternative a surface water treatment plant partly because of our reliance upon findings and conclusions in the Consolidated Irrigation District (CID) Groundwater Management Plan (2009), which states:

“There is no current imperative to develop municipal surface water treatment plants in CID Cities, but this may be necessary in the future. If urban lands continue to develop and rely exclusively on groundwater, and if recharge facilities are not developed to help meet future urban demands, treatment of surface water for municipal use in lieu of groundwater may be needed.” (GEI, page ES-5)

After discussing with the engineering firm preparing the master utility (water, sewer, storm drainage) plans, the City believes that the cost to upsize the entire water distribution to accommodate a force system is economically infeasible at this time. The City does not have the financial means to incur the cost of constructing a surface water treatment plant. The City also believes that to simply pass the cost along to the development community would significantly inhibit new development in our community. Therefore, the City has opted to invest in recharge facilities.

The GPU goals, policies, RMC and supporting plans (UMWP) represent an effort to effectively manage a valued resource. To effectively manage this finite resource the GPU includes numerous goals and policies promoting public education and transparency, conservation and collaboration with other governmental agencies. Implementation of all of these water policies will not wholly mitigate the critical overdraft of the Kings Basin. However, the collective Public Utilities Goals and Policies were specifically designed as a comprehensive set of tools to ensure the avoidance of a critical overdraft and ensure the City’s diligent oversight, management and use of a finite water resource.

## Goals

CIR 3.10A - Provide adequate water services to the City of Reedley.

## Policies

- CIR 3.10.1 with
- The City shall adopt the 2010 Urban Water Management Plan in accordance California Water Code, Division 6, by January 2014;
- a) The Plan shall be prepared in accordance with Article 1, Sections 10620-10621.
  - b) The contents of this Plan shall be consistent with Article 2. Contents of Plans, Sections 10630-10634.
  - c) The implementation of the Plan shall be in accordance with Article 3. Adoption and Implementation of Plans, Sections 10640-10645.
  - d) After the adoption of the 2010 Urban Water Management Plan, the City shall prepare and adopt the 2015 Urban Water Management Plan, pursuant to the California Water Code, Division 6.

- e) Should the Plan expire at any time, pursuant to State Law, the City shall not support the approval of unincorporated territory, General Plan, zone change and/or tentative tract map entitlement applications.
- CIR 3.10.2 The City shall identify capital facilities necessary to maintain service in the City of Reedley as the City expands.
- CIR 3.10.3 The City Council shall annually review and adopt updates of development impact fees, water connection charges, and volume-based monthly service charges to ensure that adequate funds are collected to operate and maintain existing facilities and to construct new facilities for delivery, monitoring, and storage.
- CIR 3.10.4 The City shall actively support efforts to expand surface water supply and storage that benefits the City. These efforts should include, but not be limited to, coordination with Irrigation Districts for water banking, and WWTP effluent recycling and percolation.
- CIR 3.10.5 The City shall require that necessary water supply infrastructure is available prior to constructing new development, and approve development entitlements only when there is assurance of a dependable and adequate water supply that will serve the development.
- CIR 3.10.6 Any development project which meets the definition of a “water-demand project”, pursuant to the CEQA Guidelines, Section 15155, shall be required to prepare a “water assessment” in accordance with Water Code Sections 10910 & 10915. The City Council shall formally consider approval of the assessment within the time period required by applicable law and prior to the approval of any development entitlements for the development project.
- CIR 3.10.7 The City shall cooperate with surrounding water management authorities and irrigation districts to develop a comprehensive water management and recharge program which addresses the long-term stabilization of the Kings Basin and the transfer of excess WWTP effluent recycled water for use by the districts for recharge or use by their constituents.
- CIR 3.10.8 Through the entitlement process described in the RMC, the City shall require as a condition of approval that new development will be required to install water meters which meet the City’s standards.
- CIR 3.10.9 The City shall encourage and cooperate with the private sector, as appropriate, to incorporate alternative methods of water reuse into new development, such as reclaimed water from irrigation, landscaping and purple pipe systems.
- CIR 3.10.10A The City Council shall initiate the preparation and then consider adoption of a performance based Water Conservation Program (“WCP”) that addresses water consumption to help ensure an adequate water supply to accommodate the projected growth and development patterns proposed within this GPU. The policies and implementation measures contained in the WCP shall set performance standards for sustainable management of Reedley’s water

production. The WCP, or a similar program that accomplishes the goals set forth below, shall be adopted and in effect prior to the implementation deadlines set forth in any of the policies set forth below.

For each policy, standard and implementation measure identified below for inclusion in the WCP there shall be a discussion of the following: (1) How the policy, standard or implementation measure shall reduce per capita potable water consumption; (2) Whether and how the policy, standard or implementation measure would be integrated into the development entitlement process; and (3) how the policy, standard or implementation measure would be enforced through the regulatory environment.

The policies listed below have been assigned a date of anticipated implementation or completion. Those dates were determined by operational necessity and compliance, complexity of task and staffing capacity.

GOAL: To reduce per capita potable water consumption by an additional twenty (20) percent by the year 2020.

COMPLIANCE MONITORING AND REPORTING: After the adoption of the WCP, the Community Development Department shall provide an annual report to the City Council progress made toward overall implementation of the WCP.

The WCP shall include the following policies and implementation measures:

- a) The WCP shall include a public education component that addresses various topics related to groundwater production, consumption, recharge and recycling. The public education activities listed below will occur annually at various times throughout the year:
  - 1) The annual water quality report, prepared by the Public Works Department, which includes statistics related to annual water consumption, discharge and containment, shall be presented to the City Council for its consideration of approval. After Council approval, the report shall be submitted to the State Department of Water Resources.
  - 2) The Public Works Department shall prepare an annual report that identifies, at a minimum, the amount of water used to irrigate the open space and the projected amount of groundwater recharge that has occurred. The City shall use industry standards to establish a formula to calculate the balancing of production to groundwater recharge.
  - 3) All water quality reports prepared by the Public Works Department that are required by the Regional Water Quality Board shall be presented to the City Council for its consideration of approval.

- 4) The City shall develop publications and other forms of communication to City water customers to inform them regarding the City's efforts to reduce water consumption and ways the customers can assist with achieving the City's goals.
- b) By March 2014, City Council shall consider the adoption of a water utility plan to implement a city-wide public water system through the year 2030. The implementation of this plan will assist the City in identifying locations for future delivery and recharge infrastructure. The Plan will serve as a basis for the development of impact fees necessary for implementation of the plan.
- c) Within one (1) year of the adoption of the GPU, the City Council shall complete a thorough review of the City's development impact fee program and shall consider the adoption of a comprehensive update of the various fees included in the program.
  - 1) This review shall include, but not be limited to, Storm Drainage, Water Distribution, Groundwater Recharge, Water Supply/Holding and Waste Water Collection and Treatment.
  - 2) Within each topic area, the review shall include the analysis of existing conditions, proposed new development, need necessitated by future development and proportional cost attributed to land use development.
- d) Within one (1) year of the adoption of the GPU, the City Council shall consider the amendment of RMC, Section 8-1-12 and other relevant provisions of the RMC related to Water Conservation, to include additional water conservation provisions and implementation measures to assist in implementing the provisions of Senate Bill No. 407 and State Building Code provisions related to water conserving plumbing fixtures and fittings, so as to meet or exceed a twenty (20) percent reduction in water consumption. Specific requirements added to the RMC would include, at a minimum, the following:
  - 1) Shower head fixtures and fittings shall be designed and installed so that they will not exceed a water supply flow rate of 1.75 gallons per minute.
  - 2) Faucets at kitchens, lavatories, wet bars, laundry sinks, or other similar use fixtures shall be Water Sense labeled and installed so that they will not exceed a water supply flow rate of 1.5 gallons per minute.
  - 3) Toilet fixtures and fittings shall have an average consumption that does not exceed 1.1 gallons of water per flush.
  - 4) New residential dwellings that are equipped with clothes washers shall install washers that are ENERGY STAR qualified.

- 5) The water pressure in a single family home shall not exceed 60 pounds per square inch (psi), with no detectable water leaks. Multifamily and midrise projects are exempt from the water pressure testing criterion but shall meet the requirements as stated in 1) through 4) above (Source: U.S. Green Building Council).
- e) The City shall strive to implement best management practices (“BMP”) developed by the California Urban Water Conservation Council and provide annual reports to the City Council and the California Urban Water Conservation Council regarding its progress in implementing the BMP.
- f) The City shall consider the adoption of a Water Efficient Landscaping Ordinance that is as effective as, or more effective than, the Model Water Efficient Landscape Ordinance adopted by the California Department of Water Resources. The Ordinance shall contain applicability, definitions, provisions for new construction or rehabilitated landscapes, application requirements, water efficient landscape and certification.

To further reduce outdoor water consumption, encourage water efficient landscaping practices through the reduction of turf grass by at least 40% and increasing the amount of plants that are native or adapted to the region by at least 25% (Source: U.S. Green Building Council).

- g) The City shall work with utility service providers such as PG&E who have rebate programs available to City’s water customers to inform customers of the programs and to encourage them to utilize the programs to replace current water consuming appliances with water conserving appliances that are Energy Star rated.
- h) The City shall measure irrigation water used for parks/open space through the installation of standard water meters on all large park/open space areas, which may be creditable for recharge purposes. The installation of the meters will be completed within one year after the adoption of the GPU.
- i) The City shall systematically replace failing irrigation controllers at City parks, median islands and other City facilities with landscape irrigation systems with irrigation controllers equipped with, at a minimum, rain and evapotranspiration sensors, with the goal of reducing water used for landscape irrigation by twenty (20) percent to forty (40) percent, as supported by studies performed in the industry. This replacement program shall commence when the GPU is adopted.
- j) The City shall work cooperatively with land owners, local and regional water agencies, and irrigation districts which rely upon the Kings Basin as a source of water to identify and implement infrastructure projects and other programs that serve to reduce the use of groundwater and/or facilitate the recharge of the aquifer.

- j) The City shall continue to work with the Upper Kings Basin Integrated Regional Water Management Authority in developing a strong coalition of water agencies, cities, counties and environmental groups to address local water issues.

CIR 3.10.10B As part of the City's formulation of its annual budget, City staff shall identify a list of capital facilities improvement projects, with proposed budgetary allocations, necessary to implement further reductions in water consumption and/or maintain service.

### Waste Water

The City currently operates its own wastewater treatment plant (WWTP) located at 1701 West Huntsman Avenue, Reedley, California. The WWTP Phase 1 project was recently completed which expanded the plant's capacity to 5.0 million gallons per day (mgd) and constructed new percolation ponds. The waste water plant has also been designed to readily expand to a total capacity of 7.0 mgd. At total plant build-out the plant could accommodate the anticipated growth for the next 20 years. The plant is currently operating at approximately 2.3 mgd.

Additionally the WWTP site contains three additional storm water basins. According to the City of Reedley, Waste Water Treatment Plant Draft Environmental Impact Report (2006), "New percolation ponds (approximately 20 acres total) which will be constructed within the WWTP boundary, and will enable the plant to continue to provide 100 percent effluent reclamation via percolation" (Page 2-7). It is also noteworthy that part of the City's permit for the WWTP is that the City is required to discharge effluent reclamation waters between October and May, into three specific retention basins for recharge purposes. According to WWTP records, the five-year average of effluent discharge used for percolation purposes is 704.4 million gallons; and, in 2012, 654.0 million gallons were discharged into these percolation ponds for groundwater recharge.

According to orders and permits issued by the California Water Quality Control Board for the City's WWTP, certain limits have been placed on discharge flows to percolation ponds and the Kings River. The WWTP is limited to a monthly average discharge flow of 3.5 million gallons per day (mgd) of waste water to approximately 39 acres of percolation ponds. The City is also limited to a monthly average discharge flow of 1.75 mgd of waste water into the Kings River. According to the Alta Irrigation District's Amended Groundwater Management Plan (2010), "effluent discharge by the City of Reedley ('Agency') from its sewer treatment plant into the Kings River should not be considered to be the prohibited exportation of groundwater, if such effluent recharges or benefits underground supplies available to landowners in the District" (page 21).

The GPU goals, policies, and current regulatory permits ensure the public's health and safety from discharge treatment. These measures will significantly reduce future potential impacts to the collection and treatment system.

## Goals

CIR 3.10B - Ensure wastewater collection and treatment services are available to meet existing and future needs of the City.

## Policies

- CIR 3.10.11 By March 2014, City Council shall adopt a Waste Water Master Plan to address collection and treatment system. The implementation of this plan will assist the City in identifying general locations for future infrastructure. The Plan will also be vital to the development of impact fees which are necessary for implementation.
- CIR 3.10.12 The master plan will include analysis of the treatment needs as well as collector system disposal measures and funding mechanisms.
- CIR 3.10.13 The City shall acquire adequate land to be used for reclamation purposes.
- CIR 3.10.14 The City shall periodically review and update development impact fees, wastewater connection charges, and monthly service charges to ensure that adequate funds are collected to operate and maintain existing facilities and to construct new facilities.
- CIR 3.10.15 In partnership with County, State and federal agencies, the City shall work to prevent illegal wastewater disposal or chemical disposal practices.
- CIR 3.10.16A The City Council shall initiate the preparation and consider the adoption of performance based policies that address collection and treatment of waste water to ensure an adequate waste water treatment system necessary to support the growth and development patterns proposed within this GPU. The policies set forth shall be adopted and in full force prior to the annexation of any new territory that lies beyond the existing Sphere of Influence as of the adoption of this GPU.

Each policy initiated for development will be completed within one of three timeframes: set dates identifying the month and year of completion, annual and ongoing actions associated with City Council adoption, and actions that must be implemented prior to annexations of any new territory that lies beyond the existing Sphere of Influence.

- a) After the adoption of the GPU, the Community Development Department shall annually prepare report to the City Council regarding progress made toward overall implementation of these policies.
- b) These public utility system policies shall include the implementation of a public education component that addresses various topics related to collection, treatment, recharge and recycling. The reporting to City Council will commence with the adoption of the GPU. Each activity listed below will occur at various times throughout the year on an ongoing basis. The following shall include, but not be limited to:

- 1) All legally required annual waste water reports prepared by the Public Works Department shall be presented to the City Council for its consideration of approval.
- 2) The City shall work with industrial customers that use significant amounts of water as part of their operations to develop systems for measuring and monitoring their effluent discharge water for percolation purposes.

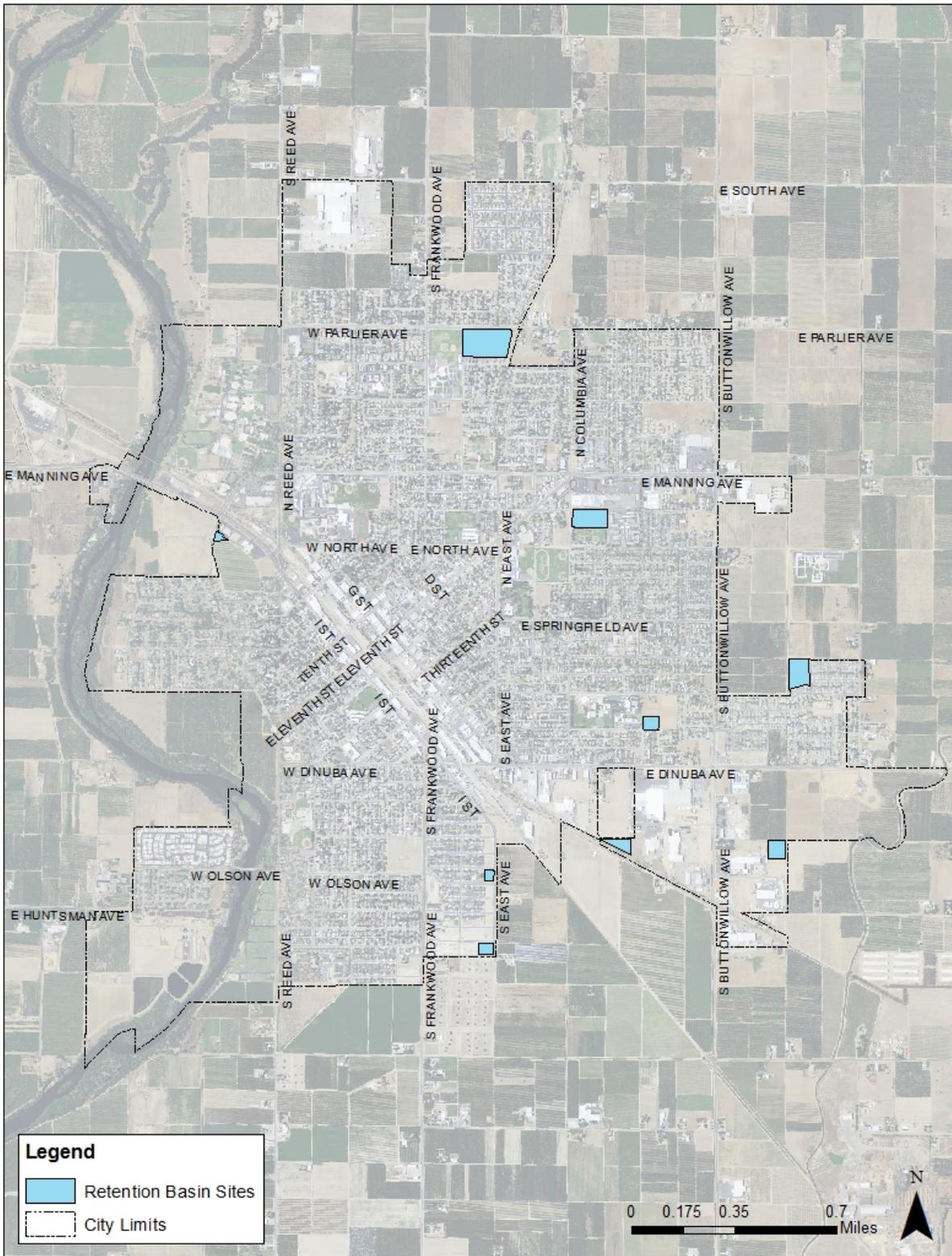
CIR 3.10.16B As part of its preparation of its annual budget, the City shall identify a list of capital facility improvement projects, with proposed budgetary allocations necessary to maintain operationally efficient collection and treatment of waste water system.

### Storm Water Facilities

Storm water flows into street collection systems and enters the storm drain inlets where it is conveyed through sub-surface drainage piping to one of several storm water retention basins located throughout the City of Reedley. The design of the storm drainage collection system is based upon the peak flow that the pipeline collection system can carry and the topographic slope (or gradient) available in the area. The design of a storm water retention basin is based upon the total volume of runoff that the retention basin must be capable of storing. The estimate of peak flow and total runoff volumes includes calculations utilizing hydrological principals.

The City has ten drainage zones, nine permanent storm water retention basins, underground storm drains, storm drain inlets, a drainage ditch, and a pump station distributed throughout the City. For example, the Buttonwillow Irrigation Ditch is located on the east side of the City. Storm drains also carry water to one of three retention basins. The Camacho Park Retention Basin is located at the northeast corner of North Avenue and Columbia. Another retention basin is located at the end of Hemlock Avenue and Curtis Avenue, adjacent to the Reedley Parkway. Both of these retention basins are designed to use gravity to fill with water. Storm water is collected in these basins and percolates through the soil or evaporates into the air. The third retention basin is located at the intersection of Washington Avenue and Carolyn Lane. Storm water from this basin is pumped to an irrigation canal. See Figure 3.6 - Retention Basin Sites. In addition, the Waste Water Treatment Plant is a significant source of groundwater recharge, as previously discussed above in the Public Utilities - Waste Water section.

Figure 3.6 - Retention Basin Sites Map



There are also two well-defined areas in the City of Reedley that collect storm water runoff, which flows directly to Alta Irrigation District (AID) facilities. The northern area is generally bound by Parlier, Frankwood, Manning and Hollywood Avenues. The second area is generally bound by North, East, and Dinuba Avenues. The two areas described above consist of approximately 20 acres of land. The amount of annual flow to the AID facility could be calculated based upon the annual rainfall level.

The storm drain runoff from this 20 acre area is an indirect source of groundwater recharge for AID. The collected storm water runoff drains into irrigation ditches and canals which are an excellent opportunity for groundwater recharge. Any runoff not absorbed through seepage is available to AID for further recharge or delivery to their customers, which in turn reduces the potential need for drawing more water from the Basin for remaining service needs.

The City's Storm Drainage Master Planning Report was prepared in 1982. The purpose of the report was to evaluate the existing storm drainage system and to identify future storm water collection and disposal infrastructure needs given anticipated growth of the City. A combination of pipelines for storm water collection, pump stations, drainage basins, and discharges to the Kings River were identified as the key system components needed to meet demand for storm water management within the then undeveloped portions of the City in which future development was anticipated at that time.

The National Pollutant Discharge Elimination System (NPDES) program controls and reduces pollutants to water bodies from point and non-point discharges. The NPDES Phase II Storm Water Program requires municipal separate storm sewer systems to obtain a permit and develop a storm water management program designed to prevent harmful pollutants from being washed by storm water runoff into local water bodies. The program must include public education, public participation and involvement, illicit discharge detection and elimination, construction site runoff control, post-construction runoff control and pollution prevention, and good housekeeping.

The City's Storm Water Management Implementation Plan (Starr Engineering 2007), represents the five-year management strategy for controlling the discharge of pollutants to the "maximum extent practicable" in storm water runoff from the City urban area during the first NPDES storm water permit term. The plan was prepared in support of the City's application for a Municipal Storm Water (MS4) Permit to the Central Valley Regional Water Quality Control Board. The plan includes information on federal, state, and local storm water quality regulations, storm water quality control strategies and programs to be implemented in Reedley, storm water quality monitoring and assessment, and plan implementation requirements. The City is currently in compliance with all State Storm Water regulations and in the process of updating its Storm Drainage Master Planning Report. It is anticipated that the Master Plan will be complete during the early part of 2014.

The Reedley Municipal Code, Storm Water Management Section 8-5-1, sets forth the local governing regulations for implementing storm water quality management strategies consistent with its General Construction permit from the Central Valley Regional Water Quality Control Board. The regulations are applicable to all storm water generated on any developed or undeveloped urban land within the City or conveyed by the public storm drain system. The critical component of the regulations is as follows:

All persons engaged in activities which will or may reasonably be expected to result in pollutants entering the public storm drain system shall undertake best management practices (BMPs) to minimize such pollutants, shall provide protection from accidental discharge of pollutants to the public storm drain system and comply with cleanup and notification requirements of this chapter. Such measures shall include the requirements imposed by federal, state, county, or local authorities. BMPs are site specific and are described in the documents "Storm Water Best Management Practice Handbook: Construction"; "Storm Water Best Management Practice Handbook: New Development And Redevelopment"; "Storm Water Best Management Practice Handbook: Industrial And Commercial"; "Storm Water Best Management Practice Handbook: Municipal"; or other guidance documents available from EPA and/or RWQCB. (Reedley Municipal Code, Section 8-5-1)

To support these and other storm drainage facilities the City has created and implemented an impact fee program (Update of Development Impact Fee, dated January 17, 2005). The current drainage system is comprised of street gutters and underground pipes that convey the storm event runoff to detention basins, irrigation canals and the Kings River. \$11,721,700 of the total cost constructing and maintaining the drainage system has been allocated to new development projects and is being spread to the various land uses in proportion to their need for storm water runoff capacity based on the following table of storm drainage runoff coefficients (Update of Development Impact Fee, dated January 17, 2005).The development impact fee is now being charged and collected at the time a building permit is issued.

Table 3-3 - Storm Drainage Runoff Coefficients

<b><u>Land Use Designation</u></b>	<b><u>"C" Factor</u></b>
Low Density Residential (Single Family)	0.25
Medium Density Residential (Single Family)	0.28
Medium High Density Residential (Multi-Family)	0.40
Commercial	0.70
Industrial	0.65
Schools:	
Primary	0.25
Secondary	0.30
Parks and Open Space	0.12

Source: Blair, Church and Flynn Consulting Civil Engineers, 1982

## Goals

CIR 3.10C - Provide a comprehensive system for storm drainage to protect life and property.

## Policies

CIR 3.10.17 By March 2014, the City shall adopt an updated Storm Drain Master Plan; with implementation to commence as of its adoption date. Among other topics, this plan shall include measures for water quality protection for areas where runoff may enter river, slough or groundwater. It also will include the following:

- a) The system capacity, which shall be designed based upon storm events and capacity needed to recharge groundwater.
- b) Incorporation of a ground water monitoring well, when feasible, as part of the minimum design standards for storm water facilities in the City of Reedley.
- c) Standards for limiting impervious surfaces to minimize runoff during storm events.
- d) Design and landscaping standards for temporary and permanent storm water storage basins.
- d) An analysis of the feasibility of multi-use water basins.
- e) Funding mechanisms for construction, repair, and maintenance.

CIR 3.10.18 The City shall prepare and present to the City Council for consideration of adoption of a comprehensive set of policies to ensure an adequate storm water drainage system to support the growth and development patterns proposed within this GPU. These policies shall set performance standards for sustainable management of Reedley's storm water drainage system. The policies, including those set forth below, shall be adopted such that their provisions are implemented by the deadlines set forth in the proposed policies. If the policy does not contain a specific deadline for its implementation, it shall be considered for adoption within twelve (12) months of the GPU's adoption. After the adoption of the GPU, the Community Development Department shall provide an annual report to the City Council describing progress made toward the development, adoption and overall implementation of these policies.

The staff analysis supporting each policy shall include a discussion of the following: (1) How the policy would minimize potential detrimental effect caused by the percolation of storm water; (2) Whether and how the policy would assist in the City's efforts to recharge the underground aquifer; (3) How the policy would be integrated into the entitlement process; and, (4) How the policy would be enforced through the regulatory environment. The policies shall include the following:

- a) The City shall develop and implement a public education component that addresses various topics related to collection and disposal of storm water and shall include periodic reports to the City Council and the public regarding its progress in implementing the policies. Specifically, this component shall include the following actions by the City Council:
  - 1) All legally required storm drainage reports prepared by the Public Works Department shall be presented to the City Council for consideration of adoption.
  - 2) All legally required National Pollutant Discharge Elimination System (NPDES) program reports, prepared by the Public Works Department shall be presented to the City Council for consideration of adoption.
  - 3) By March 2014, City Council shall consider the adoption of the Storm Drain Master Plan. The plan will assist the City in identifying locations for future infrastructure and ground water recharge opportunities. The Plan will also serve as basis for the development of updates to the impact fees which are necessary for implementation.
- b) The City shall develop standard operating procedures for vegetation management in storm water basins to ensure the basins structure and capacity is not compromised. The formal procedure shall be adopted within eighteen months after the adoption of the GPU.
- c) The City shall develop standard operating procedures for storm water measurement and for recording water levels in the basins. These procedures shall be adopted within eighteen months after the adoption of the GPU.
- d) The City shall develop standard operating procedures for documentation of interceptor monitoring and clean-out. The formal procedures shall be adopted within eighteen months after the adoption of the GPU.
- e) The City shall develop standard operating procedures for the bottom ripping of all storm water basins to ensure continual and optimal percolation. The procedures shall be adopted within eighteen months after the adoption of the GPU.
- f) As the City collects storm drainage development impact fees, and those fees become available, the City shall install measuring devices (e.g. flow meters, visually marked measuring poles) on drain inlets to measure storm events, which will be used to quantify Reedley's efforts to increase groundwater recharge.
- g) On an on-going basis, the City shall strive to work with the irrigation districts to identify the most suitable locations for storm water basins based on soil type, elevation, and other factors.

CIR 3.10.18B As part of the City's formulation of its annual budget, City staff shall identify a list of capital facility improvement projects, with proposed budgetary allocations, necessary to increase the use of collected storm water for the City's groundwater recharge efforts.

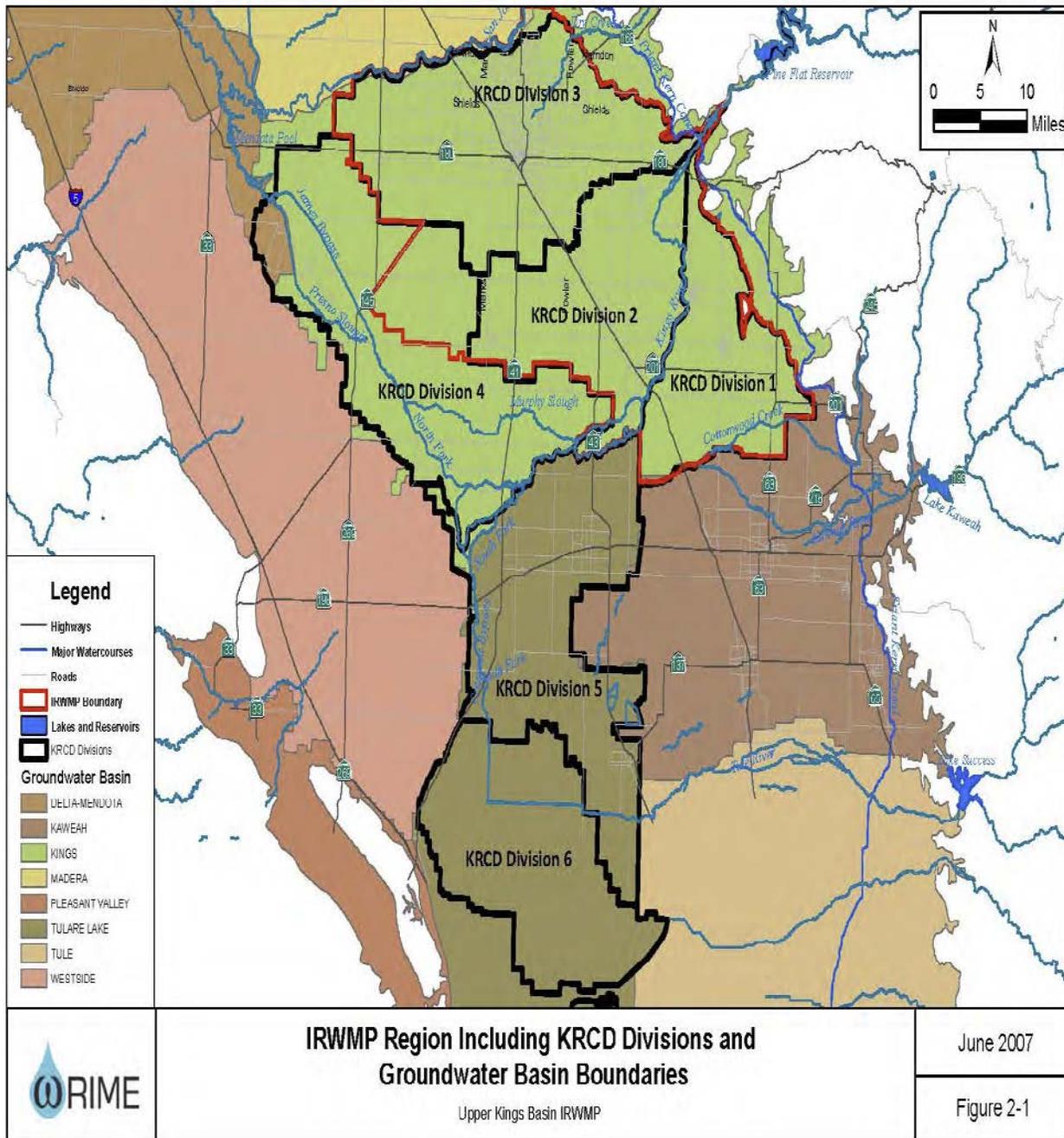
### Groundwater Recharge

As described previously, the Kings Basin is the City of Reedley's source of groundwater. There are many land owners, local and regional water agencies, and irrigation districts which overlie the Kings Basin and rely on the Kings Basin as a significant source of water. The basin, consisting primarily of lands served by Alta Irrigation District (AID), Consolidated Irrigation District (CID), the Fresno Irrigation District (FID), and account for a large percentage of the groundwater pumping in the region. The Upper Kings Basin has a total groundwater storage capacity of 35 million AF to an average depth of about 500 feet (Kings River Conservation District, 1993).

The City is located within the boundaries of two irrigation districts. Approximately 2,919 of the 3,133 acres within the exiting city limits are within the boundaries of the Alta Irrigation District (AID). The remaining approximately 214 acres, located in the western portion of the City, are located within the boundaries of the Consolidated Irrigation District (CID). Within the approximately 4,930-acre existing SOI, about 4,498 acres are within AID boundaries and 432 acres within the CID boundaries. Within the proposed future SOI boundary, approximately 6,260 acres are within the AID and 831 acres are within the CID. Each of these irrigation districts manages surface and groundwater resources in a portion of the Kings Basin. The City's wells are all located east of the Kings River within AID territory. The City does not pump any groundwater west of the Kings River, within the jurisdictional territory of CID.

The Department of Water Resources (DWR) estimates that the groundwater storage for the entire Kings Basin is about 93 million acre-feet (AF) to a depth of more than 1,000 feet (DWR Bulletin 118, 2003). The Upper Kings River Basin refers to approximately the northeastern two-thirds of the Basin and the Lower Kings Basin refers to the southwestern one-third (See below Figure 3.7 - Integrated Regional Water Management Plan Area-2007). The overdraft of the Kings Basin was previously estimated by the Kings River Conservation District (KRCD) to be an average of 161,000 ac-ft./yr. from 1964-2004. According to the City of Reedley 2010 Urban Water Management Plan (2013), KRCD models project that overdraft will average around 122,000 ac-ft./yr. through 2035 (HDR, page 4-4).

Figure 3.7 - Integrated Regional Water Management Plan Area



The Kings River is the main river that runs through Fresno County and runs along the western border of the City of Reedley. The Kings River is also a major source of groundwater replenishment for the Kings Basin. The River is the best and most prominent riparian and wetland habitat in the County of Fresno. According to the Kings Basin Integrated Regional Water Management Plan (2012), “the Kings River, its tributaries, and sloughs are the lifeline of riverine-riparian habitat that links the Sierra Nevada Mountains to the foothills, to the valley floor” (Kings Basin Water Authority, Kings Basin Integrated Water Management Plan, Adopted October 17, 2013, Page 3-3).

Despite the active management of the subbasin and Kings River, the basin is considered to be in critical overdraft. This situation is well documented by the Kings River Conservation District which has access to data from over 1,100 well-sites in the region and records from 19 local agencies. The three general characteristics which contribute to the overdraft condition are considered to be: 1) groundwater pumping to meet agricultural water demand when surface water diversions are inadequate to fully meet the crop water requirements; 2) high reliance on groundwater for all demands in much of the western parts of the Kings Basin; and 3) urban development and reliance on groundwater once lands are converted to urban use from agricultural uses. The sub-surface depth to groundwater has been decreasing over time and can be expected to continue to decrease as demand for groundwater increases.

The City of Reedley is one of many agencies and entities responsible for the critical overdraft condition that has been described, yet as a good steward recognizes that the long-term overdraft of the Kings Basin is not sustainable. Arguably the City's near and long term conservative average water deficit could be calculated at less than 5% of the total overdraft condition. However, this small deficit coupled with the groundwater pumping of surrounding agriculture, the Alta Irrigation and the Consolidated Irrigation Districts has contributed to the historical critical overdraft.

To better understand annual water production, user consumption, recharge and contribution to this critical overdraft condition the City commissioned a study that resulted in a report entitled Groundwater Pumping, Recharge, and Consumptive Use in the Proposed City of Reedley Sphere of Influence (2013). This report evaluated water production, consumption and recharge to determine the average water surplus/deficit.

The groundwater report describes consumptive use within the existing City urban area, the existing SOI, and the proposed SOI. Within the existing urban area of the City, total annual consumptive use is estimated at 2,150 acre-feet per year (Schmidt and Associates, page 3), of which about 1,000 acre-feet per year is intentionally recharged to the underground aquifer. As such, water demand within the City results in a net decrease or overdraft of 1,150 acre-feet of groundwater per year.

Generally, “**consumptive use**” means the amount of groundwater extracted that is not returned to the underground aquifer, or the volume of water extracted that is consumed. For example, consumptive uses include water used for irrigation and transpired to the atmosphere by plants, water incorporated into products or crops, and water consumed by people or animals. Extracted groundwater that is not consumed may be returned to the underground aquifer by percolation via agricultural irrigation, agricultural irrigation ditches, landscape irrigation, percolation of treated wastewater, or percolation of storm water.

The report (2013) also states, “The amount of storm water recharged in basins in the City, delivered to AID canals, or discharged to the Kings River was about 1,000 acre-feet per year in 2012. Although the City doesn't directly benefit from this canal and river discharge, that water is eventually used or recharged, and benefits the Kings Basin (Schmidt and Associates, page 3).

Within the existing SOI (land within the city limits plus land outside the city limits but within the existing SOI boundary), consumptive use is estimated at 5,650 acre-feet per year. The groundwater deficit is estimated to be 2,650 acre-feet per year (Schmidt and Associates, page 4).

Table 3-4 - Direct Consumptive Use - Existing Condition

<b>1. Existing Urban Area (City Limits)</b>			
Outdoor Water Use (Urbanized)			
City Pumpage	5,000		
Wastewater flow	-2,000		
<u>Total Outdoor Water Use</u>		3,000	
Estimated Consumption Urbanized Use for Outdoor Irrigation (65% of Outdoor Water Use)	1,950		
Annual Evaporation rate (2.8 acre-feet per acre per year)	200		
<u>Total Urban Consumption</u>		2,150	
<b>2. Existing SOI (Rural Uses)</b>			
Average consumptive use (Rural Irrigation)	3,500		
<u>Total Rural Irrigation Consumption</u>		3,500	
<b><u>Total Urban and Rural Consumptive Use</u></b>			5,650
<b><u>3. Recharge (Canal Seepage &amp; Storm runoff)</u></b>			
Average Canal or Ditch	1,600		
Canal ditch Seepage	1,150		
Additional storm runoff	250		
		3,000	
<b><u>Total Direct Recharge</u></b>			3,000
<b>AVERAGE WATER DEFICIT</b>			<b>-2,650</b>
<b>Indirect Consumptive Use - Existing Condition</b>			
Indirect Discharge to AID, canals & Kings River	1,000		
Basin Recharge	250		
<u>Total Indirect Recharge</u>		1,250	
<b>Direct &amp; Indirect Total Consumptive Use</b>			<b>-1,400</b>

Note:

1. Numbers are in acre-feet per year.
2. All values have been rounded to nearest 50 acre-feet per year.

Source Documents:

Groundwater Pumping, Recharge, and Consumptive Use in the Proposed City of Reedley Sphere of Influence, Kenneth D. Schmidt and Associates Groundwater Quality Consultants, May 2013

With the increase in demand for ground water from urban uses at build out of the proposed SOI, consumptive use is projected to increase to 6,800 acre-feet per year in the build out year of 2030 (Schmidt and Associates, page 5) and the total groundwater deficit would be 6,300 acre-feet per year. Consequently, build out of the proposed SOI as guided by the GPU would result in an increase in the groundwater deficit of 3,650 acre-feet per year relative to the existing deficit of 2,650 acre-feet per year within the existing City SOI. This significant increase is due in large part to the piping of miles of canals which, through seepage, provided a valuable opportunity for recharge of the underground aquifer. Implementation of the proposed GPU would; therefore, exacerbate existing groundwater overdraft conditions by increasing extraction of groundwater by 3,650 acre-feet per year.

Table 3-5 - Direct Consumptive Use - Future Condition, 2030

<b>1. Existing Urban Area (City Limits)</b>			
Outdoor Water Use (Urbanized)			
City Pumpage	17,200		
Wastewater flow	-8,000		
<u>Total Outdoor Water Use</u>		9,200	
Estimated Consumption Urbanized Use for Outdoor Irrigation (65% of Outdoor Water Use)	6,000		
Annual Evaporation rate (2.8 acre-feet per acre per year)	800		
Storm water Runoff	-500		
<u>Total Urban Consumption</u>		6,300	
<b>2. Existing SOI (Rural Uses)</b>			
Average consumptive use (Rural Irrigation)	3,500		
<u>Total Rural Irrigation Consumption</u>		0	
<u>Total Urban and Rural Consumptive Use</u>			6,300
<b>3. Recharge (Canal Seepage &amp; Storm runoff)</b>			
Average Canal or Ditch	0		
Canal ditch Seepage	0		
Additional storm runoff	0		
		0	
<u>Total Direct Recharge</u>			0
<b>AVERAGE WATER DEFICIT</b>			<b>-6,300</b>
<b>Indirect Consumptive Use - Existing Condition</b>			
Indirect Discharge to AID, canals & Kings River	2,750		
Open Space Recharge & Kings River	1,000		
<u>Total Indirect Recharge</u>		3,750	
<b>Direct &amp; Indirect Total Consumptive Use</b>			<b>-2,550</b>

Note:

1. Numbers are in acre-feet per year.
2. All values have been rounded to nearest 50 acre-feet per year.

Source Documents:

*Groundwater Pumping, Recharge, and Consumptive Use in the Proposed City of Reedley Sphere of Influence, Kenneth D. Schmidt and Associates Groundwater Quality Consultants, May 2013*

The groundwater report concludes that most of the increased water deficit under proposed future SOI build out conditions is due to the loss of seepage from canals and ditches that would be replaced with urban uses and from the loss of deep percolation from irrigation water placed on agricultural land that would be converted to urban use. The report goes on to state that the increased deficit could be off-set by working with the AID to enable percolation of canal or ditch water in City storm water basins with some also used for park or other landscape irrigation. Other alternatives include City participation in development of recharge facilities within the AID and/or increasing the volume of storm water captured and recharged to groundwater through storm water percolation basins.

It is also noted that groundwater conditions within the boundary of the CID significantly and disproportionately benefit by percolation of treated effluent from the City's wastewater treatment plant that is located west of the Kings River. The percolation volume is predicted to reach about 7,200 acre-feet under full build out of the proposed SOI. Nevertheless, the groundwater report also concludes that the existing and projected water deficits impact the CID by decreasing groundwater flows into the CID that would otherwise occur (groundwater report, page 8).

The City wants to continue to be good stewards of a finite water resource and has developed a set of goals and policies to achieve water balance to help reduce a critical overdraft condition. The City is committed to an effort that ensures the current public water system provides water quality that protects the health and welfare of the community. It is also committed to ensuring that future development does not adversely contribute or substantially affect the current water system and/or urban user, while providing the same quality and sufficient water supply for future development.

The collective Public Utility goals and policies (water, waste water, storm drainage and groundwater recharge) were specifically designed to comprehensively address the significant issues associated with water quality and supply facing the City of Reedley as it seeks to develop as proposed in the GPU.

These goals and policies will not wholly, or substantially reduce the Kings Basin cumulative critical overdraft condition, however, will significantly reduce the City's localized impact on the Kings Basin as its primary source of groundwater.

## Goals

**CIR 3.10D**—The City shall reduce by 15% its consumptive use by 2030.

## Policies

CIR 3.10.19A The City shall prepare and present to the City Council for consideration of adoption a comprehensive set of policies to ensure an adequate city-wide program for the recharge of ground water to support the growth and development patterns proposed within this GPU. These policies shall set performance standards for sustainable management of Reedley's use of groundwater and promote efforts to increase groundwater recharge. The policies, including those set forth below, shall be adopted such that their provisions are implemented by the deadlines set forth in the proposed policies. If the policy does not contain a specific deadline for adoption or implementation, it

shall be considered for adoption within twelve (12) months of the GPU's adoption. After the adoption of the GPU, the Community Development Department shall provide an annual report to the City Council describing progress made toward the development, adoption and overall implementation of these policies.

The staff analysis supporting each policy shall include a discussion of the following: (1) How the policy would help to reduce consumptive use; (2) Whether and how the policy would assist in the City's efforts to recharge the underground aquifer; (3) How the policy would be integrated into the entitlement process; and, (4) How the policy would be enforced through the regulatory environment. The policies shall include the following:

- a) The City shall develop and implement a public education component that addresses various topics related to the consumptive use of groundwater as well as efforts to recharge the underground aquifer and shall include periodic reports to the City Council and the public regarding its progress in implementing the policies.
- b) The City shall work cooperatively with land owners, local and regional water agencies, and irrigation districts which rely upon the Kings Basin as a source of water to identify and implement infrastructure projects and other programs that serve to reduce the use of groundwater and/or facilitate the recharge of the aquifer.
- c) The City shall work cooperatively with the irrigation districts to develop and implement new strategies to expand upon current efforts directed toward groundwater recharge. These strategies may include:
  - 1) Exploring the feasibility of joint water banking.
  - 2) Exploring opportunities to jointly participate in studies that will be used to facilitate new or expand wastewater recycling and reclamation opportunities.
- d) Develop a methodology for early consultation (CEQA Section §21080.3) with the irrigation districts as part of the environmental review process when an entitlement application that involves annexing new land into the City is submitted. The comments received from the District will be fundamental to the development of conditions of approval applied to said projects. This process could be developed and implemented within one year after the adoption of the GPU.
- e) On an on-going basis, the City shall strive to work with the irrigation districts to identify the most suitable locations for storm water basins based on soil type, elevation, and other factors.

- f) The City shall continue to work with the Upper Kings Basin Integrated Regional Water Management Authority in developing a strong coalition of water agencies, cities, counties and environmental groups to address local water issues.
- g) The City shall continue to work with the Kings River Conservation District to identify projects that would directly and efficiently increase groundwater recharge and to identify funding sources for said project, with the goal of submitting a grant application to the District for such a project by January 15, 2015.
- h) Within one (1) year of the adoption of the GPU, the City Council shall complete a thorough review of the City's development impact fee program and shall consider the adoption of a comprehensive update of the various fees included in the program.
  - 1) This review shall include, but not be limited to, Storm Drainage, Water Distribution, Groundwater Recharge, Water Supply/Holding and Waste Water Collection and Treatment.
  - 2) Within each topic area, the review shall include the analysis of existing conditions, proposed new development, need necessitated by future development and proportional cost attributed to land use development.
- i) By 2020, the City shall prepare an updated Groundwater Pumping, Recharge, and Consumptive Use Analysis report using the same methodology as the 2013 report. Part of this report will include policies, recommendations, and implementation measures. The analysis and recommendations shall be presented to the City Council for its consideration.
- j) All annual reports, prepared by the Public Works Department related to water quality, water supply and delivery, and groundwater recharge shall be presented to the City Council for its consideration of adoptions.
- k) The City shall continue to strive to develop and implement best management practices, strategies, in compliance with State law, and regulatory permits/requirements related to water quality and supply and groundwater recharge and report annually to the California Urban Water Conservation Council on its progress in development and implementing said practices.
- l) The Public Works Department shall prepare an annual report that identifies, at a minimum, the amount of water used to irrigate the open space and the projected amount of groundwater recharge that has occurred. The City shall use industry standards to establish a formula to calculate the balancing of production to groundwater recharge.

CIR 3.10.20B As part of the City's formulation of its annual budget, City staff shall identify a capital facility improvement projects, with proposed budgetary allocations, necessary to implement the City's groundwater recharge efforts.

### General Utilities

Utilities such as electricity, natural gas, telephone, internet and cable services are important components of daily life for the citizens of Reedley. It is necessary for the City of Reedley to ensure adequate provision of these services in order to maintain a competitive business climate and a quality of life for the citizens.

#### Goals

CIR 3.10E - Continue to work with Pacific Gas and Electric (PG&E) to improve the appearance of transmission line corridors.

#### Policies

CIR 3.10.21 Continue to require that new development underground all on-site utility lines.

CIR 3.10.22 Review proposed new public utilities, to ensure that the design and facility location will not have adverse impacts on neighborhoods, or residents.

# *Chapter Four*

## *Conservation, Open Space, Parks and Recreation Element*

### **4.0 INTRODUCTION**

The Conservation, Open Space, Parks and Recreation Element provides for the conservation, development and utilization of natural resources including air, biotic, water, soils, rivers, wildlife and other natural resources and the provision of recreational services to the citizens of Reedley. This Open Space, Conservation, Parks and Recreation Element does meet State requirement, pursuant to Government Code Sections 65302(d) and (e). However, unlike other Elements within the General Plan this Chapter is almost exclusively oriented towards natural resources and recreation opportunities.

Accordingly, this Element contains goals and policies to conserve, protect and maintain natural resources such as water, soils, wildlife, and minerals. The Element is also required to contain goals and policies to protect open space for the protection of places, features and objects, including local open space, undeveloped lands and outdoor recreation areas. Because of the substantial overlap in these two required elements, they have been combined, along with the Parks and Recreation Element

Open space generally refers to any water or land which has value for single or multiple open space functions. Specifically, there are five different functional types of open space. These include open space for: (1) the preservation of natural resources, including rivers; (2) the managed production of agricultural and other resources; (3) public health and safety, including flood plains and unstable soil areas which require special management or regulation; (4) controlling urban form and preventing inefficient patterns of development; and (5) outdoor recreation, including parks and areas of historic and cultural value. As used in this Element, open space refers to land usable by the public for passive or active recreational purposes.

Because air quality is an important issue in Reedley and the Central Valley, air quality issues are also addressed in this document.

### **4.1 EXISTING PLANS**

#### Kings River Corridor Specific Plan

In 1990, the City of Reedley adopted the Kings River Corridor Specific Plan for the purpose of recognizing the Kings River as Reedley's most important natural resource. As adopted, the document is the primary implementation document that contains provisions for conservation and preservation of the Kings River environs. The Specific Plan provides a detailed "blueprint" of how the river environment will be protected, where recreational facilities and access to the river will be provided, and how residential and commercial land will be developed. A primary goal of the Specific Plan is to protect and enhance existing native habitat, wildlife resources,

and other aspects of the Kings River environment. Contained in the Plan are policies to enhance native vegetation, the riparian area, protect “significant natural habitat” by limiting access to these areas and reforest certain open space lands within the river corridor.

The Kings River Corridor Specific Plan will continue to exist as an adopted Specific Plan following the General Plan Update. However, State Government Code, Section 65454, requires specific plans to be consistent with a City’s General Plan. To insure compliance with the consistency requirement, it is recommended that the Kings River Corridor Specific Plan undergo a complete review and, as necessary, amended to be consistent with the General Plan Update.

### Park and Recreation Master Plan

In 2009, a Park and Recreation Master Plan was completed and accepted by the City Council. The plan was a comprehensive effort to identify park and recreation needs for the community. The Park and Recreation Master Plan was prepared to provide baseline data, policies and recommendations, as well as standards for future park and recreation facilities. The Master Plan also included a plan for funding and allocation of resources for parks, recreation facilities and programs. The baseline data was used in the preparation of the General Plan Update. Following adoption of the General Plan, it is recommended that the Master Plan be reviewed for consistency and adopted as a Park and Recreation Master Plan.

## **4.2 NATURAL RESOURCES**

Conservation of natural resources including open space, groundwater, soils and air quality has been acknowledged as an important factor to the well-being of the community. This commitment is evidenced by the adoption of the Kings River Specific Plan that strives to preserve the natural environment surrounding the Kings River, a significant resource for the community of Reedley.

Recent drought years have raised the level of community awareness and the appreciation of water as a significant natural resource. Reedley depends upon pumping groundwater from the unconfined aquifer that underlies the entire San Joaquin Basin for municipal use. Despite past groundwater abundance, the City of Reedley promotes water conservation to its residents and provides information, literature and household water saving devices to its water customers.

### Goals

COSP 4.2A - Preserve and protect the natural resources that contribute to the well-being of the residents of Reedley.

COSP 4.2B - Encourage the maximum cooperation among all levels of government and private individuals in the management, conservation, and protection of open space resources.

## Policies

- COSP4.2.1 Provide proper supervision of the river area to minimize damage to vegetation, minimizes soil erosion, and prevents accumulation of litter.
- COSP4.2.2 Foster and maintain the scenic atmosphere of the river front area.
- COSP4.2.3 Protect areas of groundwater recharge from land uses and disposal methods which would degrade water sources.
- COSP4.2.4 Provide public sewer service to new urban development as a means of protecting groundwater resources.
- COSP4.2.5 To protect human health the City groundwater resources will be monitored on a regular basis to test for bacteriological and toxic chemical components.
- COSP4.2.6 Promote activities which combine storm-water control and water recharge.
- COSP4.2.7 The City will enhance groundwater recharge supply by requiring the installation of detention/retention ponds in new growth areas.
- COSP4.2.8 Continue to implement provisions of the Kings River Corridor Specific Plan to ensure conservation of the riparian area.
- COSP4.2.9 The City should modify and expand the Kings River Corridor Specific Plan to include determination of appropriate land base on the west bank and riparian area of the Kings River.
- COSP4.2.10 Continue to encourage water conservation.

## 4.3 AGRICULTURE

Agriculture is a prominent economic segment of the City of Reedley, with a long history reaching back to the turn of the century. Agriculture continues to play a key role in shaping our local economy while Reedley maintains its unique rural characteristics. Undeveloped lands surrounding the existing City boundaries are predominantly agricultural lands, which are more likely to be converted to urban uses as near term development is eminent.

The conservation and preservation of agricultural lands within the Reedley area is in large part a function of protection of existing agricultural uses within the City's Sphere of Influence (SOI) as urban development approaches said land and avoiding the unnecessary or premature conversion of agricultural lands to urban uses. The conservation of agricultural lands within the current SOI has already been studied and mitigated through both the 1977 and 1992 General Plan updates. Those Plans directed growth in such a manner that the built environment reflects a compact development pattern which has not leap-frogged, sprawled or unnecessarily intruded into agricultural areas. Notwithstanding, predictability of development opportunities in today's economic climate is speculative and it is difficult to determine exactly when and how much agricultural land may be converted to urban uses in the near term or during this Plan's planning horizon.

Land contained within the newly proposed expanded sphere of influence is also predominantly agricultural lands. A complete build-out of the proposed GPU whereby all available agricultural lands are converted to urban uses by 2030 is highly unlikely. The conversion of all of the available lands in the proposed SOI shall be environmentally evaluated as a worst case scenario. However, this in no way suggests that future agricultural viability be dismissed or compromised simply for the purpose of urban development.

This GPU continues the long history of goals and policies that promote compact development and encourage development of in-fill and/or by-passed parcels in close proximity to the urban core. This General Plan's Land Use Element promotes increases in residential and commercial density ranges which allows for community expansion, the anticipated growth in population, and minimizes premature agricultural land conversions within the proposed SOI boundary.

The City has constructed a set of policies (Farmland Preservation Plan) focused on addressing development standards and requirements that facilitate farmland preservation. For example, the Right-to-Farm Ordinance, interface standards, updating the Reedley Municipal Code to address the combination of urban and rural uses in less intense zone districts, and support for or opposition to Williamson Act contracts, are policies designed toward directing development, while minimizing and possibly preventing the premature conversion of productive agricultural lands surrounding the City.

The City is also imposing a Farmland Preservation Program which will address the permanent preservation of identified Prime Farmland, Unique Farmland, and Farmland of Statewide Importance that might otherwise be converted to urbanized development. The Program includes an evaluation component and various preservation approaches.

Lastly, the City has also proposed to self-regulate urban growth, which has a direct impact on premature and unnecessary conversion of agricultural lands, by committing to annexing a maximum of five hundred (500) acres from within the existing SOI of 1797-acres (See Policy LU 2.5.18) before implementing the Farmland Preservation Program.

The integrity of the GPU as it relates to the agricultural character of the area is reflected in the rational, logical and reasonable and contiguous extension of land uses and strategies from the previous GPUs and the existing urbanized pattern. The collective Land Use, Urban Growth Management and Agriculture Goals and Policies were specifically designed as a comprehensive set of tools to ensure the avoidance or premature conversion of agricultural land, which will not wholly mitigate the loss of potential agricultural lands, but will significantly reduce the impact.

## Goals

COSP 4.3A - To preserve as long as possible the prime farmland, farmland of statewide importance and farmland of local importance within the GPU Sphere of Influence.

COSP 4.3B - To provide a greenbelt around the City's perimeter to maintain the physical separation between the City of Reedley and the Cities of Dinuba and Parlier as well as existing agricultural uses within the County of Fresno but outside the City's Sphere of Influence.

## Policies

- COSP4.3.1 Support the efforts of the County of Fresno and agricultural and community stakeholders to preserve and protect farmlands outside the centralized core of the City.
- COSP4.3.2 Maintain a 20-acre minimum parcel size for agriculturally designated parcels to encourage viable agricultural operations and to prevent parcelization into rural residential or ranchette developments.
- COSP4.3.3: The City shall prepare and adopt a Farmland Preservation Plan (FPP). This plan shall include a set of policies, standards and measures to avoid the unnecessary conversion of agricultural lands.

For each policy, standard or measure, the plan shall include a discussion of the following: (1) How the policy would minimize a potential detrimental effect caused by urban development; (2) Whether and how the policy would assist in avoiding the premature conversion of Prime Farmland, Unique Farmland or Farmland of Statewide Importance; (3) How the policy, standard or measure would be integrated into the entitlement process; and, (4) How the policy, standard or measure would be enforced through the regulatory environment.

The FPP shall include the following policies:

- a) The City shall ~~strive to~~ protect agriculturally designated areas, and direct urban growth away from productive agricultural lands into urbanized or underdeveloped portions of the City.
- b) The City shall ~~strive to~~ collaborate with the Fresno County Local Area Formation Commission (LAFCo), Fresno County and land owners to encourage minimum parcel sizes of 20 acres or more for land designated for agriculture and/or evidence of commercial agricultural use prior to entering into new Williamson Act contracts.
- c) The City shall not protest the renewal of Williamson Act Contracts with regard to land located within the City's SOI, but not adjacent or in close proximity to the City's current boundary, where the land's minimum parcel size is at least 20 acres and the land owner has provided evidence satisfactory to the City that the land is currently being used for commercial agricultural operations.
- d) The City shall support the efforts of public, private, and non-profit organizations to preserve Prime Farmland, Unique Farmland or Farmland of Statewide Importance located in Fresno County through the dedication of conservation easements and the preservation of range land held as environmental mitigation.
- e) The City shall encourage the installation of solar and wind energy production facilities in agricultural areas so long as they do not result in a tax burden to Fresno County, do not result in permanent water transfers from productive agricultural land, do not hinder agricultural operations on

adjacent land, or do not require cancellation of Williamson Act contracts. In addition, these facilities should include dedications of agricultural land and habitat mitigation, measures to control erosion, and assurances for financing decommissioning activities.

- f) The City shall actively collaborate with landowners, cities, state and federal agencies, colleges, universities, stakeholders, and community-based organizations to continue to expand agricultural preservation in the surrounding Fresno County area.
- g) The City shall discourage public agencies from locating facilities, especially schools, in existing agricultural areas.
- h) The City shall encourage the voluntary merger of antiquated subdivision lots that conflict with adjacent agricultural uses.

The FPP shall include the following implementation measures:

- a) A provision designating the Community Development Department as the department responsible for the preparation and implementation of the FPP, once adopted and directing the Department to prepare annual reports to the City Council describing progress made toward the preparation, adoption and implementation of the final FPP.
- b) The creation of a community outreach program to encourage current agricultural land owners' continued participation in programs that preserve farmland, including the Williamson Act, conservation easements, and USDA-funded conservation practices.
- c) ~~The identification of various amendments to the Reedley Municipal Code that would be adopted within twelve (12) months of the adoption of the FPP, such as the following:~~ Amend the Reedley Municipal Code within 12 months of adoption of the GPU to provide at least for the following:
  - 1) Amend the zoning ordinance to require a minimum 100-foot buffer between new residential development and existing agricultural operations, and to establish design/maintenance guidelines for developers and property owners. The 100-foot buffer will create an appropriate transitional space between urban and agricultural land uses so as to facilitate continued agricultural operations.
  - 2) Amend Chapter 10-6A, the Residential Estate (RE) District section, which is intended to provide living areas that combine both the urban and rural setting, to add provisions to prevent premature conversion of agricultural land, which could cause incompatible land uses and potential conflicts.
  - 3) Amend the subdivision ordinance to facilitate the voluntary merger of antiquated subdivision lots that conflict with adjacent agricultural uses.

- 4) Amend the zoning ordinance to include provisions requiring that environmental review expressly analyze the potential for a proposed entitlement or permit to create incompatibilities with agricultural uses through traffic generation, groundwater contamination, storm-water drainage disposal and/or the deterioration of air quality.
- d) ~~Provisions to ensure that the City manages the extension of sewer lines, water lines, or other urban infrastructure into areas designated for agricultural use to avoid premature farmland conversion and as necessary to protect public health, safety, and welfare. The City shall manage extension of public utilities and infrastructure to avoid extending them into agricultural areas before those areas are committed to conversion of urban uses.~~

COSP 4.3.4: In conjunction with the preparation, adoption and implementation of the Farmland Preservation Plan described in Policy COSP 4.3.3, the City shall develop and consider the adoption of a program that shall require new development within the SOI to fund farmland preservation efforts. The goal of this program is to preserve designated Prime Farmland, Unique Farmland, and Farmland of Statewide Importance (together "Farmland") that otherwise runs the risk of being converted to urbanized development. This program shall act as a mitigation program in response to the necessary agricultural land conversion that occurs as a result of the City's expansion into its SOI. The City shall not support the annexation of lands in excess of a total of 500 acres within the City's existing SOI until this program, or a program that accomplishes the same goals, has been adopted and other actions and approvals necessary to the implementation of the program have been completed. Among other provisions, the program shall include the following evaluation and performance requirements:

- a) Program Goal: As Prime Farmland, Unique Farmland, and Farmland of Statewide Importance within the City's SOI is converted to urban uses, secure the permanent preservation of other Prime Farmland, Unique Farmland, and Farmland of Statewide Importance within Fresno County on a 1 for 1 basis.
- b) Evaluation Process: To accomplish the program goal, as part of the entitlement application process Farmland proposed for conversion will be evaluated using the Land Evaluation and Site Assessment (LESA) model issued by the California Department of Conservation. The LESA model provides an analytical approach for rating the relative quality of land resources based upon specific factors, such as soils, site acreage, water availability, and surrounding land uses. The LESA model worksheets are provided in Appendix A, Evaluation and Site Assessment (LESA) Model, California Department of Conservation.

- c) Fee Program: The City shall develop and adopt a fee program consistent with the requirements of the Mitigation Fee Act that will require applicants seeking to annex Farmland within the City's SOI to pay a fee to the City of Reedley equivalent to the cost of preserving Important Farmland on a 1 to 1 basis with land converted to urban uses. The City shall use the fees to fund an irrevocable instrument (e.g. ~~deed restriction or an~~ easement) to permanently preserve farmlands via a Trust for Farmland Funds Disbursements.
- d) Alternative to Payment of Fee: As an alternative to the payment of the fee described in subsection (c), applicant shall provide documentation satisfactory to the City that demonstrates that applicant has entered into a binding agreement with one or more property owners or a third-party organization acceptable to the City of Reedley (e.g. ~~Fresno County Farm Bureau or the American Farmland Trust~~ the Sequoia Riverlands Trust) to permanently preserve farmland equivalent in acreage to the Farmland proposed for annexation into the City. The agreement shall identify an irrevocable instrument that will be recorded against the preserved property.
- e) This program will also involve the City maintaining a current list of organizations and owners of Farmland that can facilitate the acquisition of conservation easements so as not to unduly delay the annexation of the land into the City and completion of the proposed development.

#### **4.4 AIR QUALITY AND CLIMATE CHANGE**

AB 170 passed in 2003, requiring cities in the San Joaquin Valley to include data, analysis, comprehensive goals, policies, and feasible implementation strategies to improve air quality. Air Quality and Climate Change goals and policies address these requirements, as well as a clear commitment to take action on reducing air emissions, including greenhouse gases. Appendix "A" contains additional background information.

This document provides a comprehensive set of goals and policies that promote development patterns, site designs, and transportation systems that support alternatives to the automobile. As development occurs in a manner consistent with air quality goals and policies, local government control measures will be more effective and growth in vehicle trips and vehicle miles traveled will be reduced.

Overall strategies include:

- (a) A commitment to determine and mitigate project level and cumulative air quality impacts under the California Environmental Quality Act (CEQA).
- (b) A commitment to integrate land use plans, transportation plans, and air quality plans.
- (c) A commitment to plan land uses in ways that support a multi-modal transportation system.

- (d) A commitment to take local action to support programs that reduce congestion and vehicle trips.
- (e) A commitment to plan land uses to minimize public exposure to toxic air pollutant emissions from industrial and other sources.
- (f) A commitment to reduce particulate emissions from sources under local jurisdiction.
- (g) A commitment of support for District and public utility programs to reduce emissions from energy consumption and area sources (water heaters, barbecues, etc.).

The San Joaquin Valley has a serious air pollution problem that will take the cooperation of cities, the development community, the San Joaquin Valley Air Pollution Control District (SJVAPCD), and the public to solve. The solution to the problem requires a fundamental shift in priorities from emphasis on private automobiles to a multi-modal system, as well as a change in attitude from the public to support development patterns and transportation systems that differ from the status quo.

The U.S. Environmental Protection Agency (EPA) designated the San Joaquin Valley Air Basin as a non-attainment basin for ozone and fine particulate matter (PM10 and PM2.5). This means that SJVAPCD plans for achieving National Ambient Air Quality Standards (NAAQS) must include stringent emission control measures to attain standards by the deadlines specified in the federal Clean Air Act (CAA). If the District's plans fail to meet all requirements, the EPA will take action to exert increasing federal presence in controlling emissions, ranging from sanctions to preparation of a federal plan for attaining ambient standards.

#### Why Technology Has Not Won the Battle

Mobile sources are a substantial portion of the pollutant inventory in the San Joaquin Valley. Although cars and trucks are getting cleaner, rapid population growth and increased vehicle miles traveled can offset improvements achieved through technology. This is unacceptable considering that federal law mandates us to reduce emissions of ozone precursors by at least three percent per year until air quality standards are attained. Any slack created by increases in motor vehicle emissions must be made up from job-producing stationary sources, or we will face the consequences of federal actions to reduce emissions.

#### Potential Air Quality Benefits

A small community that comprehensively plans an area so that land uses are supportive of walking, bicycling, and transit can achieve long-range trip reductions of 5 to 10 percent compared to standard suburban development patterns. Many communities in the Central Valley are attempting to plan their growth in ways that address a number of problems. Increasing traffic congestion, loss of farmland, urban sprawl and lack of money to support public infrastructure and services, are concerns of many Valley communities. A number of the goals and policies promote the concept of more livable places being implemented. These planning concepts use the strong application of urban design techniques, compact development, and more efficient transportation systems to achieve goals.

## Greenhouse Gases and Climate Change

There are many strategies local government can undertake to reduce GHG emissions, and help minimize the extent of climate change that does occur. Some of the strategies depend on coordinated action with other agencies and levels of government; others can be implemented independently. In addition to implementing programs to reduce its own carbon emissions, local government has an important role to play in reducing private sector GHG emissions. A local government that has implemented some of these strategies in its own municipal operations is in a good position to demonstrate savings and encourage business participation in these types of programs.

In the majority of cases, measures implemented to reduce GHG emissions will also contribute to improved air quality. Since the City of Reedley is in an area where air quality does not meet state and federal health standards, GHG reduction measures make sense from a local public benefit perspective since they would likely contribute to improved local air quality. In general, public support and acceptance of GHG reduction efforts will be enhanced by the clear presentation of the co-benefits associated with these actions. This presents a significant opportunity to local decision makers to help improve public health and welfare while simultaneously addressing the issue of climate change.

## Greenhouse Gases and Their Sources

In California and throughout western North America, signs of a changing climate are evident. As the atmospheric concentration of GHGs increases, California can anticipate increased average temperatures of 1 to 2 degrees in the next few decades, and perhaps as much as 100 by the end of the century. While total annual precipitation is not expected to change substantially, a much greater percentage will fall as rain instead of snow, with a corresponding decrease in snowpack and the spring runoff that supplies water to agriculture and major urban centers. Reduced water supplies and increased temperatures will directly impact which crops can be grown in California and the state's forests will likely sustain an increase in wildfires. Finally, the predicted rise in sea level from 3 to 6 feet by the end of the century will drastically alter California's extensive coast, as well as low-lying inland areas, land along tributaries, inlets and bays.

Carbon dioxide is the most dominant greenhouse gas; however, a number of other gases also contribute significantly to climate change, including methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>), hydro chlorofluorocarbons (HFCs) and perfluorocarbons (PFCs). From a land use standpoint, carbon dioxide and methane are the most important GHGs that local government can influence and will be the primary focus of the recommended policies and reduction strategies.

Increasing CO<sub>2</sub> concentrations in the atmosphere primarily result from increased combustion of fossil fuels. The transportation sector is the largest contributor in California, accounting for 38% of CO<sub>2</sub> emissions, with gasoline combustion the greatest portion of those emissions. Methane accounted for approximately 6 percent of California's total GHG (CO<sub>2</sub>e) emissions in 2002, with landfill decomposition accounting for the majority of CH<sub>4</sub> emissions in California. Agricultural processes such as fermentation, manure management, and rice cultivation are also significant sources of CH<sub>4</sub>.

Over the last several years, a number of new programs have been established to reduce emissions of GHGs. While most of these do not operate directly on or through General Plans, they create a strong foundation upon which General Plan elements for GHGs can be built. This section of the report provides a brief summary of the key programs.

### State Reduction Targets for GHGs (Executive Order S-3-05)

The first comprehensive state policy to address climate change was Executive Order S-3-05, signed in 2005, which established ambitious GHG reduction targets: reduce GHG emissions to 2000 levels by 2010, reduce to 1990 levels by 2020, and reduce emissions 80% below 1990 levels by 2050. This Executive Order is binding only on state agencies, and has no force of law for local governments; however, S-3-05 sent a clear signal to the Legislature about the framework and content for legislation to reduce GHG emissions.

### Global Warming Solutions Act of 2006 (AB 32)

California AB 32, the “Global Warming Solutions Act of 2006,” codifies the State’s GHG emissions target by directing the Air Resources Board (ARB) to reduce the State’s global warming emissions to 1990 levels by 2020. ARB regulations must begin phasing in by 2012.

AB 32 defines a number of milestones to be met in the effort to achieve the 2020 emissions target. The cornerstone of the program is the adoption by ARB of a Scoping Plan, approved by the ARB Board in November, 2008. The Plan specifies the target level of GHG emissions that must be achieved by 2020, and estimates levels that would occur in the absence of reduction measures – the “business-as-usual” scenario. The difference represents the quantity of emissions that must be reduced by the measures in the plan.

In December of 2007, the ARB approved the baseline inventory analysis of the GHG emissions in California in 1990; total GHG emissions were 427 MMTCO<sub>2</sub>(e). ARB estimates that under the business-as-usual scenario, GHG emissions will rise to 596 MMTCO<sub>2</sub>(e) by 2020. In order to comply with the mandates of AB 32, California must implement strategies sufficient to remove 169 MMTCO<sub>2</sub>(e). This represents an overall reduction of 30% from business-as-usual, and about 10% from the levels emitted today. On a per capita basis, each Californian will be responsible for nearly 14 tons of CO<sub>2</sub>(e) in 2020 under a business-as-usual scenario, and that needs to be reduced to about 10 tons for each man, woman, and child.

The greatest contribution comes from the transportation sector, which is responsible for about 60.2 MMTCO<sub>2</sub>(e) in reductions<sup>1</sup>. The electricity sector is the second largest contributor, with a total of 49.7 MMTCO<sub>2</sub>(e). Specifically in regard to reductions from improvements in land use, the Scoping Plan discusses establishing Regional Targets for GHG reduction, and requiring an integrated planning process for transportation, air quality, and General Plans. This approach is further supported by SB 375, discussed below. The Scoping Plan also discusses two primary ways in which local governments can achieve direct GHG reductions other than improved land use planning. These involve local government action and actions by businesses and residents within their communities to reduce energy use, increase recycling, reduce waste and water use, reduce energy used in the handling and treatment of waste and water, and reduce carbon emissions from vehicle fleets.

## Improved Land Use Planning (SB 375)

In September, 2008, the Governor signed Senate Bill 375 with five main provisions:

- (a) It requires Air Resources Board (ARB) to establish regional targets for reductions in greenhouse gas emissions from use of light duty vehicle (passenger cars and small trucks) associated with land use decisions.
- (b) It requires creation of a Sustainable Communities Strategy (SCS) to meet the reduction targets established by ARB – the local SCS will be prepared by the Fresno Council of Governments (COG) as part of the Regional Transportation Plan (RTP).

<sup>1</sup>*The two primary methods to reduce vehicle GHG emissions in California are AB 1493 – GHG emission standards for automobiles – and Executive Order S-1-07 – Low Carbon Fuel Standards.*

- (c) It requires that funding decisions for regional transportation projects be internally consistent within the RTP.
- (d) It aligns the Regional Housing Needs Assessment (RHNA) with the RTP.
- (e) It provides CEQA relief, in the form of streamlining and exemptions, for projects are consistent with the SCS.

Sustainable Communities Strategy- The Sustainable Communities Strategy will constitute the land use element of the RTP. The SCS is required to:

- (a) Identify the general location of uses, residential densities, and building intensities within the region.
- (b) Identify areas to house all the population of the region, including all economic segments, over the course of the planning period of the RTP (i.e., 25 years).
- (c) Identify areas sufficient to house an eight-year projection of the regional housing need (i.e., an eight-year RHNA).
- (d) Identify a transportation network to service the transportation needs of the region.
- (e) Forecast a development pattern that will achieve the targeted greenhouse-gas emission reduction from automobiles and light trucks.

Technically, SB 375 does not require the local General Plan to conform to the SCS. Conformity is strongly encouraged, however, through funding incentives and CEQA streamlining. Finally, the SCS is subject to approval by ARB, but ARB's role is limited to a determination of whether the measures included in the SCS will achieve the target ARB established for the region.

If the SCS will not achieve the reduction goals, an Alternative Planning Strategy (APS) must be prepared by the COG. It is important to note that the APS is not part of the SCS, and is therefore not part of the RTP. Under SB 375, the APS is not a binding commitment; however, consistency with the APS can provide some streamlining and regulatory relief under CEQA.

### Communication, Cooperation and Coordination

#### Goals

**COSP 4.4A - Effective communication, cooperation, and coordination in developing and operating community and regional air quality programs.**

#### Policies

- COSP4.4.1 The City shall determine project air quality impacts using analysis methods and significance thresholds recommended by the San Joaquin Valley Air Pollution Control District (SJVAPCD).
- COSP4.4.2 The City shall reduce the air quality impacts of development projects that may be insignificant by themselves, but are cumulatively significant.
- COSP4.4.3 The City shall encourage innovative mitigation measures to reduce air quality impacts by coordinating with the SJVAPCD, project applicants, and other interested parties.
- COSP4.4.4 Impacts of small residential, commercial, and industrial projects may be addressed by standard conditions that institutionalize mitigation measures, making them applicable to all projects regardless of size.
- COSP4.4.5 The City shall consult with neighboring jurisdictions, affected agencies, and the SJVAPCD to address cross-jurisdictional and regional transportation and air quality issues.
- COSP4.4.6 When development is proposed in another agency, air quality issues should be examined, such as:
- (a) Congestion on roads in Reedley from increased traffic caused by the project.
  - (b) Proposed circulation amendments that may restrict traffic flow to or from Reedley or that increase urban sprawl.
  - (c) Proposed project may preclude or minimize the effectiveness of regional bike paths, transit, and pedestrian-oriented development.
- COSP4.4.7 Work with the Fresno COG on programs implementing transportation control measures to reduce vehicle trips and vehicle miles traveled.
- COSP4.4.8 Work with Fresno County or neighboring cities to ensure programs are complimentary.

### Integrated Planning

- COSP4.4.9 The City shall consider air quality when planning land use and transportation systems to accommodate expected growth in the community.
- COSP4.4.10 All City submittals of transportation improvement projects to be included in regional transportation plans (RTP, RTIP, CMP, etc.) shall be consistent with air quality goals and policies of the General Plan.
- COSP4.4.11 The City shall work with Caltrans and the Fresno COG to minimize the air quality, mobility, and social impacts of large scale transportation projects on existing neighborhoods.
- COSP4.4.12 Ensure that land uses proposed in the general plan are supported by a multi-modal transportation system, including coordination with local transit providers.

### Education

- COSP4.4.13 The City shall work to improve the public's understanding of the land use, transportation, and air quality link.
- COSP4.4.14 The City should assist in educating developers and the public on the benefits of local programs that can reduce vehicle trips and miles traveled.
- COSP4.4.15 It is recommended that the City, working with the SJVAPCD and the Kings Canyon Unified School District, develop educational materials regarding air quality, the impact of air quality on people, plants, and animals, and measures that help to improve air quality.

### Public Facilities/Operations

- COSP4.4.16 Public facilities and operations should provide a model for the private sector in implementing air quality programs.
- COSP4.4.17 The City will establish a replacement policy and schedule to replace fleet vehicles and equipment with the most fuel efficient vehicles practical, including gasoline hybrid and alternative fuel or electric models.
- COSP4.4.18 The City shall support the use of teleconferencing in lieu of employee travel to conferences and meetings when feasible, and shall encourage departments to set up trip reduction programs for employees, including:
- (a) Providing incentives for carpooling, such as pool vehicles, preferred parking, and a website or bulletin board to facilitate ride-sharing.
  - (b) Offering compressed work hours, off-peak work hours, and telecommuting, where appropriate.
  - (c) Providing bicycle stations with secure, covered parking.

(d) Implementing a police-on-bicycles program.

COSP4.4.19 Incorporate infrastructure to facilitate the use of clean-fuel vehicles, such as electrical plug-in stations and L/CNG refueling stations for clean fuel vehicles.

COSP4.4.20 The City will prepare and implement a comprehensive plan to improve energy efficiency of municipal facilities, including:

(a) Conduct energy audits for municipal facilities.

(b) Retrofit facilities for energy efficiency where feasible and when remodeling or replacing components, including increased insulation, installing green or reflective roofs and low-emissive window glass, and ultra-low-flow toilets and water fixtures.

(c) Install renewable energy systems where feasible, including solar collection systems on municipal roofs and solar water heating.

(d) Install energy-efficient street signs and traffic lighting.

(e) Install Energy Star® appliances and energy-efficient vending machines.

(f) Maximize efficiency of wastewater treatment and pumping equipment.

(g) Maximize efficiency at water treatment, pumping, and distribution facilities.

COSP4.4.21 The City will require that any newly constructed, purchased, or leased municipal meet minimum standards as appropriate, such as:

(a) Incorporation of passive solar design features in new buildings, including day lighting and passive solar heating.

(b) Retrofitting of existing buildings to meet standards under Title 24 of the California Building Energy Code, or to achieve a higher performance standard as established by the City.

(c) Retrofitting of existing buildings to decrease heat gain from non-roof impervious surfaces with cool paving, landscaping, and other techniques.

(d) Install outdoor electrical outlets on buildings to support the use of electric lawn and garden equipment, and other tools that would otherwise be run with small gas engines or portable generators.

COSP4.4.22 The City will adopt purchasing practices and standards to support reductions in GHG emissions, including preferences for energy-efficient office equipment, and the use of recycled materials and manufacturers that have implemented green management practices.

COSP4.4.23 The City will establish bidding standards and contracting practices that encourage GHG emissions reductions, including preferences or points for the use of low or zero emission vehicles and equipment, recycled materials, and provider implementation of other green management practices.

COSP4.4.24 The City will adopt a Construction and Demolition Waste Recovery Ordinance, requiring building projects to recycle or reuse a minimum percentage of unused or leftover building materials.

## 4.5 CONGESTION MANAGEMENT/TRANSPORTATION CONTROL MEASURES

### Goals

COSP 4.5A - Reduce traffic congestion and vehicle trips through more efficient infrastructure and support for trip reduction programs.

### Policies

COSP4.5.1 The City shall consider measures to increase the capacity of the existing road network prior to constructing more capacity. Measures that may increase capacity and reduce congestion on existing roads include:

- (a) Where possible, synchronize traffic signals to assure smooth-flowing traffic through intersections.
- (b) Modify intersections using turn restrictions, channelization, enhanced pavement, or traffic circles where necessary and feasible.
- (c) Redirect truck traffic.

COSP4.5.2 The City shall work with employers and developers to provide employees and residents with affordable transportation alternatives. Some methods employers may use to encourage trip reduction include rideshare and vanpool matching, flexible work schedules, telecommuting, and preferential parking for ride-sharing vehicles.

COSP4.5.3 Require new homes and businesses to be wired with fiber-optic cables or to require wiring conduits with easy access and adequate capacity to allow for efficient retrofitting.

COSP4.5.4 Require major new development to provide on-site facilities that encourage employees to use alternative transportation modes as air quality and transportation mitigation measures. Some examples include:

- (a) Showers and lockers provided in office buildings.
- (b) Safe and secure bicycle parking areas.
- (c) On-site or nearby cafeterias and eating areas.

## 4.6 TOXIC AND HAZARDOUS EMISSIONS

### Goals

COSP 4.6A - Minimize exposure of the public to toxic air emissions and odors from industrial, manufacturing, and processing facilities.

### Policies

- COSP4.6.1 The City shall require residential projects and other sensitive receptors to be located an adequate distance from existing and potential sources of toxic emissions such as freeways, industrial sites, and hazardous material locations.
- COSP4.6.2 The City shall require new air pollution point sources such as industrial, manufacturing, and processing facilities to be located an adequate distance from residential areas and other sensitive receptors.
- COSP4.6.3 Require project proponent's to prepare health risk assessments in accordance with SJVAPCD procedures when the proposed industrial process has toxic emissions designated by the state as a toxic air contaminant or, similarly, by the federal government as a hazardous air pollutant.
- COSP4.6.4 Designate industrial land in areas well-separated from sensitive uses. Protect vacant industrial sites from encroachment by residential or other sensitive uses through appropriate zoning.

## 4.7 FUGITIVE DUST/PM10

### Goals

COSP 4.7A - Minimize particulate emissions from sources under the jurisdiction of the City of Reedley.

### Policies

- COSP4.7.1 The City shall work with the SJVAPCD to reduce particulate emissions from construction, grading, excavation, and demolition to the maximum extent feasible.
- COSP4.7.2 The City shall require all access roads, driveways, and parking areas serving new development to be constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use.
- COSP4.7.3 The City shall reduce PM10 emissions from City-maintained facilities to the maximum extent feasible.
- COSP4.7.4 The City shall include PM10 control measures as conditions of approval for subdivision maps, site plans, and grading permits to assist in implementing the SJVAPCD's Regulation VIII, Fugitive PM10 Prohibitions. In addition to

Regulation VIII, apply as feasible the mitigation measures to reduce PM10 emissions contained in Air Quality Guidelines for General Plans, published by the San Joaquin Valley Air Pollution Control District, 2005.

COSP4.7.5 Use strategies to minimize soil disturbance including:

- (a) Use alternatives to disking, such as mowing, to the extent feasible.
- (b) Condition grading permits to require that graded areas are stabilized from the completion of grading to commencement of construction.
- (c) Develop a street cleaning program aimed at removing heavy silt loading that results from sources such as storm water runoff and construction sites.
- (d) Pave shoulders and pave or landscape medians.

## 4.8 ENERGY

### Goals

COSP 4.8A - Reduce emissions related to energy consumption and area sources.

### Policies

COSP4.8.1 The City shall cooperate with the local building industry, utilities and the SJVAPCD to promote enhanced energy conservation standards for new construction.

COSP4.8.2 The City shall encourage new residential, commercial, and industrial development to reduce air quality impacts from area sources and from energy consumption.

COSP4.8.3 As many energy-conserving features as possible shall be included in each new project. Examples include, but are not limited to, increased wall and ceiling insulation, EPA-certified fireplace inserts and/or wood stoves or natural gas fireplaces, electrical and natural gas outlets installed around the exterior of the units to encourage use of electric yard maintenance equipment and gas-fired barbeques, and each home wired for computers/internet and electronic meter reading.

COSP4.8.4 Encourage housing units and landscaping orientation in such a manner to maximize solar heating and cooling energy consumption.

COSP4.8.5 Support the use of electric vehicles, including golf carts and NEVs, where appropriate.

COSP4.8.6 The City will support the use of green building practices by:

- (a) Providing information, marketing, training, and technical assistance about green building practices.
- (b) Establishing guidelines for green building practices in residential and commercial development.
- (c) Providing financial incentives, including reduction in development fees, administrative fees, and expedited permit processing for projects that use green building practices.

COSP4.8.7 The City will establish outdoor lighting standards in the zoning ordinance, including:

- (a) Requirements that all outdoor lighting fixtures be energy efficient.
- (b) Requirements that light levels in all new development, parking lots, and street lighting not exceed state standards.
- (c) Prohibition against continuous all-night outdoor lighting in sports stadiums, construction sites, and rural areas unless required for security reasons.

COSP4.8.8 The City will pursue incentives, grants, and creative financing for projects that improve energy efficiency, including, for example, the option for property owners to pay for such improvements through long-term assessments on their property tax bills.

COSP4.8.9 The City will implement an outreach and incentive program to promote energy efficiency and conservation in the community, including:

- (a) Implement a low-income weatherization assistance program.
- (b) Implement conservation campaigns specifically targeted to residents, and separately to businesses.
- (c) Promote the purchase of Energy Star® appliances, including, where feasible, incentive grants and vouchers.

COSP4.8.10 The City will require that new commercial, industrial, or major rehabilitation (e.g., additions of 25,000 square feet commercial, or 100,000 square feet industrial) development projects consider renewable energy generation either on- or off-site to provide 15% or more of the project's energy needs.

COSP4.8.11 The City will promote and encourage cogeneration projects for commercial and industrial facilities that provide a net reduction in GHG emissions associated with energy production.

COSP4.8.12 The City will require that, where feasible, all new buildings be constructed to allow for easy, cost-effective installation of solar energy systems in the future.

COSP4.8.13 The City will require that any building constructed in whole or in part with City funds incorporate passive solar design features, such as day lighting and passive solar heating, where feasible.

COSP4.8.14 The City will pursue partnerships with other governmental entities and with private companies and utilities to establish incentive programs for renewable energy.

## 4.9 LAND USE PATTERN

### Goals

**COSP 4.9A - Reduce motor vehicle trips and vehicle miles traveled while increasing average vehicle ridership.**

### Policies

COSP4.9.1 The City shall consider air quality and mobility when reviewing any proposed change to the land use pattern of the community.

COSP4.9.2 The City shall encourage projects proposing pedestrian-oriented designs to improve the image of pedestrian-oriented neighborhoods and the downtown (pedestrian amenities, street trees, transit facilities, etc.).

COSP4.9.3 The City shall designate high and medium-density housing at sites within walking distance of neighborhood commercial services and transportation corridors during general plan updates and developer-initiated general plan amendments.

COSP4.9.4 The City shall encourage mixed-use developments, either horizontal or vertical, that provide a combination of residential, commercial services, employment, and cultural amenities.

COSP4.9.5 The City shall promote the downtown as the primary pedestrian-oriented, specialty commercial and financial center in the city.

COSP4.9.6 The City shall plan adequate neighborhood commercial shopping areas to serve new residential development.

COSP4.9.7 The City shall encourage subdivision design that provides neighborhood parks in proximity to activity centers and schools.

COSP4.9.8 The City shall work closely with the Kings Canyon Unified School District to incorporate school sites into larger neighborhood activity centers to allow students to safely walk or bicycle from their homes. The activity centers could include parks, day care facilities, and limited commercial uses.

## Compact Development

COSP4.9.9 The City shall provide for an orderly outward expansion of new urban development so that it is contiguous with existing development, allows for the incremental expansion of infrastructure and public services, and minimizes impacts on the environment.

COSP4.9.10 The City shall encourage infill of vacant parcels.

COSP4.9.11 Encourage commercial uses that are complimentary to employment centers.

## Site Design

COSP4.9.12 The City shall encourage project sites designed to increase the convenience, safety and comfort of people walking or cycling, and for future transit use.

COSP4.9.13 The City shall review all subdivision street and lot designs, commercial site plans, and multifamily site plans to identify design changes that can improve access by transit, bicycle, and walking.

COSP4.9.14 Require as a part of the site plan review or subdivision process a description of design measures proposed for the site. Some specific design features include:

- (a) Subdivision streets and lot designs that promote pedestrian, bicycle, and transit use.
- (b) Pedestrian access improvements and amenities (sidewalks, benches, water fountains, landscaping, etc.).
- (c) Parking lot designs that enhance rather than detract from pedestrian access.
- (d) The location and type of bicycle improvements (bicycle parking/lockers, relation to bike paths or routes serving the site).

COSP4.9.15 The City will reduce required road width standards wherever feasible to calm traffic and encourage alternative modes of transportation.

COSP4.9.16 The City will reduce parking space requirements when feasible.

COSP4.9.17 The City will add bicycle facilities to city streets and public spaces.

COSP4.9.18 The City will identify sites suitable for mixed-use development and establish appropriate site specific standards to accommodate mixed uses. Site-specific standards could include:

- (a) Increasing allowable building height or allow height limits bonuses.
- (b) Allow reduced and shared parking based on the use mix, and establishing parking maximums for big box uses.

- (c) Allow for tandem parking, shared parking and off-site parking leases.
- (d) Creating parking benefit districts, which invest revenues in pedestrian infrastructure and other public amenities.
- (e) The City will seek funding to prepare specific plans to facilitate mixed-use development at selected sites.

COSP4.9.19 The City will identify and include complementary land uses not already present in local zoning districts, such as supermarkets, parks and recreational fields, schools in neighborhoods, and residential uses in business districts, to reduce vehicle miles traveled and promote bicycling and walking to these uses.

COSP4.9.20 The City will revise the zoning ordinance to allow local-serving businesses, such as childcare centers, restaurants, banks, family medical offices, drug stores, and other similar services near employment centers to minimize midday vehicle use.

COSP4.9.21 The City will create and preserve distinct, identifiable neighborhoods whose characteristics support pedestrian travel, including:

- (a) Designing or maintaining neighborhoods where the neighborhood center can be reached in approximately five minutes of walking.
- (b) Encouraging pedestrian-only plazas within developments, and destinations that may be reached conveniently by public transportation, walking, or bicycling.
- (c) Providing continuous sidewalks with shade trees and landscape strips to separate pedestrians from traffic.
- (d) Encouraging neighborhood parks and recreational centers near concentrations of residential areas (preferably within one quarter mile) and include pedestrian walkways and bicycle paths that encourage non-motorized travel.

COSP4.9.22 The City will ensure pedestrian access to activities and services, including:

- (a) Ensuring that new development provides pedestrian connections to as many locations as possible to adjacent development, arterial streets, and thoroughfares.
- (b) Ensuring a balanced mix of housing, workplaces, shopping, recreational opportunities, and institutional uses, including mixed-use structures.
- (c) Locating schools in neighborhoods, within safe and easy walking distances of residences served.

- (d) Support commercial development where automobile access does not impede pedestrian access, by consolidating driveways, providing cross-access between parcels, or developing alley access.
- (e) For existing areas with poor or inefficient connectivity, prioritize development of sidewalks and pedestrian trails.

COSP4.9.23 The City will mitigate climate change by decreasing heat gain from pavement and other hard surfaces, including:

- (a) Reduce street rights-of-ways.
- (b) Reinstate parkway strips to allow shading of streets by trees.
- (c) Include shade trees on south and west facing sides of structures.
- (d) Include low-water landscaping in place of hardscaping around transportation infrastructure and in parking areas.
- (e) Install cool roofs, green roofs, and use cool paving for pathways, parking, and other roadway surfaces.
- (f) Establish standards that provide for pervious pavement options.

## 4.10 TRANSPORTATION AND CIRCULATION

### Goals

**COSP 4.10A-** Develop innovative transportation systems that incorporate alternative transportation modes into existing system design.

### Policies

#### Transportation Infrastructure

COSP4.10.1 The City shall plan for a multi-modal transportation system that meets the mobility needs of the community and improves air quality.

COSP4.10.2 The City shall vigorously pursue and use local, state, and federal funds earmarked for bicycle and transit improvements.

COSP4.10.3 The City shall ensure to the extent feasible that pedestrian, bicycle, and automobile connections are maintained in existing neighborhoods affected by transportation and other development projects.

COSP4.10.4 Ensure that updates to the Circulation Element and submittals of regional transportation improvement projects to the Fresno COG reflect designs and facilities that support a multi-modal system.

COSP4.10.5 Include improvement and maintenance requirements for pedestrian and bicycle connections, as part of the Zoning and Subdivision Ordinances, Development Standards.

#### Transportation Infrastructure: Transit

COSP4.10.6 The City shall require transit improvements at sites deemed appropriate and necessary by the Transportation Department and the transit provider and consistent with long-range transit plans and shall revise design standards to include bus turn-out designs and passenger loading area designs where appropriate.

COSP4.10.7 The City shall ensure that a comprehensive system of bikeways and pedestrian paths is planned and constructed in accordance with an adopted City plan.

COSP4.10.8 The City shall ensure that upgrades to existing roads (widening, curb and gutter, etc.) include bicycle and pedestrian improvements in their plans and implementation where appropriate.

COSP4.10.9 The City shall consider the long-term requirements of future transit alternatives such as express bus lanes, high speed rail, and regional transportation corridors and reserve appropriate right-of-way as appropriate.

COSP4.10.10 Require dedication of sites and improvements by including as part of the conditions of approval for subdivision maps, site plans, and use permits.

COSP4.10.11 To maximize bicycle use, the following actions may be included in street design standards:

- (a) Bikeways should be part of a network that connects major destination points within the community.
- (b) Provide separate bike paths in areas where motor vehicle speed or volume make on-street bike lanes unsafe or unpleasant to use.
- (c) Provide adequate paved shoulder on arterial and collectors to keep cyclists and motorists separated.

COSP4.10.12 Require pedestrian pathways connecting existing developments and planned transit or multimodal facilities.

COSP4.10.13 The City will ensure that new development incorporates both local and regional transit measures into project design that promote the use of alternative modes of transportation.

COSP4.10.14 The City shall include sidewalks, separated sidewalks whenever possible, on both sides of all new street improvement projects, except where there are identified constraints.

COSP4.10.15 Provide safe and convenient access for pedestrians and bicyclists to, across, and along major streets.

COSP4.10.16 Before funding transportation improvements that increase roadway capacity and VMT, evaluate the feasibility and effectiveness of funding projects that support alternative modes of transportation and reduce VMT, including transit, and bicycle and pedestrian access.

COSP4.10.17 The City will expand signal timing programs where emissions reduction benefits can be demonstrated, including maintenance of the synchronization system, and will coordinate with adjoining jurisdictions to optimize transit operation while maintaining a free flow of traffic.

COSP4.10.18 The City will promote ride sharing programs, including:

- (a) Designate in the zoning ordinance a certain percentage of parking spaces for ride-sharing vehicles.
- (b) The City will support voluntary, employer-based trip reduction programs.

COSP4.10.19 The City will facilitate employment opportunities that minimize the need for private vehicle trips, including:

- (a) Amend the zoning ordinance to include live/work sites and satellite work centers in appropriate locations.
- (b) Encourage telecommuting options with new and existing employers, through project review and incentives, as appropriate.

COSP4.10.20 Develop school transit plans to substantially reduce automobile trips to, and congestion surrounding, schools. Plans may address necessary infrastructure improvements and potential funding sources and Safe Routes to School programs and other formal efforts to increase walking and biking by students.

COSP4.10.21 The City will consider a comprehensive parking policy to encourage the use of alternative transportation, including:

- (a) Reduce minimum parking requirements for new buildings.
- (b) Create parking benefit districts which invest revenues in pedestrian infrastructure and other public amenities.
- (c) Encourage shared parking programs in mixed-use and transit-oriented development areas.
- (d) Require new commercial and retail developments to provide prioritized parking for electric vehicles and vehicles using alternative fuels.

COSP4.10.22 Develop the necessary infrastructure to encourage the use of zero emission vehicles and clean alternative fuels, such as development of electric vehicle charging facilities and conveniently located alternative fueling stations.

#### 4.11 GREENHOUSE GAS REDUCTION PLANNING POLICIES

##### Goals

**COSP 4.11A** - Reduce GHG emissions from all activities within the City to support the State's efforts under AB 32 and to mitigate the impacts of climate change.

##### Policies

COSP4.11.1 By 2020, the City will reduce greenhouse gas emissions from within its boundaries to a level 15% less than the level that would otherwise occur if all activities continued under a "business as usual" scenario.

COSP4.11.2 The City will establish a Climate Action Plan<sup>2</sup> which will include measures to reduce GHG emissions from municipal, business and community activities by at least 15% by 2020 compared to "business as usual" (including any reductions required by ARB under AB 32); by July 2015.

COSP4.11.3 The City will ensure that local Climate Action, Land Use, Housing, and Transportation Plans support and enhance any regional plans developed consistent with state guidance to achieve reductions in GHG emissions.

COSP4.11.4 The City will participate in the Sustainable Communities Strategy/Regional Blueprint Planning effort and ensure that local plans are consistent with the Regional Plan.

<sup>2</sup>*Climate Action Plans provide an overarching policy direction for local governments committed to reducing GHG emissions within their jurisdictions. An effective Climate Action Plan will have several core elements, including an inventory of emissions, a target for reductions, timeframes, milestones, and tracking and accountability mechanisms, and strategies for achieving the reductions.*

#### 4.12 CONSERVATION AND OPEN SPACE POLICIES

##### Goals

**COSP 4.12A**- Conserve natural resources such as water and open space to minimize energy used and GHG emissions and to preserve and promote the ability of such resources to remove carbon from the atmosphere.

##### Policies

COSP4.12.1 The City will reduce per capita water consumption by 10% by 2020.

COSP4.12.2 The City will establish a water conservation plan that may include such policies and actions as:

- (a) Restrictions on time of use for landscape watering, and other demand management strategies.
- (b) Performance standards for irrigation equipment and water fixtures.

COSP4.12.3 The City will establish programs and policies to increase the use of recycled water, including:

- (a) Produce and promote the use of recycled water for agricultural, industrial, and irrigation purposes, including grey water systems for residential irrigation.
- (b) Produce and promote the use of treated, recycled water for potable uses where GHG emissions from producing such water are lower than from other potable sources.

COSP4.12.4 The City will promote the planting of shade trees and will establish shade tree guidelines and specifications, including:

- (a) Recommendations for tree planting based on the land use (residential, commercial, parking lots, etc.).
- (b) Recommendations for tree types based on species size, branching patterns, whether deciduous or evergreen, whether roots are invasive, etc.
- (c) Recommendations for placement, including distance from structures, density of planting, and orientation relative to structures and the sun.

COSP4.12.5 The City will establish a coordinated, creative public outreach campaign, including publicizing the importance of reducing GHG emissions and steps community members can take to reduce their individual impacts, including:

- (a) Collaborating with utilities, business associations, civic groups, and nonprofits to place tips and articles in billing materials or newsletters.
- (b) Designing and maintaining an interactive Climate Protection link on the City's website.
- (c) Water conservation and water-efficient design and products.
- (d) The benefits of buying local, and information about locally grown, prepared, and manufactured goods and local services.

## 4.13 BIOLOGICAL RESOURCES

### Goals

COSP 4.13A - Urban development shall not adversely impact the Kings River riparian habitat or conflict with open space and recreational uses along the River.

COSP4.13B - Protect and enhance existing native habitat, wildlife resources, and other aspects of the Kings River environment, including the 100-year floodplain.

COSP4.13C - As feasible, preserve native vegetation and protected wildlife, habitat areas, and vegetation, through avoidance, impact mitigation, and habitat enhancement.

### Policies

COSP4.13.1 The Kings River and creek system in Reedley provides a significant open space element and constitutes the most important wildlife habitat in the Planning Area. The City is committed to a policy of preserving and protecting these open space resources and assuring their continued viability as open space and drainage corridors.

COSP4.13.2 Designate the Kings River corridor and associated creeks, woodlands, and other appropriate areas as Open Space.

COSP4.13.3 An open space buffer of approximately 200 feet shall be maintained between urban development and the Kings River corridor. The Planning Commission may approve to the open space buffer subject to a Conditional Use Permit if the finding can be made that the river and riparian areas will not be negatively impacted by the exception.

COSP4.13.4 As part of the environmental review of new development projects:

- (a) Biological studies shall be prepared to assess habitat value when determined appropriate by the Community Development Department.
- (b) Mitigation shall be applied to assure that degradation of habitat or impacts to sensitive species is reduced or eliminated.
- (c) Input will be sought from agencies and individuals with expertise in biological resources, including the California Department of Fish and Game, California Water Quality Control Board, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and U.S. Environmental Protection Agency.

COSP4.13.5 Enhance native vegetation in the Kings River riparian area as follows:

- (a) Using approved methods, young undesirable non-native plant species should be selectively removed from the native riparian habitat along the Kings River.

- (b) Using proven methods, dominant native riparian plant species should be propagated locally and planted in the place of eradicated non-native species.

COSP4.13.6 Reforest designated open space lands between the Kings River and adjacent development as an oak savannah which requires limited initial maintenance.

COSP4.13.7 Prohibit the use of off-road vehicles and firearms on lands designated as Open Space within the Planning Area, including riparian areas.

COSP4.13.8 Any recreational use of the River and creeks shall minimize impact on the habitat value and open space qualities of the creeks.

COSP4.13.9 Power boats shall continue to observe a maximum speed limit of 5 mph north of the Olsen Avenue Bridge in accordance with existing policy and practice. Jet skis shall not be allowed to operate north of the Olsen Avenue Bridge.

COSP4.13.10 Develop a nature interpretive center on the Reedley College campus and establish an interpretive trail system north of Manning Avenue adjacent to the College.

COSP4.13.11 Wetlands containing sensitive plant and/or animal species shall be protected according to law. Specific protection policies shall include:

- (a) Protection of wetland watershed areas.
- (b) Establishment of minimum setback areas around wetlands in accordance with recommendations of the California Department of Fish and Game, U.S. Fish and Wildlife Service, or a qualified wildlife biologist.

COSP4.13.12 Design parks and open space corridors to provide linkages between potential habitat areas.

COSP4.13.13 Incorporate existing trees into development projects, and where preservation is not feasible, require mitigation for the loss of removed trees. Particular emphasis shall be placed on avoiding the removal of groupings or groves of trees.

COSP4.13.14 Continue to require new development to plant street trees along City streets and work with local non-profit agencies and voluntary organizations to plant trees in appropriate areas throughout the City.

COSP4.13.15 Designate the 100-year flood plain as Open Space to protect habitat and wildlife values in perpetuity.

COSP4.13.16 Require preservation of contiguous areas in excess of the 100-year flood plain as merited by special circumstances. Special circumstances may include sensitive wildlife or vegetation, wetland habitat, oak woodland areas, slope or topographical considerations, and recreation opportunities.

COSP4.13.17 Work with adjacent jurisdictions, regulatory agencies, and community organizations to explore opportunities for regional mitigation banking.

COSP4.13.18 In addition to open space preservation, explore development alternatives and standards to minimize impacts on open space areas. Such techniques may include grading standards and measures to improve the short-term and long-term quality of storm water run-off.

COSP4.13.19 Utilize a variety of mechanisms to promote the preservation of designated open space resources. Such mechanisms may include dedication, fee-title purchase, donations, transfer or purchase of development rights, and credits against park dedication requirements.

COSP4.13.20 The City will participate in public programs emphasizing awareness of open space and resource conservation issues. When feasible, such programs should be coordinated with local school districts and community groups.

#### **4.14 CULTURAL RESOURCES**

Several State laws, most common is the California Environmental Quality Act (CEQA), protect archaeological and historical resources. To preserve historic resources, the State has formed the State Historical Resources Committee. The committee maintains the California Register of Historic Resources, which identifies historic resources and points of interest and the committee provides recommendations for the National Register of Historic Places.

The lands within the Planning Area have a long history of human habitation, including habitation by the Southern Valley Yokut Indians. The Reedley area was the territory of the Wechikit or WechikitYokuts.

As was the case all over California, the arrival of the railroad, even miles away, stimulated commercial agricultural development. In 1884, Civil War veteran Thomas Law Reed moved to what is now Reedley and began farming more than 2,000 acres. Reed's land included what was to become the entire Reedley town site of 360 acres.

##### Archaeological and Historical Resources

According to the Southern San Joaquin Valley Archaeological Information Center at California State University Bakersfield, 30 recorded cultural resources are found in and within a 1-mile radius of the project area. Four of these sites are Native American archaeological sites or isolates, while the remainders are historic buildings and sites. Two sites are listed on the National Register of Historic Places and on the California Register of Historic Resources, the Reedley Opera House and the Old Bank of America Building.

##### Goals

COSP 4.14A - Protect the cultural heritage of Reedley.

## Policies

- COSP4.14.1 Archaeological and historical resources shall be protected and preserved to the maximum extent feasible.
- COSP4.14.2 Preserves, rehabilitates, or restores architecturally significant historic buildings that are capable of viable use.
- COSP4.14.3 Identify historic resources through historic landmark markers.
- COSP4.14.4 Protect significant historical and archaeological resources in accordance with the California Environmental Quality Act.
- COSP4.14.5 Update the City of Reedley inventory of historic and archaeological resources to determine sites or buildings of local, State, or Federal significance.

## 4.15 PARKS AND RECREATION

While the goals and policies of the combined Open Space and Conservation Element address the various functional types of open space and conservation, the Parks and Recreation section of the Element is concerned primarily with passive and active outdoor recreational facilities located within the Reedley Planning Area. Specifically, the Parks and Recreation Section is intended to guide the amount, location, and kind of urban outdoor recreation facilities necessary to meet the present and future needs of the Reedley area.

The City of Reedley is committed to improving the parks and recreation opportunities available to residents. Neighborhood and community parks are an important component of Reedley's quality of life. The benefits of specialized recreation areas, community and neighborhood parks, open space and trails only serve to increase property values and create stronger community ties which are crucial factors in any city's long term growth.

The City of Reedley did extensive community outreach as part of the preparation of a Parks and Recreation Master Plan. The Master Plan identified the following objectives:

- (a) Identify current and future park and recreation needs.
- (b) Identify current and future facility needs.
- (c) Identify current and future recreation program needs.
- (d) Review and update current park facility standards.
- (e) Identify the amount and types of parkland needed to be acquired or developed to satisfy established park ration standards.
- (f) Identify the locations for new parks and facilities based on park needs, types and distance recommendations.
- (g) Develop strategies addressing park safety and reducing gang activity.

- (h) Develop funding strategies and identify potential revenue alternatives.
- (i) Address the financial needs for meeting the goals and policies set forth.
- (j) Develop a timeline to prioritize the City's goals for future park development and improvements.
- (k) Establish design and maintenance standards for parks.
- (l) Involve the community and gain their input, perception and support.
- (m) Provide policies and guidelines.

### Existing Park Facilities

Currently, the City of Reedley manages 72.48 acres of developed acreage which includes 13 formal parks, four facilities and the trail system. Previously, the City classified parks into four sub-categories; pocket, neighborhood, community/regional and school joint-use facilities. As part of the General Plan Update, the new park classifications are Neighborhood, Community, Special Recreation Area, and Multi-use Trail. Open space, joint-use facilities, and community facilities are not calculated as part of the parkland acreage per thousand residents.

Currently, the City of Reedley has a ratio of 2.63 acres of park per thousand residents based on developed park/trail area of 68.82 acres and a population of 26,227. The park ratio is based on neighborhood parks, community parks, specialized recreational area and trails. Table 4-1 summarizes Reedley existing park acreage. Figure 4.1 illustrates the location of existing parks, as well as proposed facilities.

Figure 4.1 - Existing & Proposed Parks Map

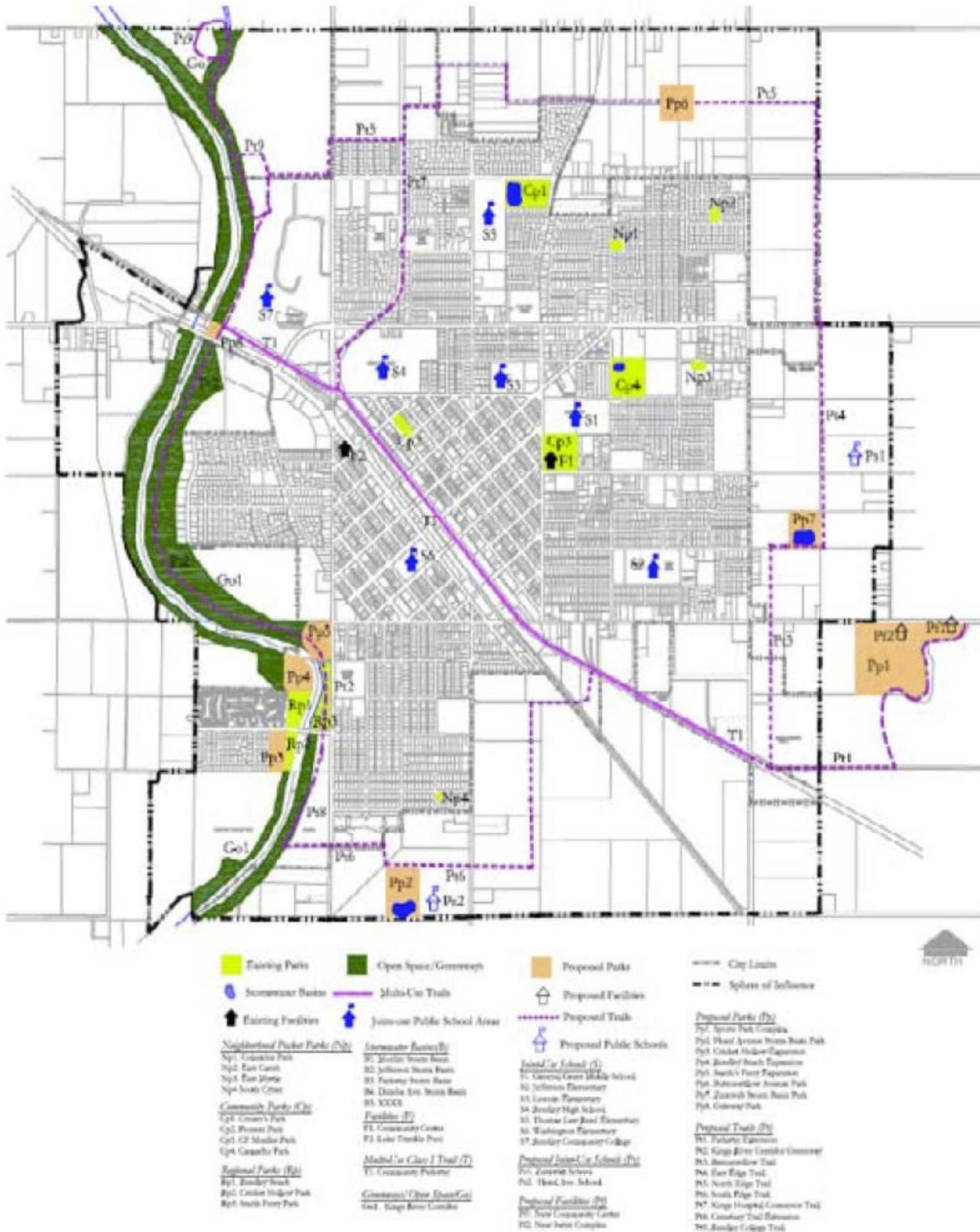


Table 4-1 Existing Reedley Park Acreage

	DEVELOPED	UNDEVELOPED	TOTAL
Neighborhood Parks	2.24	4.16	6.40
Community Parks	29.75	5.90	35.65
Specialized Recreation Area	13.60	60.60	74.20
Trails	23.23	6.27	29.50
<b>SUBTOTAL</b>	<b>68.82</b>	<b>76.93</b>	<b>145.75</b>
Open Space	0	86.87	86.87
Public Facilities	3.66	0	3.66
<b>TOTAL</b>	<b>72.48</b>	<b>163.80</b>	<b>236.28</b>

Source: Park and Recreation Master Plan 2000

#### 4.16 PARK CLASSIFICATIONS

##### Neighborhood Parks

Previously categorized as pocket parks, which were allowed to be as small as 7,000 square feet, neighborhood parks are defined as park areas totaling one to three acres and intended to serve as a neighborhood recreation/open space area primarily within newly created subdivisions. Currently there are five neighborhood parks totaling 2.24 developed acres and 4.16 undeveloped acres. Smaller pocket parks will not be allowed to be substituted for larger one to three acre parks. If a developer wants to dedicate and construct the improvements at the developers cost a pocket park would be permitted, but the acreage will not be credited for development impact fees and will not be counted towards neighborhood park acreages. Maintenance of pocket parks as part of a development can be included in the landscape and lighting district for the subdivision at the developer's request.

New neighborhood parks should be centrally located within neighborhoods and designed so that as many lots will face the park as possible "eyes on the park" and shall serve an area between ½ to 1 mile radius.

##### Existing Neighborhood Parks

- (a) East Carob - .30 ac. developed
- (b) East Myrtle - .50 ac. developed
- (c) Carpenter/Cyrier - .25 ac. developed
- (d) Columbia Park - .72 ac. developed

- (e) East Carpenter - .17 ac. developed
- (f) Tobu Park - 4.16 ac. undeveloped

### Community Parks

Currently, there are five developed community parks, together totaling 29.75 developed and 5.90 undeveloped acres. Community parks are defined as parks between 1 and 15 acres in size, which offer a variety of recreational opportunities intended primarily for use by the community's residences.

### Existing Community Parks

- (a) CF Mueller – 6.93 ac. developed/ .30 ac. undeveloped
- (b) Camacho\* - 8.01 ac. developed/ .82 ac. undeveloped
- (c) Pioneer – 1.38 ac. developed
- (d) Citizens – 9.60 ac. developed / 1.74 ac. undeveloped
- (e) Smith's Ferry – 3.83 ac. developed / 3.04 ac. Undeveloped

(\*Camacho total includes .53 acres of developed parking lot)

### Specialized Recreation Area

The current developed specialized recreation areas total 13.60 acres and 60.60 undeveloped acres. Specialized recreational areas are used by the community, but because of their distinctive qualities, may also draw visitors from outside the City of Reedley thus require special consideration and may be operated differently from traditional parks.

### Existing Specialized Recreation Areas

- (a) Reedley Beach – .30 ac. developed / 18.06 undeveloped
- (b) Cricket Hollow – 4.50 ac. developed / 2.38 ac. undeveloped
- (c) Reedley Sports Park – 8.08 ac. developed / 40.16 ac. undeveloped

### Multi-use Trail

Multi-use trails are typically located within greenways, corridors, parks or natural areas and are relatively uninterrupted. Trails serve as a connective structure of the park and recreation system and provide safe, alternative modes of transportation. Multi-use trails also provide a link to the existing regional trail system such as the Fresno County Bikeway, Tulare County Bikeway and Blossom Trail. The City of Reedley currently maintains the Community Parkway Rails to Trails, comprising 23.23 developed acres and 6.27 undeveloped acres which stretch 2.5 miles from South Buttonwillow to the Kings River.

## Open Space

Land which is unsuitable for development, but offers significant natural resource potential is also defined as open space. Currently, there is approximately 86.87 acres of undeveloped and unmanaged open space. The area is along the Kings River Corridor. The future development of this area as a park and community recreational resource is detailed in the Kings River Corridor Specific Plan.

## Recreation/Community Facilities

The City of Reedley has three facilities that are not considered parks or open space, but provide opportunities for recreation. The Community Center, Luke Trimble Pool and the Opera House are all valuable community assets.

## Public School Joint Use Facilities

There is a joint-use agreement between the Kings Canyon Unified School District, Reedley Community College and the City of Reedley for joint use of recreational facilities.

### **4.17 PARK STANDARDS AND DEMAND**

The City's park standard is four acres of parks per thousand persons. The park acreage is calculated using neighborhood, community, specialized areas and trails. The build-out of the General Plan would result in approximately 21,142 new residents, with a total 2030 population of 47,369. Using the standard four acres per thousand criteria, the City of Reedley will need 189.47 acres of parkland. The City of Reedley currently has 68.82 acres of developed parks, so would need an additional 120.65 acres of developed park land. The City currently owns an additional 76.93 acres of land that is undeveloped. By 2030, the City will need to develop the undeveloped acreage and acquire an additional 43.71 acres to meet the standard of four acres per thousand persons. Table 4-2 identifies existing park land and future needs.

Table 4-2 Projected Parkland Needs Based on Proposed Standards

TYPE	2030 GOAL (ac/1,000)	BUILT (acres)	CITY OWNED UNBUILT (acres)	TOTAL (acres)	ACREAGE REQUIRED FOR 2030** (acres)	DIFFERENCE (acres)
Neighborhood Parks	.5	2.24	4.16	6.40	23.69	17.29
Community Parks	1.0	29.75	5.90	35.65	47.37	11.72
Specialized Recreation Area	1.5	13.60	60.60	74.20	71.06	-3.17
Trails	1.0	23.23	6.27	29.50	47.37	17.87
<b>TOTAL</b>	<b>4 acres per 1,000 people</b>	<b>68.82</b>	<b>76.93</b>	<b>145.75</b>	<b>189.47</b>	<b>43.71</b>

Source: 2009 Park and Recreation Master Plan

\*Based on 2008/09 population of 25,063

\*\* Based on projected 2030 population of 47,369

#### 4.18 PARK AND RECREATION GOALS AND POLICIES

While the goals and policies of the combined Open Space and Conservation Element address the various functional types of open space and conservation, the Parks and Recreation section of the Element is concerned primarily with passive and active outdoor recreational facilities located within the Reedley Planning Area. Specifically, the Parks and Recreation Section is intended to guide the amount, location, and kind of urban outdoor recreation facilities necessary to meet the present and future needs of the Reedley area.

##### Goals

- COSP 4.18A - Facilitate greater community connectivity with recreation, parks, and programs in Reedley through the development of an integrated system of trails, bikeways, parks and open space.
- COSP 4.18B - Increase number of facilities offering recreational opportunities and improve existing facilities.
- COSP 4.18C - Provide park and recreation facilities within close proximity to residents they are intended to serve.
- COSP 4.18D - Strengthen a commitment to providing safe and accessible environments for users with a diverse range of abilities and resources.
- COSP 4.18E - Establish parks, trails, facilities and programs in a manner that is cost effective and manageable.

## Policies

- COSP4.18.1 Provide adequate parks facilities distributed throughout the City to provide organized and informal recreation opportunities and open space for Reedley residents.
- COSP4.18.2 Update park impact fees to fund the acquisition and development of land for park and recreation facilities, pursuant to the General Plan.
- COSP4.18.3 The standard park acreage for residents is 4.0 acres per 1,000 residents. The acreage may include park/ponds (if they are usable recreational areas), neighborhood parks, community parks, specialized recreation areas and multi-use trails.
- COSP4.18.4 The City shall require neighborhood parks to be centrally located within neighborhoods.
- COSP4.18.5 The City shall require neighborhood parks to be located in a way to provide as many “eyes on the park” as possible. Example, homes or business facing the park, not backing to a park.
- COSP4.18.6 Neighborhood parks shall be between one and three acres.
- COSP4.18.7 The Subdivision Ordinance shall require that residential builders provide a neighborhood park minimum of four acres per thousand and establish dedication and reservation requirements for open space, parkways and trail systems in new developments.
- COSP4.18.8 Plan and develop new park and recreation facilities at locations that complement existing and planned population centers and, where possible, develop parks in conjunction with school facilities.
- COSP4.18.9 Where possible, the City should develop parks with existing or future storm drainage basins to create larger open space areas and usable recreation space.
- COSP4.18.10 Adopt the Reedley Parks and Recreation Master Plan and update the Master Plan every five years to review priorities and schedules for development of future parks or upgrade of existing parks.
- COSP4.18.11 Establish priorities for the development of planned parks based on anticipated community need and acquire and develop the proposed park sites in accordance with these priorities.
- COSP4.18.12 Provide recreation programs that meet the needs of children, adults and senior citizens.
- COSP4.18.13 Pursue State and Federal funds for park improvement and recreation programs.
- COSP4.18.14 Encourage public and private efforts toward preserving structures or sites which are of historic value to the community.

COSP4.18.15 Develop a safe and efficient trail network throughout the City that links parks and other key City destinations.

COSP4.18.16 Continue to implement provisions of the Kings River Corridor Specific Plan to ensure public open space and recreational use.

COSP4.18.17 Encourage a diversity of uses for public parks to include a mix of active athletic facilities and passive open space uses.

#### **4.19 COMMUNITY FACILITIES**

Community facilities are public and private institutions that support the social and civic needs of the City. Community facilities offer a range of services from recreational, educational, preservation and special events. The City of Reedley currently has the Reedley Community Center, Opera House and Reedley Pool.

##### Goals

COSP 4.19A - Support the development of public and cultural facilities to enhance community identity and meet the civic needs of the community.

COSP 4.19B - Ensure that the community centers provide sufficient space to conduct civic meetings, recreational programs and social activities to meet the need of Reedley residents.

##### Policies

COSP4.19.1 Support a range of cultural arts facilities throughout the City of Reedley.

COSP4.19.2 Support public, private and non-profit service providers to create and expand opportunities for safe, affordable, and quality child-care facilities and services and more opportunities for senior facilities and services.

## **Appendix A Technical Information**

### **EXISTING AIR QUALITY AND REGULATORY ENVIRONMENT**

This section describes the impacts of the proposed Project on local and regional air quality, based on the assessment guidelines of the San Joaquin Valley Air Pollution Control District (SJVAPCD). This section describes existing air quality, construction-related impacts, direct and indirect emissions associated with the proposed Project, the local and regional impacts of those emissions, and mitigation measures warranted to reduce or eliminate any identified significant impacts.

Air quality is regulated by several agencies including the Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and the San Joaquin Valley Air Pollution Control District (SJVAPCD). Each of these agencies develops rules and/or regulations to attain the goals or directives imposed upon them through legislation. Although EPA regulations may not be superseded, both State and local regulations may be more stringent. In general, air quality evaluations are based upon air quality standards developed by the federal government and several State agencies. Emissions limitations are then imposed upon individual sources of air pollutants by local agencies, such as the SJVAPCD. Mobile sources of air pollutants are largely controlled through federal and State agencies, while most stationary sources are regulated by the SJVAPCD.

#### Regulatory Background

##### *U.S. Environmental Protection Agency*

The EPA is responsible for implementing the Federal Clean Air Act (FCAA), which passed in 1970 and was last amended in 1990 to form the basis for the national air pollution control effort. The FCAA required the EPA to establish primary and secondary Federal and State Ambient Air Quality Standards (NAAQS), as shown in Table 4-3, and reassess, at least every five years, whether adopted standards are adequate to protect public health based on current scientific evidence.

The FCAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The Federal Clean Air Act Amendments of 1990 (FCAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The EPA has responsibility to review all state SIPs to determine conformation to the mandates of the FCAAA and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area that imposes additional control measures. Failure to submit an approvable SIP or to implement the plan in the mandated timeframe may result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

Table 4-3 - Federal and State Ambient Air Quality Standards - 2008

<b>POLLUTANT</b>	<b>AVERAGE TIME</b>	<b>CALIFORNIA STANDARDS<sup>a</sup> CONCENTRATION</b>	<b>FEDERAL STANDARDS<sup>b</sup> PRIMARY<sup>c</sup></b>
<b>Ozone</b>	<b>1 Hour 8 Hour</b>	<b>0.09 ppm (180 µg/m<sup>3</sup>) 0.07 ppm (137 µg/m<sup>3</sup>)</b>	<b>--- 0.075 ppm (147 µg/m<sup>3</sup>)</b>
<b>Respirable Particulate Matter (PM10)</b>	<b>24 Hour Annual Arithmetic Mean</b>	<b>50 µg/m<sup>3</sup> 20 µg/m<sup>3</sup></b>	<b>150 µg/m<sup>3</sup> ---</b>
<b>Fine Particulate Matter (PM2.5)</b>	<b>24 Hour Annual Arithmetic Mean</b>	<b>No Separate Standard 12 µg/m<sup>3</sup></b>	<b>35 µg/m<sup>3</sup> 15 µg/m<sup>3</sup></b>
<b>Carbon Monoxide (CO)</b>	<b>8 Hour 1 Hour</b>	<b>9.0 ppm (10 µg/m<sup>3</sup>) 20 ppm (23 µg/m<sup>3</sup>)</b>	<b>9.0 ppm (10 µg/m<sup>3</sup>) 35 ppm (40 µg/m<sup>3</sup>)</b>
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>	<b>Annual Arithmetic Mean 1 Hour</b>	<b>0.030 ppm (56 µg/m<sup>3</sup>) 0.18 ppm (338 µg/m<sup>3</sup>)</b>	<b>0.053 ppm (100 µg/m<sup>3</sup>) ---</b>
<b>Sulfur Dioxide (SO<sub>2</sub>)</b>	<b>Annual Arithmetic Mean 24 Hour 1 Hour</b>	<b>0.030 ppm (80 µg/m<sup>3</sup>) 0.04 ppm (105 µg/m<sup>3</sup>) 0.25 ppm (655 µg/m<sup>3</sup>)</b>	<b>--- 0.14 ppm (365 µg/m<sup>3</sup>) ---</b>
<b>Lead</b>	<b>30 Day Average Calendar Quarter</b>	<b>1.5 µg/m<sup>3</sup> ---</b>	<b>--- 1.5 µg/m<sup>3</sup></b>
<b>Visibility Reducing Particles</b>	<b>8 Hour</b>	<b>---</b>	<b>---</b>
<b>Sulfates</b>	<b>24 Hour</b>	<b>25 µg/m<sup>3</sup></b>	<b>---</b>
<b>Hydrogen Sulfide</b>	<b>1 Hour</b>	<b>0.03 ppm (42 µg/m<sup>3</sup>)</b>	<b>---</b>
<b>Vinyl Chloride</b>	<b>24 Hour</b>	<b>0.010 ppm (26 µg/m<sup>3</sup>)</b>	<b>---</b>

- a. California standards for ozone, carbon monoxide, sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter – PM10, PM2.5, and visibility reducing particles, are values not to be exceeded. All others are not to be equaled or exceeded.
- b. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year.
- c. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

### *California Air Resources Board (CARB)*

CARB is responsible for coordination and oversight of state and local air pollution control programs and for implementing the California Clean Air Act (CCAA). The CCAA requires that all air districts in the state endeavor to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. The act specifies that districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources, and provides districts with the authority to regulate indirect sources.

The CARB is primarily responsible for developing and implementing air pollution control plans to achieve the NAAQS. The CARB is primarily responsible for statewide pollution sources and produces a major part of the SIP. However, local air districts are still relied on to provide additional strategies for sources under their jurisdiction. The CARB combines local district data and submits the completed SIP to the EPA.

Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing the CAAQS (which in many cases are more stringent than the NAAQS), determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

### *San Joaquin Valley Air Pollution Control District*

The SJVAPCD attains and maintains air quality conditions in Fresno County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the SJVAPCD includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The SJVAPCD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the FCAA and the CCAA. In January of 2002, the SJVAPCD released a revision to the previously adopted guidelines document. This revised Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) is an advisory document that provides lead agencies, consultants, and project applicants with uniform procedures for addressing air quality in environmental documents. The GAMAQI contains the following applicable components:

- (a) Criteria and thresholds for determining whether a project may have a significant adverse air quality impact.
- (b) Specific procedures and modeling protocols for quantifying and analyzing air quality impacts.
- (c) Methods available to mitigate air quality impacts.
- (d) Information for use in air quality assessments and EIRs that will be updated more frequently such as air quality data, regulatory setting, climate, topography, etc.

ISR- Indirect Source Review - As population continues to grow and more vehicles are put on roads, air quality will continue to be an issue due to an increase in emissions. To address this concern, the SJVAPCD adopted Rule 9510 and Rule 3180 to mitigate construction, area, and operational emissions created by development ([valleyair.org/ISR/ISROverview.htm](http://valleyair.org/ISR/ISROverview.htm)).

Any of the following projects require an application to be submitted unless the projects have mitigated emissions of less than two tons per year each of NOX and PM10. Projects that are at least:

- (a) 50 residential units.
- (b) 2,000 square feet of commercial space.
- (c) 9,000 square feet of educational space.
- (d) 10,000 square feet of government space.
- (e) 20,000 square feet of medical or recreational space.
- (f) 25,000 square feet of light industrial space.
- (g) 39,000 square feet of general office space.
- (h) 100,000 square feet of heavy industrial space.
- (i) Or, 9,000 square feet of any land use not identified above.

Air Quality Plans- The SJVAPCD submitted the 1991 Air Quality Attainment Plan in compliance with the requirements set forth in the CCAA. In addition, the CCAA requires a triennial assessment of the extent of air quality improvements and emission reductions achieved through the use of control measures. As part of this assessment, the attainment plan must be reviewed and, if necessary, revised to correct for deficiencies in progress and to incorporate new data or projections. The CCAA requirement for a first triennial progress report and revisions of the 1991 Air Quality Attainment Plan was first fulfilled with the preparation and adoption of the 1995-1997 Triennial Progress Report and Plan Revision. Triennial reports were also prepared for 1995-1997, 1997-1999, and 1999-2001 in compliance with the CCAA.

In an effort to reach attainment for ozone, the SJVAPCD submitted the 1994 Ozone Attainment Demonstration Plan. This plan stresses ozone attainment and focuses on strategies reducing NOx and ROG air emissions by promoting active public involvement, enforcement of compliance with rules and regulations, public education in both the public and private sectors, development and promotion of transportation and land use programs designed to reduce vehicle miles traveled (VMT) in the region, and implementation of stationary and mobile source control measures.

In addition to the above mentioned items, the SJVAPCD has submitted numerous plans with respect to ozone, PM10, and CO in compliance with the FCAA and CCAA, as listed below:

- (a) 1992 Federal Attainment Plan for Carbon Monoxide.

- (b) Revised 1993 Rate of Progress Plan, November 1994.
- (c) Revised Post-1996 Rate of Progress Plan, September 1995.
- (d) 1997 PM10 Attainment Demonstration Plan, May 1997.
- (e) 2000 Ozone Rate of Progress Report, April 2000.
- (f) 2000 PM10 Attainment Plan Progress Report, August 2000.
- (g) 2001 Update to Ozone Attainment Plan.
- (h) Amended 2002-2005 Rate of Progress Plan, December 2002.
- (i) 2003 PM10 Plan, June 2003, Amended December 2003, Amended May 2005.
- (j) 2004 One-Hour Extreme Ozone Attainment Demonstration Plan, Adopted October 2004, Amended October 2005.
- (k) 2005 Indirect Source Review, Adopted December 2005.
- (l) 2006 PM10 Plan, February 2006.
- (m) 2007 PM10 Maintenance Plan, Adopted September 2007.
- (n) 2007 Ozone Plan.
- (o) 2008 PM2.5 Plan.

### Physical Setting

Reedley is located in the San Joaquin Valley Air Basin (SJVAB) which occupies the southern half of the Central Valley and is approximately 250 miles long and 35 miles wide. The Coast Range serves as the western border of the SJVAB. The Tehachapi Mountains, part of the Sierra Nevada, are located to the south of the SJVAB. The Sierra Nevada extends in a northwesterly direction and forms the eastern boundary of the SJVAB. The ranges to the west and south induce winter storms from the Pacific to release precipitation on the western slopes, producing a partial rain shadow over the valley. In addition, the mountain ranges block the free circulation of air to the east resulting in the entrapment of stable air in the valley for extended periods during cooler months.

Winter in the SJVAB is characterized as mild and humid, while the summer is hot and dry. During summer, a Pacific high-pressure cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. In winter, the high-pressure cell weakens and shifts southward, resulting in wind flow offshore and storms.

Summer temperatures that often exceed 100 degrees coupled with clear sky conditions are favorable to ozone formation. Winds and unstable atmospheric conditions associated with winter storms result in periods of low air pollution and excellent visibility. However, between

winter storms, high pressure and light winds lead to the creation of temperature inversions and stable atmospheric conditions which results in high CO and PM concentrations. Summer wind conditions promote the transport of ozone and its precursors from the Bay Area through the Carquinez Strait, Altamont Pass, and Pacheco Pass.

With respect to Reedley, the annual normal precipitation is approximately 11 inches. January temperatures range from a normal of 34 degrees to 54 degrees. July temperatures range from a normal of 62 degrees to 96 degrees. The predominant wind direction and speed is from the north-northwest at 8 mph.

### Existing Ambient Air Quality

The CARB and the U.S. EPA currently focus on the following air pollutants as indicators of ambient air quality: O<sub>3</sub>, CO, nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM), and lead. Because these are the most prevalent air pollutants known to be deleterious to human health, they are commonly referred to as “criteria air pollutants.”

EPA has established primary and secondary NAAQS for the following criteria air pollutants: O<sub>3</sub>, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, fine particulate matter (PM<sub>2.5</sub>), and lead. The primary standards protect the public health and the secondary standards protect the public welfare. In addition to the NAAQS, CARB has established CAAQS for the following criteria air pollutants: sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particulate matter. In most cases the CAAQS are more stringent than the NAAQS. The NAAQS and CAAQS as discussed above are listed in Table 4.3.

Criteria air pollutant concentrations are measured at several monitoring stations in the SJVAB, including seven monitoring stations in Fresno County. The Fresno-First Street site, Fresno-Sky park site, and the Parlier site were chosen to represent the ambient air quality in the vicinity of Reedley. The two Fresno air monitoring locations are closest in relation to the project area, while the Parlier site is located southeast of the community. Table 4-4 summarizes air quality data from these locations for the most recent years available. Ambient air quality conditions with respect to each separate criteria pollutant are described below.

Table 4-4 – Summary of Local Air Quality Data

Year	DAYS EXCEEDING STANDARDS								
	Fresno - 1st Street					Fresno Sierra Skypark #2		Parlier	
	State Ozone	Federal Ozone	State PM10	Federal PM10	Federal PM2.5	State Ozone	Federal Ozone	State Ozone	Federal Ozone
1989	--	--	--	--	--	39	2	--	--
1990	36	8	--	--	--	0	0	50	5
1991	76	27	185	0	--	34	5	74	14
1992	56	12	--	0	--	50	3	61	12
1993	59	11	134	0	--	23	6	65	10
1994	56	7	--	--	--	35	3	26	3
1995	65	14	--	0	--	40	3	42	19
1996	59	15	64	0	--	45	5	82	18
1997	30	1	71	0	--	19	1	68	9
1998	46	15	77	0	--	53	13	64	13
1999	53	4	110	0	--	36	1	81	15
2000	48	5	72	0	--	69	8	81	17
2001	51	5	98	6	12	84	10	93	12
2002	45	11	90	0	15	66	15	96	21
2003	56	5	80	0	0	35	1	103	14
2004	23	0	30	0	2	16	0	23	0
2005	31	3	58	0	10	22	2	36	1
2006	45	4	80	0	1	31	1	52	1
2007	14	0	54	0	1	6	0	18	0

Source: CARB Aerometric Data Analysis and Management System (ADAM)

Both CARB and EPA use monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of the designations is to identify those areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are Nonattainment, Attainment, and Unclassified. Unclassified is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of the Nonattainment designation, called Nonattainment-Transitional. The Nonattainment-Transitional designation is given to Nonattainment areas that are progressing and nearing Attainment.

## Ozone

Ozone (O<sub>3</sub>) is a photochemical oxidant, a substance whose oxygen combines chemically with another substance in the presence of sunlight, and the primary component of smog. Ozone is not directly emitted into the air, but is formed through complex chemical reactions between precursor emissions of Reactive Organic Gases (ROG) and NO<sub>x</sub> in the presence of sunlight. ROG are volatile organic compounds that are photo chemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO<sub>x</sub> are a group of gaseous compounds of nitrogen and oxygen that results from the combustion of fuels.

Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. Here, ground level or "bad" ozone is an air pollutant that damages human health, vegetation, and many common materials. It is a key ingredient of urban smog because sunlight and heat serve as catalysts for the reaction between ozone precursors, peak ozone concentrations typically occur during the summer in the Northern Hemisphere. The troposphere extends to a level about 10 miles up, where it meets the second layer, the stratosphere. The stratospheric or "good" ozone layer extends upward from about 10 to 30 miles and protects the earth from the sun's harmful ultraviolet rays (UV-B).

The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as asthmatics and children, but healthy adults as well. Exposure to ambient levels of ozone ranging from 0.10 to 0.40 ppm for 1 to 2 hours has been found to significantly alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes, and impairing respiratory mechanics. Ambient levels of ozone above 0.12 ppm are linked to symptomatic responses that include such symptoms as throat dryness, chest tightness, headache, and nausea. In addition to the above adverse health effects, evidence also exists relating ozone exposure to an increase in the permeability of respiratory epithelia; such increased permeability leads to an increase in responsiveness of the respiratory system to challenges, and the interference or inhibition of the immune system's ability to defend against infection.

With respect to the NAAQS, Fresno County is currently designated as a Severe Non-Attainment area for the National 8-hour ozone standard. In addition, Fresno County is currently designated as a Severe Non-Attainment area for the state 8-hour ozone standard.

As shown in Table 2, the national 1-hour ozone standard had been exceeded a majority of the years in the past 20 years in all three collection locations. A sign of improvement has been displayed in the past 3 years with a reduction in the days exceeding the standards. A similar trend is noticed in the same table for the days exceeding the standards. A similar trend is noticed in the same table for the days exceeding the state ozone standards. Maximum peak ozone values in the SJVAB have trended downwards over the last twenty years. The number of days on which the national 1-hour standard has been exceeded has been variable over the years, but indicates an overall improvement; however, the ozone problem in the SJVAB still ranks among the most severe in California.

## Particulate Matter

Particulate matter pollution consists of very small particles suspended in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter also forms when industry and gaseous pollutant undergo chemical reactions in the atmosphere. Respirable particulate matter (PM10) and fine particulate matter (PM2.5) represent fractions of particulate matter.

PM10 refers to particulate matter 10 microns or less in diameter and PM2.5 refers to particulate matter that is 2.5 microns or less in diameter. Major sources of PM2.5 include diesel fuel combustion (from motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. PM10 sources include all PM2.5 sources as well as emissions from dust generated by construction, landfills, and agriculture; wildfires and brush/waste burning, industrial sources, windblown dust from open lands, and atmospheric chemical and photochemical reactions. The adverse health effects associated with PM10 depend on the specific composition of the particulate matter. For example, health effects may be associated with metals, polycyclic aromatic hydrocarbons, and other toxic substances absorbed onto fine particulate matter, which is referred to as the piggybacking effect, or with fine dust particles of silica or asbestos.

Generally, adverse health effects associated with PM10 may result from both short-term and long-term exposure to elevated PM10 concentrations and may include breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, alterations to the immune system, carcinogenesis, and premature death. PM2.5 poses an increased health risk because the particles can deposit deep in the lungs and contain substances that are particularly harmful to human health. Fresno County is currently designated as a Non-Attainment area for the state and national PM10 standards. As shown in Table 2, the national 24-hour PM10 standard was exceeded only during one year from 1989-2007 at the First Street station. The state standard was exceeded a number of times each year from 1989-2007, however, there is an improvement trend in a declining number of days exceeding the standards, as we move towards the future.

Direct emissions of PM10 have decreased from 1988 to 2005, as shown in Table 2. CARB's Almanac of Emissions and Air Quality (CARB 2003a) projects that PM10 emissions will remain nearly constant between 2005 and 2020. PM10 emissions in the SJVAB are dominated by emissions from area-wide sources, primarily from vehicle travel on unpaved and paved roads, waste burning, and residential fuel combustion.

## Carbon Monoxide

Unlike ozone, carbon monoxide (CO) is released directly into the atmosphere by stationary and mobile sources and typically found at high concentrations near the source of emission. CO is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels, primarily from mobile sources; 77% of nationwide CO emissions are from mobile sources. The other 23% consists of emissions from wood-burning stoves, incinerators, and industrial sources.

Fresno County is currently designated as an Unclassified or Unclassified/Attainment area for the state and national CO standards. With respect to CO air quality trends according to the 2003 California Almanac of Emissions and Air Quality, the maximum peak 8-hour trend for the

SJVAB shows a fairly consistent downward trend from 1982 to 2001, with year-to-year variability especially in the 1980's because of meteorological conditions. The national CO standards have not been exceeded since 1991 and the state standards have not been exceeded the past six years. The decline in ambient CO is attributable to the introduction of cleaner fuels and newer, cleaner motor vehicles.

CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells; however, CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO concentrations include such symptoms as dizziness, headaches, and fatigue. CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases.

### Nitrogen Dioxide

NO<sub>2</sub> is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO<sub>2</sub> are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO<sub>2</sub>. The combined emissions of NO and NO<sub>2</sub> are referred to as NO<sub>x</sub>, which are reported as equivalent NO<sub>2</sub>. Because NO<sub>2</sub> is formed and depleted by reactions associated with photochemical smog (O<sub>3</sub>), the NO<sub>2</sub> concentration in a particular geographical area may not be representative of the local NO<sub>x</sub> emission sources.

Inhalation is the most common route of exposure to NO<sub>2</sub>. Because NO<sub>2</sub> has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation during or shortly after exposure. After a period of approximately 4 to 12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat. Severe, symptomatic NO<sub>2</sub> intoxication after acute exposure has been linked on occasion with prolonged respiratory impairment with such symptoms as chronic bronchitis and decreased lung functions. Fresno County is currently designated as an attainment or unclassified/attainment area for the state and national NO<sub>2</sub> standards.

### Sulfur Dioxide

SO<sub>2</sub> is produced by such stationary sources as coal and oil combustion, steel mills, refineries, pulp and paper mills. The major adverse health effects associated with SO<sub>2</sub> exposure pertain to the upper respiratory tract. SO<sub>2</sub> is a respiratory irritant with constriction of the bronchioles occurring with inhalation of SO<sub>2</sub> at 5 ppm or more. On contact with the moist mucous membranes, SO<sub>2</sub> produces sulfurous acid, which is a direct irritant. Concentration rather than duration of the exposure is an important determinant of respiratory effects. Exposure to high SO<sub>2</sub> concentrations may result in edema of the lungs or glottis and respiratory paralysis. Fresno County is currently designated as an attainment or unclassified/attainment area for the state and national SO<sub>2</sub> standards.

## Lead

Lead is a metal found naturally in the environment as well as in manufactured products. Lead emissions have historically been primarily from mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers. Twenty years ago, mobile sources were the main contributor to ambient lead concentrations. In the early 1970s, EPA set national regulations to gradually reduce the lead content in gasoline. EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of EPA's regulatory efforts, levels of lead in the air decreased by 94% between 1980 and 1999. Transportation sources, primarily airplanes, now contribute only 13% of lead emissions.

The decrease in lead emissions and ambient lead concentrations over the past 25 years is one of California's most dramatic success stories. All areas of the state are designated as Attainment for the state lead standard (the EPA does not designate areas for the national lead standard). Although the ambient lead standards are no longer violated, lead emissions from stationary sources still pose "hot spot" problems in some areas. As a result, the CARB has identified lead as a toxic air contaminant.

# Chapter Five

## Safety Element

### 5.0 INTRODUCTION

The Safety Element focuses on topics which ensure a safe environment for our citizenry, while considering and planning for future development in and around the City of Reedley. There is a genuine focus on the protection of the community from identifiable hazards like flooding, natural fires, public safety (police & fire) and other geologic hazards. The Safety Element aims at reducing hazards, risk, death, injuries, property damage, and economic and social dislocation. The General Plan avoids significant changes in planned land use, circulation and other variables which could increase risk resulting from known hazards or a radical change to the environment.

The Safety Element is a primary vehicle for relating to local safety planning. Emergency services for these hazards, including fires and police services, are considered in the Safety Element. Implementation of safety objectives will be incorporated into provisions of the Reedley Municipal Code to include zoning regulations, subdivision requirements and entitlement permit processes as a means to abate or mitigate safety hazards.

Briefly discussed below are existing conditions pertaining to the specific issues relating to safety in the City of Reedley. The issues are flooding, geologic hazards, fire, seismic hazards, police protection, and hazardous land use relationships.

#### Goals

SE 5.0A - Prevent and minimize personal injury and loss of life due to natural and man-made hazards.

SE 5.0B - Prevent and minimize the potential for property damage.

SE 5.0C - Protect the City and its residents from avoidable loss resulting from improper development in hazardous areas.

SE 5.0D - Safeguard public safety and property by educating and involving the public in all the tenets of community-oriented policing and problem solving, thereby, reducing crime.

SE 5.0E - Prevent and minimize personal injury and loss of life and thereby reducing liability issues relating to open canals in urban areas by requiring such open canals to be pipelined subject to urban development projects.

## 5.1 FLOODING

Flood damage to properties is often the result of the improper use of flood-prone lands. Flood losses can take place in several ways. When a flood occurs, many types of land uses, which are located within the flood-prone area, may be damaged. More importantly, however, development in flood hazard areas usually increases the natural flood heights and velocities with resulting damage to upstream, downstream, and adjacent lands. Therefore, the potential costs of permitting improper uses on flood-prone lands can be considerable. One method of reducing these flood losses would be to limit development of lands within flood hazard areas.

The Kings River begins on the western slope of the Sierra Nevada and flows westerly to Pine Flat Reservoir. Twenty-five miles downstream of this reservoir, the river passes along the west side of Reedley as it flows to the Valley floor. The supply of surface water for the Kings River Basin area comes primarily from two sources, the Kings River and the San Joaquin River. The Kings River flows are regulated by Pine Flat Dam, with a storage capacity of 1,000,000 acre feet. Flows in the river at Reedley come from releases from Pine Flat Dam and tributary inflow. The dam, completed in 1954, was constructed for flood control, irrigation, recreation and water conservation.

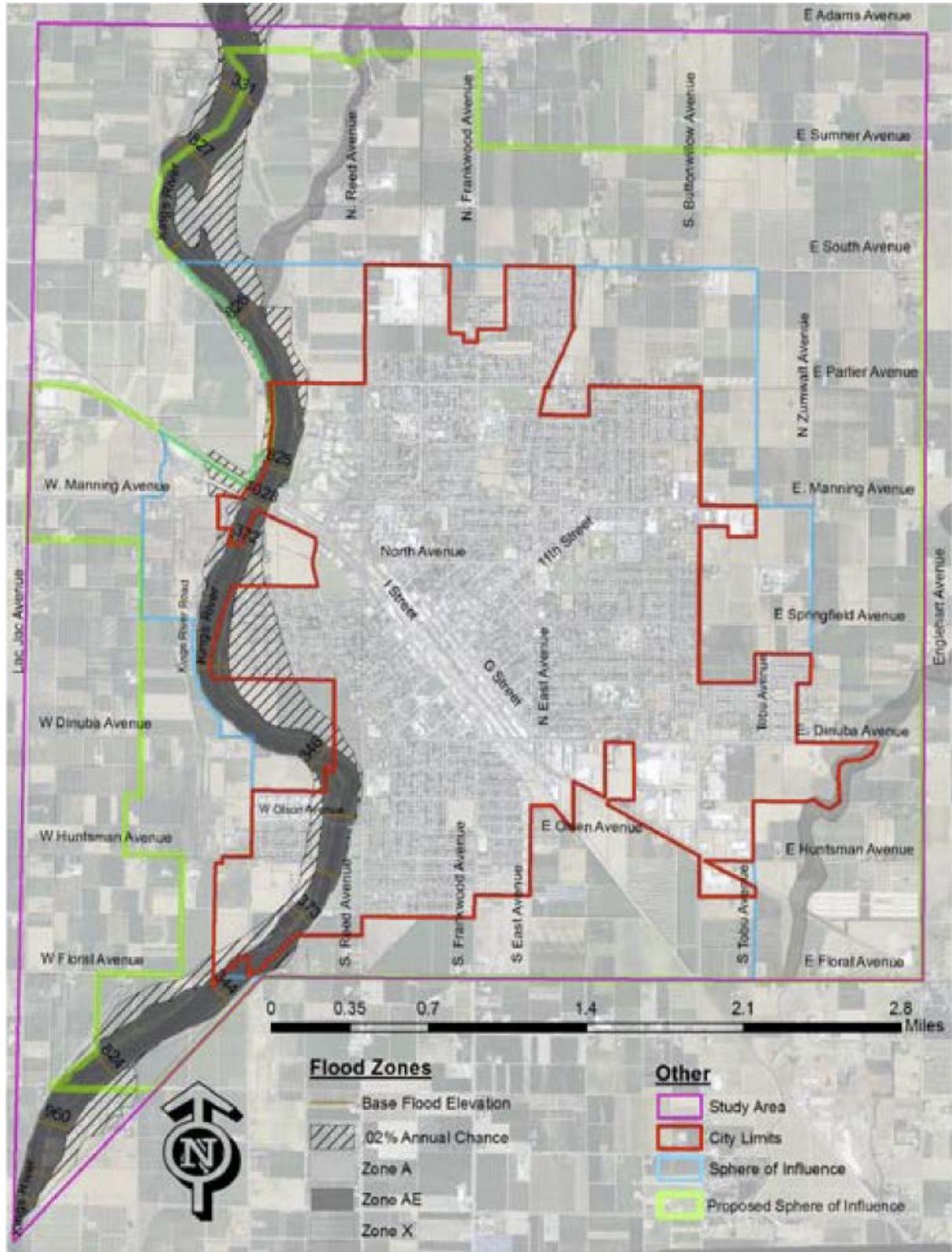
The annual flow in the Kings River, as measured at the Reedley Narrows gaging station located three miles upstream of Reedley, averages approximately 1,000,000 acre-feet per year for the period 1963 to 1987. The highest average monthly flows occur in late spring with a maximum flow of approximately 3,000 cubic feet per second (cfs), while the lowest flows generally occur in late fall with a minimum flow of approximately 290 cfs.

Flooding in the Reedley area can occur due to high flows in the Kings River or as a result of local runoff from intense rainfall.

The Federal Emergency Management Agency (FEMA) has designated certain portions of the Planning Area west of Reed Avenue as subject to a 100-year flood by the Kings River, areas in the northern plan area as subject to a 100-year flood by the Wahtoke Creek and areas in the eastern plan area as subject to 100-year flood by the Travers Creek. Such a flood has a one percent chance of occurrence during any given year and is the flood magnitude which communities must protect against under Federal Insurance Administration regulations. The general location of the flood-prone area is indicated on Figure 5-1. The map shows that the flood-prone area consists of Designated Floodway and of the Flood-Fringe area. The most recent Flood Insurance Rate Map (FIRM) from F.E.M.A. affecting the City of Reedley was updated in February 2009.

The following objectives and policies are based on the Fresno County Safety Element and on Federal Insurance Administration regulations. The similarity between the City and County Safety Elements should insure that the City of Reedley and Fresno County follow a uniform approach toward the management of the Kings River flood-prone areas. See Figure 5.1 – FEMA Flood Map.

Figure 5.1 - FEMA Flood Map



## Goals

SE 5.1A - Minimize the potential for damage caused by inundation in flood hazard areas.

## Policies

- SE 5.1.1 Continue the flood-plain management approach and operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain including, but not limited to, emergency preparedness plans, flood control works, floodplain management regulations and open space plans.
- SE 5.1.2 Flood hazard regulations shall be applied to all property subject to a 100-year flood. Staff shall evaluate all permits for development located within a 100-year flood area and apply the following:
- (a) Portions of the 100-year flood hazard area to remain free of all new obstructions in order to reasonably provide for the passage of floodwaters of a given magnitude.
  - (b) Limited development, subject to City policies and Federal Flood Insurance Program requirements, may be permitted if adequate flood-proofing measures are constructed.
- SE 5.1.3 Areas identified on Figure 5-1 are subject to flooding, but on which detailed flood studies (delineating the area and depth of a 100-year flood) are not yet available, shall be treated as Flood-Fringe areas unless conclusive evidence is presented to the contrary. Any development requiring a City permit in these flood-hazard lands shall be subject to review and approval by the City Engineer. The following conditions should apply:
- (a) In cases of uncertainty, as to the exact area and depth of flooding, the subdivider or developer may, at his expense, have a qualified registered civil engineer report either: (a) the area and depth of a 100-year flood, or (b) that the particular parcel is not subject to inundation in a 100-year flood. If the developer chooses not to provide an engineer's report, then development may be permitted under other provisions of this section in conjunction with applicable zone districts.
  - (b) The lowest floor to be inhabited should be a least two (2) feet above the 100-year flood elevation or one (1) foot above the top of curb of adjacent street, whichever is higher.
  - (c) In areas where no detailed flood studies exist but where topography or flood history indicates the area is subject to flooding above the required elevations, the height rise may be increased as determined by the City Engineer.

SE 5.1.4 Where there are accurate and detailed flood-hazard maps that indicate the exact area and depth of inundation by a 100-year flood, the following conditions shall apply:

- (a) The lowest floor of a proposed residential structure within a Flood-Fringe area shall be elevated to or above the 100-year flood height in a manner that will not adversely affect other properties.
- (b) The lowest floor of proposed non-residential structures, which require a City permit and are located within a Flood-Fringe area, shall be elevated to or above the 100-year flood height; or, together with attendant utility and sanitary facilities, be flood proofed up to at least the height of the 100-year flood. This work shall be done in a manner that will not adversely affect other properties.
- (c) A subdivision map creating more than four (4) parcels of land in a Flood-Fringe area shall not be approved unless flood hazards can be overcome by flood-proofing measures that will not adversely affect other property. These measures shall be designed and constructed in a manner approved by the City Engineer. The map shall clearly show the area that could be flooded in the event of a 100-year flood and the depth of flooding.
- (d) The City shall require flood proofing, to the maximum extent practical, in connection with substantial improvement to existing structures in Flood-Fringe areas. The elevation of the lowest floor of the structure may be raised to or above the height of a 100-year flood; or, for non-residential uses, flood proofing measures may be required up to the elevation of the 100-year flood.

SE 5.1.5 All flood proofing shall be done in a manner that will not cause floodwaters to be diverted onto adjacent property, increase flood hazards to property located elsewhere, or otherwise adversely affect other property. Flood proofing measures such as, but not limited to, the following may be required:

- (a) Anchorage to resist flotation and lateral movement.
- (b) Use of special water resistant paints, membranes, or mortars to reduce seepage of water through walls.
- (c) Addition of weight to structures to resist flotation.
- (d) Construction of water and waste systems to prevent the entrance of floodwaters.
- (e) Construction to resist rupture or collapse caused by water pressure or floating debris.

- (f) Location of all electrical equipment, circuits, and installed electrical appliances in a manner that will assure they are not subject to inundation by a 100-year flood.
- (g) Flood-proofing shall be required for structural storage facilities containing chemicals, explosives, buoyant materials, flammable liquids, or other toxic materials which could be hazardous to public health, safety, and welfare. These shall be located in a manner which will assure that the facilities are: (a) situated at elevation above the height associated with the 100-year flood protection elevation; or (b) adequately flood-proofed to prevent flotation of storage containers or damage to storage containers which could result in the escape of toxic materials into floodwaters.

SE 5.1.6 In flood-hazard areas, all public utilities and facilities, such as road, sewage disposal, gas, electrical, and water systems, shall be located and constructed to minimize or eliminate flood damage to the facilities. This work shall be done in a manner that will not adversely affect other property.

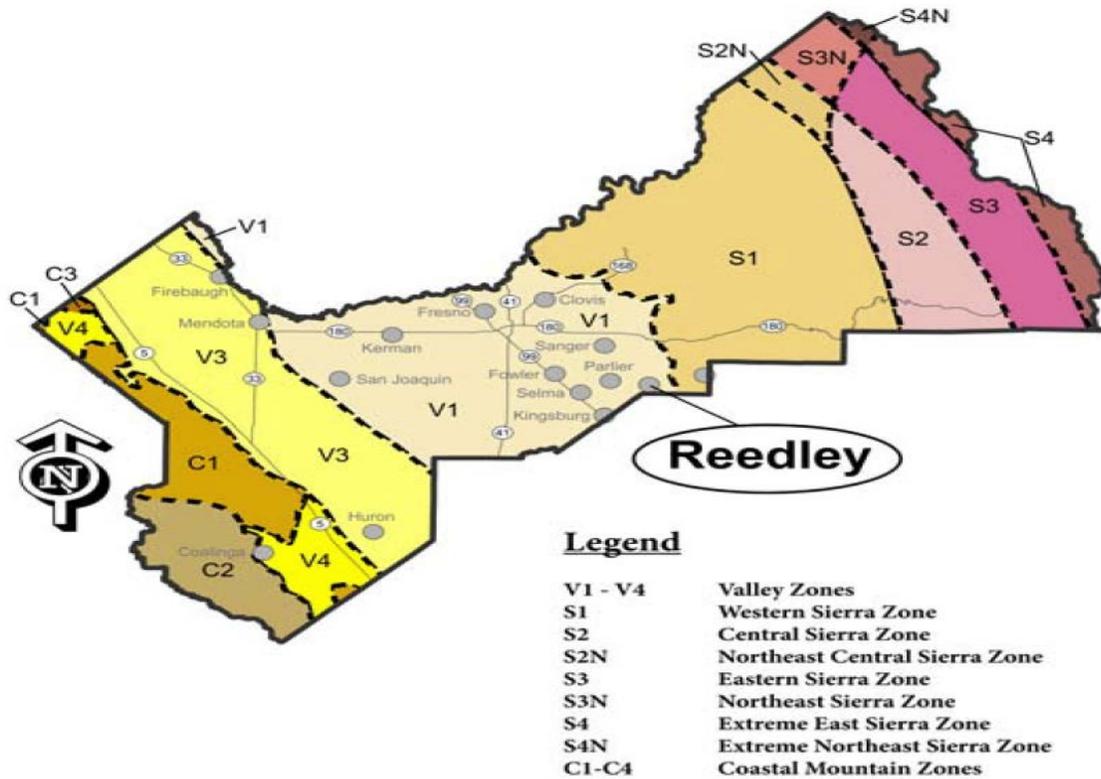
SE 5.1.7 Open space uses should be encouraged in flood-hazard areas and Land Conservation Contracts and Open Space and Scenic Easements should be made available by the County to property owners within 100-year flood areas located in the unincorporated area.

## **5.2 GEOLOGIC HAZARDS**

Several geologic hazards may pose threats to the safety of Reedley area residents. These hazards include expansive soils, weak soils, and erosion. While Figure 5-2 depicts the generalized locations of the geologic hazards found within the Reedley Planning Area, pinpointing the extent of the hazard as well as the possible mitigation measures would require detailed on-site surveys.

Figure 5.2 - Geological Hazard Areas

### Fresno County Seismic Zones



#### Expansive Soils

Whenever relatively large percentages of certain clay minerals are present in the soil, expansive soils develop. The soil expands in volume when it absorbs water and shrinks when it is dry. Under saturated or swelled conditions, the soil becomes very compressible and, therefore, loses its strength. These characteristic of expansive soil often cause serious distortion to building frames, floor slabs, and pavements.

Severe expansive soil conditions which could cause heavy damage to buildings, roads, and other structures are rare within the Planning Area. They are limited to the Cometa (CzaD) soil, with its dense clay subsoil, which is found in the far northwestern portion of the Planning Area. Although, according to the Soils Conservation Service, this soil has a severe limitation rating for most urban type land uses, its relatively isolated location will insure that it will not adversely impact Reedley’s future development.

Moderately expansive soils – including soils in the Ramona (Rb; Rc) and San Joaquin (ScA; SeA) Series – are found in a relatively large area within the northeastern and eastern portions of the Planning Area. Although these areas are generally planned for urban uses, moderately expansive soils will usually cause damage only to substandard structures and to flatwork such as streets and patios. In addition, foundations can usually be especially engineered to minimize damage due to these moderately expansive soils. The Ramona and San Joaquin

soils, however, also have a severe limitation rating for use as septic tank absorption fields and storm drainage basin sites because of their slow permeability.

Weak Soils – Weak soil conditions are generally found near the Kings River and the southern portion of the planned urban area between Reed and Frankwood Avenues. According to the Soil Conservation Service, the Tujunga soil (TzbA), which is found in these areas, has a severe limitation rating with respect to allowable pressure for building foundations based on the provisions of the California Building Code. This is due to the loose loamy sand conditions which are found one foot below the surface of the soil. On-site soil analysis would be needed in these locations to determine the building foundation design and site planning required in relation to the soil conditions. In cases where special treatment to mitigate these problems is infeasible, Policy SE 5.2.2 provides that development should be prohibited.

### Erosion

Erosion is a natural geologic process resulting from the removal and transportation of earth materials. Rainfall, freezing, wind, lack of ground cover, and soil characteristics are some of the many natural forces in the erosion process. Erosion can be accelerated through urbanization which involves the clearing of vegetation, grading of slopes, road cuts, excessive irrigation, and increased runoff.

Because the topography of the Reedley area is relatively flat, erosion does not have a significant impact in the area. Moderate-to-severe water erosion potential does exist, however, along the bluffs of the Kings River as a result of the steep slope conditions found in that area. Gullies can be started at the onset of the rainy season; and, once started, they can cut back into the adjacent level soils. It is generally more difficult to control such gullies than to prevent them. In areas of the bluff where there are gopher or squirrel burrows, tunnel erosion may result since such burrows can collapse. As a result, water and rodent management may be needed on the bluffs.

A band of Atwater (AoA) soil is found in the northeastern portion of the Planning Area. This soil consists of stabilized old dunes of wind-sorted materials which are susceptible to moderate-to-severe wind erosion during infrequent periods of high wind.

Due to the instability of soil conditions in these areas, Safety Element policies provide that preliminary on-site soil surveys would be needed in order to determine the appropriate mitigation measures. In areas where investigation shows that the erosion potential is sufficiently high, it may be necessary to limit development.

### Goals

SE 5.2A - Protect the lives and property of residents of the Reedley area by establishing urban growth patterns and development policies which recognize the limitations of soils and physical features.

### Policies

SE 5.2.1 Proposed development projects may be subject to a variety of discretionary action and conditions of approval. The actions and conditions are based on adopted City plans and policies essential to mitigate adverse effects on the

environment including the health, safety, and welfare of the community. For example, the City may require a preliminary soil (Reedley Municipal Code, Section 11-4-2-D), geotechnical or seismic reports when the subject property is located on land exhibiting potentially unstable soil conditions, suitability for additional development, or other hazardous geologic conditions.

SE 5.2.2 Development should be prohibited in areas where corrective measures to affect the geologic hazard are not feasible.

SE 5.2.3 The City Ordinance shall be amended continually to reflect changes in policy and code requirements.

### **5.3 FIRE HAZARDS**

Urban type fires are the most relevant fire hazard for the Reedley area. Because of the nature of farming and the small amount of vacant land in the fringe area, there is only a minimal fire hazard to the rural area. Therefore, urban fire protection and prevention services are the major subject of this section.

The Reedley Volunteer Fire Department is the primary fire protection provider within the City of Reedley.

The Fresno County Fire Protection District provides fire protection to the unincorporated portions of the Planning Area. As a result of a mutual aid agreement between the two agencies, the City Volunteer Fire Department may be requested to provide emergency back-up service in the unincorporated area and Fresno County may be requested to provide emergency back-up service to the City.

The City has a Class IV fire insurance rating based on the ten-point scale established by the Insurance Service Office (ISO). Class I is the ISO's highest rating. The City water wells have adequate capacity to meet normal demand as well as emergency situations. During periods of electric outages, water can be provided by the City's two elevated storage tanks and by two wells with pumps powered by natural gas engines. In addition, Reedley fire-fighting equipment carries a total of 3,250 gallons of water while the Fresno County equipment dispatched to Reedley carries a total of 2,000 gallons of water. The City also has mutual aid agreements with Tulare County and Orange Cove Fire Protection District if more assistance is required.

Reedley's level terrain and grid street pattern allow free movement of emergency equipment. However, as Reedley continues to grow, the need for additional fire stations should be evaluated to address issues such as response times, east/west movement when a train is traveling railroad tracks, growth west of the river and growth in the northeast area. Minimum road widths and distances between structures are established by the City.

The City operates a fire prevention program consisting of inspections of properties for fire hazards. The City's Life Safety/Code Officer notifies property owners of fire hazards determined as a result of inspections. The Fire Department reviews land development applications for fire safety considerations and also conducts business inspections for code compliance.

## Goals

SE 5.3A - Minimize the loss of life and damage to property as a result of fire.

SE 5.3B - Continue to meet or exceed current levels of service as demand increases.

## Policies

- SE 5.3.1 Monitor water supply to insure adequacy for fire protection.
- SE 5.3.2 Continue to provide adequate fire flow as a suppression measure.
- SE 5.3.3 Continue to provide fire department training programs.
- SE 5.3.4 Continue to review land use development proposals for fire safety considerations.
- SE 5.3.5 Continue to inspect properties for the purpose of reducing fire hazard and facilitating fire suppression.
- SE 5.3.6 Encourage the installation of heat and/or smoke detection early warning and fire suppression systems in existing structures.
- SE 5.3.7 Adopt and enforce the latest national building, plumbing, mechanical, and fire prevention codes.
- SE 5.3.8 Continue to implement the Community Facilities District to ensure additional staff and equipment to adequately service new development.
- SE 5.3.9 Provide public safety education and awareness and ensure fire code compliance.
- SE 5.3.10 Pursue funding opportunities and options for capital projects to repair, renovate and expand facilities and provide additional stations.

## 5.4 SEISMIC HAZARDS

The Reedley planning area is within Seismic Zone 3. This area is characterized as having a relatively thin section of sedimentary rock overlying granite. In this zone, the amplification of shaking that would affect low-to-medium rise structures is relatively high. There is sufficient distance to either the San Andreas or Owens Valley Faults, (expected source of shaking) that the effects should be minimal. There are no known seismic faults located within the Reedley Planning Area or the immediate surrounding environs. A map, therefore, was not prepared. The Uniform Building Code requirements for Zone are applicable for all new construction and critical facilities. Secondary hazards due to landslides, subsidence and settlement, liquefaction, and seiching are considered to be minimal in this area.

The following objectives and policies are adapted from two documents: (a) The Five County Seismic Safety Element (Volumes I and II) which was prepared by the Tulare County Association of Governments and (b) the Fresno County Seismic Safety Element.

## Goals

SE 5.4A - Minimize serious physical damage to structures used for human occupancy and to critical facilities and structures where large numbers of people are apt to congregate.

SE 5.4B - Insure the continuity of vital services, functions, and facilities.

## Policies

SE 5.4.1 A building or structure constructed prior to 1948 should be examined to determine the earthquake resistant capacity. If the structure is determined to be below an acceptable standards a program to minimize potential hazard should be established.

SE 5.4.2 Structures of more than 50 feet or four (4) stories, or requiring special design considerations for seismic hazards shall be constructed consistent with State law. Additional factors to be considered, as recommended in the Five County Seismic Safety Element, are as follows:

- (a) A dynamic analysis procedure shall be used for assessing structural design requirements for structures of more than 50 feet or four (4) stories.
- (b) Critical facilities should be designed at double the current seismic design forces required in Zone 3 by the current California Uniform Building Code.
- (c) The bracing and anchoring of all mechanical and electrical equipment for critical facilities shall be designed to withstand lateral seismic forces equal to 20 percent of its total dead load.

## 5.5 POLICE PROTECTION

Crime prevention has become the number one issue on the minds of the public. The increases in robbery, gang activity, graffiti, auto theft, etc. have led to the public's request for more officers on the street. Reedley currently has 30 full-time sworn officers, or about 1.1 officers per 1,000 persons. The goal of the Police Department is to maintain a ratio of 1.5 officers per 1,000.

## Goals

SE 5.5A - Protect the citizens of Reedley by preventing criminal activity, enforcing laws, and meet community police service demands.

## Policies

- SE 5.5.1 Actively involves citizens in crime prevention and public safety awareness through programs such as Neighborhood Watch and Community Oriented Policing and Problem Solving (COPPS).
- SE 5.5.2 Ensure that the Police Department has the necessary personnel to protect the citizens of Reedley.
- SE 5.5.3 Strive to maintain a ratio of 1.5 officers per 1,000 citizens.
- SE 5.5.4 To minimize criminal activities provides comments on the design of public and private spaces.
- SE 5.5.5 Maintain effective disaster response plans that address emergency response and traffic control and security of damaged areas.
- SE 5.5.6 Maintain the Community Facilities District as a way to adequately fund additional officers and equipment to service new development.

## 5.6 HAZARDOUS MATERIALS

The management of hazardous materials has emerged as an important environmental and planning issue. Past and present management of hazardous materials have led to contamination of the air, soils, surface water and groundwater. As Reedley grows, it is possible that hazardous materials will be handled by an increasing number of residents and employees. The City and local businesses must comply with stringent local, state and federal requirements related to the handling, storing and disposal of hazardous materials.

It is anticipated that continued development of industrial uses may result in businesses using potentially hazardous materials. Fresno County maintains a hazardous materials response team that serves the entire County, including the City of Reedley.

## Goals

SE 5.6A - Protect the public and the environment from exposure to hazardous materials.

## Policies

- SE 5.6.1 Assess the risk involving the transportation, disposal, manufacture, storage and handling of any hazardous materials at all levels of planning.
- SE 5.6.2 Residential development in close proximity to heavy industrial zones shall be avoided.
- SE 5.6.3 Establish a program to obtain hazardous materials control, technical assistance and cleanup to response to hazardous materials incidents.

## 5.7 EMERGENCY SERVICES

Planning of emergency services is essential to disaster mitigation. Although emergency services planning cannot prevent disasters, it can provide for coordinated public action during the time of disaster to reduce loss.

Fresno County has an adopted emergency services plan and Chapter Five of the Reedley City Code provides for the adoption of an emergency services plan by the City Council.

### Goals

SE 5.7A - Provide a basis for direction and control of emergency operations by coordinating operations with the emergency organizations of other jurisdictions.

SE 5.7B - Coordinate operations with the emergency organizations of other jurisdictions.

### Policies

SE 5.7.1 Continue to maintain a disaster emergency services plan which coordinates the City of Reedley disaster services with those of the Fresno County Emergency Services Plan.

# *Chapter Six*

## *Noise Element*

### **6.0 INTRODUCTION**

Noise is an important factor which can influence the quality of life in the City of Reedley. Such exposure to excessive noise levels can adversely affect human health. Therefore, we must recognize the interrelationship of the noise element to land use, housing, circulation and open space. The purpose of the General Plan Noise Element is to identify noise sources that exist within the City and proposed Planning Area. The Noise Element also establishes goals and policies to minimize potential adverse impacts from transportation and stationary noise to sensitive land uses such as residents, schools, churches and hospitals.

The methods used in the preparation of the Noise Element are defined by California Government Code Section 65302 (f) and the Guidelines for the Preparation and Contents of Noise Elements of the General Plan, adopted and published by the California Office of Noise Control (ONC). The ONC Guidelines provides definition related to major noise sources and noise-sensitive uses (receptors) and identifies the types of major sources to be quantified. The current adopted guidelines give local government flexibility in identifying local levels of concern, in identifying sensitive uses, and in tailoring the noise element to local conditions.

### **6.1 NOISE ANALYSIS**

A noise assessment was completed in 2010. Through that study it was determined that there are four major sources of community noise within the Planning Area; traffic on major local roadways, rail operations on the San Joaquin Valley Railroad (SJVRR), commercial/industrial facilities and aircraft operations at the Reedley Municipal Airport. Due to Reedley's location in a major agricultural area, noise from farming activities is also a concern.

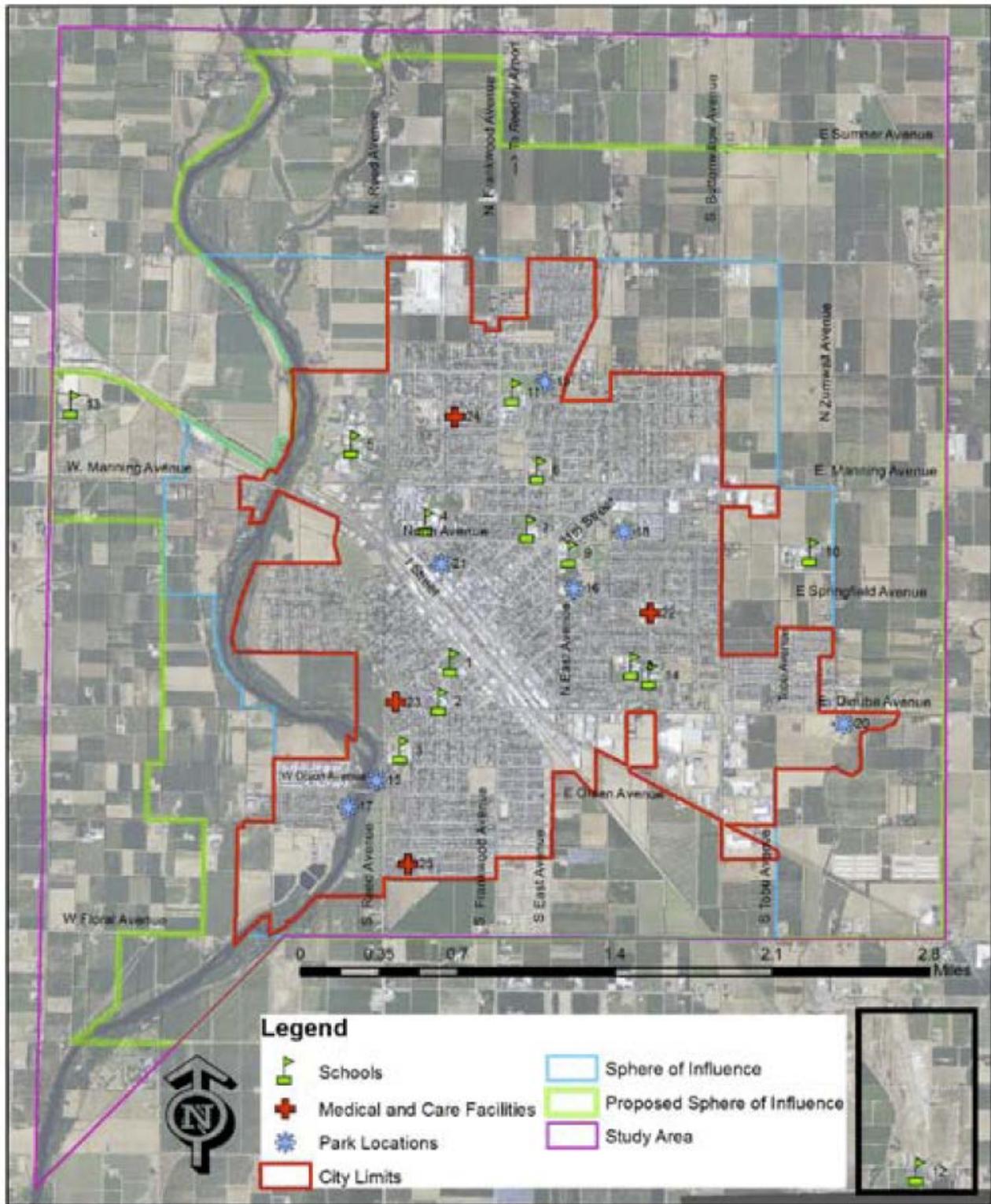
According to the Government Code and ONC Guidelines, noise exposure information should be developed in terms of the Day-Night Average Level (DNL) or Community Noise Equivalent Level (CNEL) for transportation related noise sources. Analytical noise modeling techniques are typically used to measure major noise sources (traffic and railroads) within the study area. The CNEL descriptor was developed for the quantification of aircraft noise and used to measure noise sources at the Reedley Municipal Airport. These noise sources are then quantified for evaluating their impacts on sensitive receivers and land uses. This noise element was prepared in accordance with State law, ONC and an Environmental Noise Assessment, prepared by Brown-Buntin Associates, Inc.

Noise sensitive land uses identified in the Government Code and applicable in the City of Reedley would be residential development, schools, hospitals, churches and libraries. Sensitive noise sources and receivers are listed in Table 6-1 - Noise Sensitive Receivers Reference and further illustrated on Figure 6.1 - Noise Sensitive Receivers Map.

Table 6.1 - Noise Sensitive Receivers Reference

Map No.	Noise Sensitive Receiver	Location	Comments
1	Washington School	1250 K St.	
2	Chapter One School	13th and K	
3	Immanuel School	1128 S. Reed	
4	Reedley High School	740 W. North	
5	Reedley College	995 N. Reed Ave.	
6	Saint LaSalle School	404 E. Manning	
7	Lincoln School	374 E. North Ave	
8	Jefferson School	1037 E. Duff Ave.	
9	General Grant School	360 N. East Ave.	
10	Silas Bartsch School	2225 E. North Ave.	
11	T.L. Reed School	1400 N. Frankwood	
12	Great Western Elementary	5051 S. Frankwood	
13	Riverview School	8662 S. Lac Jac Ave.	
14	KC Kids	1220 Washington Ave.	
15	Smith's Ferry Park	Olsen and Reed Ave.	
16	C.F. Mueller Park	East and Springfield	
17	Cricket Hollow Park	Olsen Ave. West of the Bridge	
18	Camacho Park	North Ave.	
19	Citizens Park	Frankwood and Parlier	
20	Sports Park	Dinuba and Zumwalt	
21	Pioneer Park	G Street between 8th and 9th	
22	Sierra View Homes	1155 Springfield	
23	Convalescent Hospital	1090 E. Dinuba	
24	Adventist Medical Center	372 W. Cypress Ave.	
25	Palm Village Skilled Nursing	703 W. Herbert Ave.	

Figure 6.1 - Noise Sensitive Receivers Map



## 6.2 NOISE CHARACTERISTICS AND DEFINITIONS

- (a) A-Weighted Sound Level: All sound levels referred to in this document are in A-weighted decibels. A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighting, as it provides a high degree of correlation with human annoyance and potential adverse health effects.
- (b) Community Noise Equivalent Level (CNEL): The time-weighted average sound level during a 24-hour day, obtained after addition of approximately 5 dB to sound levels during the evening hours (7:00 p.m.-10:00 p.m.) and 10 dB to sound levels during the nighttime hours (10:00 p.m.-7:00 a.m.). The State of California requires that aircraft noise exposure be defined in terms of the annual average CNEL.
- (c) Day/Night Average Sound Level (DNL): The time-weighted average sound level during a 24-hour day, obtained after addition of 10 dB to sound levels during the nighttime hours (10:00 p.m.-7:00 a.m.). The DNL and CNEL are similar descriptors of the community noise environment and are generally considered to be equivalent within  $\pm 1.0$  dB.
- (d) Equivalent Sound Level (Leq): The sound level containing the same total energy as a time varying signal over a given period. The Leq is typically calculated for either one hour or 24-hour periods, but may be calculated for any stated period of time.
- (e) New Development: Projects requiring land use or building permits, but excluding remodeling or additions to existing structures.
- (f) Noise-Sensitive Land Use: Residential land uses, transient lodging, schools, libraries, churches, hospitals and nursing homes.
- (g) Outdoor Activity Areas: Outdoor activity areas for single-family homes are generally considered to be individual backyards. Outdoor activity areas for multi-family residences or transient lodging facilities are generally considered to be patios, decks and common outdoor recreation areas.
- (h) Stationary Noise Source: Any fixed or mobile source not preempted from local control by federal or state regulations. Examples of such sources include agricultural, industrial and commercial facilities and vehicle movements on private property.
- (i) Transportation Noise Source: Traffic on public roadways, railroad line operations and aircraft in flight. Control of noise from these sources is preempted by federal or state regulations. However, the effects of noise from transportation sources may be controlled by regulating the locations and design of adjacent land uses.

### 6.3 OVERVIEW OF SOURCES

Noise is generally defined as “unwanted sound”, which is a subjective determination of measureable physical phenomena. Ambient noise levels are a major determinant of “quality of life”. Noise levels not only affect the utility and enjoyment of property, they directly affect property values and affect human health.

The City of Reedley is bisected, in part, by the Exeter Branch of the San Joaquin Valley Railroad (formerly Southern Pacific Railroad). The rail line is located on a northwest-southeast corridor through the center of Reedley. The community’s major industrial belt is concentrated on both sides of the rail corridor, both through the central core and through the southeastern quadrant of the Planning Area. This combined rail and industrial corridor is the principal noise generator within Reedley. The corridor’s impact on residential uses and on sensitive receivers is minimized, however, due to the attenuation provided by the existing Central Business and Service Commercial uses located immediately northeast of the tracks and by the Service Commercial strip located along the southwest side of “I” Street.

The Plan further recommends that new industrial uses which are proposed for development within the Service Commercial areas near Downtown be carefully evaluated to insure that they do not have a detrimental effect on surrounding commercial and residential uses. This Plan seeks to further minimize the potential adverse impact of industrial noise by concentrating new industrial uses in the southeastern and north portion of the Planning Area where they are generally removed from most residential areas and by recommending the use of landscaping and setbacks where planned industrial uses adjoin planned residential uses.

In addition, the Plan provides for Light Industrial as a land use buffer between Heavy Industrial and non-industrial land uses. Light industrial designations are located in the industrial park area between the Heavy Industrial areas along the rail corridor. Light Industrial land uses, particularly those uses which have the potential produce noise impacts, will be restricted or prohibited or required to comply with the noise standards identified in this element.

As part of evaluating the existing condition the Fresno County Noise Element was reviewed. The County’s Element indicates that major noise generators in Fresno County, including the City of Reedley, are transportation facilities such as railroads and streets, airports and fixed point sources such as manufacturing plants. The County’s Element is also consistent with Reedley’s existing condition.

#### Goals

NE 6.1A - To protect the citizens of the City from potential harmful effect due to exposure to excessive noise.

NE 6.1B - To preserve the tranquility of residential and other noise sensitive areas by preventing noise-producing uses from encroaching upon existing and planned noise sensitive uses.

NE 6.1C - To develop a policy framework necessary to achieve and maintain a healthful noise environment.

Policies

NE 6.1.1 The standards contained herein shall be considered general guidelines for developing and maintaining a noise ordinance that will achieve the intent of this element.

NE 6.1.2 In order to maintain an acceptable noise environment, the following maximum acceptable noise levels should be established for various land use designations.

Table 6.1.2-A – Allowable City-Wide Noise Exposure

<b>ALLOWABLE TRANSPORTATION SOURCE NOISE EXPOSURE</b>		
	<b>Noise Sensitive Land Uses</b>	<b>New Transportation Noise Sources</b>
Indoor	45	45
Outdoor	60	60
<p>1. This table is applicable to noise sources created by either new development and/or new transportation projects.</p> <p>2. Based on an evaluation of the existing condition and proposed project, the Community Development Director may allow exterior exposure up to 65 dB DNL where practical application of construction practices has been used to mitigate exterior noise exposure.</p>		

Table 6.1.2-B - Allowable Noise Exposure

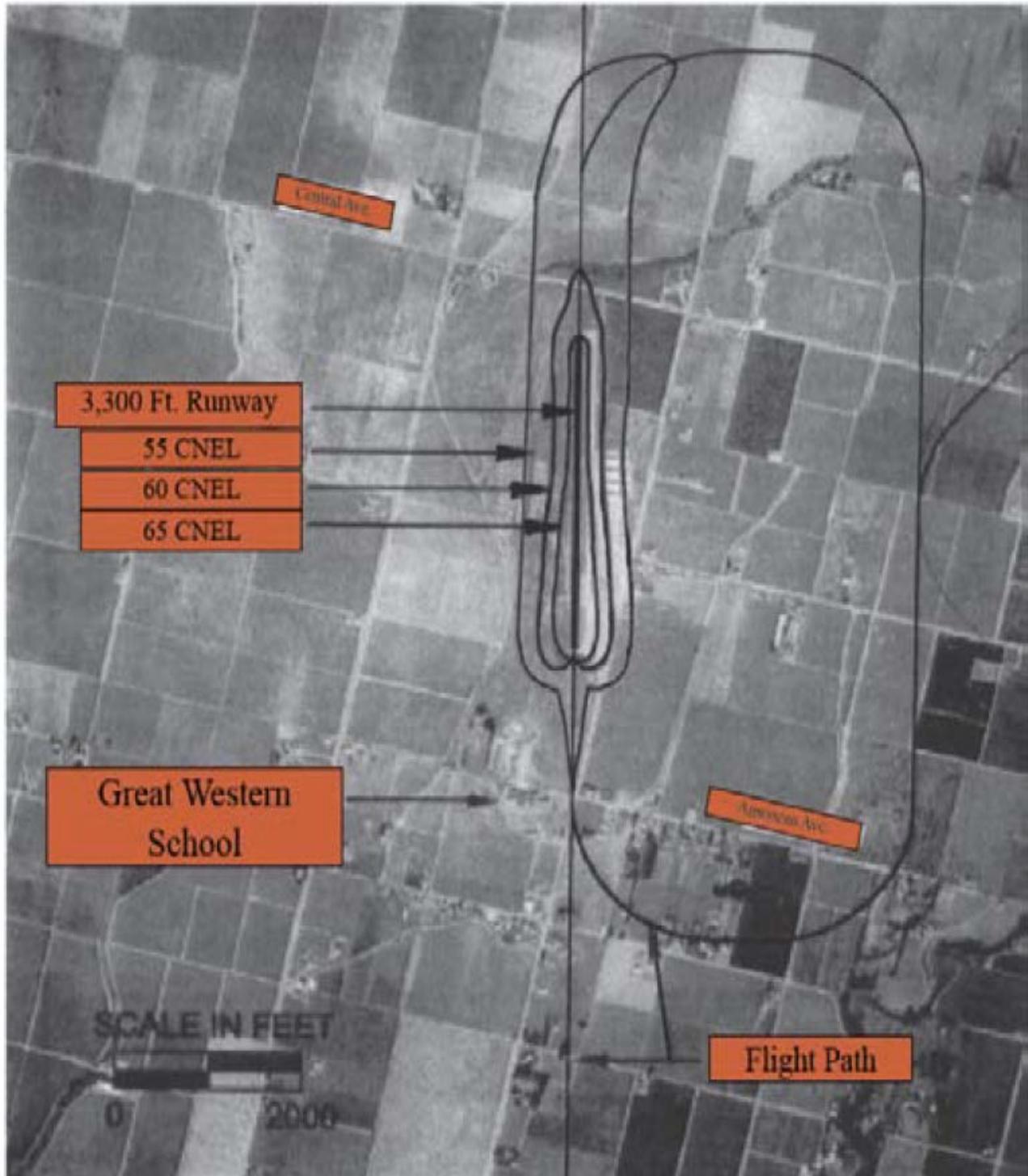
<b>ALLOWABLE STATIONARY SOURCE NOISE EXPOSURE</b>		
	<b>Daytime (7:00 a.m. to 10:00 p.m.)</b>	<b>Nighttime (10:00 p.m. to 7 a.m.)</b>
Hourly Leq, dBA	55	50
Maximum Level, dBA	70	65
<p>1. As determined within outdoor activity areas of existing or planned noise-sensitive uses, if outdoor activity area locations are unknown, the allowable noise exposure shall be determined at the property line of the noise sensitive use.</p> <p>2. Based on an evaluation of the existing condition and proposed project, the Community Development Director may allow exterior exposure up to 65 dB DNL where practical application of construction practices has been used to mitigate exterior noise exposure.</p>		

NE 6.1.3 Areas subject to a DNL greater than 60 dBA are identified as noise impact zones. As part of the special permit process the proposed development project will be required to have an acoustical analysis prepared by a license engineer. The report should also include practical and reasonable mitigation measures.

- NE 6.1.4 Within noise impact zones, the City will evaluate the noise impact on development proposals. Mitigating measures, including but not limited to the following, may be required:
- (a) Setbacks, berms, and barriers.
  - (b) Acoustical design of structures.
  - (c) Location of structures.
- NE 6.1.5 Design of all proposed development should incorporate features necessary to minimize adverse noise impacts, while also minimizing effects on surrounding lands uses.
- NE 6.1.6 Land use and transportation planning should include analysis of the potentially adverse noise levels associated with various design and use alternatives.
- NE 6.1.7 The design of proposed transportation facility should incorporate feasible measures to diminish potential increases in noise levels.
- NE 6.1.8 To relieve excessive noise generation associated with various modes of transportation, the City should:
- (a) Designate truck routes where appropriate (see Circulation Element).
  - (b) Limit vehicle speed where appropriate.
  - (c) Adoption of State Noise Insulation Standards (California Code of Regulations, Title 24) and Chapter 35 of the Uniform Building Code (UBC) concerning interior noise exposure for new single, multi-family housing, hotels and motels.
  - (d) Encourage appropriate authorities to stringently enforce California Motor Vehicle Code standards relating to noise emission levels and muffler systems.
  - (e) Maintain awareness of State and Federal standards or legislation relating to noise and lend support or criticism as appropriate.
- NE 6.1.9 The City should cooperate with Fresno County to adopt compatible noise control programs.
- NE 6.1.10 The City should develop noise contours for the following facilities:
- (a) Major roads classified in the Circulation Element of the General Plan.
  - (b) Stationary facilities which emit noise levels greater than DNL of 60 dBA.
- NE 6.1.11 The Reedley Municipal Code shall be amended as necessary to conform to the intent of this element.

NE 6.1.12 Periodic review of this element should be undertaken to assure that adopted policies are responsive to changing conditions and technology.

Figure 6.2 - Airport Noise Contours



Source: Reedley Airport Master Plan 2010

**APPENDIX B:**

**LAND EVALUATION AND SITE ASSESSMENT (LESA) MODEL  
INSTRUCTION MANUAL - 1997**

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**CALIFORNIA AGRICULTURAL  
LAND EVALUATION AND SITE ASSESSMENT MODEL**

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**Instruction Manual**



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**CALIFORNIA AGRICULTURAL**

**LAND EVALUATION AND SITE ASSESSMENT MODEL**

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**Instruction Manual**  
**1997**



**Department of Conservation**  
**Office of Land Conservation**

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## EXECUTIVE SUMMARY

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Land Evaluation and Site Assessment (LESA) is a term used to define an approach for rating the relative quality of land resources based upon specific measurable features. The formulation of a California Agricultural LESA Model is the result of Senate Bill 850 (Chapter 812 /1993), which charges the Resources Agency, in consultation with the Governor's Office of Planning and Research, with developing an amendment to Appendix G of the California Environmental Quality Act (CEQA) Guidelines concerning agricultural lands. Such an amendment is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (Public Resources Code Section 21095).

The California Agricultural LESA Model is composed of six different factors. Two Land Evaluation factors are based upon measures of soil resource quality. Four Site Assessment factors provide measures of a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, each of these factors is separately rated on a 100 point scale. The factors are then weighted relative to one another and combined, resulting in a single numeric score for a given project, with a maximum attainable score of 100 points. It is this project score that becomes the basis for making a determination of a project's potential significance, based upon a range of established scoring thresholds. This Manual provides detailed instructions on how to utilize the California LESA Model, and includes worksheets for applying the Model to specific projects.

# INTRODUCTION

## Defining the LESA System

The Land Evaluation and Site Assessment (LESA) system is a point-based approach that is generally used for rating the relative value of agricultural land resources. In basic terms, a given LESA model is created by defining and measuring two separate sets of factors. The first set, Land Evaluation, includes factors that measure the inherent soil-based qualities of land as they relate to agricultural suitability. The second set, Site Assessment, includes factors that are intended to measure social, economic, and geographic attributes that also contribute to the overall value of agricultural land. While this dual rating approach is common to all LESA models, the individual land evaluation and site assessment factors that are ultimately utilized and measured can vary considerably, and can be selected to meet the local or regional needs and conditions for which a LESA model is being designed to address. In short, the LESA methodology lends itself well to adaptation and customization in individual states and localities. Considerable additional information on LESA may be found in *A Decade with LESA - the Evolution of Land Evaluation and Site Assessment* (8).

## Background on LESA Nationwide

In 1981, the federal Natural Resources Conservation Service (NRCS), known then as the Soil Conservation Service, released a new system that was designed to provide objective ratings of the agricultural suitability of land compared to demands for nonagricultural uses of lands. The system became known as Land Evaluation and Site Assessment, or LESA. Soon after it was designed, LESA was adopted as a procedural tool at the federal level for identifying and addressing the potential adverse effects of federal programs (e.g., funding of highway construction) on farmland protection. The Farmland Protection Policy Act of 1981 (5) spells out requirements to ensure that federal programs, to the extent practical, are compatible with state, local, and private programs and policies to protect farmland, and calls for the use of LESA to aid in this analysis. Typically, staff of the NRCS is involved in performing LESA scoring analyses of individual projects that involve other agencies of the federal government.

Since its inception, the LESA approach has received substantial attention from state and local governments as well. Nationwide, over two hundred jurisdictions have developed local LESA methodologies (7). One of the attractive features of the LESA approach is that it is well suited to being modified to reflect regional and local conditions. Typical local applications of LESA include assisting in decision making concerning the siting of projects, changes in zoning, and spheres of influence determinations. LESA is

also increasingly being utilized for farmland protection programs, such as the identification of priority areas to concentrate conservation easement acquisition efforts.

Because of the inherent flexibility in LESA model design, there is a broad array of factors that a given LESA model can utilize. Some LESA models require the measurement of as many as twenty different factors. Over the past 15 years, the body of knowledge concerning LESA model development and application has begun to indicate that LESA models utilizing only several basic factors can capture much of the variability associated with the determination of the relative value of agricultural lands. In fact, LESA models with many factors are increasingly viewed as having redundancies, with different factors essentially measuring the same features, or being highly correlated with one another. Additional information on the evolution and development of the LESA approach is provided in, *A Decade with LESA -The Evolution of Land Evaluation and Site Assessment* (8).

### **Development of the California Agricultural LESA Model**

In 1990 the Department of Conservation commissioned a study to investigate land use decisions that affect the conversion of agricultural lands in California. The study, conducted by Jones and Stokes Associates, Inc., was prepared in response to concerns about agricultural land conversion identified in the *California Soil Conservation Plan* (1) (developed by the ad hoc Soil Conservation Advisory Committee serving the Department of Conservation in 1987). Among these concerns was the belief that there was inadequate information available concerning the socioeconomic and environmental implications of farmland conversions, and that the adequacy of current farmland conversion impact analysis under the California Environmental Quality Act (CEQA) was not fully known. The findings of this study are included in the publication, *The Impacts of Farmland Conversion in California* (2).

Currently, neither CEQA nor the State CEQA Guidelines contains procedures or specific guidance concerning how agencies should address farmland conversion impacts of projects. The only specific mention of agricultural issues is contained in Appendix G of the State CEQA Guidelines, which states that a project will normally have a significant effect on the environment if it will “convert prime agricultural land to non-agricultural use or impair the agricultural productivity of prime agricultural land”.

Among the conclusions contained in *The Impacts of Farmland Conversion in California* study was that the lack of guidance in how lead agencies should address the significance of farmland conversion impacts resulted in many instances of no impact analysis at all. A survey of environmental documents sent to the Governor's Office of Planning and Research (OPR) between 1986 and 1988 was performed. The survey

showed that among projects that affected at least 100 acres of land and for which agriculture was a project issue, nearly 30 percent received Negative Declarations, and therefore did not receive the environmental impact analysis that would be provided by an Environmental Impact Report (EIR).

Of those projects involving the conversion of agricultural lands and being the subject of an EIR, the study found a broad range of approaches and levels of detail in describing the environmental setting, performing an impact analysis, and providing alternative mitigation measures. The only agricultural impacts found to be significant in the EIRs were those involving the direct removal of prime agricultural lands from production by the project itself. The focus on prime farmland conversion in the projects surveyed was deemed to be related to the narrow direction provided in Appendix G of the State CEQA Guidelines.

The formulation of a California LESA Model is the result of Senate Bill 850 (Chapter 812 /1993), which charges the Resources Agency, in consultation with the Governor's Office of Planning and Research, to develop an amendment to Appendix G of the California Environmental Quality Act (CEQA) Guidelines. Such an amendment is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (Public Resources Code Section 21095). This legislation authorizes the Department of Conservation to develop a California LESA Model, which can in turn be adopted as the required amendment to Appendix G of the CEQA Guidelines.

## **Presentation of the California LESA Model**

The California LESA Model is presented in this Manual in the following sections:

Section I. provides a listing of the information and tools that will typically be needed to develop LESA scores for individual projects.

Section II. provides step-by-step instructions for scoring each of the six Land Evaluation and Site Assessment factors that are utilized in the Model, with an explanation of the rationale for the use of each factor.

Section III. defines the assignment of weights to each of the factors relative to one another, and the creation of a final LESA score for a given project.

Section IV. assigns scoring thresholds to final LESA scores for the purpose of determining the significance of a given project under CEQA where the conversion of agricultural lands is a project issue.

Additionally:

Appendix A. provides an abridged set of step-by-step LESA scoring instructions that can be used and reproduced for scoring individual projects.

Appendix B. demonstrates the application of the California LESA Model to the scoring of a hypothetical project.

# The California Agricultural LESA Model

## Section I. Required Resources and Information

The California Land Evaluation and Site Assessment (LESA) Model requires the use and interpretation of basic land resource information concerning a given project. A series of measurements and calculations is also necessary to obtain a LESA score. Listed below are the materials and tools that will generally be needed to make these determinations.

Land Evaluation and Site Assessment calculations will require:

1. A calculator or other means of tabulating numbers
2. An accurately scaled map of the project area, such as a parcel map
3. A means for making acreage determinations of irregularly shaped map units. Options include, from least to most technical:
  - A transparent grid-square or dot-planimeter method of aerial measurement
  - A hand operated electronic planimeter
  - The automatic planimetry capabilities of a Geographic Information System (GIS)
4. A modern soil survey, generally produced by the USDA Natural Resources Conservation Service, which delineates the soil-mapping units for a given project. [Note: If modern soil survey information is not available for a given area of study, it may be necessary to draw upon the services of a professional soil scientist to perform a specific project survey].
5. Maps that depict land uses for parcels including and surrounding the project site, such as the Department of Conservation's Important Farmland Map series, the Department of Water Resources Land Use map series, or other appropriate information.
6. Maps or information that indicate the location of parcels including and surrounding the project site that are within agricultural preserves, are under public ownership, have conservation easements, or have other forms of long term commitments that are considered compatible with the agricultural use of a given project site.

## **Section II. Defining and Scoring the California Land Evaluation and Site Assessment Model Factors**

This section provides detailed step-by-step instructions for the measurement and scoring of each of the Land Evaluation and Site Assessment factors that are utilized in the California Agricultural LESA Model, and is intended to serve as an introduction to the process of utilizing the Model. Once users are familiar with the Model, a more streamlined set of instructions and scoring sheets is available in Appendix A. In addition, the scoring of a hypothetical project is presented using these scoring sheets in Appendix B.

### **Scoring of Land Evaluation Factors**

The California LESA Model includes two Land Evaluation factors that are separately rated:

1. The Land Capability Classification Rating
2. The Storie Index Rating

The information needed to make these ratings is typically available from soil surveys that have been conducted by the federal Natural Resources Conservation Service (formerly known as the Soil Conservation Service). Consultation should be made with NRCS staff (field offices exist in most counties) to assure that valid and current soil resource information is available for the project site. Copies of soil surveys are available at local field offices of the NRCS, and may also be available through libraries, city and county planning departments, the Cooperative Extension, and other sources. In addition, a Certified Professional Soil Scientist (CPSS) may also be consulted to obtain appropriate soil resource information for the project site. A directory of CPSS registered soil consultants is available through the Professional Soil Scientists Association of California, P.O. Box 3213, Yuba City, CA 95992-3213; phone: (916) 671-4276.

- 1) The USDA Land Capability Classification (LCC) - The LCC indicates the suitability of soils for most kinds of crops. Groupings are made according to the limitations of the soils when used to grow crops, and the risk of damage to soils when they are used in agriculture. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receive the highest rating (Class I). Specific subclasses are also utilized to further characterize soils. An expanded explanation of the LCC is included in most soil surveys.
- 2) The Storie Index - The Storie Index provides a numeric rating (based upon a 100 point scale) of the relative degree of suitability or value of a given soil for intensive agriculture. The rating is based upon soil characteristics only. Four factors that represent the inherent characteristics and qualities of the soil are

considered in the index rating. The factors are: profile characteristics, texture of the surface layer, slope, and other factors (e.g., drainage, salinity).

In some situations, only the USDA Land Capability Classification information may be currently available from a given published soil survey. However, Storie Index ratings can readily be calculated from information contained in soil surveys by qualified soil scientists. Users are encouraged to seek assistance from NRCS staff or Certified Professional Soil Scientists to derive Storie Index information for the soils as well. If, however, limitations of time or resources restrict the derivation of Storie Index ratings for the soils within a region, it may be possible to adapt the Land Evaluation by relying solely upon the LCC rating. Under this scenario the LCC rating would account for 50 percent of the overall LESA factor weighting.

### **Identifying a Project's Soils**

In order to rate the Land Capability Classification and Storie Index factors, the evaluator must identify the soils that exist on a given project site and determine their relative proportions. A **Land Evaluation Worksheet** (Table 1A.) is used to tabulate these figures, based upon the following:

#### **Step 1.**

Locate the project on the appropriate map sheet in the Soil Survey.

#### **Step 2.**

Photocopy the map sheet and clearly delineate the project boundaries on the map, paying close attention to the map scale.

#### **Step 3.**

Identify all of the soil mapping units existing in the project site (each mapping unit will have a different map unit symbol) and enter the each mapping unit symbol in **Column A** of the **Land Evaluation Worksheet** (Table 1A).

#### **Step 4.**

Calculate the acreage of each soil mapping unit present within the project site using any of the means identified in **Section 1, Required Resources and Information**, and enter this information in **Column B**.

#### **Step 5.**

Divide the acres of each soil mapping unit by the total project acreage to determine the proportion of each unit that comprises the project, and enter this information in Column C.

## 1. Land Evaluation - The Land Capability Classification Rating

### Step 1.

In the Guide to Mapping Units typically found within soil surveys, identify the Land Capability Classification (LCC) designation (e.g., IV-e) for each mapping unit that has been identified in the project and enter these designations in **Column D** of the **Land Evaluation Worksheet** (Table 1A.).

### Step 2.

From Table 2., **The Numeric Conversion of Land Capability Classification Units**, obtain a numeric score for each mapping unit, and enter these scores in **Column E**.

### Step 3.

Multiply the proportion of each soil mapping unit (**Column C**) by the LCC points for each mapping unit (**Column E**) and enter the resulting scores in **Column F**.

### Step 4.

Sum the LCC scores in **Column F** to obtain a single LCC Score for the project. Enter this LCC Score in **Line 1** of the **Final LESA Worksheet** (Table 8)

**Table 2. Numeric Conversion of Land Capability Classification Units**

<u>Land Capability Classification</u>	<u>LCC Point Rating</u>
I	100
Ile	90
IIs,w	80
IIle	70
IIIs,w	60
IVe	50
IVs,w	40
V	30
VI	20
VII	10
VIII	0

**Table 1A.  
Land Evaluation Worksheet**

**Land Capability Classification (LCC)  
and Storie Index Scores**

A	B	C	D	E	F	G	H
Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
<b>Totals</b>		(Must Sum to 1.0)		<b>LCC Total</b>		<b>Storie Index Total</b>	

**Table 1B.  
Site Assessment Worksheet 1.**

**Project Size Score**

I	J	K
LCC Class I - II	LCC Class III	LCC Class IV - VIII
<b>Total Acres</b>		
<b>Project Size Scores</b>		

**Highest Project Size Score**

## 2. Land Evaluation - The Storie Index Rating Score

### Step 1.

From the appropriate soil survey or other sources of information identified in Appendix C, determine the Storie Index Rating (the Storie Index Rating is already based upon a 100 point scale) for each mapping unit and enter these values in **Column G** of the **Land Evaluation Worksheet** (Table 1A.).

### Step 2.

Multiply the proportion of each soil mapping unit found within the project (**Column C**) by the Storie Index Rating (**Column G**), and enter these scores in **Column H**.

### Step 3.

Sum the Storie Index Rating scores in **Column H** to obtain a single Storie Index Rating score for the project. Enter this Storie Index Rating Score in **Line 2** of the **Final LESA Worksheet** (Table 8)

## Scoring of Site Assessment Factors

The California LESA Model includes four Site Assessment factors that are separately rated:

1. **The Project Size Rating**
2. **The Water Resources Availability Rating**
3. **The Surrounding Agricultural Land Rating**
4. **The Surrounding Protected Resource Land Rating**

### 1. Site Assessment - The Project Size Rating

The Project Size Rating relies upon acreage figures that were tabulated under the Land Capability Classification Rating in Table 1A. The Project Size rating is based upon identifying acreage figures for three separate groupings of soil classes within the project site, and then determining which grouping generates the highest Project Size Score.

#### **Step 1.**

Using information tabulated in **Columns B** and **D** of the **Land Evaluation Worksheet** (Table 1A), enter acreage figures in **Site Assessment Worksheet 1. - Project Size** (Table 1B) using either **Column I, J, or K** for each of the soil mapping units in a given project.

#### **Step 2.**

Sum the entries in **Column I** to determine the total acreage of Class I and II soils on the project site.

Sum the entries in **Column J** to determine the total acreage of Class III soils on the project site.

Sum the entries in **Column K** to determine the total acreage of Class IV and lower rated soils on the project site.

#### **Step 3.**

For each of the three columns, apply the appropriate scoring plan provided in Table 3, **Project Size Scoring**, and enter the **Project Size Score** for each grouping in the **Site Assessment Worksheet 1. - Project Size** (Table 1B). Determine which column generates the highest score. The highest score becomes the overall **Project Size Score**. Enter this number in **Line 3** of the **Final LESA Scoresheet** (Table 8).

**Table 3. Project Size Scoring**

<b>LCC Class I or II soils</b>		<b>LCC Class III soils</b>		<b>LCC Class IV or lower</b>	
<b>Acres</b>	<b>Score</b>	<b>Acres</b>	<b>Score</b>	<b>Acres</b>	<b>Score</b>
80 or above	100	160 or above	100	320 or above	100
60-79	90	120-159	90	240-319	80
40-59	80	80-119	80	160-239	60
20-39	50	60-79	70	100-159	40
10-19	30	40-59	60	40-99	20
fewer than 10	0	20-39	30	fewer than 40	0
		10-19	10		
		fewer than 10	0		

**Explanation of the Project Size Factor**

The Project Size factor in the California Agricultural LESA Model was developed in cooperation with Nichols-Berman, a consulting firm under contract with the Department of Conservation. A thorough discussion of the development of this rating is presented by Nichols-Berman in a report to the Department entitled, *Statewide LESA Methodologies Report - Project Size and Water Resource Availability Factors (3)*.

The inclusion of the measure of a project’s size in the California Agricultural LESA Models is a recognition of the role that farm size plays in the viability of commercial agricultural operations. In general, larger farming operations can provide greater flexibility in farm management and marketing decisions. Certain economies of scale for equipment and infrastructure can also be more favorable for larger operations. In addition, larger operations tend to have greater impacts upon the local economy through direct employment, as well as impacts upon support industries (e.g., fertilizers, farm equipment, and shipping) and food processing industries.

While the size of a given farming operation may in many cases serve as a direct indicator of the overall economic viability of the operation, The California Agricultural LESA Model does not specifically consider the issue of economic viability. The variables of economic viability for a specific farm include such factors as the financial management and farming skills of the operator, as well as the debt load and interest rates being paid by an individual operator, which are issues that cannot readily be included in a statewide LESA model.

In terms of agricultural productivity, the size of a farming operation can be considered not just from its total acreage, but the acreage of different quality lands that comprise the operation. Lands with higher quality soils lend themselves to greater management and cropping flexibility and have the potential to provide a greater economic return per unit acre. For a given project, instead of relying upon a single acreage figure in the Project Size rating, the project is divided into three acreage groupings based upon the Land Capability Classification ratings that were previously determined in the Land Evaluation analysis. Under the Project Size rating, relatively fewer acres of high quality soils are required to achieve a maximum Project Size score. Alternatively, a maximum score on lesser quality soils could also be derived, provided there is a sufficiently large acreage present. Acreage figures utilized in scoring are the synthesis of interviews that were conducted statewide for growers of a broad range of crops. In the interviews growers were queried as to what acreage they felt would be necessary in order for a given parcel to be considered attractive for them to farm.

The USDA LCC continues to be the most widely available source of information on land quality. Project Size under this definition is readily measurable, and utilizes much of the same information needed to score a given project under the Land Evaluation component of the methodology. This approach also complements the LE determination, which, while addressing soil quality, does not account for the total acreage of soils of given qualities within a project.

This approach allows for an accounting of the significance of high quality agricultural land as well as lesser quality agricultural lands, which by virtue of their large area can be considered significant agricultural resources. In this way, no single acreage figure for a specific class of soils (e.g., soils defined as “prime”) is necessary.

## 2. Site Assessment - The Water Resources Availability Rating

The Water Resources Availability Rating is based upon identifying the various water sources that may supply a given property, and then determining whether different restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought. **Site Assessment Worksheet 2. - Water Resources Availability Worksheet** (Table 4) is used to tabulate the score.

### Step 1.

Identify the different water resource types that are used to supply the proposed project site (for example, irrigation district water, ground water, and riparian water are considered to be three different types of water resources). Where there is only one water source identified for the proposed project, skip to Step 4.

### Step 2.

Divide the proposed project site into portions, with the boundaries of each portion being defined by the irrigation water source(s) supplying it. A site that is fully served by a single source of water will have a single portion, encompassing the entire site. A site that is fully served by two or more sources that are consistently merged together to serve a crop's needs would also have a single portion. (e.g., a portion of the proposed project may receive both irrigation district and groundwater). If the project site includes land that has no irrigation supply, consider this acreage as a separate portion as well. Enter the water resource portions of the project in **Column B** of Table 4, **Site Assessment Worksheet 2. - Water Resources Availability**.

[As an example, a hypothetical project site is determined to have four separate water supply portions:

Portion 1 is served by irrigation district water only;  
Portion 2 is served by ground water only;  
Portion 3 is served by *both* irrigation district water and ground water;  
Portion 4 is not irrigated at all.]

### Step 3.

Calculate the proportion of the total project area that is represented by each water resource portion, and enter these figures in **Column C** of **Site Assessment Worksheet 2. - Water Resources Availability**, verifying that the sum of the proportions equals 1.0.

**Table 4. Site Assessment Worksheet 2. - Water Resources Availability**

A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score	Weighted Availability Score (C x D)
1				
2				
3				
4				
5				
6				
		(Must Sum to 1.0)	<b>Total Water Resource Score</b>	

#### Step 4.

For each water resource supply portion of the project site, determine whether irrigated and dryland agriculture is *feasible*, and if any *physical* or *economic restrictions* exist, during both *drought* and *non-drought* years. These italicized terms are defined below:

- A *physical restriction* is an occasional or regular interruption or reduction in a water supply, or a shortened irrigation season, that forces a change in agricultural practices -- such as planting a crop that uses less water, or leaving land fallow. (This could be from cutbacks in supply by irrigation and water districts, or by ground or surface water becoming depleted or unusable. Poor water quality can also result in a physical restriction -- for example by requiring the planting of salt-tolerant plants, or by effectively reducing the amount of available water.)
- An *economic restriction* is a rise in the cost of water to a level that forces a reduction in consumption. (This could be from surcharge increases from water suppliers as they pass along the cost of finding new water supplies, the extra cost of pumping more ground water to make up for losses in surface water supplies, or the extra energy costs of pumping the same amount of ground water from deeper within an aquifer.)
- Irrigated agricultural production is *feasible* when:
  - 1) There is an existing irrigation system on the project site that can serve the portion of the project identified in Step 2;
  - 2) *Physical* and/or *economic restrictions* are not severe enough to halt production; and
  - 3) It is possible to achieve a viable economic return on crops through irrigated production.

(A major question that should be considered is, if there is an irrigated crop that can be grown within the region, can it actually be grown on the project site? Depending upon the jurisdiction, some typical crops that have a large water demand may not be feasible to grow on the project site, while others that require less water are feasible. Information to aid in making this determination can be obtained from county agricultural commissioners, the UC Cooperative Extension, irrigation districts, and other sources.)

- *Dryland production* is *feasible* when rainfall is adequate to allow an economically viable return on a nonirrigated crop.
- A *drought year* is a year that lies within a defined drought period, as defined by the Department of Water Resources or by a local water agency. Many regions of the state are by their arid nature dependent upon imports of water to support irrigated agriculture. These regions shall not be considered under periods of drought unless a condition of drought is declared for the regions that typically would be providing water exports.

**Step 5.**

Each of the project's water resource supply portions identified in **Step 2** is scored separately. Water Resources Availability scoring is performed by identifying the appropriate condition that applies to each portion of the project, as identified in Table 5., **Water Resource Availability Scoring**. Using Table 5, identify the option that best describes the water resource availability for that portion and its corresponding water resource score. Option 1 defines the condition of no restrictions on water resource availability and is followed progressively with increasing restrictions to Option 14, the most severe condition, where neither irrigated nor dryland production is considered feasible. Enter each score into **Column D** of Table 4.

**Step 6.**

For each portion of the project site, determine the section's weighted score by multiplying the portion's score (**Column D**), by its proportion of the project area (**Column C**), and enter these scores in **Column E**, the weighted Water Availability Score. Sum the **Column E** scores to obtain the total Water Resource Availability Score, and enter this figure in **Line 4** of the **Final LESA Score Sheet** (Table 8).

**Table 5. Water Resource Availability Scoring**

Option	Non-Drought Years			Drought Years			WATER RESOURCE SCORE
	RESTRICTIONS			RESTRICTIONS			
	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	
1	YES	NO	NO	YES	NO	NO	100
2	YES	NO	NO	YES	NO	YES	95
3	YES	NO	YES	YES	NO	YES	90
4	YES	NO	NO	YES	YES	NO	85
5	YES	NO	NO	YES	YES	YES	80
6	YES	YES	NO	YES	YES	NO	75
7	YES	YES	YES	YES	YES	YES	65
8	YES	NO	NO	NO	-- --	-- --	50
9	YES	NO	YES	NO	-- --	-- --	45
10	YES	YES	NO	NO	-- --	-- --	35
11	YES	YES	YES	NO	-- --	-- --	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

## Explanation of the Water Resource Availability Rating

The Water Resource Availability factor in the California Agricultural LESA Model was developed in cooperation with Nichols-Berman, a consulting firm under contract with the Department of Conservation. A thorough discussion of the development of this rating is presented by Nichols-Berman in a report to the Department entitled, *Statewide LESA Methodologies Report - Project Size and Water Resource Availability Factors* (3). During the development of this factor it became apparent that certain conditions unique to California would need to be represented in this system.

First, it was decided to classify water reliability based upon the *effects* on agricultural production (such as being forced to change to lower-value crops, putting in groundwater pumps, or cutting back on the acreage farmed) rather than the actual *type* of limitation (such as a limitation on the quantity, frequency, or duration of water delivery). LESA systems have traditionally focused on the latter. However, it was found that the many types of limitations are too varied in California to adequately represent in the LESA system. In the Statewide LESA system, these effects are referred to as *restrictions*.

Second, the factor had to include an interrelation with cost. The historical shortages and unreliability of California water use has led to the establishment of various interconnected and dual systems. Probably more than any other state, reliability is related with cost -- a more reliable water supply can sometimes be obtained, but at a greater cost. Therefore, *restrictions* were classified into two major categories -- *physical* and *economic*. These are separated because, generally, a physical restriction is more severe than an economic restriction and this should be reflected in the LESA system.

Third, the factor had to include the effects of the drought cycle in California. During the drought of 1987 to 1992, many agricultural areas of the state experienced water shortages. The impact of these shortages resulted in a number of different actions. Some areas were able to avoid the worst effects of the drought simply by implementing water conservation measures. Other areas were able to obtain additional water supplies, such as by securing water transfers or simply pumping more groundwater, but at an increase in the overall price of water. Other options included shifting crops, replanting to higher value crops to offset the increase in water prices, or leaving land fallow. A project site that experiences restrictions during a drought year should not be scored as high as a similar project site that does not.

The easiest way to make determinations of irrigation feasibility and the potential restrictions of water sources is to investigate the cropping history of the project site. For instance, was the water supply to the project site reduced by the local irrigation district during the last drought? If the site has a ground water supply, do area ground water levels sometimes drop to levels that force markedly higher energy costs to pump the water?

If the history of the project site is unavailable (including when the site has recently installed an irrigation system), look at the history of the general area. However, remember that the project site may have different conditions than the rest of the region. For instance, the project site could have an older water right than others in the region. Although certain areas of the state had severe restrictions on water deliveries during the last drought, some parcels within these areas had very secure deliveries due to more senior water rights. If this was the case in the region of the project site, check the date of water right and compare it with parcels that received their total allotment during the last drought. The local irrigation district should have information on water deliveries.

The scoring of water resource availability for a project site should not just reflect the adequacies of water supply in the past -- it should be a *prediction* of how the water system will perform in the future. For instance, a local jurisdiction might find that the allocation of flows to stream and river systems has been recently increased for environmental reasons, which will decrease the future available surface water supply. In this case, the past history of the site is not an adequate representation of future water supply and water system performance.

### **3. Site Assessment - The Surrounding Agricultural Land Rating**

Determination of the surrounding agricultural land use rating is based upon the identification of a project's "Zone of Influence" (ZOI), which is defined as that land near a given project, both directly adjoining and within a defined distance away, that is likely to influence, and be influenced by, the agricultural land use of the subject project site. The determination of the ZOI is described below, and is illustrated with an example in Figure 1.

#### **Defining a Project's "Zone of Influence"**

##### **Step 1.**

Locate the proposed project on an appropriate map and outline the area and dimensions of the proposed project site.

##### **Step 2.**

Determine the smallest rectangle that will completely contain the project site (Rectangle A).

##### **Step 3.**

Create a second rectangle (Rectangle B) that extends 0.25 mile (1320 feet) beyond Rectangle A on all sides.

##### **Step 4.**

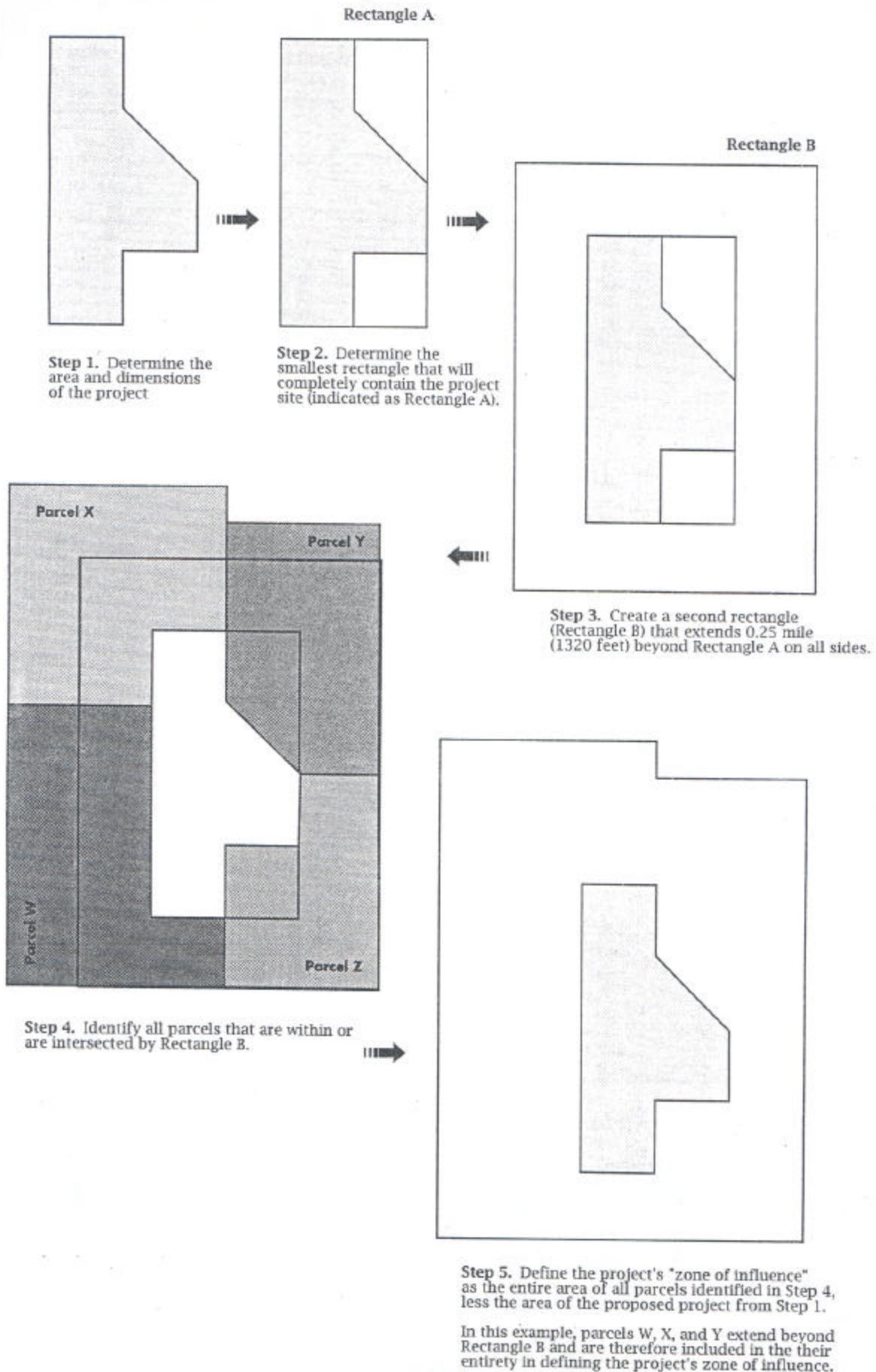
Identify all parcels that are within or are intersected by Rectangle B.

##### **Step 5.**

Define the project site's "zone of influence" as the entire area of all parcels identified in Step 4, less the area of the proposed project from Step 1.

[In the illustration provided in Figure 1, Parcels W, X, and Y extend beyond Rectangle B and are therefore included in their entirety in defining the project site's Zone of Influence.]

Figure 1: Defining a Project's Zone of Influence



## Measuring Surrounding Agricultural Land

### Step 1.

Calculate the percentage of the project's Zone of Influence that is currently producing agricultural crops. [This figure can be determined using information from the Department of Conservation's Important Farmland Map Series, the Department of Water Resources' Land Use Map Series, locally derived maps, or direct site inspection. For agricultural land that is currently fallowed, a determination must be made concerning whether the land has been fallowed as part of a rotational sequence during normal agricultural operations, or because the land has become formally "committed" to a nonagricultural use. Land that has become formally committed, whether fallow or not, should not generally be included in determining the proportion of the Zone of Influence that is agricultural land. For further information on the definition of Committed Land, refer to the following Explanation of the Surrounding Agricultural Land Rating.]

### Step 2.

Based on the percentage of agricultural land in the ZOI determined in Step 1, assign a Surrounding Agricultural Land score to the project according to Table 6, and enter this score in **Line 5** of the **Final LESA Scoresheet** (Table 8) .

**Table 6. Surrounding Agricultural Land Rating**

Percent of Project's Zone of Influence in Agricultural Use	Surrounding Agricultural Land Score
90 - 100%	100 Points
80 - 89	90
75 - 79	80
70 - 74	70
65 - 69	60
60 - 64	50
55 - 59	40
50 - 54	30
45 - 49	20
40 - 44	10
40 <	0

## Explanation of the Surrounding Agricultural Land Rating

The Surrounding Agricultural Land Rating is designed to provide a measurement of the level of agricultural land use for lands in close proximity to a subject project. The California Agricultural LESA Model rates the potential significance of the conversion of an agricultural parcel that has a large proportion of surrounding land in agricultural production more highly than one that has a relatively small percentage of surrounding land in agricultural production. The definition of a "Zone of Influence" that accounts for surrounding lands up to a minimum of one quarter mile from the project boundary is the result of several iterations during model development for assessing an area that will generally be a representative sample of surrounding land use. In a simple example, a single one quarter mile square project (160 acres) would have a Zone of Influence that is a minimum of eight times greater (1280 acres) than the parcel itself.

Land within a Zone of Influence that is observed to be fallow will require a case by case determination of whether this land should be considered agricultural land. The Department of Conservation's Important Farmland Maps may be of assistance in making this determination. In addition, land currently in agricultural production may be designated as being "committed" to future nonagricultural development. The Department of Conservation's Farmland Mapping and Monitoring Program has a land use designation of Land Committed to Nonagricultural Use, and is defined as "land that is permanently committed by local elected officials to nonagricultural development by virtue of decisions which cannot be reversed simply by a majority vote of a city council or county board of supervisors. The "committed" land must be so designated in an adopted local general plan, and must also meet the requirements of either (a) or (b) below:

(a). It must have received one of the following final discretionary approvals:

1. Tentative subdivision map (approved per the Subdivision Map Act);
2. Tentative or final parcel map (approved per the Subdivision Map Act);
3. Recorded development agreement (per Government Code §65864);
4. Other decisions by a local government which are analogous to items #1-3 above and which exhibit an element of permanence. Zoning by itself does not qualify as a permanent commitment.

Or

(b) It must be the subject of one of the final fiscal commitments to finance the capital improvements specifically required for future development of the land in question as shown below:

1. Recorded Resolution of Intent to form a district and levy an assessment;
2. Payment of assessment;
3. Sale of bonds;
4. Binding contract, secured by bonds, guaranteeing installation of infrastructure;
5. Other fiscal commitments which are analogous to items #1-4 above and exhibit an element of permanence."

Lead agencies are encouraged to identify Land Committed to Nonagricultural Use within a project's ZOI and make the determination whether this land, while still in agricultural production, be considered nonagricultural land for the purposes of the calculation performed here.

#### 4. Site Assessment - The Surrounding Protected Resource Land Rating

The Surrounding Protected Resource Land Rating is essentially an extension of the Surrounding Agricultural Land Rating, and is scored in a similar manner. Protected resource lands are those lands with long term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following:

- Williamson Act contracted lands
- Publicly owned lands maintained as park, forest, or watershed resources
- Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses.

#### Instructions for the Surrounding Protected Resource Land Rating

##### Step 1.

Utilizing the same "Zone of Influence" (ZOI) area calculated for a project under the Surrounding Agricultural Land Rating, calculate the percentage of the ZOI that is Protected Resource Land, as defined above.

##### Step 2.

Assign a Surrounding Protected Resource Land score to the project according to Table 7, and enter this score on **Line 6** of the **Final LESA Scoresheet** (Table 8).

**Table 7. Surrounding Protected Resource Land Rating**

Percent of Project's Zone of Influence Defined as Protected	Surrounding Protected Resource Land Score
90 - 100%	100 Points
80 - 89	90
75 - 79	80
70 - 74	70
65 - 69	60
60 - 64	50
55 - 59	40
50 - 54	30
45 - 49	20
40 - 44	10
40 <	0

### Section III. Weighting of Factors and Final LESA Scoring

The California LESA Model is weighted so that 50 percent of the total LESA score of a given project is derived from the Land Evaluation factors, and 50 percent from the Site Assessment factors. Individual factor weights are listed below, with the sum of the factor weights required to equal 100 percent.

#### Land Evaluation Factors

Land Capability Classification	25%
Storie Index Rating	25%
<b>Land Evaluation Subtotal</b>	<b>50%</b>

#### Site Assessment Factors

Project Size	15%
Water Resource Availability	15%
Surrounding Agricultural Lands	15%
Surrounding Protected Resource Lands	5%
<b>Site Assessment Subtotal</b>	<b>50%</b>

<b>Total LESA Factor Weighting</b>	<b>100%</b>
------------------------------------	-------------

Each factor is measured separately (each on 100 point scale) and entered in the appropriate line in **Column B** of the **Final LESA Scoresheet** (Table 8). Each factor's score is then multiplied by its respective factor weight, resulting in a weighted factor score in **Column D** as indicated in Table 8. The weighted factor scores are summed, yielding a Total LESA Score (100 points maximum ) for a given project, which is entered in **Line 7** of **Column D**.

**Table 8. Final LESA Scoresheet**

A	B		C		D
Factor Name	Factor Rating (0-100 points)	X	Factor Weighting (Total = 1.00)	=	Weighted Factor Rating
<u>Land Evaluation</u>					
1. Land Capability Classification	<Line 1> _____	X	0.25	=	_____
2. Storie Index Rating	<Line 2> _____	X	0.25	=	_____
<u>Site Assessment</u>					
1. Project Size	<Line 3> _____	X	0.15	=	_____
2. Water Resource Availability	<Line 4> _____	X	0.15	=	_____
3. Surrounding Agricultural Lands	<Line 5> _____	X	0.15	=	_____
4. Protected Resource Lands	<Line 6> _____	X	0.05	=	_____
Total LESA Score (sum of weighted factor ratings)					<Line 7> _____

## Section IV. California Agricultural LESA Scoring Thresholds - Making Determinations of Significance Under CEQA

A single LESA score is generated for a given project after all of the individual Land Evaluation and Site Assessment factors have been scored and weighted as detailed in Sections 2 and 3. Just as with the scoring of individual factors that comprise the California Agricultural LESA Model, final project scoring is based on a scale of 100 points, with a given project being capable of deriving a maximum of 50 points from the Land Evaluation factors and 50 points from the Site Assessment factors.

The California Agricultural LESA Model is designed to make determinations of the potential significance of a project's conversion of agricultural lands during the Initial Study phase of the CEQA review process. Scoring thresholds are based upon both the total LESA score as well as the component LE and SA subscores. In this manner the scoring thresholds are dependent upon the attainment of a minimum score for the LE and SA subscores so that a single threshold is not the result of heavily skewed subscores (i.e., a site with a very high LE score, but a very low SA score, or vice versa). Table 9 presents the California Agricultural LESA scoring thresholds.

**Table 9. California LESA Model Scoring Thresholds**

Total LESA Score	Scoring Decision
0 to 39 Points	Not Considered Significant
40 to 59 Points	Considered Significant <u>only</u> if LE and SA subscores are each <u>greater</u> than or equal to 20 points
60 to 79 Points	Considered Significant <u>unless</u> either LE <u>or</u> SA subscore is <u>less</u> than 20 points
80 to 100 Points	Considered Significant

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6. Pease, J and R. Coughlin. *Land Evaluation and Site Assessment: A Guidebook for Rating Agricultural Lands, Second Edition*; prepared for the USDA Natural Resources Conservation Service; Soil and Water Conservation Society. 1996.
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**Appendix A. California Agricultural LESA Worksheets**

**NOTES**

**Calculation of the Land Evaluation (LE) Score**

**Part 1. Land Capability Classification (LCC) Score:**

- (1) Determine the total acreage of the project.
- (2) Determine the soil types within the project area and enter them in **Column A** of the **Land Evaluation Worksheet** provided on page 2-A.
- (3) Calculate the total acres of each soil type and enter the amounts in **Column B**.
- (4) Divide the acres of each soil type (**Column B**) by the total acreage to determine the proportion of each soil type present. Enter the proportion of each soil type in **Column C**.
- (5) Determine the LCC for each soil type from the applicable Soil Survey and enter it in **Column D**.
- (6) From the LCC Scoring Table below, determine the point rating corresponding to the LCC for each soil type and enter it in **Column E**.

LCC Scoring Table

LCC Class	I	Ile	Ils,w	IIle	IIls,w	IVe	IVs,w	V	VI	VII	VIII
Points	100	90	80	70	60	50	40	30	20	10	0

- (7) Multiply the proportion of each soil type (**Column C**) by the point score (**Column E**) and enter the resulting scores in **Column F**.
- (8) Sum the LCC scores in **Column F**.
- (9) Enter the LCC score in box <1> of the **Final LESA Score Sheet** on page 10-A.

**Part 2. Storie Index Score:**

- (1) Determine the Storie Index rating for each soil type and enter it in **Column G**.
- (2) Multiply the proportion of each soil type (**Column C**) by the Storie Index rating (**Column G**) and enter the scores in **Column H**.
- (3) Sum the Storie Index scores in **Column H** to gain the Storie Index Score.
- (4) Enter the Storie Index Score in box <2> of the **Final LESA Score Sheet** on page 10-A.

**Land Evaluation Worksheet**

**Land Capability Classification (LCC) and Storie Index Scores**

A	B	C	D	E	F	G	H
Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
<b>Totals</b>		(Must Sum to 1.0)		<b>LCC Total Score</b>		<b>Storie Index Total Score</b>	

**Site Assessment Worksheet 1.**

**Project Size Score**

	I	J	K
LCC Class	LCC Class I - II	LCC Class III	LCC Class IV - VIII
<b>Total Acres</b>			
<b>Project Size Scores</b>			
<b>Highest Project Size Score</b>	<input style="width: 100px; height: 30px;" type="text"/>		

**NOTES**

**Calculation of the Site Assessment (SA) Score**

**Part 1. Project Size Score:**

- (1) Using **Site Assessment Worksheet 1** provided on page 2-A, enter the acreage of each soil type from **Column B** in the **Column - I, J or K** - that corresponds to the LCC for that soil. (Note: While the Project Size Score is a component of the Site Assessment calculations, the score sheet is an extension of data collected in the Land Evaluation Worksheet, and is therefore displayed beside it).
- (2) Sum **Column I** to determine the total amount of class I and II soils on the project site.
- (3) Sum **Column J** to determine the total amount of class III soils on the project site.
- (4) Sum **Column K** to determine the total amount of class IV and lower soils on the project site.
- (5) Compare the total score for each LCC group in the Project Size Scoring Table below and determine which group receives the highest score.

**Project Size Scoring Table**

<b>Class I or II</b>		<b>Class III</b>		<b>Class IV or Lower</b>	
Acreage	Points	Acreage	Points	Acreage	Points
>80	100	>160	100	>320	100
60-79	90	120-159	90	240-319	80
40-59	80	80-119	80	160-239	60
20-39	50	60-79	70	100-159	40
10-19	30	40-59	60	40-99	20
10<	0	20-39	30	40<	0
		10-19	10		
		10<	0		

- (6) Enter the **Project Size Score** (the highest score from the three LCC categories) in box <3> of the **Final LESA Score Sheet** on page 10-A.

**NOTES**

**Part 2. Water Resource Availability Score:**

(1) Determine the type(s) of irrigation present on the project site, including a determination of whether there is dryland agricultural activity as well.

(2) Divide the site into portions according to the type or types of irrigation or dryland cropping that is available in each portion. Enter this information in **Column B** of **Site Assessment Worksheet 2. - Water Resources Availability**.

(3) Determine the proportion of the total site represented for each portion identified, and enter this information in **Column C**.

(4) Using the Water Resources Availability Scoring Table, identify the option that is most applicable for each portion, based upon the feasibility of irrigation in drought and non-drought years, and whether physical or economic restrictions are likely to exist. Enter the applicable Water Resource Availability Score into **Column D**.

(5) Multiply the Water Resource Availability Score for each portion by the proportion of the project area it represents to determine the weighted score for each portion in **Column E**.

(6) Sum the scores for all portions to determine the project's total Water Resources Availability Score

(7) Enter the Water Resource Availability Score in box <4> of the **Final LESA Score Sheet** on page 10-A.

**Site Assessment Worksheet 2. - Water Resources Availability**

A Project Portion	B Water Source	C Proportion of Project Area	D Water Availability Score	E Weighted Availability Score (C x D)
1				
2				
3				
4				
5				
6				
		(Must Sum to 1.0)	<b>Total Water Resource Score</b>	

**Water Resource Availability Scoring Table**

Option	Non-Drought Years			Drought Years			WATER RESOURCE SCORE
	RESTRICTIONS			RESTRICTIONS			
	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	
1	YES	NO	NO	YES	NO	NO	100
2	YES	NO	NO	YES	NO	YES	95
3	YES	NO	YES	YES	NO	YES	90
4	YES	NO	NO	YES	YES	NO	85
5	YES	NO	NO	YES	YES	YES	80
6	YES	YES	NO	YES	YES	NO	75
7	YES	YES	YES	YES	YES	YES	65
8	YES	NO	NO	NO	-- --	-- --	50
9	YES	NO	YES	NO	-- --	-- --	45
10	YES	YES	NO	NO	-- --	-- --	35
11	YES	YES	YES	NO	-- --	-- --	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

**NOTES**

**Part 3. Surrounding Agricultural Land Use Score:**

- (1) Calculate the project's Zone of Influence (ZOI) as follows:
  - (a) a rectangle is drawn around the project such that the rectangle is the smallest that can completely encompass the project area.
  - (b) a second rectangle is then drawn which extends one quarter mile on all sides beyond the first rectangle.
  - (c) The ZOI includes all parcels that are contained within or are intersected by the second rectangle, less the area of the project itself.
- (2) Sum the area of all parcels to determine the total acreage of the ZOI.
- (3) Determine which parcels are in agricultural use and sum the areas of these parcels
- (4) Divide the area in agriculture found in step (3) by the total area of the ZOI found in step (2) to determine the percent of the ZOI that is in agricultural use.
- (5) Determine the Surrounding Agricultural Land Score utilizing the Surrounding Agricultural Land Scoring Table below.

**Surrounding Agricultural Land Scoring Table**

Percent of ZOI in Agriculture	Surrounding Agricultural Land Score
90-100	100
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
<40	0

(5) Enter the Surrounding Agricultural Land Score in box <5> of the **Final LESA Score Sheet** on page 10-A.

**Site Assessment Worksheet 3.**

**Surrounding Agricultural Land and Surrounding Protected Resource Land**

A	B	C	D	E	F	G
<b>Zone of Influence</b>						
Total Acres	Acres in Agriculture	Acres of Protected Resource Land	Percent in Agriculture (A/B)	Percent Protected Resource Land (A/C)	Surrounding Agricultural Land Score (From Table)	Surrounding Protected Resource Land Score (From Table)

**NOTES**

**Part 4. Protected Resource Lands Score:**

The Protected Resource Lands scoring relies upon the same Zone of Influence information gathered in Part 3, and figures are entered in Site Assessment Worksheet 3, which combines the surrounding agricultural and protected lands calculations.

- (1) Use the total area of the ZOI calculated in Part 3. for the Surrounding Agricultural Land Use score.
- (2) Sum the area of those parcels within the ZOI that are protected resource lands, as defined in the California Agricultural LESA Guidelines.
- (3) Divide the area that is determined to be protected in Step (2) by the total acreage of the ZOI to determine the percentage of the surrounding area that is under resource protection.
- (4) Determine the Surrounding Protected Resource Land Score utilizing the Surrounding Protected Resource Land Scoring Table below.

**Surrounding Protected Resource Land Scoring Table**

<b>Percent of ZOI Protected</b>	<b>Protected Resource Land Score</b>
90-100	100
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
<40	0

- (5) Enter the Protected Resource Land score in box <6> of the **Final LESA Score Sheet** on page 10-A.

**NOTES**

**Final LESA Score Sheet**

**Calculation of the Final LESA Score:**

- (1) Multiply each factor score by the factor weight to determine the weighted score and enter in Weighted Factor Scores column.
- (2) Sum the weighted factor scores for the LE factors to determine the total LE score for the project.
- (3) Sum the weighted factor scores for the SA factors to determine the total SA score for the project.
- (4) Sum the total LE and SA scores to determine the Final LESA Score for the project.

	<b>Factor Scores</b>	<b>Factor Weight</b>	<b>Weighted Factor Scores</b>
<b>LE Factors</b>			
Land Capability Classification	<1>	0.25	
Storie Index	<2>	0.25	
<i>LE Subtotal</i>		<b>0.50</b>	
<b>SA Factors</b>			
Project Size	<3>	0.15	
Water Resource Availability	<4>	0.15	
Surrounding Agricultural Land	<5>	0.15	
Protected Resource Land	<6>	0.05	
<i>SA Subtotal</i>		<b>0.50</b>	
<b>Final LESA Score</b>			

For further information on the scoring thresholds under the California Agricultural LESA Model, consult Section 4 of the Instruction Manual.

## Appendix B. California LESA Project Scoring Example

### UPLANDS ESTATES EXAMPLE

*Uplands Estates is a fictitious 200 acre proposed project. Four soil mapping units have been identified on the site: Cc, LI, Si and Lt. Using an electronic planimeter, the acreage of each was found to be 30, 120, 10 and 40 acres, respectively.*

*The acreage of each soil type is divided by the total project acreage, 200 acres, to determine the proportion of each.*

*The LCCs for the four soil types are found in the County Soil Survey to be: Cc-Class IVe, LI-Class I, Si-Class IIle and Lt-Class IIe.*

*From the LCC Scoring Table the LCC point scores for the four soils are found to be 40, 100, 70 and 90, respectively. The proportion of each soil type represented is multiplied by its point score in Column F, and is summed to get a total LCC Score of 87.5 points, which is then entered in box <1> of the Final LESA Score Sheet.*

*Storie Index ratings for each soil type, 34, 86, 66 and 75, were determined from the County Soil Survey. The Storie Index ratings are multiplied by the proportion for each soil type and Column H is summed to get a total Storie Index Score of 75 points, which is then entered in box <2> of the Final LESA Score Sheet*

## California LESA Model - Worksheet for Scoring

### Calculation of the Land Evaluation (LE) Score

#### **Part 1. Land Capability Classification (LCC) Score:**

- (1) Determine the total acreage of the project.
- (2) Determine the soil types within the project area and enter them in **Column A** of the **Land Evaluation Worksheet** provided on page 2-B.
- (3) Calculate the total acres of each soil type and enter the amounts in **Column B**.
- (4) Divide the acres of each soil type (**Column B**) by the total acreage to determine the proportion of each soil type present. Enter the proportion of each soil type in **Column C**.
- (5) Determine the LCC for each soil type from the applicable Soil Survey and enter it in **Column D**.
- (6) From the LCC Scoring Table below, determine the point rating corresponding to the LCC for each soil type and enter it in **Column E**.

LCC Scoring Table

LCC Class	I	IIe	IIs,w	IIIe	IIIs,w	IVe	IVs,w	V	VI	VII	VIII
Points	100	90	80	70	60	50	40	30	20	10	0

- (7) Multiply the proportion of each soil type (**Column C**) by the point score (**Column E**) and enter the resulting scores in **Column F**.
- (8) Sum the LCC scores in **Column F**.
- (9) Enter the LCC score in box <1> of the **Final LESA Score Sheet** on page 10-B.

#### **Part 2. Storie Index Score:**

- (1) Determine the Storie Index rating for each soil type and enter it in **Column G**.
- (2) Multiply the proportion of each soil type (**Column C**) by the Storie Index rating (**Column G**) and enter the scores in **Column H**.
- (3) Sum the Storie Index scores in **Column H** to gain the Storie Index Score.
- (4) Enter the Storie Index Score in box <2> of the **Final LESA Score Sheet** on page 10-B.

**Land Evaluation Worksheet - Uplands Estates Example**

**Land Capability Classification (LCC) and Storie Index Scores**

A	B	C	D	E	F	G	H
Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
Cc	30	0.15	IVs	40	6	34	5.1
LI	120	0.6	I	100	60	86	51.6
Si	10	0.05	IIIe	70	3.5	66	3.3
Lt	40	0.2	Ile	90	18	75	15
<b>Totals</b>	200	(Must Sum to 1.0)		<b>LCC Total Score</b>	87.5	<b>Storie Index Total Score</b>	75

**Site Assessment Worksheet 1.**

**Project Size Score**

	I	J	K
LCC Class	LCC Class I - II	LCC Class III	LCC Class IV - VIII
			30
	120		
		10	
	40		
<b>Total Acres</b>	160	10	30
<b>Project Size Scores</b>	100	10	0
<b>Highest Project Size Score</b>	<b>100</b>		

UPLANDS ESTATES EXAMPLE (cont.)

Column I sums to 160 acres,  
Column J sums to 10 acres, and  
Column K sums to 30 acres.

Column I - 160 acres of class I-II soils  
corresponds to a score of 100 points.

Column J - 10 acres of class III soils in  
corresponds to a score of 10 points.

Column K - 30 acres of class IV or  
lower soils corresponds to a score of 0  
points.

The highest score is for column I; 100  
points.

**Calculation of the Site Assessment (SA) Score**

**Part 1. Project Size Score:**

- (1) Using **Site Assessment Worksheet 1** provided on page 2-B, enter the acreage of each soil type from **Column B** in the **Column - I, J or K** - that corresponds to the LCC for that soil. (Note: While the Project Size Score is a component of the Site Assessment calculations, the score sheet is an extension of data collected in the Land Evaluation Worksheet, and is therefore displayed beside it).
- (2) Sum **Column I** to determine the total amount of class I and II soils on the project site.
- (3) Sum **Column J** to determine the total amount of class III soils on the project site.
- (4) Sum **Column K** to determine the total amount of class IV and lower soils on the project site.
- (5) Compare the total score for each LCC group in the Project Size Scoring Table below and determine which group receives the highest score.

Project Size Scoring Table

Class I or II		Class III		Class IV or Lower	
Acreage	Points	Acreage	Points	Acreage	Points
>80	100	>160	100	>320	100
60-79	90	120-159	90	240-319	80
40-59	80	80-119	80	160-239	60
20-39	50	60-79	70	100-159	40
10-19	30	40-59	60	40-99	20
10<	0	20-39	30	40<	0
		10-19	10		
		10<	0		

100 points is entered in box <3> of the  
Final LESA Score Sheet.

(6) Enter the **Project Size Score** (the highest score from the three LCC categories) in box <3> of the  
**Final LESA Score Sheet** on page 10-B.

UPLANDS ESTATES EXAMPLE (cont.)

*There are two types of irrigation on the site; groundwater and water district water. The site is divided into three portions according to irrigation availability:*

*Portion I - both irrigation district and groundwater -- 50% of the site;*

*Portion II - irrigation district only - 25% of the site; and*

*Portion III - unirrigated - 25% of the site.*

*Portion I - While irrigation is always feasible, economic and physical restrictions become evident in drought years (Option 5) yielding a score of 80 points.*

*Portion II - While irrigation is always feasible, economic restrictions become evident during drought years (Option 2) yielding a score of 95 points.*

*Portion III - irrigation is not feasible and dryland farming is only feasible in non-drought years (Option 13), yielding a score of 20 points.; subtract 75 points. Dryland farming is not feasible in non-drought years; subtract 5 points.*

*Portion I - (80 points)(0.5) = 40.0 points*

*Portion II - (95 points)(0.25) = 23.7 points*

*Portion III - (20 points)(0.25) = 5.0 points*

*Portion I + Portion II + Portion III = 68.7 points, which is entered in box <4> of the Final LESA Score Sheet.*

**Part 2. Water Resource Availability Score:**

(1) Determine the type(s) of irrigation present on the project site, including a determination of whether there is dryland agricultural activity as well.

(2) Divide the site into portions according to the type or types of irrigation or dryland cropping that is available in each portion. Enter this information in **Column B** of **Site Assessment Worksheet 2. - Water Resources Availability**.

(3) Determine the proportion of the total site represented for each portion identified and enter this information in **Column C**.

(4) Using the Water Resources Availability Scoring Table, identify the option that is most applicable for each portion, based upon the feasibility of irrigation in drought and non-drought years, and whether physical or economic restrictions are likely to exist. Enter the applicable Water Resource Availability Score into **Column D**.

(5) Multiply the Water Resource Availability Score for each portion by the proportion of the project area it represents to determine the weighted score for each portion in **Column E**.

(6) Sum the scores for all portions to determine the project's total Water Resources Availability Score

(7) Enter the Water Resource Availability Score in box <4> of the **Final LESA Score Sheet** on page 10-B.

**Site Assessment Worksheet 2. - Water Resources Availability**

A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score	Weighted Availability Score (C x D)
1	Irrigation district and groundwater	.50	80	40
2	Irrigation district only	.25	95	23.7
3	not irrigated	.25	20	5.0
4				
5				
6				
		(Must Sum to 1.0)	<b>Total Water Resource Score</b>	68.7

**Water Resource Availability Scoring Table**

Option	Non-Drought Years			Drought Years			WATER RESOURCE SCORE
	RESTRICTIONS			RESTRICTIONS			
	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	
1	YES	NO	NO	YES	NO	NO	100
2	YES	NO	NO	YES	NO	YES	95
3	YES	NO	YES	YES	NO	YES	90
4	YES	NO	NO	YES	YES	NO	85
5	YES	NO	NO	YES	YES	YES	80
6	YES	YES	NO	YES	YES	NO	75
7	YES	YES	YES	YES	YES	YES	65
8	YES	NO	NO	NO	-- --	-- --	50
9	YES	NO	YES	NO	-- --	-- --	45
10	YES	YES	NO	NO	-- --	-- --	35
11	YES	YES	YES	NO	-- --	-- --	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

UPLANDS ESTATES EXAMPLE (cont.)

*Upland Estates is surrounded by 4 parcels: parcels W, X, Y and Z, 200, 180, 150 and 100 acres, respectively. The total acreage of the ZOI is the sum of these parcels or 630 acres.*

*Parcels W, X, and Y are in agriculture. The amount of the ZOI in agriculture is 530 acres. The percent of the ZOI in agriculture is 530 acres divided by 630 acres, or 84%. Eighty-four percent of the ZOI in agriculture corresponds to a score of 90 points.*

**Part 3. Surrounding Agricultural Land Use Score:**

- (1) Calculate the project's Zone of Influence (ZOI) as follows:
  - (a) a rectangle is drawn around the project such that the rectangle is the smallest that can completely encompass the project area.
  - (b) a second rectangle is then drawn which extends one quarter mile on all sides beyond the first rectangle.
  - (c) The ZOI includes all parcels that are contained within or are intersected by the second rectangle, less the area of the project itself.
- (2) Sum the area of all parcels to determine the total acreage of the ZOI.
- (3) Determine which parcels are in agricultural use and sum the areas of these parcels
  
- (4) Divide the area in agriculture found in step (3) by the total area of the ZOI found in step (2) to determine the percent of the ZOI that is in agricultural use.
- (5) Determine the Surrounding Agricultural Land Score utilizing the Surrounding Agricultural Land Scoring Table below.

**Surrounding Agricultural Land Scoring Table**

<b>Percent of ZOI in Agriculture</b>	<b>Surrounding Agricultural Land Score</b>
90-100	100
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
<40	0

*90 points is entered in box <5> of the Final LESA Score Sheet.*

(5) Enter the Surrounding Agricultural Land Score in box <5> of the **Final LESA Score Sheet** on page 10-B.

**Site Assessment Worksheet 3.**

**Surrounding Agricultural Land and Surrounding Protected Resource Land**

A	B	C	D	E	F	G
<b>Zone of Influence</b>					Surrounding Agricultural Land Score (From Table)	Surrounding Protected Resource Land Score (From Table)
Total Acres	Acres in Agriculture	Acres of Protected Resource Land	Percent in Agriculture (A/B)	Percent Protected Resource Land (A/C)		
630	530	380	84	60	90	50

UPLANDS ESTATES EXAMPLE (cont.)

Parcels W and X are under Williamson Act contract. The sum of these parcels' areas is 380 acres. The area under protection divided by the total acreage of the ZOI (380/630 acres) gives the percent of the surrounding area under protection, or 60%,

corresponding to a Protected Resource Land Score of 50 points.

**Part 4. Protected Resource Lands Score:**

The Protected Resource Lands scoring relies upon the same Zone of Influence information gathered in Part 3, and figures are entered in Site Assessment Worksheet 3, which combines the surrounding agricultural and protected lands calculations.

- (1) Use the total area of the ZOI calculated in Part 3. for the Surrounding Agricultural Land Use score.
- (2) Sum the area of those parcels within the ZOI that are protected resource lands, as defined in the California Agricultural LESA Guidelines.
- (3) Divide the area that is determined to be protected in Step (2) by the total acreage of the ZOI to determine the percentage of the surrounding area that is under resource protection.
- (4) Determine the Surrounding Protected Resource Land Score utilizing the Surrounding Protected Resource Land Scoring Table below.

**Surrounding Protected Resource Land Scoring Table**

Percent of ZOI Protected	Protected Resource Land Score
90-100	100
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
<40	0

50 points is entered in box <6> of the Final LESA Score Sheet.

- (5) Enter the Protected Resource Land score in box <6> of the **Final LESA Score Sheet** on page 10-B.

## Final LESA Score Sheet

### Calculation of the Final LESA Score:

- (1) Multiply each factor score by the factor weight to determine the weighted score and enter in Weighted Factor Scores column.
- (2) Sum the weighted factor scores for the LE factors to determine the total LE score for the project.
- (3) Sum the weighted factor scores for the SA factors to determine the total SA score for the project.
- (4) Sum the total LE and SA scores to determine the Final LESA Score for the project.

The component LE and SA factors have been entered into the Final LESA Score Sheet.

The LE factor scores are multiplied by the factor weights to determine the weighted score for each.

The weighted LE factor scores are summed to determine the LE portion of the Final LESA score

The SA factor scores are multiplied by the factor weights to determine the weighted score for each.

The weighted SA factor scores are summed to determine the SA portion of the Final LESA score

The LE and SA subtotals are summed to determine the Final LESA score

	Factor Scores	Factor Weight	Weighted Factor Scores
<b><u>LE Factors</u></b>			
Land Capability Classification	<1> 87.5	0.25	21.9
Storie Index	<2> 75.0	0.25	18.7
<i>LE Subtotal</i>		<b>0.50</b>	<b>40.6</b>
<b><u>SA Factors</u></b>			
Project Size	<3> 100.0	0.15	15.0
Water Resource Availability	<4> 68.7	0.15	10.3
Surrounding Agricultural Land	<5> 90.0	0.15	13.5
Surrounding Protected Resource Land	<6> 50.0	0.05	2.5
<i>SA Subtotal</i>		<b>0.50</b>	<b>41.3</b>
<b>Final LESA Score</b>			<b>81.9</b>

Because the Uplands Estates example attained a score above the 80 point threshold, the project would automatically be determined to be significant without a further review of the Land Evaluation or Site Assessment subscores. For further information on the scoring thresholds under the California Agricultural LESA Model, consult Section 4 of the Instruction Manual.