City of Wheatland

General Plan Background Report

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INTRODUCTION

This Background Report is an analysis of existing physical, social, and economic conditions within the city of Wheatland and its surrounding region. It serves as background information for both the General Plan and the Environmental Impact Report. Information on the following topics is provided:

- Land Use and Community Character
- Transportation
- Economic and Fiscal Conditions
- Housing
- Public Facilities and Services
- Natural and Cultural Resources
- Safety and Noise

This report has been compiled by a multi-disciplinary consulting team headed by Mintier & Associates with assistance from Carstens Consulting, Raney Planning & Management, Ballanti Associates, Bollard & Brennan, Brian Lindblom, CH2M Hill, Civil Solutions, Economic & Planning Systems, Foothill Associates, John Montenero, kd Anderson, Mead & Hunt, Peak & Associates, Robert A. Olson Associates, Terrance E. Lowell & Associates, Vernazza Wolfe Associates, and City of Wheatland staff.

Chapter 1

LAND USE AND COMMUNITY CHARACTER

KEY FINDINGS

- The Yuba County General Plan designates all of the unincorporated land within the Wheatland General Plan Update Study Area as Valley Agriculture. The *General Plan* anticipates replacing this designation with designations that are consistent with the City's designations when the City of Wheatland adopts its updated plan.
- Three distinctive street and road alignments occur within the Study Area (creating interesting and odd parcel configurations at their points of configuration).
- Surface water courses, both natural (rivers, stream and sloughs) and human-made (levees, canals and ditches), provide significant development constraints.
- Wheatland contains a high percentage of older housing stock.
- State Route 65 is the primary access route in the Study Area, providing connections to the Sacramento region to the south and Yuba/Marysville to the north. Wheatland Road provides localized east west access through the Study Area.
- The Union Pacific railroad has an average of 30 high speed trains per day that constitutes a significant constraint to development in terms of a physical barrier.
- The historic commercial core is limited in area and consists of primarily older commercial buildings.
- The relatively flat topography limits the number of important landmarks. However, the most distinguishing landmarks is the water tower, other less prominent landmarks include Pioneer Memorial Hall, Hop Shed, and Hop Kilns.
- Wheatland maintains an impressive array of historically and architecturally significant structures, suggesting that there is an important role for historic architectural precedence in future development within the city.

Downtown Wheatland

1.1 | INTRODUCTION

Land use is an important focus of the General Plan Update. Information in this chapter is vital to understanding how changes in land use can affect growth within the city. This chapter describes the existing land use and community character of Wheatland and the neighboring region. Information used in this chapter has been compiled from the 1980 General Plan, 1991 Zoning Ordinance, historical records, and various other local and regional policy and implementation documents.

City staff and the consultants have performed research and data collection on existing conditions within the Study Area. This chapter is a summary of those findings, and has been divided into eight sections:

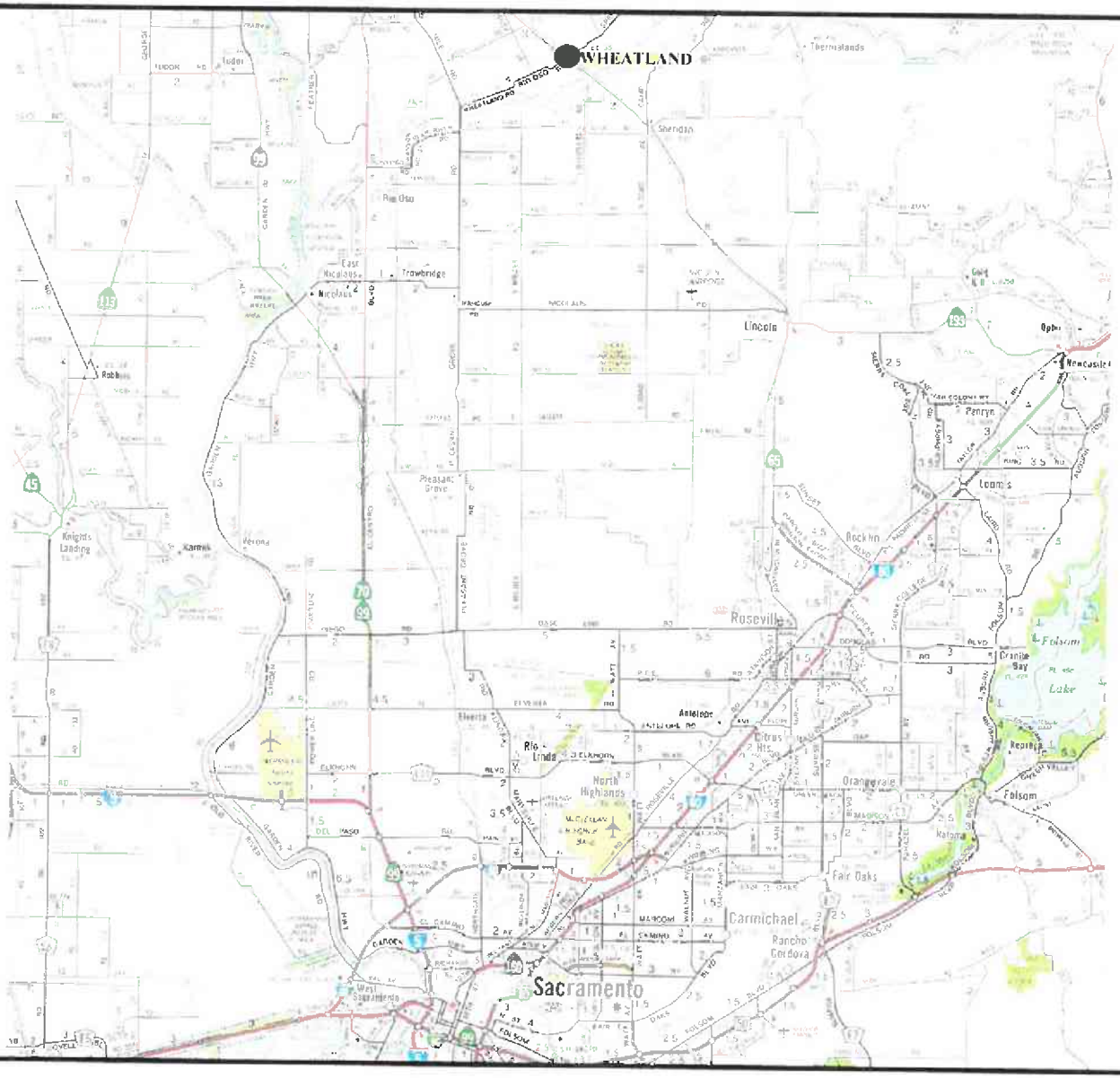
- Existing land use data
- Existing Zoning Ordinance
- 1980 Wheatland General Plan
- Community design analysis
- Sphere of Influence
- Other plans and policies
- SACOG Blueprint workshops

REGIONAL SETTING

Wheatland is located in Northern California's Central Valley along State Route 65 in Yuba County. The city is located approximately one mile north of the Bear River and the tri-county boundary of Sutter, Placer, and Yuba Counties. Marysville (the county seat) and Yuba City, which are both about twelve miles to the north of Wheatland, are the closest cities of significant size. Sacramento is approximately forty miles to the south and Beale Air Force Base is located eight miles to the northeast. Wheatland is also the gateway city to Camp Far West, a recreation area of regional significance. From the city's nineteenth century agrarian roots to the community of today, Wheatland is still valued by its residents for its small town atmosphere and rural setting. Figure 1-1 depicts Wheatland's location within the region and the state.

BOUNDARIES

The city of Wheatland has two political boundaries: the first is the more familiar city limits; and the second is the city's Sphere of Influence. Two other non-political boundaries have been created for the purposes of this General Plan Update (GPU). The first is a Study Area boundary that represents all land to be analyzed in the GPU process. The second is an area of interest boundary that includes all of the land within the Sphere of Influence, as well as lands that are being considered for SR 65 Bypass alternatives. All of the boundaries are shown on Figure 1-2.

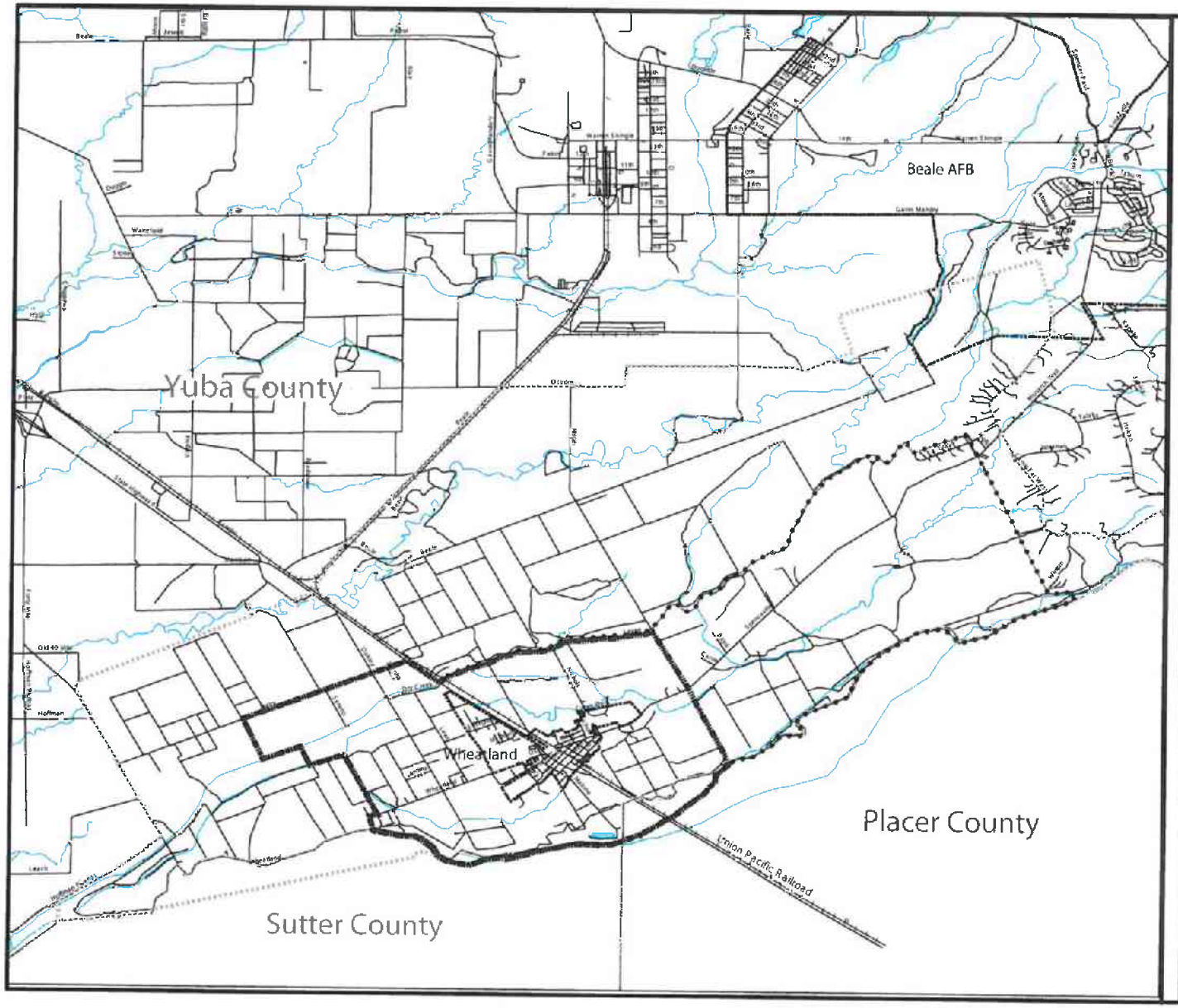


WHEATLAND GENERAL PLAN

LEGEND

Figure 1-1
Regional Map

Sources: American Automobile Association; and Mintier & Associates, 2004



WHEATLAND
GENERAL PLAN

LEGEND

- Study Area
- Sphere of Influence
- Area of Interest

- Waterways
- Railroads
- Roads
- City Limits
- County Line

0 0.75 1.5 2.25 3 Miles

Figure 1-2
General Plan Update
Boundaries

Source: Terrance E. Lowell & Associates, Inc.; Mintier & Associates; May 2004

City Limits

The current (2004) city limits represent all incorporated lands that are governed by the City of Wheatland. The city limits run from roughly Grass Hopper Slough in the north to Sixth Street in the south, and from Wheatland Cemetery in the west to the Wheatland Park subdivision in the east. As of June 2004 the total land area within the city limits is 504 acres, or 0.8 square miles.

Sphere of influence (SOI)

A Sphere of Influence (SOI) is an area designated as the physical boundaries and service area of a local governmental agency, as determined by the applicable Local Agency Formation Commission (LAFCO), and is periodically reviewed and updated. Wheatland's SOI was adopted by the Yuba County LAFCO on June 7, 1995. The boundary borders Dry Creek to the north, the county line to the south, Ace Hardware to the west, and almost reaches Camp Far West Road to the east. The Sphere of Influence currently (2004) encompasses 8,636 acres.

Study Area

The Study Area defines the area within which information has been collected for the General Plan Update process. This boundary is larger than the city limits but smaller than the Sphere of Influence. It includes the area for which the City has interest regarding future developments and their associated impacts on Wheatland. The Study Area runs from Dairy Road in the north to Bear River in the south, and from ACE Hardware in the west (SOI line) to Jasper Lane in the east. The Study Area encompasses approximately 4,650 acres.

Area of Interest

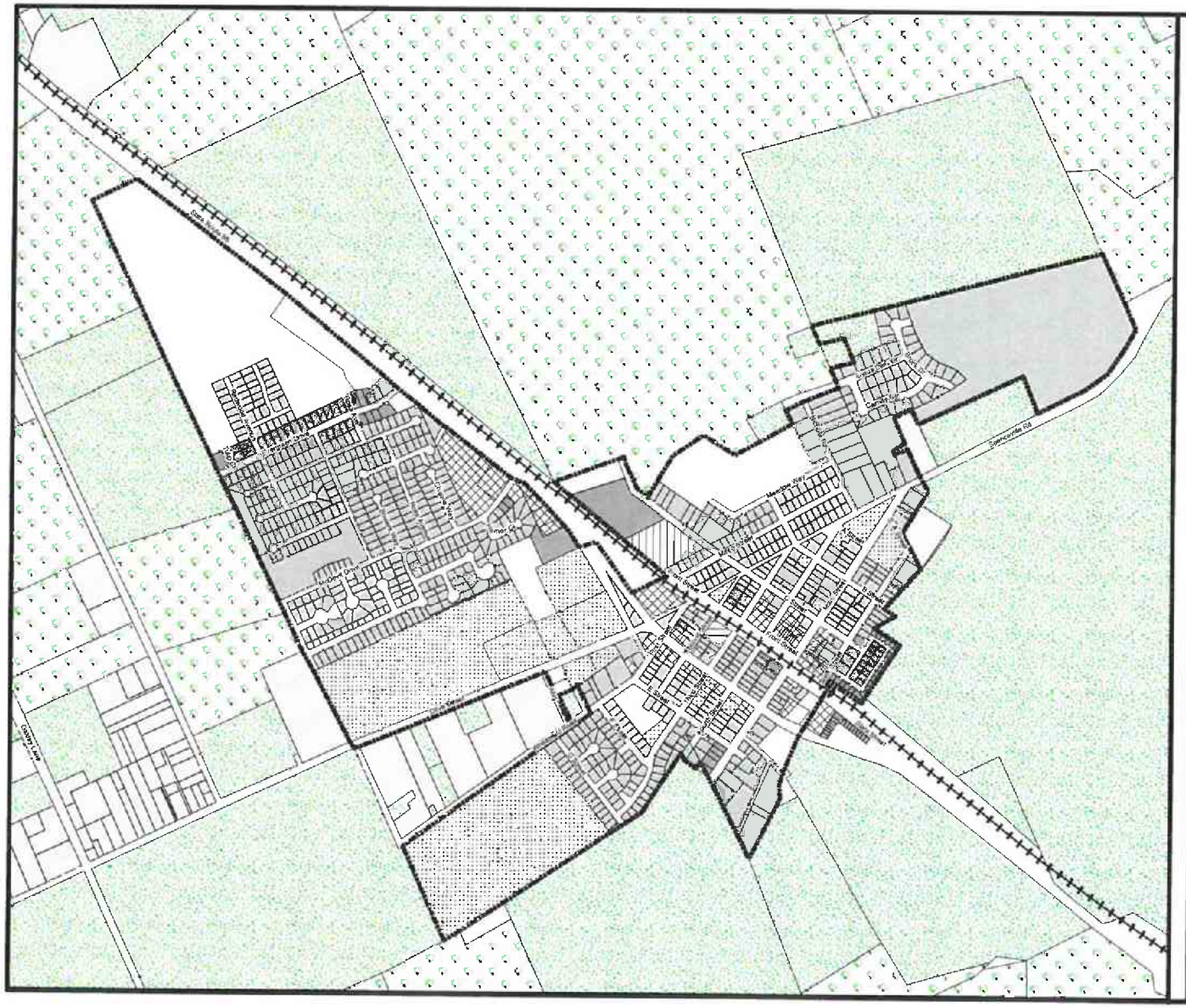
The Area of Interest boundary was established to include all of the land within the Sphere of Influence as well as land that could possibly be included in one of the State Route 65 Bypass alternatives. This boundary runs roughly from Best Slough in the north to the county line in the south, and from Camp Far West Road in the east to Forty Mile Road in the west.

1.2 | EXISTING LAND USE

In 2004 there were a total of 504 acres of land within the city limits. Table 1-1 shows land uses within the city by acreage and percentage, and Figure 1-3 illustrates the land uses. Land uses are identified as single family residential, multi-family residential, commercial, industrial, public, parks, roads and infrastructure, and vacant.

Single Family Residential

Single family residential land is defined as 1 detached house on a single parcel of land. Approximately 207.5 acres of land within the city limits are developed as single family residential. This accounts for approximately 41 percent of developed land citywide. There is an



WHEATLAND
GENERAL PLAN

LEGEND

- Rural Development
- Single Family Residential
- Multifamily Residential
- Commercial
- Light Industrial
- Public
- Park
- Field Crop
- Orchard
- Vacant

- City Limits
- Union Pacific Railroad

Feet
0 500 1,000 1,500 2,000

Figure 1-3
Existing Land Use
May 2004

Source: Terrance E. Lowell & Associates, Inc.; and Mintier & Associates; May 2004

additional 72.81 acres (15 percent) of land that is zoned for single family residential but not yet developed.

Multi-Family Residential

Multi-family residential land is defined as a duplex or larger multi-unit structure on a single parcel of land. Approximately 22.6 acres of land within the city limits are developed as multi-family residential. This accounts for approximately 4 percent of developed land citywide. There is an additional 3.9 acres (1 percent) of land that is zoned for multi-family residential but not yet developed.

Commercial

Developed commercial land uses account for 16.9 acres (3 percent) of the city. There is an additional 6.33 acres (1 percent) of land zoned for commercial uses that are not yet developed.

Industrial

There is one industrial facility located in the center of Wheatland between Second Street and Third Street, adjacent to the Union Pacific railroad tracks. This facility is approximately 0.8 acres and accounts for 1 percent of the city. There are currently no undeveloped parcels that are zoned for industry.

Public

Public lands include developments such as the waste water treatment plant, community centers, and institutional facilities such as schools, police and fire stations, and City Hall. Developed public/quasi-public lands make up 87.7 acres (17 percent) of the total land in Wheatland. There are currently no undeveloped parcels that are zoned public.

Parks

There are currently four public parks in Wheatland (see Section 5.7 for more information) which make up a total of 3.9 acres, or 1 percent of the city.

Roads and Infrastructure

Roads and infrastructure make up a significant portion of Wheatland's total land. There are 81.6 acres (16 percent) of land that are currently developed as roads or infrastructure.

Vacant

Vacant land within the city limits is important when considering development in Wheatland. In 2004 there were approximately 83.0 acres of vacant land within the city (17 percent). Of this, 72.81 acres are zoned single family, 3.9 acres multi-family, and 6.33 acres commercial.

Assuming there are no changes to the existing zoning, the city has a potential holding capacity for 517 additional housing units (448 single and 69 multi-family).

TABLE 1-1
ACREAGES OF EXISTING LAND USES*

Land Use Designation	Acres	Percent Total
Single Family Residential	201.92	40%
Multi-Family Residential	22.54	4%
Commercial	16.94	3%
Industrial	0.79	1%
Public	87.71	17%
Parks	9.45	2%
Roads and Infrastructure	81.63	16%
Vacant	83.04	17%
Total	***504.02****	***100%***

* Based on GIS database information, 2004.
Sources: Terrance E. Lowell and Associates; and Mintier & Associates, 2004

CURRENT (2004) AND FUTURE DEVELOPMENT ACTIVITY

Figure 1-4 shows potential development activity for Wheatland. Each project is identified on the map by a number. Table 1-2 provides a description of each parcel's size, its zoned use, and its associated number.

TABLE 1-2
CURRENT (2004) AND FUTURE DEVELOPMENT ACTIVITY

Map Number	Parcel / Project Description
1.	47.5 acre lot, zoned R-1, with 210 projected single-family dwelling units
2.	7.6 acre commercial lot
3.	0.3 acre commercial lot
4.	6.6 acre commercial lot, with a pending application for grocery, retail, and fast food
5.	2.24 acre lot, zoned R-4, with a potential for 40 attached dwelling units
6.	12 acre lot, zoned R-1, with a potential for 54 dwelling units
7.	2.2 acre commercial lot
8.	The Jones Ranch project has been approved by the City, and is pending annexation. 140+/- acres zoned R-1, 442 single-family lots 9 +/- acres zoned R-2, 56 two-family dwelling units 5 +/- acres zoned R-3, 55 multi-family dwelling units 2 +/- acres zoned C-1
9.	The Heritage Oaks Estate project has been approved by the City and is pending annexation. The project contains 5 lots: 181+/- acres zoned R-1, 590 single-family dwelling units 7 +/- acres zoned R-2, 80 two-family dwelling units 6 +/- acres zoned R-3, 108 multi-family dwelling units 6.5 +/- acres zoned C-3 for self storage 14 +/- acres zoned C-3, 120,000 square feet of commercial and an 80-room hotel

Sources: Terrance E. Lowell and Associates, 2004; Carstens Consulting, 2004; and Mintier & Associates, 2004.

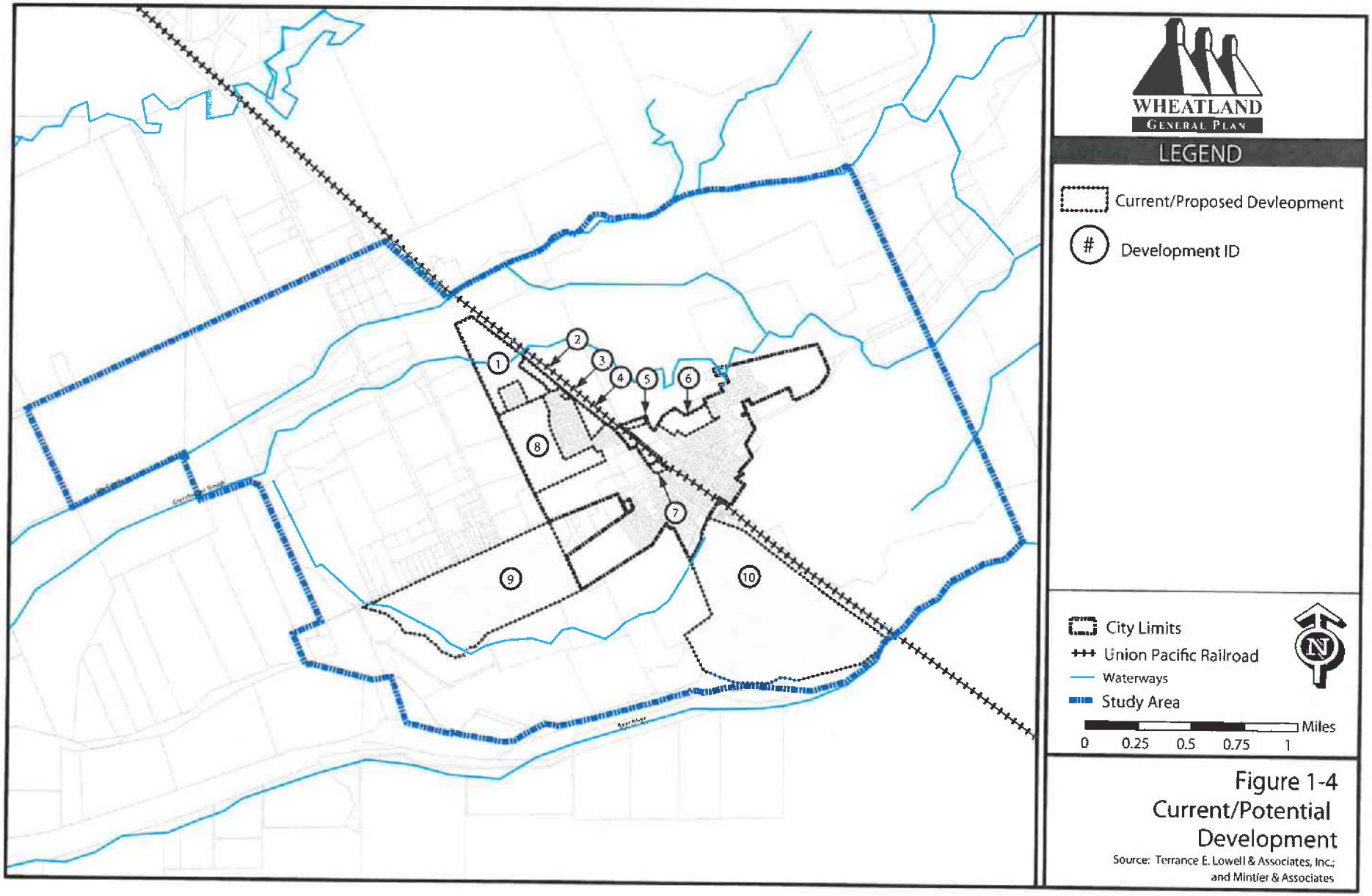


Figure 1-4
Current/Potential Development

Source: Terrance E. Lowell & Associates, Inc.; and Mintier & Associates

TENTATIVELY APPROVED DEVELOPMENT PROJECTS

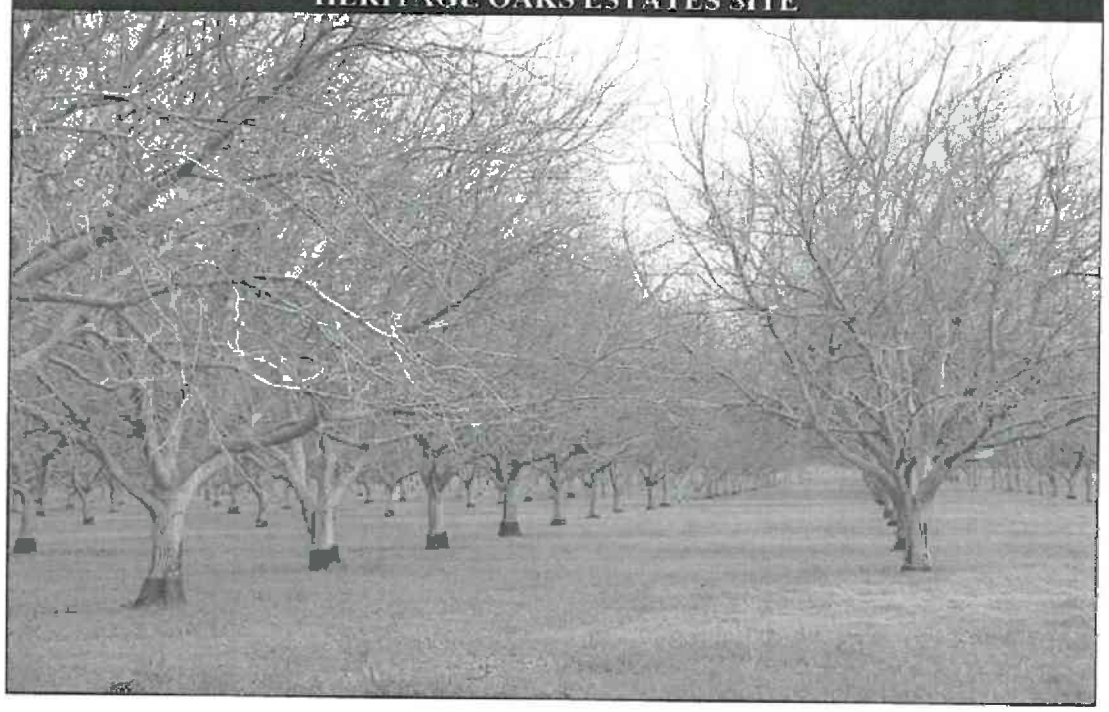
There are three major projects that have recently been approved for annexation into the city of Wheatland. These include Heritage Oaks Estates to the east, Jones Ranch to the south, and the centrally located "island" between the new Junior High School and Wheatland High School.

Heritage Oaks Estates

The Heritage Oaks Estates property is located directly south of the city on the west side of State Route 65 and was approved by the City Council in November 2003 for annexation, General Plan land use designations, and prezoning. Annexation of the properties is currently pending with the Yuba County Local Agency Formation Commission (LAFCO).

The project consists of 234 acres, with approval of 590 single family lots, 80 two-family units (40 structures), 108 multi-family units, a 120,000 square foot commercial center, an 80-room hotel, and a self-storage facility on 6.5 acres. Construction may begin in 2006 on the single family homes, with anticipated completion of all phases in 14 years.

PHOTO 1-3
HERITAGE OAKS ESTATES SITE

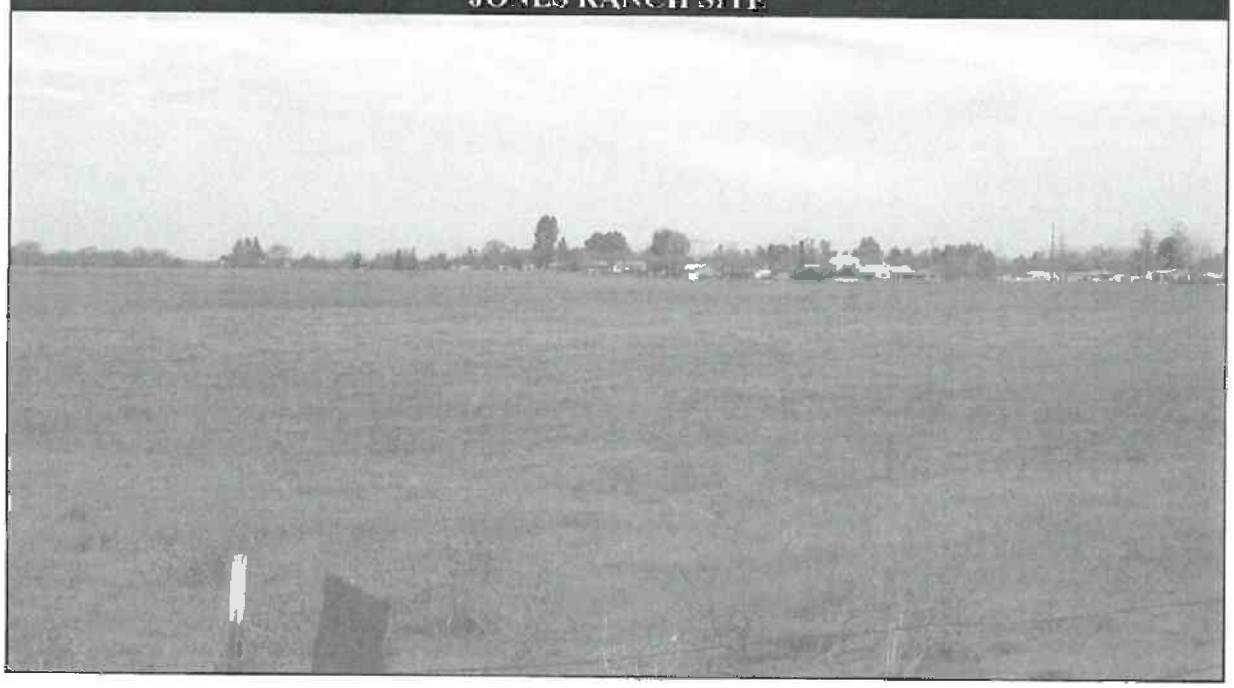


Source: Mintier & Associates, 2004.

Jones Ranch

Jones Ranch is located just west of the city and Wheatland Union High School on the south side of Wheatland Road. The project was approved by City Council in December 2003 for annexation, General Plan land use designation, and pre-zoning. Jones Ranch was approved for 442 single-family lots, 56 two-family units (28 structures), 55 multi-family units, and 2 acres of neighborhood commercial. Construction may start in 2006 with an anticipated completion within 10 years.

PHOTO 1-4
JONES RANCH SITE

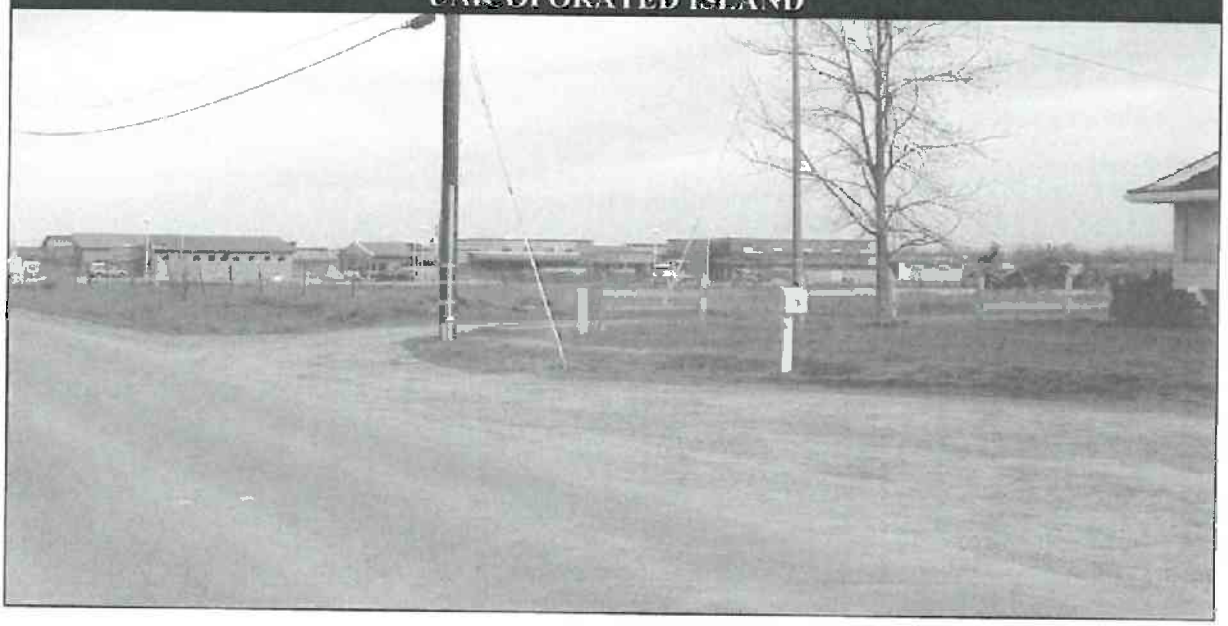


Source: Mintier & Associates, 2004.

Unincorporated Island

The unincorporated island is located between the new Junior High School and Wheatland High School in the western part of the city. The site currently (2004) contains 8 developed single-family residences. The land is projected to hold an additional 50 single-family units within the next 10 years. Photo 1-5 shows a view of the unincorporated island looking towards the new Junior High School. The island is included in the Jones Ranch annexation.

PHOTO 1-5
UNICOPORATED ISLAND



Source: Mintier & Associates, 2004.

FUTURE DEVELOPMENT PROJECTS

There are a number of development projects in Wheatland that are in the planning phase. The following sites/projects are either undeveloped infill parcels and/or have submitted formal applications with the City for development.

Almond Estates

Almond Estates is a 47.5 acre parcel located in the north part of Wheatland along State Route 65 (Figure 1-4, site number 1). It is zoned R-1 with a development potential for 205 single family lots. The site has existing constraints regarding drainage and access to State Route 65.

Commercial Property

There are 7.6 acres zoned for C-3 commercial, located just south of the Almond Estates site along State Route 65 (Figure 1-4, site number 2). This site also has constraints regarding drainage and access to State Route 65.

Wilson's Settlers Village

Wilson's Settlers Village is a proposed shopping center located at the northwest corner of State Route 65 and McDevitt Drive (Figure 1-4, site number 4). The site is 6.6 acres and zoned C-3 commercial development. The applicant has submitted for a 24,000 square foot supermarket, 18,000 square feet of retail, and a 3,400 square foot fast food restaurant with a drive-up window.

1.3 | EXISTING ZONING

Under State law, cities and counties have broad latitude in establishing zoning standards and procedures. Outside of a general requirement for open space zoning and several special requirements governing residential zoning, State law establishes only broadly the scope of zoning regulation and sets minimum standards for its adoption and administration. One key requirement, however, is that zoning be consistent with the general plan.

ZONING DISTRICTS

Wheatland's *Zoning Ordinance*, which was adopted in April 1991, has 11 basic classifications and 3 combining districts that regulate building density, intensity, and type of use. Figure 1-5 shows the current 2004 zoning for the city and the following paragraphs describe the basic purposes of each zone, as well as property development standards for each. The *Zoning Ordinance* should be consulted for specific questions regarding permitted, accessory, and conditional uses.

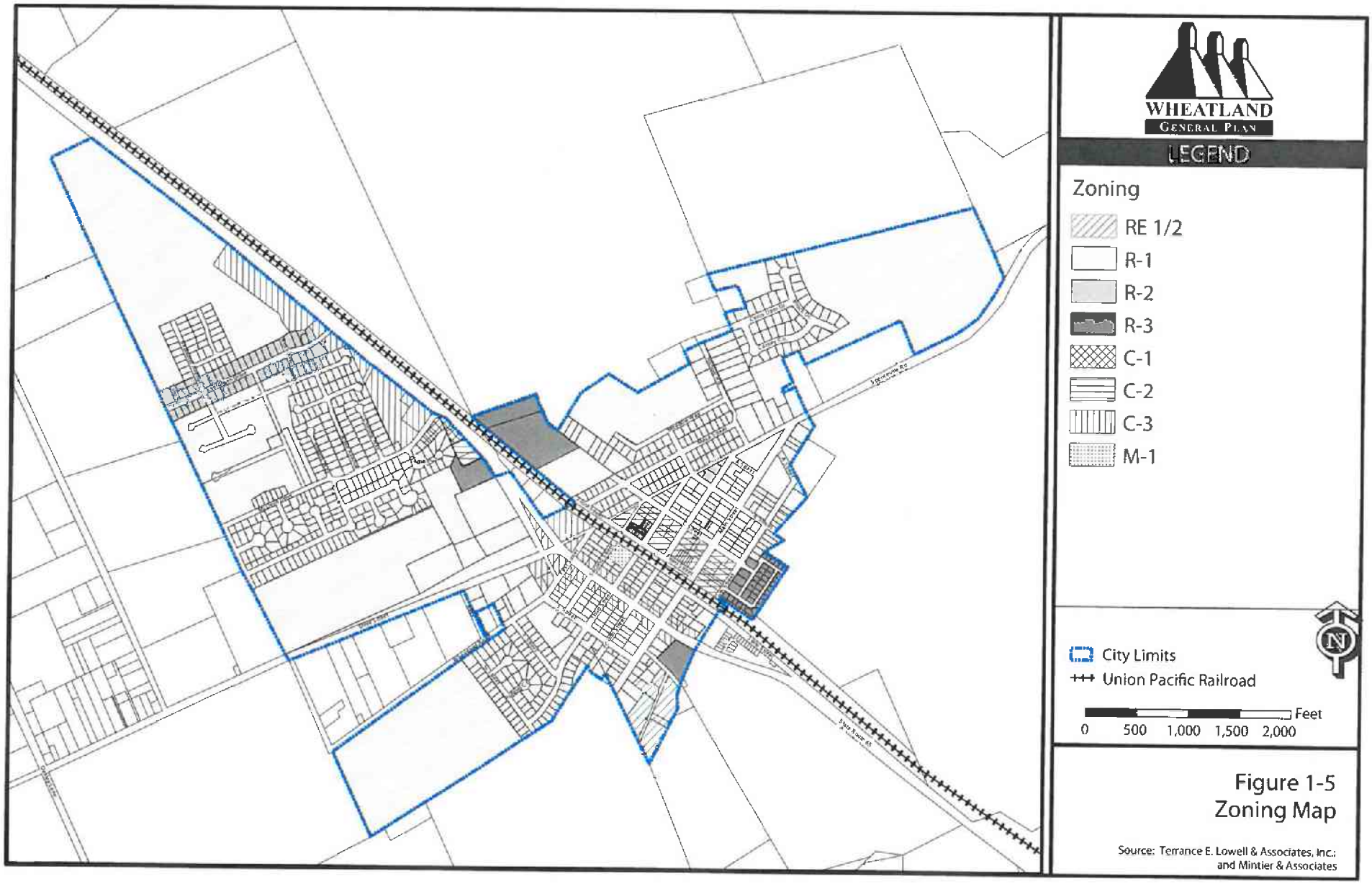


Figure 1-5
Zoning Map

Source: Terrance E. Lowell & Associates, Inc.; and Mintier & Associates

A-E Agriculture-Exclusive

The A-E zone is a Yuba County zoning designation intended to be applied in fertile areas in which agriculture the predominant use and in which the protection of this use from encroachment of incompatible uses is essential. This zoning is designated to the land surrounding Wheatland. No land within the city is classified A-E.

RE½ Residential Estates

The RE½ district provides for very low-density areas for single-family residences. In particular, it is intended to permit a reduction in streets, public utilities, and related public services not possible in higher density residential areas. Currently (2004), no land within the city is classified RE½.

R-1 Single-Family Residential

The R-1 district provides areas for single-family dwellings. It is intended to accommodate single-family homes together with the schools, parks, open space, and other public services required for a traditional neighborhood environment. The R-1 district covers over 60 percent of the land in the city, more than any other zoning district.

R-2 Two-Family Residential

The R-2 family residential district designates land suitable for family and duplex dwellings. The R-2 district is consistent with the medium density residential designation of the Wheatland General Plan.

R-3 Multi-Family Residential Limited

The R-3 multi-family residential district is intended to accommodate a limited number of multi-family residences and departments that are designed to maintain, preserve, and protect the character of development in surrounding areas. It is consistent with the high-density designation of the General Plan.

C-1 Neighborhood Commercial

The C-1 district provides locations for convenience shopping facilities serving the residential neighborhoods. It is intended to support commercial uses that meet the daily needs of neighborhood residents.

C-2 Retail Commercial

The C-2 district is designed to stabilize, improve, and protect the commercial characteristics of Downtown Wheatland, which is the only part of the city designated C-2. It is intended to provide a complete and intensive commercial center.

C-3 Heavy Commercial

The C-3 district provides for retail, wholesale, highway, and heavy commercial uses, along with amusement, lodging, warehousing and distribution, maintenance, repair and servicing activities. The minimum parcel size is two acres. The district is intended to be applied in the immediate vicinity of arterial streets, freeways, or the service/frontage drives.

M-1 Light Industrial District

The M-1 classification is applied to areas where light manufacturing, wholesaling, storage, and transfer functions can serve the community's need for industrial activities that are not offensive to nearby commercial and residential uses. The M-1 zone is consistent with the light intensity industrial land use designation of the General Plan.

M-2 Heavy Industrial

The purpose of the M-2 district is to provide appropriate sites for manufacturing and processing uses which, by their nature, require locations buffered from other uses so as not to create nuisances or have deleterious effects upon neighboring properties. Currently (2004), no land within the city is classified M-2.

F-W Floodway

The following or F-W district is intended to be applied to lands which lie within stream or river or drainage channels and to adjacent areas which are periodically inundated. The F-W provisions are intended to provide measures for the protection of life and property in the floodway areas. Currently (2004), no land within the city is classified F-W.

F-P Floodplain Combining District

The floodplain or F-P combining district is intended to be combined with principal districts in areas other than floodway areas which have been inundated by overflow floodwaters in the past and which may reasonably be expected to be inundated by such floodwaters in the future. The floodplain zone is intended to limit the use of areas subject to such inundation and flooding to protect lives and property from loss, destruction, and damage due to floodwaters and to the transportation by water of wreckage and debris. Currently (2004), no land within the city is classified F-P.

PD Planned Development Combining District

The PD combining in district is intended to be applied to parcels of land which are suitable for, and of sufficient acreage to contain, planned development projects for which development plans have been submitted and approved. Currently (2004), no land within the city is classified PD. Application for establishment of a PD district include the following:

- A map or maps showing topography of the land; street system and lot design; areas

proposed to be dedicated or reserved for parks, playgrounds, parkways, school sites, public or quasi-public buildings, and other such uses; areas proposed for commercial uses, off-street parking, multiple and single family dwellings, and all other uses proposed to be established within the district; and proposed locations of buildings on the land.

- General elevations or perspective drawings of all proposed buildings and structures other than single family residences

- Other data and information which may be deemed necessary by the Planning Commission for proper consideration of the application

A Agriculture Combining

The agricultural combining district can be applied to any zoning district and allows for agricultural uses as long as the requirements of the original zoning district are met. Currently (2004), no land within the city is classified A.

IND-PK Industrial Park Combining

The purpose of the IND-PK combining district is to provide a location for the development of administrative, research, warehousing, and manufacturing establishments of a non-nuisance type, which require an environment of a higher quality than that normally associated with an industrial district. The IND-PK combining zone is intended to be combined with the C-3 Heavy Commercial, M-1 Light Industrial, and M-2 Heavy Industrial principal zones. Currently (2004), no land within the city is classified IND-PK.

ZONING BY ACREAGE

Table 1-6 shows a breakdown of acreages by zone. Currently (2004), 78 percent (391.3 acres) of the city is zoned for residential uses, 6 percent (31.4 acres) is zoned for commercial uses, and 0.2% (1.0 acre) is zoned for industrial uses.

TABLE 1-6 2004 ZONING BY ACREAGE		
Zone	**Acres**	**Percent total**
A-E	0.00	0%
RE 1/2	0.00	0%
R-1	366.04	72.6%
R-2	8.94	1.7%
R-3	16.32	3.2%
C-1	1.24	0.2%
C-2	7.80	1.6%
C-3	22.34	4.4%
M-1	1.02	0.2%
M-2	0.00	0%
FW	0.00	0%
F-P	0.00	0%
PD	0.00	0%
A	0.00	0%
IND-PK	0.00	0%
Total	***422.68****	***100%***

* This total does not include roads, railroads, or infrastructure

Sources: City of Wheatland Zoning Ordinance, 2003; and Mintier & Associates, 2004.

1.4 | EXISTING GENERAL PLAN

The general plan expresses a community's long-term goals for development and incorporates public policies relative to the distribution of future public and private land uses. California State law requires that each city must have an adopted general plan "for the physical development of the city and any land outside its boundaries which bears relation to its planning."

Wheatland's General Plan was adopted in 1980, with updates made to the Land Use (1986), Transportation and Circulation (1986), and Housing (1992) elements. This section describes the General Plan, updated elements, and key policy issues.

1980 GENERAL PLAN

The city of Wheatland's City Council adopted the second comprehensive general plan in the city's history in December 1980. Preparation of the 1980 General Plan was guided by an eight-member Wheatland General Plan Committee, with technical planning and funding assistance from the Sacramento Regional Area Planning Commission (SRAPC). It updated the city's first general plan (adopted in 1971). The 1980 Plan was divided into five major sections: Introduction; Background; Elements of the Plan; Implementation; and Appendices. The bulk of the document was devoted to the Elements of the Plan, which consisted of 16 separate elements, as follows:

- Land Use
- Transportation and Circulation

- Housing
- Open-Space
- Conservation
- Parks and Outdoor Recreation
- Noise
- Seismic Safety
- General Safety
- Water and Waste Management
- Water Quality
- Fire Protection
- Public Schools
- Public Facilities and Grounds
- Employment and Economic Development
- Government and Administration

All except the first three of these elements remain in effect. The Land Use Element was replaced by the 1986 Land Use Element, the Circulation Element was replaced by the 1986 Circulation Element, and the Housing Element was replaced by the 1992 Housing Element. These elements are described later in this section.

The Introduction to the 1980 General Plan outlines a series of assumptions and summarizes the basic goals and concepts presented in the Plan. Table 1-4 shows the assumptions underlying the plan and Table 1-5 lists the goals by category.

TABLE 1-4
1980 GENERAL PLAN ASSUMPTIONS
CITY OF WHEATLAND 1980 GENERAL PLAN

#	Assumption
1.	By 2000, the population of the county will increase to 59,000.
2.	By 2000, the population of Wheatland will be 5,000.
3.	Beale Air Force Base is an unknown factor at this revision.
4.	All the land within the present city limits could be utilized in full by 2000.
5.	The residential density in 2000 will be similar to that existing today.
6.	There will be an increased need for more adequate and a greater variety of services.
7.	The economy of the county will increase.
8.	A new concept in the use of energy by the State and Federal governments has lowered the priority of freeway construction in favor of public transportation.
9.	By 2000, there will be a substantial traffic increase generated outside the community and passing through the city on State Route 65. Due to the isolation of the Wheatland area from services of public transportation, reliance on private transportation will still be a major consideration by 2000.

Source: City of Wheatland General Plan, December 1980.

TABLE 1-5
1980 WHEATLAND GENERAL PLAN GOALS

Category	Goal
Land Use	1. To create an orderly pattern of future community development
Open-Space	1. To retain the highest quality agricultural lands for agricultural use. 2. To provide open-space through the preservation of prime agricultural and recreational areas. 3. To develop park and recreation areas which will provide recreational opportunity for all of the city's residents and will be readily accessible from all parts of the city. 4. To provide parks and recreational programs which will satisfy the needs of all age and social groups. 5. To enhance and protect the environmental and ecological qualities of the creeks, sloughs, and river.
Transportation and Circulation	1. To provide a street and highway system which will provide convenient and safe access to all parts of the community and region. 2. To solve traffic problems related to congestion of city streets, safety of school children, and intra-city circulation. 3. To provide public transportation between Wheatland and other metropolitan areas.
Housing	1. To create an orderly pattern of housing development. 2. To create a housing environment which will make Wheatland a safe, comfortable place in which to live and work. 3. To expand the supply of good housing in Wheatland for people of all economic segments. 4. To retain the existing semi-rural atmosphere and low-density characteristics of the Wheatland urbanized area. 5. To renew or condemn substandard homes in order to bring all city housing up to standard.
Water and Waste Management	1. To provide a high quality and efficient water system. 2. To provide an adequate and efficient sewerage system. 3. To eliminate the pollution of water resources. 4. To protect the city's inhabitants and property from the hazards of flooding. 5. To provide the residents of Wheatland adequate and efficient solid waste disposal service.
Public Facilities and Grounds	1. To provide high quality public services and facilities. 2. To make Wheatland a safe place in which to live and work. 3. To improve social and cultural opportunities. 4. To encourage use of bookmobile, school, and County libraries.
Employment and Economic Goals	1. To develop a business climate which can provide all necessary retail and support services. 2. To provide a workable tax rate. 3. To develop light industrial and commercial activities which will attract capital from outside the community. 4. To achieve local stabilized employment.
Social and Environmental Goals	1. To develop programs to foster community pride and identity. 2. To provide medical service within the community. 3. To remodel the Central Business District into a turn-of-the-century "old town."

Source: City of Wheatland General Plan, December 1980.

In addition to the goals shown in Table 1-5, the 1980 General Plan presented a series of eight major concepts related to land use. They are as follows:

1. Most of the growth of the city will occur on vacant lands in the northeast and western portions of the city. This growth will result in a population expansion which will require:

    a. A community and neighborhood park with continued development of the city park. Each new subdivision of more than 45 homes will provide play areas or expand existing recreational areas.

    b. Increased commercial services in the expanded CBD and in the commercial area along State Route 65.

    c. A neighborhood street collector system to provide adequate pedestrian and vehicular circulation within the community.

    d. An expansion of the existing public utilities to include an updating of the water system.

2. The plan recommends that State Route 65 (SR 65) be relocated to the west of the City as a freeway and that an interchange be provided which would connect with Main Street.

3. The plan recommends a residential pattern that is predominantly low-density and single-family.

4. Open-space and conservation features are recommended in the plan primarily along the prime agricultural soils and along the waterways in the Study Area. The plan demonstrates that there is adequate land within the existing city limits to accommodate the expected 2000 population. It recognizes that some areas outside the city limits may be developed for urban purposes; however, it is not necessary to utilize prime agricultural lands for urban uses. The plan recommends the prime agricultural lands remain in this land use.

5. The plan recommends that the existing CBD remain the major center of commerce in the city. This area should be able to increase its retail sales capacity without major structural modifications nor geographic expansion. Additional retail sales outlets are recommended for the existing highway commercial zone along SR 65. Retail facilities in these areas could provide convenience services to the residents in the western portion of Wheatland as well as to the traveling public.

6. A portion of the area between the present SR 65 and the UPRR is recommended for eventual conversion from existing residential uses to future commercial uses. Although this area is predominantly residential now, many of the residential structures are aged and in poor structural condition. The location of an existing industry (Rice Mill) does not encourage major new residential investment in the neighborhood. The living quality of this area is diminished by its proximity to the railroad and the SR 65. Creation of a small

industrial complex at this location would provide an increased tax base for the City. The area is central and easily accessible to prospective employees and could be served by SR 65. It is unlikely that any other more suitable lands are, or will become, available for industrial uses in the city. The industrial area is suggested north of the city limits bordering Rancho Road, South Beale Road, and SR 65. This area could be served directly by the new freeway. It would provide an employment base for the City, but would not generate City tax revenues, nor require City services.

7. The plan recommends that public facilities be provided to meet the needs of the citizenry. A neighborhood park, with related facilities, is presently being developed on the site now owned by the City on "C"' Street in Wheatland. A senior citizens' housing project is currently being constructed on private land adjacent to the park site.

8. The 1980 General Plan recommends that the existing zoning of the county land adjacent to the city boundaries be changed to an A-1R classification. Presently, this land is zoned A-l. This is not a restrictive type of zoning, as it allows for a variety of land uses. Even though this land is not within the city boundaries, use of it has a direct effect upon the city. It is important for the land which surrounds the city to develop so that incompatible land uses do not occur.

As these concepts and the assumptions and goals listed in Tables 1-4 and 1-5 suggest, the 1980 General Plan called for future development to be confined to the city limits, which have not changed since then. The 1980 General Plan also declared a strong commitment to preservation of the open space and agricultural land surrounding the city.

1986 UPDATED LAND USE ELEMENT

In October 1986 the City Council adopted the Land Use Element and Environmental Impact Report, which updated the land use element from the City's 1980 General Plan. As with the 1980 General Plan, the 1986 Land Use Element included a set of ten basic assumptions around which the element was developed. Table 1-6 shows these assumptions, which in most cases are simply modified assumptions of the 1980 General Plan.

1986 Land Use Element Goals and Implementation Strategies

The policy content of the 1986 Land Use Element is presented as a series of nine goals, each of which is followed by a set of implementation strategies stating the City of Wheatland's formally adopted policy concerning a range of land-use related issues.

Goal 1: To preserve the small town character, peaceful and quiet atmosphere, agricultural surroundings, and friendly community spirit presently existing in Woodland.

Implementation Strategies:

1. Encourage careful land use planning and growth management.

2. Avoid excessive growth spurts at any given time beyond the City's ability to provide services in an orderly fashion. Use historic average annual growth rates as a guideline.

3. Work with Yuba County to establish and maintain agricultural preservation zoning in the farming areas surrounding the city until such time as these are needed for development.

4. Encourage and provide for infilling of areas within or close to the city to avoid a sprawling leapfrog development pattern.

5. Screen and regulate businesses, industry, and other land uses with the potential to produce excessive glare, noise, vibration, traffic, or odors to insure minimal adverse impact on the community.

TABLE 1-6
1986 GENERAL PLAN LAND USE ELEMENT ASSUMPTIONS

#	Assumption
1.	The growth rate for the Wheatland area will be in keeping with historic trends at 2%-2.5%, which is somewhat lower than the previous (1980) General Plan projection of 5%. At the historic rate, the population of Wheatland will be 2,421 by the year 2005.
2.	Beale Air Force Base will continue to play a major role in Wheatland's economy.
3.	Sufficient land exists within the city limits to accommodate projected growth to the year 2000.
4.	The residential density in the year 2000 will be similar to that existing today.
5.	There will be an increased need for all types of City services.
6.	The economy will continue to grow, particularly adjoining counties (Placer and Sutter).
7.	The State Route 65 bypass to the west of Wheatland will not be built in the next five years.
8.	By the year 2000, there will be a substantial traffic increase from outside the community passing through Wheatland on State Route 65. Due to the isolation of the Wheatland area from services of public transportation, reliance on private transportation will continue to be a major consideration throughout the next 20 years.
9.	The ability to provide public services and infrastructure (roads and utilities) for existing and new development will continue to be a major financial concern of City decision-makers for the next 20 years, necessitating development fees, grant applications, and careful economic growth planning to insure long-term City solvency.
10.	The quality of life stemming from the community's small town atmosphere, slow pace, recreational opportunities, good schools, and clean safe environment (due to good police and fire protection) will continue to be a major concern of the citizenry for the indefinite future.

Source: City of Wheatland General Plan Land Use Element and Environmental Impact Report, October 1986.

Goal 2: To maintain good police and fire protection.

Implementation Strategies:

1. Make sure ongoing cost of providing municipal services does not exceed available revenues projected in connection with new developments. Economic impact analysis may be required in some cases prior to project approval, as well as mitigation in cases of severe projected economic impact.

2. Establish appropriate funding mechanisms to insure adequate revenues.

3. Balance residential growth with commercial and industrial development to insure adequate tax base for services.

Goal 3: To improve local recreation opportunities.

Implementation Strategies:

1. Establish a recreational district to fund and manage organized and supervised recreation programs.

2. Work cooperatively with the schools to insure maximum recreational use of existing school ground facilities.

3. Work cooperatively with the schools to explore joint funding and management of a community swimming pool.

4. Construct a community hall for multiple uses including social functions, dramatic presentations, concerts, senior meals, receptions, bingo games, etc.

Goal 4: To improve the roads, water system, sewer system, and drainage facilities of the city.

Implementation Strategies:

1. Require new development to contribute capital costs of new infrastructure development.

2. Explore all funding sources including State and Federal grants to improve infrastructure.

3. Correlate water and sewer costs with projected operational and facilities replacement costs.

4. Explore additional water sources for the city.

5. Correlate sewer capacity with projected growth rates anticipating marginal costs of plant expansion.

Goal 5: To upgrade the appearance of the city.

Implementation Strategies:

1. Encourage individual property owners to maintain and beautify their properties.

2. Sponsor community volunteer fix-up/clean-up campaigns.

3. Establish an architectural review committee for commercial and industrial properties, housing tracts, and apartment complexes.

4. Require skirting for mobilehomes, screening for outside heating and air conditions units, and other standards necessary to maintain community aesthetics.

Goal 6: To maintain reasonable tax rates.

Implementation Strategies:

1. Make sure new developments pay their fair share of infrastructure construction costs.

2. Make sure residential growth is balanced with commercial and industrial development to insure continuation of an adequate tax base to fund necessary infrastructure and City services.

Goal 7: To improve local shopping opportunities.

Implementation Strategies:

1. Provide sufficient commercial zoned properties with necessary access exposure and utilities to accommodate projected need.

2. Minimize hindrances and obstacles to business establishment (unnecessary red tape).

3. Conduct market surveys to provide information to prospective businesses to assist with feasibility assessments.

Goal 8: To maintain a manageable growth rate.

Implementation Strategies:

1. Do not zone or annex excessive land for projected uses beyond what is necessary to accommodate historic growth patterns. (Note: 20% excess is considered normal to allow for free-market competition due to the availability of alternative sites.)

2. Correlate subdivision approval with projected need (using historic growth rates as a guideline) and job availability to ensure balanced growth.

3. Make sure new development pays its fair share of capital costs for necessary infrastructure.

Goal 9: To improve the climate for industry and jobs.

Implementation Strategies:

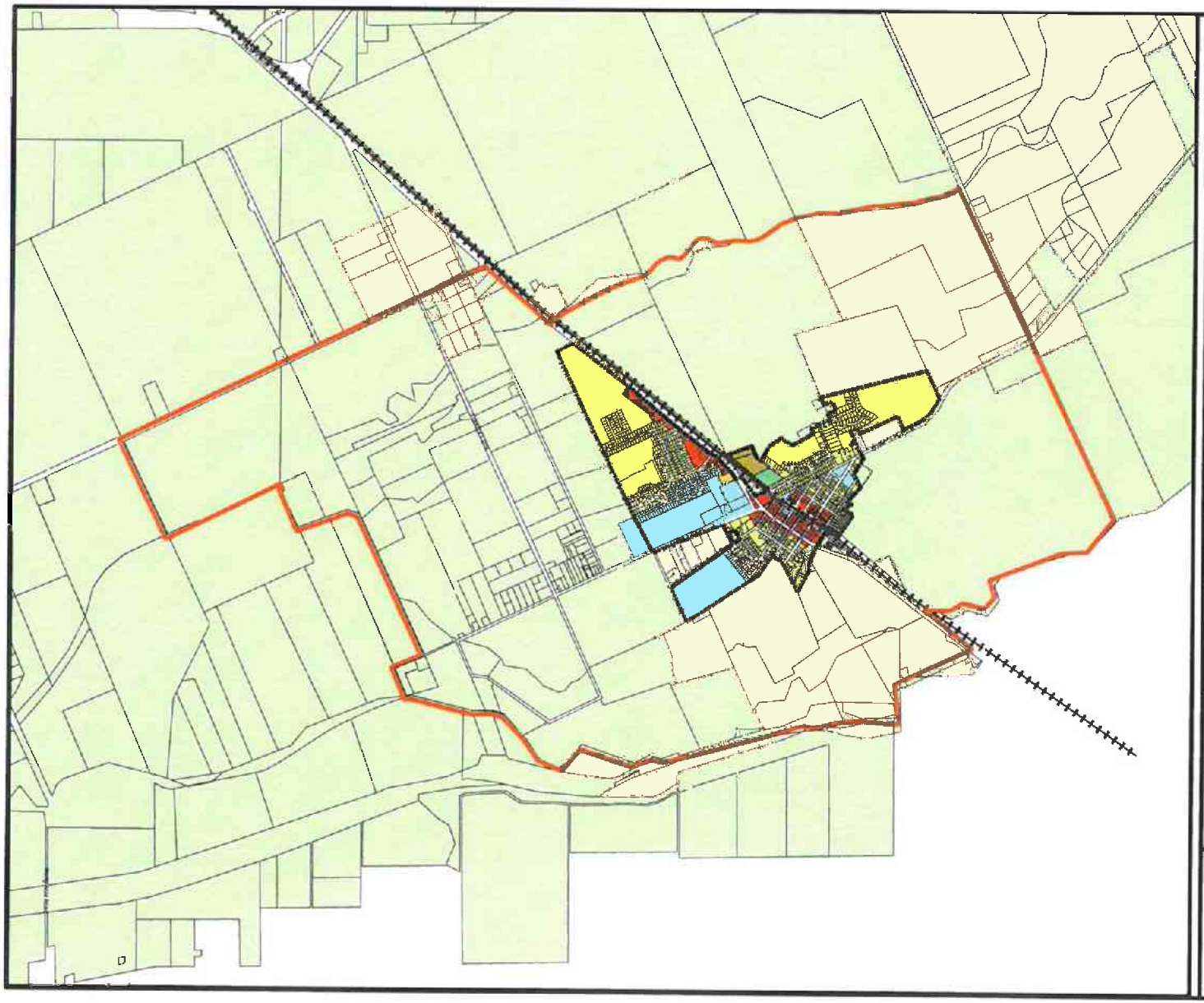
1. Designate appropriate areas for industry with necessary utilities and access.
2. Cooperate with county-level economic development efforts.
3. Convey image of acceptance and cooperation to new industry.
4. Have helpful information available to industries examining Wheatland as a potential site.

1986 Land Use Element Land Use Map and Land Use Categories

The patterns of future development in Wheatland are governed by the distribution of allowable land uses and densities as shown on the General Plan Land Use Element Map (see Figure 1-6), adopted as part of the 1986 Land Use Element. The Land Use Map, which was last revised in September 1990, shows ten land use designations. Table 1-7 summarizes the basic standard for each of these designations.

In areas with existing development, the designations shown on the Land Use Element Map are largely reflective of existing use patterns, while designations for vacant land were influenced by their proximity to the existing and future circulation network. Commercial designations are shown for the downtown area and along State Route 65. In addition to existing industrial uses, future industrial uses are planned for the west side of State Route 65 at the north end of town. The map designates Suburban Residential uses in the area just outside of the city limits west of town on the north side of Wheatland Road. Low Density Residential uses are designated in the peripheral parts of the town on all sides. Other designations (Medium and High Density Residential, Public, and Parks) are scattered throughout the city, while Agricultural designations surround the town on all sides.

Table 1-8 shows how the respective acreage within each designation shown on the Land Use Map as well as the percentage of the existing city area covered by each as of January 1996. As the table indicates, approximately two-thirds of the land within the city limits is designated for residential development, almost all of which is set-aside for low-density uses.



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General Plan Designations

- Agriculture
- Suburban Residential
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Industrial
- Public
- Park

City Limits
Union Pacific Railroad

Feet
0500 1000 2000

Figure 1-6
General Plan Designations

Source: Terrance E. Lowell & Associates, Inc.; and Mintier & Associates

TABLE 1-7
LAND USE DESIGNATIONS
1986 LAND USE ELEMENT

Category	Designation	Residential Densities*	Examples of Appropriate Activities
Residential	Suburban	0.5 to 3.0 du/ac	Residential; single family detached homes, without buildings. Large gardens. Small-scale livestock such as chickens, a horse, or a few goats. Semi-improved lots.
	Low Density	2.0 to 5.0 du/ac	Residential; single family detached homes. Townhouses with open space, mobilehome parks. No animals except pets on parcels less than one acre. No non-residential uses except churches, schools, and necessary utilities.
	Medium Density	5.0 to 10.0 du/ac	Residential; duplex, townhouses, mobilehome parks. Small pets only. No non-residential uses except churches, schools, and necessary utilities.
	High Density	9.0 to 18.0 du/ac	Multi-family residential; apartments with more than three families per structure. Small pets only. Some non-residential uses, if compatible (such as professional offices).
Commercial	Commercial	Not/applicable	Retail sales, restaurants, banks, real estate, professional offices, entertainment facilities, auto sales and service, motels, personal services, convenience shopping, some outdoor sales. Some high-intensity residential, where compatible (by use permit). Also service stations and similar uses.
Industrial	Light Intensity	Not/applicable	Light manufacturing, small warehouses, welding and auto body shops, laboratories, wholesaling; municipal utilities, corporation yards, waste disposal areas; heavy machinery sales and service. No residential uses.
	Heavy Intensity	Not/applicable	Large agricultural products processing plants, warehouses, transportation (rail) depots/loading facilities, heavy manufacturing, mineral extraction, chemical or paint processing, and similar uses. No residential uses.
Public	Public	Not/applicable	Schools, hospitals, municipal buildings, libraries, transportation facilities, auditoriums or cultural centers, post offices.
Parks	Parks	Not/applicable	Small neighborhood playlots, City parks with and without improvements. No other uses.
Agricultural	Agricultural	Parcels 5 acres and over	Orchards, row crops, pasture, livestock, dairies, poultry, produce stands. No agricultural chemical, machinery repair or manufacture unless small-scale, and by use permit only. No residential use besides one dwelling unit on parcel; no industrial or commercial use except as directly related to farm operation.

* Allowable dwelling units/acre densities can be converted to population densities by using a multiplier of 2.7 persons per dwelling unit. The element has no provisions for floor area ratios for commercial or industrial land uses.

Source: City of Wheatland Land Use Element and Environmental Impact Report (October 1986)

TABLE 1-8 ACRES BY LAND USE DESIGNATION 1986 LAND USE ELEMENT			
Category	**Designation**	**Acres**	**Percent of Total**
Residential	Low-Density	270.7	61.8%
	Medium-Density	8.4	1.9%
	High-Density	20.5	4.7%
Commercial	Commercial	47.9	10.9%
Industrial	Light-Intensity	1.5	0.3%
	Heavy-Intensity	0.0	0.0%
Public	Public	85.2	19.4%
Parks	Parks	3.9	0.9%
Agricultural	Agricultural	0.0	0.0%
	Total	***438.1****	***100.0%***

* The 2004 city acreage is greater (504 acres) because of annexations made since 1996. This number includes infrastructure.

Sources: City of Wheatland Land Use Element and Environmental Impact Report (October 1986); Crawford Multari & Starr, January 1996.

1986 TRANSPORTATION AND CIRCULATION ELEMENT

The 1986 Transportation and Circulation Element, which was adopted in August 1986, replaced the Transportation and Circulation Element from the 1980 General Plan. The Element describes the existing movement of people and goods and seeks to provide for future conditions. It recognizes the interdependence of automobile, rail, bicycle, and pedestrian circulation systems, and relates them to the needs of the other General Plan elements.

The stated purpose of the Transportation and Circulation Element is to suggest ways to maximize effective use of the resources of the city's circulation system by anticipating the consequences of development decisions. Accordingly, the Element affords a high level of flexibility in terms of its policy statements to provide a means for a continuing balance between land use patterns and the movement of people and goods.

Transportation and Circulation Element Goals, Policies, and Proposals

The policy content of the 1986 Transportation and Circulation Element is presented as a series of six goals. Each goal is followed by a series of policies stating the City of Wheatland's formally adopted policy concerning the maintenance and future development of its transportation system. Following are these goals and policies.

Goal 1: To coordinate elements of the city circulation system with county, state, and federal transportation systems.

Policies:

1. Wheatland supports the use of available funding through county, State, and Federal sources to finance regional transportation improvements.

2. To accommodate projected growth within Wheatland on State Route 65, plans for residential, commercial, and industrial growth along that arterial will be coordinated with Caltrans planning staff.

3. Advance planning should consider widening State Route 65 within the Wheatland urban area to four lanes with a continuous left turn lane and/or left turn pockets in the commercially designated areas.

Goal 2: To minimize circulation and transportation costs to the city while providing reasonable access to and from the city as well as to facilitate efficient internal movement.

Policies:

1. Development should not be permitted that will significantly increase traffic congestion unless mitigating measures can be provided.

2. New development shall pay the cost of improvements necessary to maintain adequate traffic circulation service levels in areas affected by the development.

3. The existing arterial street system within Wheatland will be preserved and maintained.

4. Unless off-site circulation facilities are financed by the developer, residential development will be channeled toward committed circulation and growth patterns so as to avoid substantial public investment in new collector streets or major arterials.

Goal 3: To provide a circulation system in and adjoining commercial areas which promotes safety and minimizes traffic congestion.

Policies:

1. Ingress and egress to shopping centers will be carefully designed with special emphasis toward promoting traffic safety. Left hand turning movements into and out of commercial areas should be minimized, especially near intersections and where turning lanes are not present.

2. Prior to additions to commercial areas, the City Council will be satisfied that all applicable traffic engineering principles are considered and utilized to the fullest extent possible.

3. In no case should commercial development substantially increase traffic on the existing street system unless there is an implementable program to effectively mitigate traffic impacts.

4. Commercial strip development with its accompanying traffic congestion and cross traffic must be carefully analyzed for traffic safety and ease of traffic flow. Limited (shared) access configurations should be explored where possible.

Goal 4: To provide a safe and practical circulation system.

Policies:

1. Sidewalks, paths, and appropriate crosswalks should be located close to all schools and along all principal streets leading to schools and other areas with significant pedestrian traffic.

2. All street intersections shall be designed and maintained to assure adequate sight distance for approaching vehicles.

3. Private recreational and accessory vehicles should be parked off the public right-of-way and out of the front building setback in order to promote traffic safety and good visibility.

4. At least two access routes should be provided for all new residential developments designed for more than ten dwelling units. Access routes to major residential developments should be designed to avoid placing excessive traffic on roads through pre-existing residential neighborhoods.

5. All new subdivision roads shall conform to City standards and be reviewed by the City Engineer for road widths, vertical and horizontal curves, and sustained grades.

6. Alternative emergency access roads shall generally be required in developments greater than 40 units and shall be reviewed by the Fire Department.

7. New street names should not duplicate those street names already in use in the Wheatland area.

8. Private streets may be permitted when they are deemed to be in the public interest, constructed consistent with City street standards, and their maintenance is guaranteed.

Goal 5: To provide a circulation system that utilizes a broad range of transportation modes.

Policies:

1. Alternate modes of transportation, including bus, bicycle and walking, should be encouraged where feasible to reduce demands upon the street system.

Goal 6: To provide convenient parking spaces in the downtown area that are available and accessible to shoppers, employees, and others as they are needed.

Policies:

1. Continue to require parking spaces to be provided in connection with development projects in sufficient number to accommodate the anticipated need created by the development. Where different adjacent uses generate peak parking demand at different times, parking areas can be shared.

Along with these policies and programs, the 1986 Transportation and Circulation Element contains both short- and long-range proposals for the physical improvement of the city's road network. Of the two short-range proposals, the most important calls for all arterial and collector streets in the city to include curbs, gutters, and sidewalks. The only long-range proposal is to relocate Route 65 west of the city and to develop to freeway standards.

1992 HOUSING ELEMENT

The most recently-adopted element of the Wheatland General Plan is the 1992 Housing Element which was adopted in September 1992. It updated and replaced the City's 1984 Housing Element.

The 1992 Housing Element is divided into four sections. Section I reviews the previous housing element and the City's progress in meeting the goals outlined in that element. Section II analyzes the housing needs of the community, looking specifically at population and employment trends, household characteristics and special needs households, housing stock and housing market characteristics, and projected housing needs over the course of the planning period (i.e., 1989 to 1996). Section III examines the governmental and non-governmental constraints to housing development within the city, and Section IV puts forth a housing program and policies plan that addresses the specific needs of the community while considering and alleviating the constraints to housing development within the city.

In conjunction with its 1992 Housing Element, the City of Wheatland researched and analyzed a variety of mechanisms used by other local jurisdictions to maintain and further expand the supply of affordable housing. According to the Element, while Wheatland had already enacted and used some of these programs, the City had no experience with others. The Element recognized that forecasted development for the Wheatland area of over 500 housing units within the next five to ten years dictated the need for a firm action plan to provide housing for all income levels.

1995 SPECIFIC PLAN

In the early 1990's, increasing development pressure in and around Wheatland prompted the City to consider several limitations to the growth anticipated in the City's General Plan, including the following:

- The City's sewage treatment plant was near capacity;
- Drainage issues needed to be addressed in the northern half of the city if development were to proceed in an orderly fashion;
- Issues of funding ongoing services to newly developed areas had to be reviewed; and
- Adequate water supply and traffic circulation measures had to be implemented if Wheatland was to responsibly handle substantial additional growth within its existing city limits.

In order to address these issues, the City determined that the most cost effective and expeditious approach would be to prepare a specific plan. The 1995 Specific Plan covers most of the large vacant developable properties within roughly the northern half of the city, but does not take into consideration development of unincorporated land that might be appropriate for future annexation and development. The decision to focus on the city limits was made in part because of the availability within city limits of a substantial amount of developable land. The City was also concerned that any major expansions of the City's boundaries would require a new wastewater treatment plant and major new arterial roads. The Specific Plan was adopted in May 1995 and called for development of an additional 850 housing units, the vast majority of which were single-family units.

1.5 | COMMUNITY DESIGN ANALYSIS

In order to better understand and comprehend any pattern of human settlement, it is useful to identify both the constituent parts and their interrelationships that have served to define the evolution of the area. The particular language of urban or community design is tailored explicitly to this task and is useful to the professional and lay person alike in describing existing conditions. It also identifies key elements and relationships within the built environment for the purposes of planning for future growth and development.

Three key terms are basic to this understanding. The term "Urban form" refers to the distinguishing physical features of an urbanized area, including both natural factors and elements of the built environment that are determinants of the geography – the form or shape – of the development pattern. The overall urban form is in turn further defined and differentiated into smaller units or districts, characterized by differences in building type, historical periods, parcel sizes and ownership, and other distinctive features that delineate the shape and extent of the settlement pattern. The configuration of this settlement pattern may be determined by any number of factors, including but not limited to physical barriers to development such as rivers, floodplains, and steep topography, or factors that provide the structure for urban growth as discussed below.

"Urban structure" refers to the overall physical framework of the built environment that provides the basic structure for the development pattern. This structure consists primarily of the transportation and other infrastructure that serves to facilitate and subsequently define the historic patterns of urban growth, and provide the internal and external linkages that constitute the pattern of settlement and development. Urban structure also refers to the constellation of specialized development nodes that provide essential services to specific geographic areas within the larger settlement pattern, ranging in scale from regional centers, traditional downtowns, neighborhood centers, and even to the more fine-grained structure of schools, parks, and other public spaces.

"Urban Character" is a reflection of the aesthetic and social expression of the built environment – the particulars of the architecture, the landscape, and the patterns of human use and activity – that constitute the unique attributes and "places" that provide meaning in the lives of the residents. In brief, this expression is an aggregate "image," and consists of elements such as key landmarks, distinctive buildings and landscapes, public spaces, unique neighborhoods, and other features that are the essential cultural expression of a community.

URBAN FORM

The following discussion sets forth the various factors that have given shape to the specific urban form of Wheatland. Some of these factors are very evident today, whereas others have receded in importance over time. In the aggregate, these factors will continue to influence and shape the future growth pattern of Wheatland, warranting careful attention and consideration in the preparation of the update of the City's General Plan.

Johnson's Ranch

The pattern of land division which is the precursor of the contemporary settlement pattern in the Wheatland area began in 1822 when California came under Mexican rule as a result of gaining independence from Spain. As the British and Americans were allowed to become Mexican citizens, they acquired large tracts of land granted to them by Mexico, initially dominating the business and commercial affairs of the region. Land grants in California were first granted by Mexican governors. John Sutter, who initially established land holdings that included much of what is now Yuba County, eventually acquired more holdings than Mexican law permitted and, as a result, sublet parts of his estate to other settlers.

Wheatland falls within the center of a land grant that dates to 1844 when Don Pablo Guttierez, a Mexican who had been in the employ of Sutter, obtained a grant of five leagues on the north side of Bear River, now known as the Johnson grant. The Guttierez grant, dated December 22, 1844, and initially known as Rancho de Pablo, was sold at auction a year later by Sutter following the death of Guttierez. William Johnson and Sebastian Kyser, who settled there the same year, purchased the grant for $150. After the purchase, the grant was divided with Johnson taking the east half and Kyser the west.

Rancho de Pablo soon became known as Johnson's Ranch, and for several years after 1845 was well known as the first settlement reached by overland immigrants after the difficult Sierra Nevada crossing. Considered to be the western terminus of the Overland Emigrant Trail, Johnson's Ranch served as a base for immigrants to recuperate and re-provision, and in 1847 was the base from which survivors of the Donner Party were rescued.

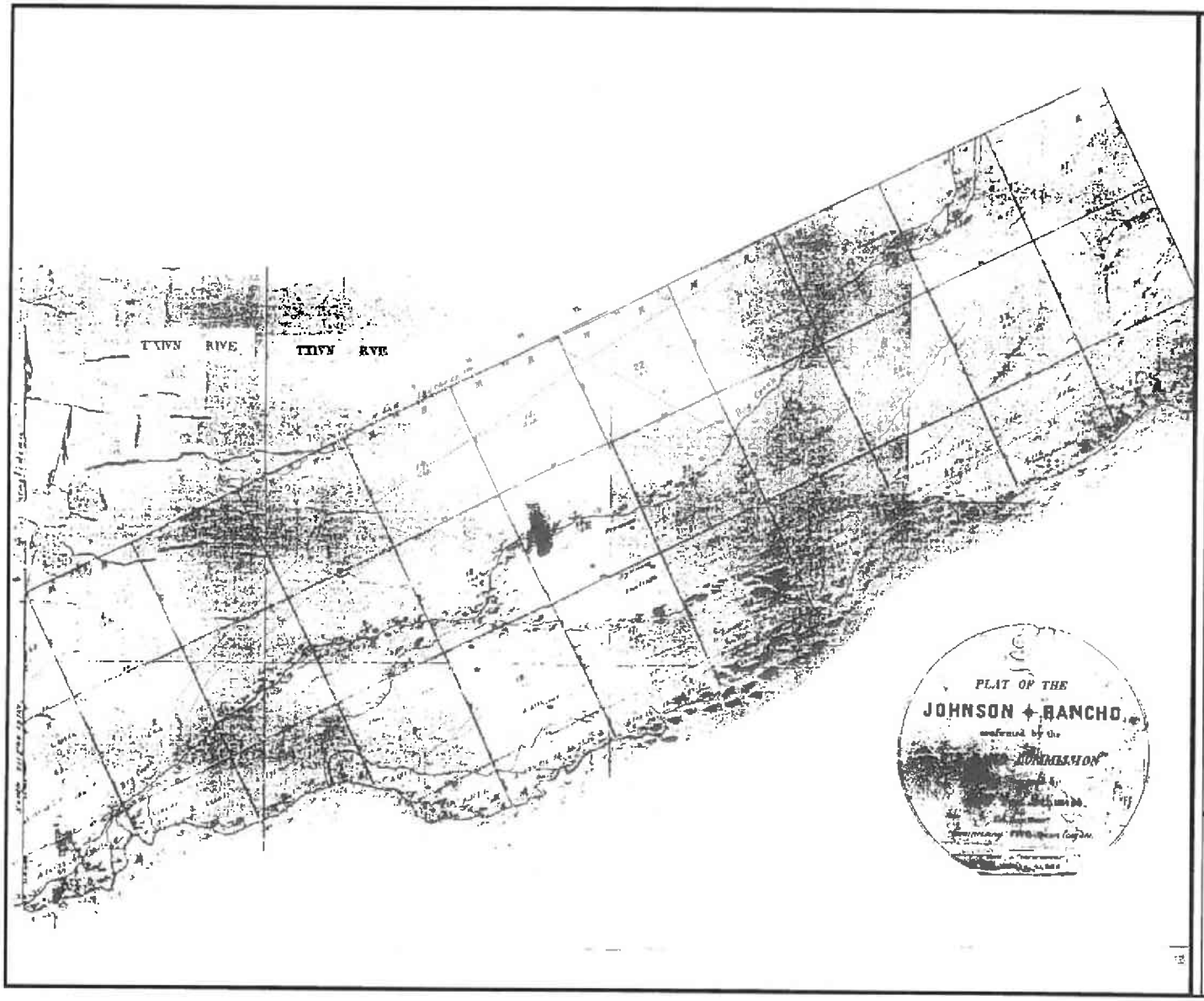
The boundaries of the Ranch are still visible in the pattern of land division and use over 150 years later as shown in Figure 1-7. The approximate boundary of the Ranch is defined by the Bear River (south), Forty-Mile Road (west – in its north-south alignment), Dairy Road (and its easterly extension – north), and the confluence of the Bear River and Camp Far West Reservoir (east). The entire Sphere of Influence and Study Area are contained within this historic Ranch boundary. Note that the road and parcel pattern within the Ranch are generally parallel or perpendicular to the original external boundary lines.

As shown in Figure 1-8, the pattern of land division outside the Ranch boundary is in accordance with the uniform system of land division created by the 1805 Public Land Survey System. This system of land division consisted of major divisions into Range and Township designations, as well as finer-grained divisions into "Sections" consisting of 640 acres or a square mile in area. The Homestead Act was passed in 1862 and the process of land division in the west started in earnest, including the lands adjacent to Johnson's Ranch. In contrast to these lands, the roads and parcels contained within the area defined by the pre-existing Ranch boundary are predominately aligned approximately 25 degrees counterclockwise to the Public Land Survey System.

Original City Plat

The town of Wheatland was originally laid out in 1866. Figure 1-8 shows this original city plat. Rather than follow either the Public Land Survey System grid or the predominant orientation within the Johnson's Ranch boundaries, this initial grid street system was perpendicular/parallel to the railroad line and was completed to Wheatland in 1866 as described below. As a result, the street pattern of the historic core of the city is rotated approximately 25 degrees counterclockwise off the predominant road and parcel pattern within the Study Area, and some 50 degrees counterclockwise from the north-south alignments of the Public Land Survey System.

The blocks in the downtown area are rectangular, approximately 200-250 feet by 400 feet, and laid out in a traditional grid pattern. The historic core of the city consists of an area bounded by A Street on the east, E Street on the west, 1st Street on the north, and 6th Street on the south. Due



WHEATLAND
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Figure 1-7
Plat of the Johnson Ranch (no date)

Sources: EIP, 1995; and Mintier & Associates, 2004

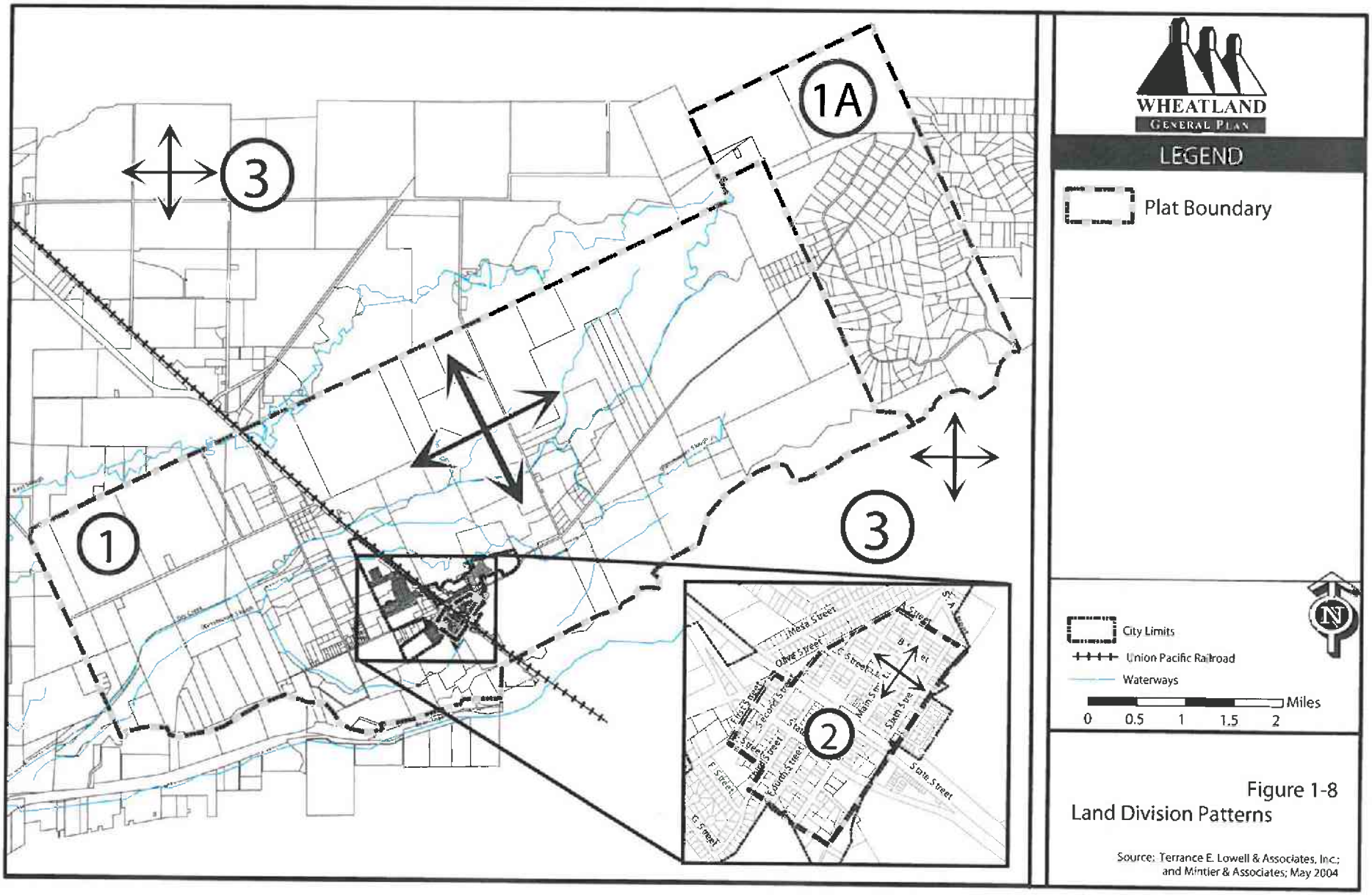


Figure 1-8
Land Division Patterns

Source: Terrance E. Lowell & Associates, Inc.; and Mintier & Associates; May 2004

to the particular geometry and geography of the city, these streets define an area containing approximately 18 blocks. These blocks are divided into irregularly sized parcels, although most of the older lots are 50-feet wide.

Natural and Physical Features Influencing Urban Form

In terms of ecological factors, the Study Area falls within the Lower Sonoran Zone. The area is historically characterized by a Savannah landscape consisting primarily of native grasslands interspersed with valley oak and riparian corridors. Willows, blackberry, and other riparian species still occur along Bear and Dry Creeks, Grasshopper Slough, and other remnant slough channels. The dominant annual grasses such as wild oats, brome grasses, and fescue are dense during the winter and early spring, but dry up rapidly after the season of annual precipitation.

Surface hydrology and the fluvial processes of erosion and deposition are central to the character of the landscape and are readily apparent throughout much of the Study Area. The Dry Creek-Bear River valley is primarily a level floodplain, with the city of Wheatland occupying an upland erosional remnant between the two watercourses. As shown in Figure 1-9, Bear River, Dry Creek, North and South Grasshopper Slough, Best Slough, and a host of smaller unnamed sloughs constitute natural edges and barriers within the pattern of human settlement and land use, as well as providing important visual features within the Study Area. Much of the Study Area falls roughly between the Bear River on the south and Dry Creek on the north, with Grasshopper Slough meandering through the central portion of the area. Unnamed remnant slough channels, shown on the USGS quad, also drained the area in recent times.

The bottomlands along the Bear River, Dry Creek, and Grasshopper Slough are depositional lands, and are especially fertile as a result of continual flooding. Historically, Dry Creek and Grasshopper Slough were reported to be miles wide and the adjacent country was flooded to a depth of from one to four feet. In extreme instances, the downtown area was flooded, but usually floodwaters did not inundate the town. Flooding continues to present the most serious and pervasive physical constraint to development in the Study Area. As part of flood control, the U.S. Army Corps of Engineers improved levees along the Bear River and Dry Creek, and flows were diverted out of Grasshopper Slough into Dry Creek. Residents recollect that Grasshopper Slough was a major watercourse before this diversion occurred.

Topographic variation is quite modest throughout the Study Area, ranging from approximately 60' elevation where Dry Creek crosses the west boundary to 120' elevation at a pronounced hilltop along the east boundary. The city of Wheatland ranges from 70-85 feet in elevation, and most of the Study Area slopes gently from east to west, with an elevation change of only 20 feet in approximately four miles. As a result, there are no significant topographic features that dominate the visual landscape, and in areas with tree cover and/or buildings, all but the most immediate foreground views are obscured.

Agricultural and Ranching Influences

Due to the fertile land along rivers and creeks, the Wheatland area was one of the first regions in the county to undergo a conversion to agriculture. During the 1860s through 1880s, Wheatland

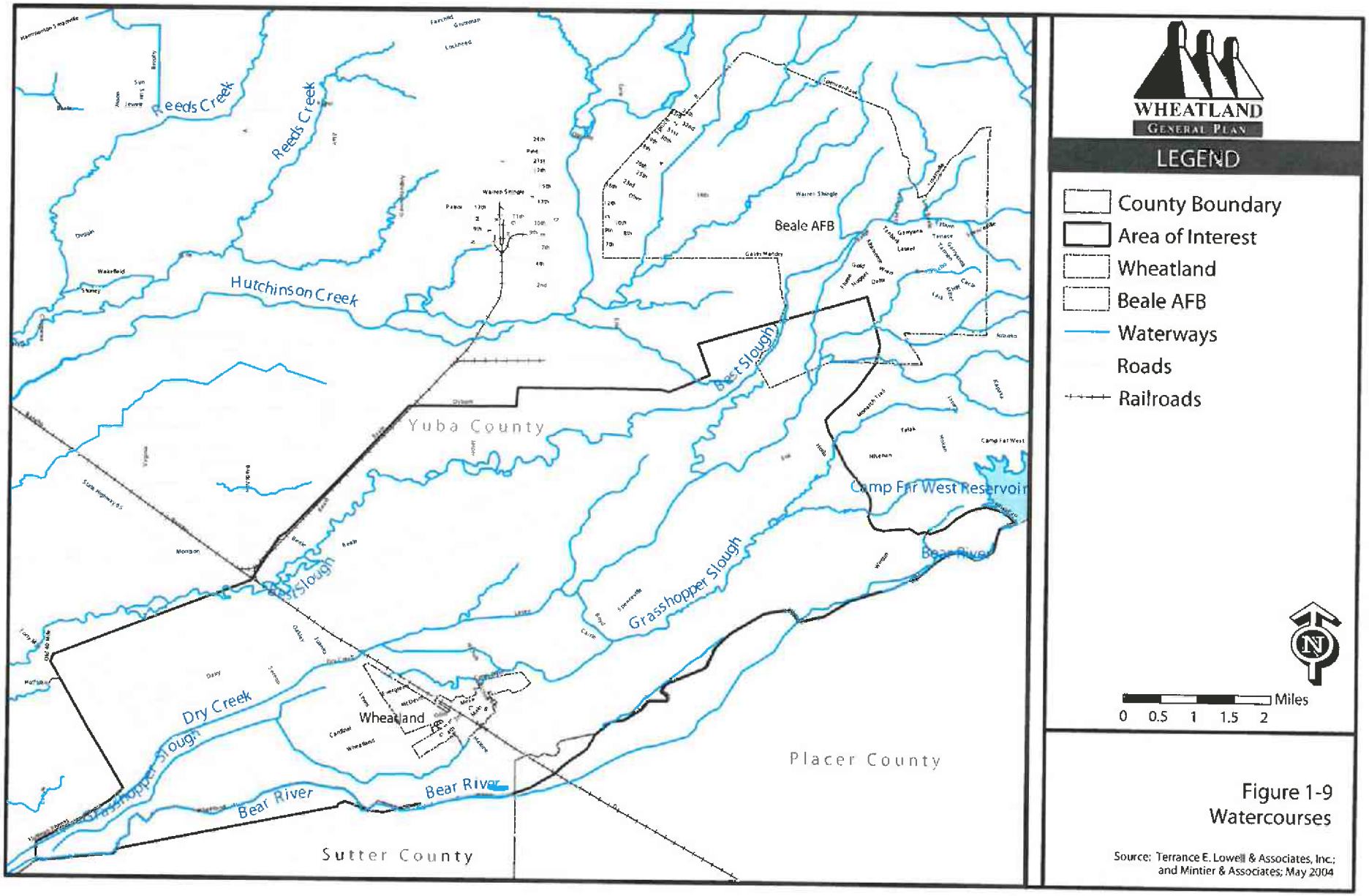


Figure 1-9
Watercourses

Source: Terrance E. Lowell & Associates, Inc.; and Mintier & Associates; May 2004

was a significant agricultural trading center concentrating on wheat, potatoes, and barley. Hops replaced these crops in the 1890s, and by the 1920s Wheatland was known for having the largest independently owned hop ranch in the world. In the late 1920s frequent slumps in the hops commodity markets caused the landowners and growers to turn to fruits and vegetables. Fruit and nut orchards soon replaced hops in importance. During the 1930s and early 1940s peaches overshadowed the hop industry, and in recent years the peach industry has given way to almonds, walnuts, and rice.

Lands surrounding the present day city continue to support agricultural pursuits. Over 90 percent of the Study Area is rural and in some form of agricultural production. Agricultural parcels range in size from 13 to nearly 400 acres, and create a decidedly rural character for Wheatland and the Study Area. Figure 1-10 shows the generalized pattern of agricultural uses based on a 2003 aerial photograph of the Study Area.

In addition to the system of levees that protect both agricultural and urbanized lands, the Study Area also contains a system of canals and ditches, as shown in Figure 1-9. These ditches and canals, along with the meandering sloughs, create a fine-grained system of barriers to development, and constitute natural edges and barriers that can serve to differentiate and define neighborhood units.

Post World War II Development Pattern

The city of Wheatland's development pattern remained relatively stable from the early 1900's to the 1950's. Wheatland's first post-war subdivision was built in 1953 when Charles Nichols developed his property bordering the northeastern part of the city. Ten homes were the first housing development project within Wheatland. The city's rate of commercial and residential development has been slow relative to the growth rates of nearby areas such as Marysville/Yuba City and particularly south Placer County. Over 78 percent of the city's housing was built prior to 1960 and only 14 percent was built between 1975 and 1990.

Prominent subdivisions in Wheatland include Westgate, the Sunset Valley Duplexes (formerly known as Town & Country Gardens and Wheatland Meadows), Settlers Village, and Sunrise Wheatland (The Hylands). In contrast with the grid pattern of streets in the downtown, these subdivisions use cul-de-sacs and curvilinear streets characteristic of post-WWII development across the entire United States. The city also has some multi-family development along Sixth Street, east of the Union Pacific rail road. Recent development projects are described in Section 1.2, Existing Land Use.

URBAN STRUCTURE

In addition to the factors discussed above, there is a second constellation of factors that constitutes the skeletal framework, the structure that supports the settlement pattern and its accompanying urban form. These factors, including roads, rail lines, and other infrastructure, as well as public and quasi-public facilities, provide the nodes and corridors that will continue as key determinants in the future growth pattern of Wheatland.

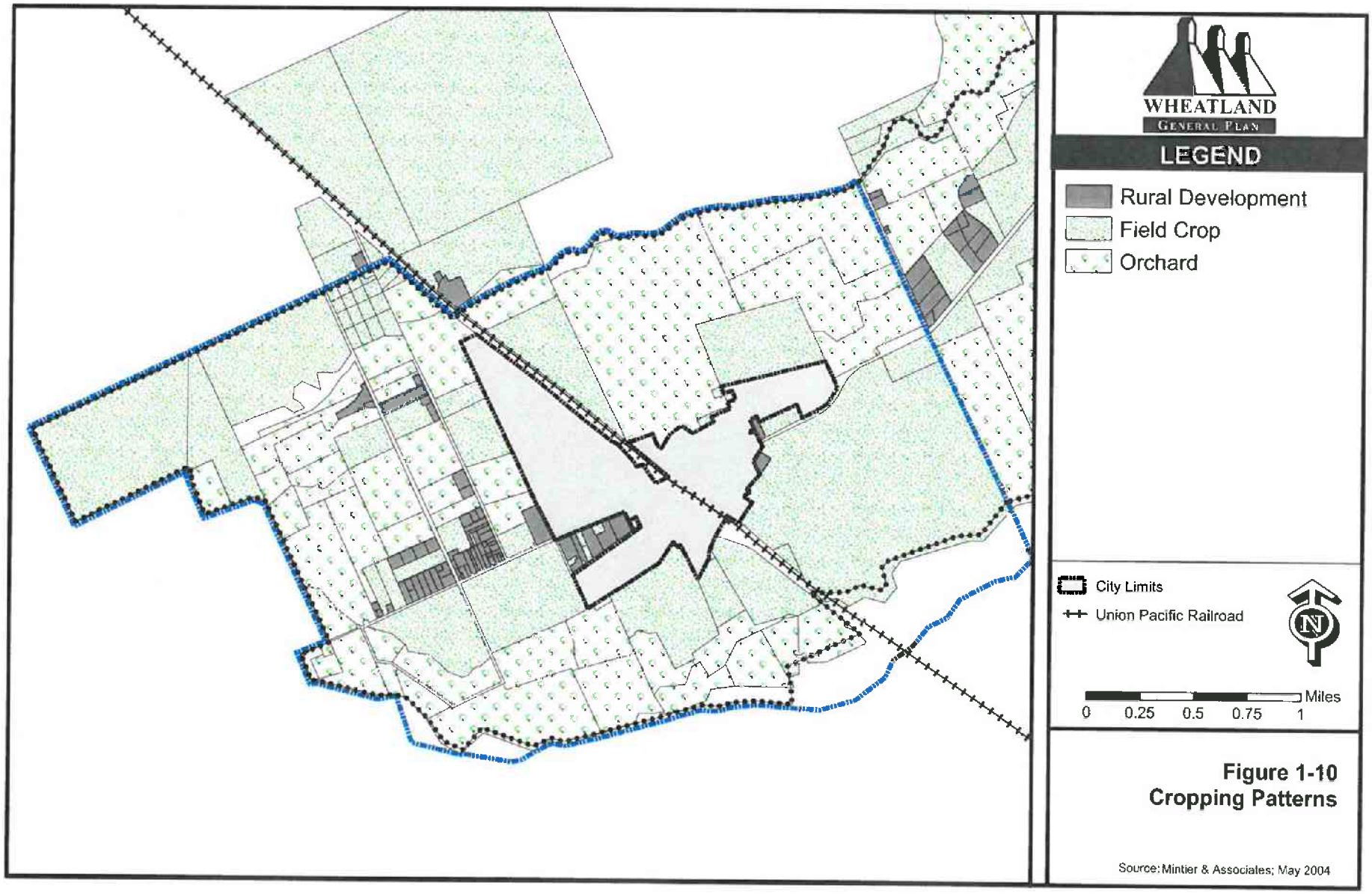


Figure 1-10
Cropping Patterns

Source: Mintier & Associates; May 2004

Trails, Roads, and Highways

The Overland Emigrant Trail, with its western terminus at Johnson's Ranch, was one of the main wagon roads used by the emigrants from the eastern states to California. Travel along the trail during the 1840s, and particularly following the discovery of gold in 1849, brought thousands of people through the area that is now Wheatland and environs. The trail was first used by wagons in 1844 when the Stevens-Townsend-Murphy party crossed Donner Summit on their way to the Sacramento Valley. After the discovery of gold in Coloma in 1848, the wagon road was used by the miners and their families to get to the California gold fields. More than 30,000 people – pioneers, miners, trappers, and adventurers – used the Emigrant Trail in 1849 alone.

Among the early travel routes depicted on maps of Johnson's Ranch (Figure 1-7) and the early General Land Office (GLO) Survey Plats dating from the 1850s (Figure 1-11) is the Sacramento and Nevada Road, shown on the 1856 GLO plat as trending northeast-southwest through the Study Area. Other early roads include the Spenceville Road (Wheatland-Smartville Road) that accessed Johnson's Ranch and Camp Far West, and Wheatland Road that linked Wheatland to communities to the west.

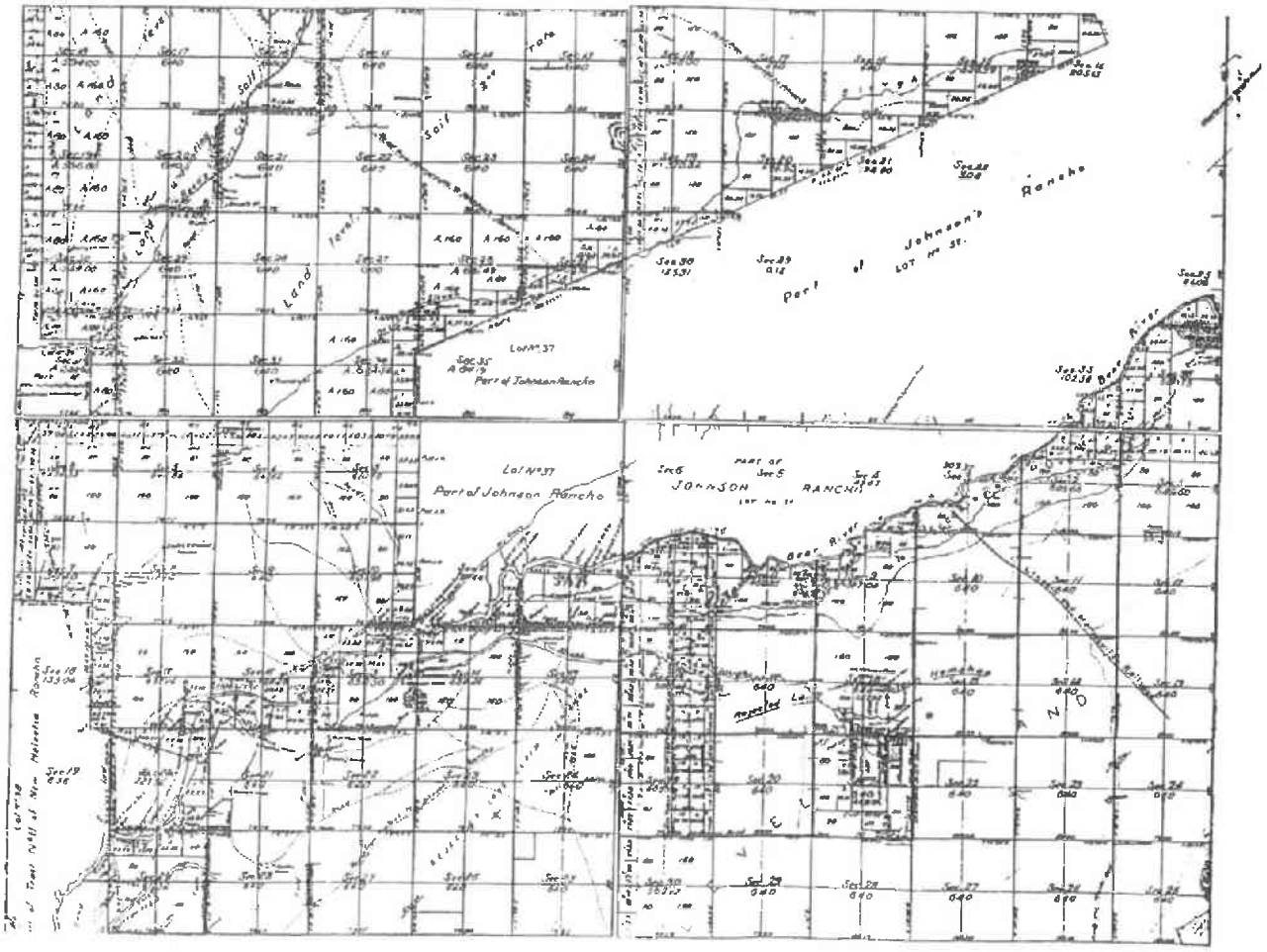
As early as 1909 the California Legislature had identified specific roads as part of the State Highway System. These roads were designated as "Legislative Route Numbers" (LRN), and the road connecting Sacramento to the Oregon state line, designated as LRN 3, passed through Wheatland. This important north-south state route has since had a series of route number designations, including SR 99E, 99, and since 1934, SR 65. A number of other secondary and tertiary roads are shown on early USGS quad maps (1949 and 1953) as crossing through the Study Area. At present, SR 65 remains the primary north-south road, with Wheatland Road extending to SR 70 approximately 10 miles to the west, and Spenceville Road extending east to Beale Air Force Base.

Due to the problems of flooding, SR 65 was elevated during the 1930s. Low-lying topography and flooding still characterize the area, and a number of roads within the Study Area are built on top of levees, including Levee Road and Jackson Road.

Rail Lines

During 1857 the center of activity in railroad construction in California shifted from Sacramento to Marysville. In 1858 the California Central Railroad Company started a rail connection from Sacramento to Lincoln via Junction (now Roseville). This line was completed in 1861. A year later (operating as the Yuba Rail Road Company), work commenced to extend the line further north as finances became available. The line opened to Wheatland on June 27, 1866. In 1868 the Central Pacific Rail Road rescued the financially strapped operation and completed the line to Marysville. It was not until 1869 that the first trains ran from Sacramento to Marysville. By the late 1870's the line extended into Oregon.

This rail line, now a main line of the Union Pacific Railroad, transects the Study Area, bisecting the city of Wheatland. The main business district in Wheatland formed around the train depot, and millions of dollars of freight passed through the Wheatland depot before it closed in 1957



WHEATLAND
GENERAL PLAN

LEGEND

Figure 1-11
General Land Office Survey Plats

Sources: EIP, 1995; and Mintier & Associates, 2004

after 75 years of operation. The depot was destroyed by fire in 1960. Two other rail lines, the remnant grade of the Sacramento Northern RR and the Western Pacific RR, run in a north-south alignment approximately three miles west of the Study Area, attesting to the historical competition for rail service during the height of U.S. rail transportation.

Freight and passenger trains pass through Wheatland at speeds in excess of 50 miles per hour. On average, there are 30 trains per day, with the nearest passenger stop in Roseville to the south. Presently four streets in the city cross the railroad tracks – Second Street, Third Street, Fourth Street, and Main Street. Each of these crossings is protected by traffic warning devices. In other areas, such as the end of Sixth Street, the tracks are raised above the level of the surrounding streets creating a barrier that prevents through-traffic. There is also an underpass crossing at the southern city limits, and a private at-grade ranch access east of McDevitt Drive.

Commercial Core

The Wheatland downtown commercial core flourished for a number of years. In the early days of the railroad, freight was brought to Wheatland via rail and then transferred to wagons with huge teams of horses to be transported to Spenceville, Smartsville, Rough and Ready, Grass Valley, and other mountain towns. The merchants in the city of Wheatland brought large loads of supplies to Wheatland by railroad, as it was the shopping center for the foothill area between the Yuba and the Bear Rivers.

An 1879 description of Wheatland described the town as "flourishing," and supporting a railroad depot, warehouses, a flour mill, a winery, a lumber yard, numerous hotels, stores and shops, a bank, one newspaper, a post office, a Wells Fargo and Co. express office, a city hall, an Odd Fellows Hall, churches, a school, and about 80 dwellings. Wheatland developed outward from its traditional center east of the railroad tracks between Front Street, "A" Street, Main Street, and Fourth Street. The main stores along Front Street faced the train depot. The remaining downtown has a compact form with most of the commercial development concentrated within a few blocks of this area.

The Wheatland telephone exchange was one of the first in California, commencing service in 1893, 17 years after Alexander Graham Bell patented the telephone. Wheatland's telephone service boasted of being the "best in the state." By 1900 the population of Wheatland had reached 1,000, and the commercial core included milling and grain warehouses, livery and feed stables, downtown stores, the SPRR depot, a bank, newspapers, churches, schools, hotels, and a theater. The town suffered three disastrous fires—one in 1880, another in 1898, and another in 1903.

These fires destroyed most of the buildings in downtown Wheatland and in the aggregate had a significant adverse effect on the urban quality of downtown, particularly along Front Street. Some historical structures still exist, including the Odd Fellows Hall at the corner of Front and Fourth Streets (now the Masonic Temple), which was rebuilt in 1899 (after the fire in 1898). There are only a few remaining two-story buildings in the downtown, and architectural styles and building materials vary from ornamented masonry to wood siding (after the 1903 fire most of the larger structures in the town were built with brick).

At present, the commercial core is but a shadow of its previous scale, vitality, and colorful history. Present commercial uses include markets, a pharmacy, offices, a video store, a hair salon, an auto parts store, a bank, restaurants, a laundromat, and other businesses. Due largely to the immediacy of the UPRR and the noise, dust, and vibrations associated with the passing trains, this area no longer supports thriving commercial activities, as the impacts of the rail traffic impose significant limitations on pedestrian activity. Similarly, the high commuter traffic volume on SR 65 creates an unfriendly pedestrian environment for retail shopping. As such, any significant growth in retail and commercial uses will likely seek to locate in more hospitable locations, posing a pivotal issue for the future land use options generated for the General Plan Update.

Highway Commercial

The east and west sides of a one-mile stretch along SR 65 contain more recent visitor-serving and resident-serving commercial development. Businesses in this area include gas stations, professional offices, restaurants, a nursery/florist/feed store, and others. The newest of these highway commercial businesses, the Beacon Gas Station and Mini Mart, was erected in 1995 at the intersection of SR 65 and McDevitt Drive. Some residences are located along the highway and there are some vacant lots.

Industrial Uses

Wheatland's only industrial site occupies one acre between Second and Third Streets along the UPRR rail line. This location is currently being used for storage and a trucking business. Structures on this site are of aluminum siding with angled roofs reaching a height of approximately 40 feet. This site is adjacent to the UPRR line as well as single-family residential uses.

Residential Neighborhoods

Like all cities both large and small, present-day Wheatland can be characterized by discernable neighborhoods – distinct areas with identifiable internal coherence. The most distinctive residential neighborhood is contained within the original city plat, where the style and layout of residential structures reflect over 100 years of city history. The first residence was built in Wheatland in 1866 on the corner of Main and "D" Streets. Although there is no single dominant architectural style in Wheatland, the majority of the homes are examples of the bungalow style in vogue during the 1920s through the 1940s. This particular neighborhood is a major contributor to the small town identity of Wheatland.

The post-WWII subdivisions east of SR 65 constitute another district. Situated immediately north of Spenceville Road, this area is characterized by single family dwellings and curvilinear streets with cul-de-sacs. Newer subdivisions west of SR 65 comprise two (three) additional residential neighborhoods or districts in a similar fashion.

Some strong visual breaks from suburban single-family detached residential units to agriculture currently exist in the city such as along Brock Drive and Meadow Way. These edges are problematic in that agricultural activities such as dust generation from plowing, spraying of fertilizers and insecticides, and the use of heavy equipment, are not compatible with residential areas. These areas are planned for future phases of residential development.

Primary Nodes

To date the relatively modest size of Wheatland had precluded the formation of distinctive nodes within the urban fabric, although there is a major constellation of educational facilities west of SR 65 – Bear River Elementary School, Virginia School, the new Junior High School, and Wheatland Union High School – that in the aggregate suggest an important "community/educational" node. To the east of SR 65 the combination of Pioneer Hall, the Public Works facility, City Hall, and the Fire Station, along with Wheatland Elementary School, suggest a modest "civic" node.

URBAN CHARACTER

Landmarks

One feature that distinguishes the city from the surrounding region is its water tower. The Wheatland water tower stands approximately 50 feet high and is visible from many areas within the city and as one enters the city from the east. The tower is located east of SR 65 and the railroad tracks on Fourth Street, near the elementary school.

Another city landmark is the Pioneer Memorial Hall on the corner of Fourth and "B" Streets. The Hop Sheds and abandoned kilns at the E. Clemons Horst Ranch and the Damon Estate, while outside the city limits, are reminders of a colorful and exciting period of Wheatland history, and remain important landmarks within the built environment.

Parks

Currently Wheatland has four parks located within the city limits. For more information on parks see Section 5.7

1.6 | SPHERE OF INFLUENCE

Each county's Local Agency Formation Commission (LAFCO) must adopt a Sphere of Influence (SOI) for each local agency subject to LAFCO regulation. The Cortese-Knox Act defines a Sphere of Influence as "a plan for the probable ultimate physical boundaries and service area of a local agency" (*Government Code* '56076). In practice, "ultimate" is typically defined as 20 years. Under *Government Code* Section 56080, this can include the identification of an "urban service area" which identifies an area within a city's Sphere of Influence served by urban facilities, utilities, and services, or which is proposed to be served during the first five years of an adopted capital improvement plan.

In determining the SOI for each local agency, the LAFCO must consider and prepare a written statement of its determinations with respect to each of the following:

- The present and planned land uses in the area, including agricultural and open space lands.
- The present and probable need for public facilities and services in the area.
- The present capacity of public facilities and the adequacy of public services which the agency provides or is authorized to provide.
- The existence of any social or economic communities of interest in the area if the commission determines that they are relevant to the agency (Government Code '56425).

Once an SOI is adopted, LAFCO decisions must be consistent with that SOI (Government Code '5637.5). In March 1992 the Yuba County LAFCO adopted the current SOI for the city (see Figure 1-2).

1.7 | OTHER PLANS AND POLICIES

1996 YUBA COUNTY GENERAL PLAN

The *Yuba County General Plan* and *Zoning Ordinance* regulate land use in the Wheatland General Plan Study Area outside of the city limits. The Plan designates all of the unincorporated land within the Wheatland General Plan Study Area as Valley Agriculture. The Valley Agriculture classification is applied to areas of the county outside of community boundaries that are suitable for commercial agriculture and are desirable to retain in agricultural uses. The intent of the designation is to protect the agricultural community from encroachment of unrelated agricultural uses that would diminish the viability of agricultural production and to encourage the preservation of agricultural land, both productive and potentially productive.

BEALE AIR FORCE BASE COMPREHENSIVE LAND USE PLAN (1992)

Beale Air Force Base (Beale AFB) is located in Yuba County approximately thirteen miles east of Marysville and eight miles northeast of Wheatland. Created in 1942 as an army training base, today the base is under the authority of the Air Force's Strategic Air Command (SAC). The base is the only location for the nation's U2 and TR-1 reconnaissance aircrafts, and was the base for the now decommissioned SR-71. In addition, the base operates Global Hawk reconnaissance aircrafts, NASA T-38 chase/trainer jets, and KC-135 jet tankers. Aside from reconnaissance aircrafts, the base is also the home to various missile warning and information/intelligence systems such as the DGS-2 and Pave Paws.

Adoption and Enforcement

The Beale AFB Comprehensive Land Use Plan was prepared by the Airport Land Use Commission (ALUC) under the authority of the Airport Land Use Commission Law, Chapter 4, Article 3.5, California Public Utilities Code. After the ALUC prepares Comprehensive Land Use Plans, neighboring jurisdictions are encouraged to revise their General Plans or Specific Plans to address airport related issues. If the ALUC finds that a city or county has not revised its General Plan or Specific Plan, or overruled the ALUC, the ALUC may require the city or county to submit all subsequent actions, regulations, or permits in the affected airport area to the ALUC for a consistency determination. If the ALUC determines that the proposed action is inconsistent, the city or county must hold a public hearing to reconsider its proposal. If, after the public hearing, the city or county still wishes to pursue the action, it may overrule the ALUC on a two-thirds vote, based on specific findings.

Noise Policies that Affect Wheatland

There are significant issues related to the noise produced by aircraft at Beale AFB. The base has adopted airport noise contours for various decibel (dB) ranges and appropriate measures to lessen the effects of noise. The main policy goal is to reduce the number of people exposed to noise from the base to the lowest level possible. The plan states that if development is proposed in areas between the 60dB and 65dB Community Noise Equivalency Level[1] (CNEL) noise contours, affected cities and counties should evaluate the impact of aircraft noise on proposed development and consider requiring noise reduction measures, aviation noise easements, and buyer-renter notification. As a result, the plan provides a detailed analysis of compatible land uses within 60-65dB, 65-70dB, 70-75dB, 75-80dB, and 80-85dB ranges. See Section 7.6 of this report for a more detailed discussion of Beale Air Force Base noise issues.

1.8 | SACOG BLUEPRINT WORKSHOPS (2003-2004)

OVERVIEW

The Sacramento Area Council of Governments (SACOG) Blueprint: Transportation and Land Use Study is a comprehensive regional planning effort that has integrated land use and transportation, air quality, and other regional concerns. The project utilized an in-depth modeling and research process conducted by SACOG and all jurisdictions in the region that looked at how future growth is likely to occur. The first product, called the Base Case Future, outlined the effects on housing availability, land consumption, environmental and traffic impacts, and included in-depth demographic projections.

In March 2003 a series of neighborhood workshops were initiated that used real-time interactive geographic information systems (GIS) software to create various scenarios for specific neighborhoods. The workshop's GIS software gives citizens feedback as they make different

[1] Community Noise Equivalency Level (CNEL) is a standard used to rate noise on and around airports in California.

development choices. The scenarios were then used to shape alternatives for workshops that considered county and regional scenarios.

On April 30, 2004, SACOG held a Regional Forum know as Tall Order, where four scenarios were presented to members of the public. This forum provided feedback to SACOG of the public's view of growth issues for the whole region. In the Fall 2004 SACOG will seek public input on a discussion draft Blueprint preferred scenario and related principles. This will include a public opinion poll, newspaper inserts with questionnaires, and internet voting. Results will be presented at a Regional Elected Official Summit in fall, 2004.

1.9 | GLOSSARY

Floor Area Ratio (FAR)

Floor Area Ratio expresses the relationship between the amount of useable floor area permitted in a building (or buildings) and the area of the lot on which the building stands. It is obtained by dividing the gross floor area of a building by the total area of the lot. FAR is usually expressed as a decimal fraction (for example, 0.5 or 12.3).

Infill

The term "infill" is used to describe vacant parcels within the existing city limits that are available for development.

Local Agency Formation Commission (LAFCO)

LAFCos are state-mandated quasi-judicial countywide commissions whose purview is to oversee boundary changes of cities and special districts, the formation of new agencies, including the incorporation of new cities and districts, and the consolidation or reorganization of special districts and or cities. The broad goals of the commission's directive are to ensure the orderly formation of local governmental agencies, to preserve agricultural and open space lands, and to discourage urban sprawl. Commissions must, by law, create municipal service reviews and update spheres of influence for each independent local governmental jurisdiction within their countywide jurisdiction.

Sphere of influence

A "Sphere of Influence" is a plan for the probable ultimate physical boundaries and service area of a local governmental agency, as determined by LAFCO. The commission must also periodically review and update each plan. Factors the commission must consider in determining the Sphere of Influence of each governmental agency are:

- The maximum possible service area of the agency is based upon present and possible service capabilities of the agency.

- The range of services the agency is providing or could provide.
- The projected future population growth of the area.
- The type of development occurring or planned for the area, including, but not limited to, residential, commercial, and industrial development.
- The present and probable future service needs of the area.
- Local governmental agencies presently providing services to such area and the present level, range, and adequacy of services provided by such existing local governmental agencies.
- The existence of social and economic interdependence and interaction between the areas within the boundaries of a local governmental agency and the area which surrounds it and which could be considered within the agency's Sphere of Influence.
- The existence of agricultural preserves in the area which could be considered within the agency's Sphere of Influence and the effect on maintaining the physical and economic integrity of such preserves in the event that such preserves are within a Sphere of Influence of a local governmental agency.

Sacramento Area Council of Governments (SACOG)

The Sacramento Area Council of Governments (SACOG) is an association of Sacramento Valley governments formed from the six regional counties - El Dorado, Placer, Sacramento, Sutter, Yolo and Yuba - and 22 member cities. SACOG's directors are chosen from the elected boards of its member governments. SACOG's primary charge is to provide regional transportation planning and funding, as well as a forum for the study and resolution of regional issues. In this role, SACOG prepares the region's long-range transportation plan; approves distribution of affordable housing around the region; keeps a regionwide database for its own and local agency use; helps counties and cities use federal transportation funds in a timely way; assist in planning for transit, bicycle networks, clean air and airport land uses; and is undertaking a new program to link transportation and land development more closely. SACOG is located in downtown Sacramento at 1415 L Street, Suite 300.

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Chapter 2

TRANSPORTATION

KEY FINDINGS

- State Route (SR) 65 currently operates at a level of service "F".
- All of the other study roadways currently operate at level of service "C" or better.
- Motorists entering SR 65 experience long delays at most of the intersections.
- Study intersections that are not along the highway operate acceptably.
- The existence of sidewalks is intermittent throughout the community.
- Designated bicycle facilities do not exist in Wheatland.
- Signals are to be installed on SR 65 at First Street and Main Street.

State Route 65

2.1 | INTRODUCTION

This chapter summarizes the current (2004) traffic conditions and potential traffic issues associated with development in the city of Wheatland. Currently, the urbanized portion of the community encompasses approximately 500 acres. As the city develops and the community increases in size, the General Plan Update will guide development of residential, commercial, and industrial areas. Figure 1-2 depicts the city limits, Study Area, and Sphere of Influence.

STUDY AREA

Current traffic conditions were evaluated based on daily traffic volumes and p.m. peak hour levels of service. The twenty-five (25) street segments were evaluated and are listed below. These streets are presented in Figure 2-1:

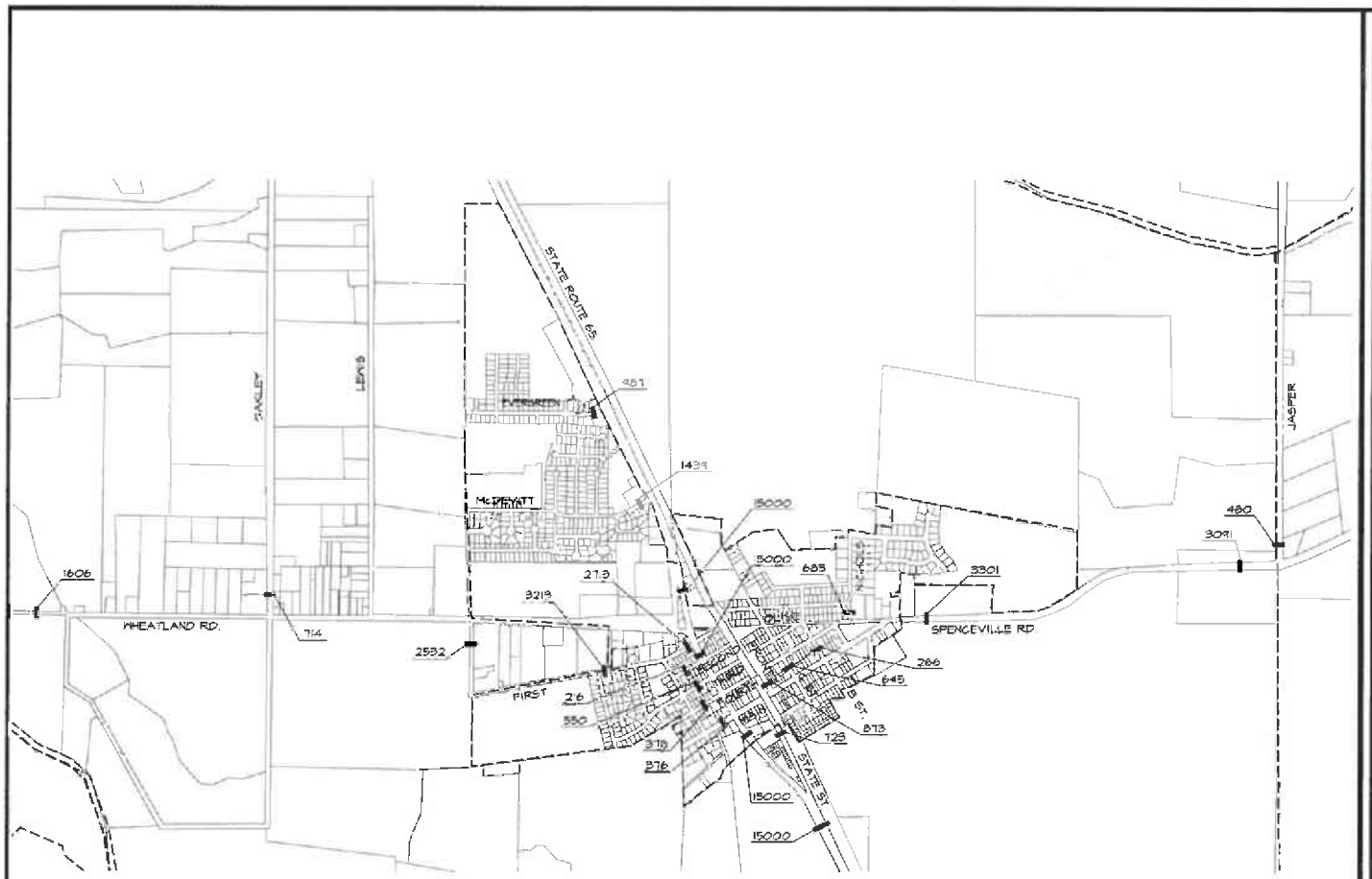
1. SR 65 South of Bear River
2. SR 65 South of State Street
3. SR 65 city limits to Main St
4. SR 65 Main St to First St
5. SR 65 North of First Street
6. First Street West of SR 65
7. First Street East of G Street
8. First Street South of Wheatland Road
9. Second Street West of SR 65
10. Third Street West of SR 65
11. Fourth Street West of SR 65
12. Main Street West of SR 65
13. McDevitt Drive West of SR 65
14. McDevitt Drive North of Wheatland Rd
15. Evergreen Drive West of SR 65
16. Wheatland Road West of Sorano Lane
17. State Street South of Sixth Street
18. Front Street North of Main Street
19. C Street North of Main Street
20. D Street North of Main Street
21. Nichols Drive North of Olive Street
22. Oakley Lane West of Wheatland Road
23. Spenceville Road East of Main Street
24. Spenceville Road West of Cyrus Dam Rd
25. Jasper Lane North of Spenceville Road

The ten (10) study intersections that were also evaluated include:

1. SR 65/Evergreen Drive
2. SR 65/McDevitt Drive
3. SR 65/First Street
4. SR 65/Second Street
5. SR 65/Third Street
6. SR 65/Fourth Street
7. SR 65/Main Street
8. Fourth Street/Front Street
9. Main Street/Front Street
10. Main Street/Olive Street

2.2 | STREET SYSTEM

The City of Wheatland Public Works Department maintains the city's street system. The street system consists of approximately 12.5 miles of roads. The city streets are primarily local roads except for Spenceville Road, Main Street, and First Street which are classified as collector or arterials in the city's 1980 General Plan. As indicated in the road descriptions, Spenceville Road and Main Street are arterials and First Street is a collector. Except for about 2.5 miles of recently constructed Wheatland Ranch, Park Place, and Ryantown subdivision streets, most of the city's road system has not had any overlay or reconstruction since at least 1960.



WHEATLAND
GENERAL PLAN

LEGEND

XX Average Daily Traffic

Figure 2-1
Existing Daily Traffic Volumes

Sources: kd ANDERSON; and Mintier & Associates, 2004

SR 65 traverses northwest-southeast through the city, for about two miles. The City provides some cleaning of this at-grade highway, but the State (Caltrans) is responsible for the primary cost of operation and maintenance of the highway. There are currently two signalization projects and related road work scheduled for SR65. The first is a "safe routes to school" signalization of First Street at SR65 which is scheduled for bid in late 2004 and construction in 2005. The second signalization project is for Main Street at SR65 tentatively scheduled for construction in 2005/7. The operation of roadways is presented in Table 2-3 and described in text.

Existing Street System

The City funds the operation and maintenance of the street system through gas tax and general fund revenue. New developments are required to provide for street facilities and/or pay an impact fee based on their demand and use of existing system facilities. New development is required to construct all internal street system improvements associated with their projects.

Existing system deficiencies include: failed road structural section (asphalt and base material); lack of and/or damaged curb, gutter, and sidewalk; and lack of adequate funding to maintain and keep up the street system. In addition to these physical needs, the City's Public Works Improvement Standards relative to street systems were last updated in 1992 and are in need of revision to make them more current with present day materials and construction standards.

2.3 | EXISTING SETTING

Traffic operating conditions as they exist today have been described based on the levels of service provided at intersections and on roadway segments.

STUDY AREA STREETS

Highways

State Route 65

SR 65 is a north-south highway traversing Placer and Yuba Counties. Beginning at Interstate 80 in Roseville, SR 65 travels through south Placer County across the Bear River into Wheatland and connects with SR 70 south of Marysville. SR 65 is a four-lane controlled access freeway from I-80 to the signalized Sunset Boulevard intersection in Rocklin. From that point northerly, the facility is a four-lane expressway with at-grade intersections. The highway narrows to a two-lane section through Lincoln and remains a two-lane roadway through Sheridan and Wheatland. In Wheatland the highway has been widened through the Main Street and Fourth Street intersections to provide left turn lanes, but turn lanes do not currently exist at the more northerly downtown intersections. North of Wheatland, SR 65 becomes a four-lane controlled access freeway near Beale Air Force Base. The Wheatland street system is in the general form of a grid with streets running parallel and perpendicular to SR 65 and the UPRR tracks.

Arterials

Main Street

Main Street is the most southerly east-west arterial linking SR 65 with downtown Wheatland. Main Street is designated as an arterial in the current Wheatland General Plan. Main Street is one of four at-grade Union Pacific Railroad (UPRR) crossings, and Main Street is the widest of the streets intersecting SR 65 with the width available to accommodate separate right turns.

Spenceville Road

Spenceville Road is a two-lane arterial linking Smartville Road and Camp Far West Road south of Beale Air Force Base into the City of Wheatland and SR 65. Approaching SR 65, Spenceville Road becomes Main Street through Wheatland.

Collectors

McDevitt Drive

Originating at SR 65, McDevitt Drive is an east-west collector that extends to the west providing access to residential and commercial development. At the city limits, McDevitt Drive turns to the south and extends to Wheatland Road.

Evergreen Drive

Evergreen Drive is an east-west collector roadway that provides access for area residents. Originating at SR 65, Evergreen Drive extends to the west before terminating at the city limits.

Nichols Road

Nichols Road is a local collector roadway that provides north-south access for area residents. Nichols Road extends between Olive Street in the south and Cyrus Dam Drive in the north.

Local

Fourth Street, Third Street, and Second Street

These roadways are local east-west streets that link downtown Wheatland with SR 65. Each street crosses the UPRR and continues into eastern Wheatland.

First Street and Wheatland Road

First Street/Wheatland Road is a collector street that links SR 65 with western Wheatland and continues westerly to Forty Mile Road, a north-south arterial that also crosses the Bear River. First Street is the primary access to Wheatland High School. However, First Street does not cross the UPRR and, therefore, does not serve eastern Wheatland.

B Street, C Street, and Front Street

These facilities are local north-south streets that parallel the east side of SR 65 in the downtown area.

State Street

State Street is a local north south street. Originating just south of Wheatland at SR 65, State Street extends to the north paralleling the west side of the Union Pacific Railroad Tracks. State Street terminates at Main Street as it is a county roadway.

Jasper Lane

Jasper Lane is a north-south roadway. Originating at Spenceville Road, Jasper Lane extends to the north before terminating at Ostrom Road.

Oakley Lane and Lewis Road

These roadways are rural Yuba County roads that generally run parallel to SR 65 in the area north of Wheatland. Oakley Lane connects western Wheatland with SR 65 north of the community via an intersection at Dairy Road.

EXISTING TRAFFIC VOLUMES

Daily traffic counts and p.m. peak hour intersection turning movements have been used in the analysis of existing traffic conditions. kdANDERSON Transportation Engineers' technicians conducted new daily and p.m. peak hour traffic volume counts during May 2004. Figure 2-2 displays current traffic volumes on Study Area roadways and at Study Area intersections.

LEVEL OF SERVICE METHODOLOGY

To assess the quality of existing traffic conditions and to provide a basis for evaluating project impacts, levels of service (LOS) were calculated at Study Area intersections and for individual roadway segments. "Level of service" is a qualitative measure of traffic operating conditions whereby a letter grade "A" through "F", corresponding to progressively worsening operating conditions, is assigned to an intersection or roadway segment. Table 2-1 presents the general characteristics associated with each LOS grade.

Figure 2-2
Existing PM Peak Hour Traffic Volumes

Sources: kd ANDERSON and Mintier & Associates, 2004

TABLE 2-1
LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.

Source: Highway Capacity Manual, 2000.

Urban Roadway Segments

In urban areas, level of service thresholds have been used which suggest the general volume of daily traffic that would normally produce the respective peak hour levels of service, assuming the installation of typical traffic control devices (i.e., traffic signals, stop signs). Table 2-2 presents the daily traffic volume thresholds associated with each LOS grade for urban roadway segments.

A more subjective view of traffic conditions is also applicable based on consideration of issues such as pedestrian safety, impacts to residential access, noise, etc. Many communities have identified planning level traffic volumes that are applicable to streets with residential frontage and/or schools. These thresholds are below the actual capacity of the road itself and are typically in the range of 2,500 to 4,000 ADT. The City considers 4,000 ADT as the threshold for residential streets and schools that front the street, such as First Street near Wheatland's schools. Currently, First Street carries a maximum daily volume of 3,213 ADT just east of G Street.

TABLE 2-2
DAILY TRAFFIC VOLUME LEVEL OF SERVICE THRESHOLDS

Facility Type	**LOS "C"**		**LOS "D"**		**LOS "E"**	
Urban Street	**v/c 0.71 ≤ 0.80**		**v/c 0.81 ≤ 0.90**		**v/c 0.91 ≤ 1.00**	
2 lanes	10,700	12,000	12,000	13,500	13,500	15,000
3 lanes	14,200	15,950	15,950	17,950	17,750	19,950
4 lanes	21,300	24,000	24,000	27,000	27,000	30,000
5 lanes	28,300	31,900	31,900	35,900	35,900	39,900
Rural Roads						
2 lane - Level						
Typical Existing	3,675	6,000	6,000	10,500	10,500	17,500

As the operation of major intersections primarily govern the quality of traffic flow conditions in urban areas, an intersection level of service analysis has been used for this study to determine the significance of resulting traffic conditions.

Procedures used for calculating levels of service are presented in the *Highway Capacity Manual*. In addition to traffic volumes at signalized intersections, these procedures make use of geometric information and traffic signal timing data.

At unsignalized intersections, vehicle acceleration and gap acceptance are the basis for estimates of delay are used for level of service analysis. The procedures used for unsignalized intersections are also presented in the *Highway Capacity Manual*. At unsignalized intersections that are controlled by side street stop signs, levels of service are calculated for the individual turning movements that must yield right of way. While a "weighted average" level of service is calculated by the software for all traffic through the intersection, the "weighed average" presented in this report is for those movements that must yield the right-of-way.

An unsignalized level of service analysis is usually supplemented by consideration of traffic signal warrants in order to confirm the significance of calculated delays. While the unsignalized level of service may indicate long delays (i.e., LOS "E"), traffic conditions are generally not assumed to be unacceptable unless signal warrants are satisfied. Meeting signal warrants signifies that intersection improvements may be justified but does not necessarily indicate that a signal is the only way to mitigate poor conditions. It is often possible to improve operations with additional lanes or improved geometrics to reduce delays. The signal warrant criteria employed for this study is as presented in the Caltrans *Traffic Manual.* When determining whether signalization is warranted, Caltrans does not include the right turning volume on the side street approach. In recent EIRs, the City of Wheatland has employed LOS "C" as the minimum standard for acceptable traffic operations at signalized intersections.

EXISTING LEVELS OF SERVICE

Table 2-3 presents the existing levels of service for the study roadways. Table 2-4 summarizes the results of existing level of service calculations at each of the study intersections.

As shown in Table 2-3, SR 65 is currently operating at LOS "F". As LOS "C" is the City of Wheatland standard, operations on SR 65 are currently below standard. Widening SR 65 to provide four (4) travel lanes would be needed to improve operations to LOS "A". However, no plans exist to widen SR 65 to four lanes. Alternatively, construction of the Wheatland Bypass would also decrease the daily traffic volumes on SR 65. However, the Wheatland Bypass is not funded or included in the SACOG Regional Transportation Plan and is not anticipated to be completed for at least 15 years.

TABLE 2-3
EXISTING DAILY TRAFFIC VOLUMES AND LEVELS OF SERVICE

Street	Location	LOS "C" Threshold*	Current Daily volume	*LOS*
SR 65	South of Bear River	12,000	15,000**	F
SR 65	South of State Street	12,000	15,000**	F
SR 65	City limits to Main Street	12,000	15,000**	F
SR 65	Main St to First Street	12,000	15,000**	F
SR 65	North of First Street	12,000	15,000**	F
First Street	West of SR 65	12,000	2,713	A
First Street	East of G Street	12,000	3,213	A
First Street	South of Wheatland Road	12,000	2,523	A
Second Street	West of SR 65	12,000	216	A
Third Street	West of SR 65	12,000	550	A
Fourth Street	West of SR 65	12,000	378	A
Main Street	West of SR 65	12,000	376	A
McDevitt Drive	West of SR 65	12,000	1,439	A
McDevitt Drive	North of Wheatland Road	12,000	2,532	A
Evergreen Drive	West of SR 65	12,000	987	A
Wheatland Road	West of Sorano Lane	6,000	1,606	A
State Street	South of Sixth Street	12,000	723	A
Front Street	North of Main Street	12,000	873	A
C Street	North of Main Street	12,000	645	A
D Street	North of Main Street	12,000	266	A
Nichols Drive	North of Olive Street	12,000	685	A
Oakley Lane	North of Wheatland Road	12,000	714	A
Spenceville Road	East of Main Street	12,000	3,301	A
Spenceville Road	West of Cyrus Dam Road	6,000	3,091	B
Jasper Lane	North of Spenceville Road	6,000	480	A

LOS: Level of Service
* Source: Yuba County General Plan
** Caltrans 2002 Counts

As shown in Table 2-4, only the SR 65 intersections with Second Street, Third Street, and Fourth Street operate at LOS "C" during the p.m. peak hours. Most motorists waiting to turn onto SR 65 during peak hours often experience relatively long delays. As shown in Table 2-3, the weighted average delay for all movements yielding the right of way along the SR 65 corridor range from LOS "C" to LOS "F".

TABLE 2-1
EXISTING INTERSECTION LEVELS OF SERVICE

Intersection	Control	Average Delay	LOS	Signal Warranted?
1. SR 65 /Evergreen	EB Stop			No
(Overall)		(58.9 sec)	(F)	
NB left		10.0 sec		
EB approach		84.1 sec		
2. SR 65 / McDevitt	EB Stop			No
(Overall)		(26.3 sec)	(D)	
NB left		10.4 sec		
EB approach		40.5 sec		
3. SR 65 / First Street	EB-WB Stop			No
(Overall)		(28.3 sec)	(D)	
NB left		9.7 sec		
SB left		10.6 sec		
EB approach		38.1 sec		
WB approach		26.3 sec		
4. SR 65 / Second Street	EB-WB Stop			No
(Overall)		(21.3 sec)	(C)	
NB left		9.5 sec		
SB left		11.0 sec		
EB approach		32.7 sec		
WB approach		30.1 sec		
5. SR 65 / Third Street	EB-WB Stop			No
(Overall)		(21.6 sec)	(C)	
NB left		9.5 sec		
SB left		10.5 sec		
EB approach		31.9 sec		
WB approach		24.4 sec		
6. SR 65 / Fourth Street	EB-WB Stop			No
(Overall)		(22.1 sec)	(C)	
NB left		9.5 sec		
SB left		11.1 sec		
EB approach		30.7 sec		
WB approach		34.3 sec		
7. SR 65 / Main Street	EB-WB Stop			No
(Overall)		(134.2 sec)	(F)	
NB left		9.0 sec		
SB left		11.7 sec		
EB approach		61.8 sec		
WB approach		128.9 sec		
8. Fourth Street / Front Street	NB-SB Stop			
(Overall)		(9.1 sec)	(A)	No
EB left		7.4 sec		
WB left		7.4 sec		
NB approach		9.8 sec		
SB approach		10.6 sec		
9. Main Street / Front Street	NB-SB Stop			No
(Overall)		(10.8 sec)	(B)	
EB left		7.6 sec		
WB left		7.7 sec		
NB approach		12.3 sec		
SB approach		11.8 sec		
10. Main Street / Olive Street	EB Stop			No
(Overall)		(10.7 sec)	(B)	
WB left		11.6 sec		
NB left		0 sec		
EB approach		9.7 sec		

The extent to which current traffic conditions warrant installation of traffic signals has been considered. This issue was evaluated in depth as part of another recent report.[1] Currently, no location carries traffic volumes satisfying Caltrans warrants based on observations. Therefore, overall operations are considered generally acceptable, as warrants for signalization are not met.

While the City of Wheatland is currently pursuing signalization of key intersections on SR 65, analysis of current traffic volumes suggests that traffic signals are not yet warranted on a regular basis. However, the number of pedestrians crossing at the SR 65/First Street intersection is approaching the 100 pedestrian per hour minimum established by Warrants 3-4 and a traffic signal may be justified based on this criteria.

Currently, study intersections in the downtown area that are not along the SR 65 corridor operate acceptably at LOS " B" or better during the p.m. peak hour. In addition, these intersections do not meet peak hour warrants for signalization and, therefore, no improvements are currently needed.

ALTERNATIVE TRANSPORTATION MODES

Several non-automotive transportation modes exist in the city, including pedestrian and bicycle facilities, public transit, and railroad.

Pedestrian Facilities

As several schools are located in the area of the SR 65/First Street intersection, many school age pedestrians walk to school in the morning and afternoon. An adult crossing guard regularly stops traffic on SR 65 in order to allow students to pass. Pedestrian counts made by the crossing guard and reported in a previous traffic study indicated that 60 to 80 pedestrians typically cross in the morning and the afternoon, with another 40 to 60 students crossing at other uncontrolled locations[2].

Sidewalks exist intermittently throughout the community. In downtown Wheatland, sidewalks, concrete or asphalt, exist along the west side of SR 65 but not on the east side, although some asphalt sidewalks lack a raised curb. Sidewalks exist along many of the streets in the residential areas west of SR 65. Sidewalks also exist along the south side of First Street and Wheatland Road as far as the western boundary of Wheatland High School.

The "Safe Route to Schools – 2nd Cycle" program aimed at improving pedestrian safety includes signalization of the SR 65/First Street intersection, and construction of curbs, gutters and sidewalks on various city streets.

Bicycle Facilities

Currently, designated bicycle facilities do not exist within Wheatland.

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[1] *Ibid.*

[2] *Traffic Analysis Report for Improvements to SR 65 from Main Street to Olive Street*, kdANDERSON Transportation Engineers, January 2001.

Public Transit/Rail Operations

Yuba-Sutter Transit offers round trip service to Wheatland. The Wheatland Route provides round-trip service to Wheatland once each Tuesday from Linda and Marysville. The bus will pick up and drop off at any address in Wheatland. Currently, the basic one-way fare is $2.00. Reduced senior and youth fares are also available.

Amtrak and Greyhound service is not available in Wheatland. The nearest Amtrak and Greyhound service is available in Marysville.

The Union Pacific Railroad (UPRR) tracks bisect Wheatland and generally parallel the east side of SR 65. A total of four crossings of the Union Pacific Railroad currently exist within Wheatland.

Airports

The city of Wheatland does not have an airport. The nearest certified airport for carrier operations to Wheatland is provided at the Sacramento International Airport (26 miles), Beal Air Force Base in Marysville (about 9 miles), and by Chico Muni (about 61 miles). Other public-use airports near Wheatland are the Lincoln Regional/Karl Harder Field (about 10 miles), Yuba County Airport (about 11 miles), and Sutter County (about 15 miles).

2.4 | OPPORTUNITIES AND CONSTRAINTS

Based on current traffic volumes and movements, it is possible to identify the circulation issues that will guide development of this area. Key information in the 1986 Transportation and Circulation Element, and Traffic Impact Analysis Reports for Heritage Oaks Estates and Jones Ranch has been addressed.

Land Use

Build out of the Wheatland General Plan will likely consist of a considerable amount of growth. As such, the Wheatland City Council has determined that the City's General Plan should be updated in order to facilitate future growth over the next 20 years. While the exact land use for Wheatland's General Plan remains to be identified, many new developments have already been proposed since 2001. These development proposals consist of Wheatland Ranch (188 single family homes), Ryan Town II (49 single family homes), Wheatland Park Place (210 single family homes), the new Junior High School (opening in the Fall 2004), Nichols Ranch (a new proposal for development), Heritage Oaks[3] (a 234-acre mixed-use development), and Jones Ranch[4] (a 190-acre project). In addition to these specific development proposals, other significant development is anticipated over the next 20 years.

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[3] *Traffic Impact Analysis for the Heritage Oak Estates, kdANDERSON Transportation Engineers, September 2001.*

[4] *Traffic Impact Analysis for the Wheatland 189 Subdivision GPA DEIR, kdANDERSON Transportation Engineers October 2001.*

In order to guide development of future development, the following text outlines many of the issues that will need to be addressed as development occurs.

State Route 65

Currently (2004) this facility already operates at level of service "F" on a daily basis. Additional area development will result in increased traffic volumes. While widening SR 65 to provide four (4) travel lanes is currently needed to improve operations to LOS "A", no plans currently exist to widen SR 65 to four lanes. Alternatively, construction of a bypass around downtown Wheatland would also decrease the daily traffic volumes on SR 65.

Regional State Route 65 Bypass

Previous studies have projected that by the year 2010, SR 65 would carry daily traffic volumes ranging from 26,200 to 29,000 through the downtown area. As traffic volumes in the downtown area are anticipated to increase past the theoretical roadway capacity, installation of a bypass around the community will be needed. While traffic volumes indicate the need for the bypass by 2010, the Wheatland Bypass is not anticipated to be completed for at least 15 years.

Five possible alignments of the Wheatland Bypass were identified in the 2000 Project Study Report. These five bypass alternatives are illustrated in the Appendix to this section. As shown, the feasibility of Alternatives B, C, and D is significantly reduced with approval of Jones Ranch and the Heritage Oaks Estates. Presently, selection of a bypass alternative is not proceeding, as no funding for the EIR is available.

By 2020, the Wheatland Bypass may be constructed. Even with a future bypass, daily traffic volumes through the downtown area will likely be in the range of 15,000 to 20,000 ADT. Previous studies have indicated that selection of the eastern Bypass would result in higher traffic volumes [LOS "F"] on the north end of "old" SR 65 and lower volumes on the south end of the street than selection of the western Bypass. In addition, Main Street would carry a greater traffic volume east of "old" SR 65 if an eastern Bypass is implemented, but fewer vehicles would use this road to the west. An eastern Bypass would reduce the volume of traffic on First Street along Wheatland schools.

Local State Route 65 Bypass

Until the Wheatland Bypass is constructed, a local bypass around downtown Wheatland would help to alleviate traffic on SR 65 between Main Street and First Street. One local bypass option that has been explored utilizes Oakley Road being extended to connect with SR 65 in the vicinity of Heritage Oaks Estates. While this local bypass does result in lowering traffic through the downtown area, a significant reduction in traffic is not anticipated due to the length of this circuitous route.

Additional Bridge Crossing of the Bear River

Currently, SR 65 provides the only access into Wheatland over the Bear River. As such, all traffic is routed through Wheatland on SR 65. Without another crossing of the Bear River, traffic volumes on SR 65 through Wheatland will continue to rise and will exceed the capacity of the two-lane highway.

Intersections along State Route 65

Currently, motorists experience long delays when turning on SR 65 during the p.m. peak hour. As traffic volumes continue to increase along this corridor, motorists will find it increasingly more difficult to access SR 65. The City of Wheatland staff is currently working with Caltrans to signalize the SR 65 intersections with First Street and Main Street. When completed, these signals will aid motorists in accessing SR 65.

Completion of the Local Circulation

As Wheatland develops, additional local roadways will be required in order to connect new development to the existing circulation system. Several local roadways that could assist in the completion of the overall circulation system and provide connectivity within the community have been identified. Improvements that were previously identified in the 1986 Wheatland General Plan Transportation and Circulation Element are noted. These facilities are listed below:

- The extension of Main Street westerly to Jones Ranch (Wheatland 1980) – 1986 Wheatland General Plan.
- Construction of two new signalized SR 65 intersections adjacent to Heritage Oaks.
- Westward extension of these two new SR 65 connections to form a loop road that would intersect with McDevitt Drive and Oakley Lane.
- If an overcrossing over the UPRR is constructed adjacent to Heritage Oaks, construction of a local loop roadway at the SR 65 connection to meet Caltrans spacing requirements.
- In northeast Wheatland, a loop road connecting McDevitt Drive to Spenceville Road – 1986 Wheatland General Plan.
- Construction of north - south connections linking this northeast Wheatland loop road to Olive Street.

Railroad Crossings

As Wheatland develops, additional UPRR crossings would provide connectivity between existing and future development areas on both sides of SR 65. However, the UPRR will not allow another at-grade railroad crossing in Wheatland. Therefore, any new crossings of the

UPRR will need to be constructed as either an overcrossing or an undercrossing, or the existing at-grade crossing would be relocated.

Three possible locations for new crossings have been considered. These locations include a northern crossing that would align with McDevitt, a central crossing that would be located within the Heritage Oaks project, and a southern connection that would be located at the southern boundary of the Heritage Oaks project. In the vicinity of the central or southern overcrossing/ undercrossing locations, SR 65 and the UPRR tracks have a significant grade elevation.

It is anticipated that the central crossing will be used more heavily that the southern-most crossing due to its proximity to the downtown. Construction of an overcrossing/undercrossing is also anticipated to result in a reduction in traffic through the Main Street/Old SR 65 intersection.

2.5 | GLOSSARY

Critical Gap

The minimum time interval between vehicles in a major traffic stream that permits side-street vehicle at STOP-controlled approach to enter the intersection under prevailing traffic and roadway conditions, in seconds.

Gap Acceptance

See "critical gap" definition.

Start-up Lost Time

Additional time consumed by the first few vehicles in a queue at a signalized intersection above and beyond the saturation headway because of the need to reach to the initiation of the green phase and to accelerate to ambient speed, in seconds.

Vehicle Acceleration

Refers to the acceleration of a vehicle from a complete stop. See "start-up lost time" definition.

2.6 | SOURCES

California Department of Transportation. *Traffic Manual*. 2000.

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Chapter 3

ECONOMIC CONDITIONS

KEY FINDINGS

- Projected housing demand over the next 20 years exceeds the identified supply of planned and proposed residential development projects for the Sacramento region. Increased housing prices and decreased land availability in Sacramento and south Placer Counties will likely result in greater projected housing development in Yuba and Sutter Counties.

- The constrained housing market of Sacramento County is likely to push development along I-80 to Roseville, and northeast along SR 65 to unincorporated Placer County, Lincoln, and subsequently Wheatland.

- Employment growth in Roseville, Rocklin, Lincoln, and south Placer County will make Wheatland a desirable place to live for commuting purposes.

- By 2025, Wheatland is projected to house 30,100 residents, and contain 11,400 residential units.

- Pressures for office and industrial development in Wheatland will not be as strong as far as residential growth. However, as the General Plan Update progresses, the City of Wheatland should plan for approximately 10,600 jobs by 2025 in order to develop a balance of jobs to housing.

- Wheatland should plan for approximately 400,000 square feet of retail space by 2025, assuming a 30,100-person community. Retail space will likely be comprised of neighborhood-serving commercial, some community commercial, and a mix of Downtown shops, existing stores, and stand-alone centers. Approximately 50 acres of land for retail space should be allocated for 2025.

- Wheatland should reserve at least 400 acres of land for employment center uses in addition to land dedicated for retail development. The zoning designation should be flexible in order to allow for a variety of uses including light industrial, office, research and development, or medical.

- In order to accommodate for future employment growth, Wheatland ought to identify an appropriate land use mix of non-residential uses, avoid encroaching on Beale Air Force Base (so as to avoid disturbing Beale's economic potential), and consider designating land for the potential demand resulting from the continued expansion of the Global Hawk at Beale, as well as other possible military operations.

New residential development

3.1 | INTRODUCTION

This Economic and Demographic Profile of the City of Wheatland is a tool to assist Wheatland policymakers in updating the city's General Plan. This profile provides background demographic and economic information for the Background Report of the 2004 General Plan Update.

This report identifies the regional and local demographic and economic trends impacting Wheatland now and in the future. This report also analyzes demographic and economic trends and recommends an appropriate mix of residential, retail, and employment center land uses to meet future market demand.

OVERVIEW OF WHEATLAND

The city of Wheatland is located in south Yuba County just across the Yuba-Placer County line, along Sr 65, which bisects the town. Wheatland is approximately 10 miles north of Lincoln in South Placer County, 45 miles north of the city of Sacramento, and 130 miles northeast of San Francisco. Map X shows the city of Wheatland in relation to the region. Map X provides a more detailed picture of Wheatland.

Wheatland is a small rural community with approximately 2,700 residents and 950 housing units, as of January 1, 2003.[1] Residential development is migrating toward Wheatland from the rapidly developing communities in South Placer County. In order to more effectively plan for growth in Wheatland, the City is embarking on a General Plan Update to plan for new development in the city.

3.2 | SACRAMENTO REGION GROWTH POTENTIAL

SACRAMENTO REGIONAL GROWTH

The Sacramento region has been one of the fastest growing areas in California over the last decade and particularly during the last three to five years. The following factors have all contributed to regional population growth in Sacramento:

- Employment growth;
- Relatively affordable housing compared to other communities in California;
- Ample recreational activities; and
- Sacramento's general livability.

[1] As of January 1, 2003, from Department of Finance (DOF). The base year date assumed in this study is January 1, 2003. This date was used in order to coordinate data from various sources. Recent population estimates from DOF for Jan. 1, 2004, have been released. Wheatland's estimated population base from this source is 3,180.

The recent influx of population to the Sacramento region has been largely influenced by job losses in the San Francisco Bay Area combined with increasing housing costs in Bay Area communities. Estimates indicate that one-third of all new Sacramento residents are moving to the region from the Bay Area.

REGIONAL JOB GROWTH

Future job growth in Sacramento will be fundamental to continued growth in the region. As reported by the Center for the Continuing Study of the California Economy (CCSCE), the Sacramento region grew by 821,000 jobs during the last 50 years and is expected to grow by 964,000 jobs during the next 50 years.

The CCSCE reports that the Sacramento region will likely grow its job base at a faster rate than the state as a whole and will continue to diversify its economy to include increased manufacturing and service industries, while government-sector job growth is expected to stabilize.

REGIONAL POPULATION TRENDS

Between 1993 and 2003, the population in the Sacramento region grew from 1.7 million people to 2.1 million people, or approximately 40,000 new people per year (see Table 3-1).

Distribution of Population Growth

During the last 10 years, the majority of population growth (80 percent) in the Sacramento region has occurred in Sacramento and south Placer Counties. The proximity to the growing job bases in Sacramento, Folsom, Rancho Cordova, and Roseville has led to population increases in the surrounding areas. During the same period, Yuba County grew by a modest 1,600 people (see Table 3-1). However, Yuba County faces growth pressures in the following transportation corridors:

- SR 99/70 corridor north of Sacramento;
- I-80 corridor northeast of Sacramento through south Placer County; and
- State Route 65 corridor between Roseville and Marysville/Yuba City.

As land and home prices continue to escalate in Sacramento and south Placer Counties, increased growth, particularly residential development, will likely occur in Yuba County. As a result, Yuba County's share of the region's future population growth is expected to increase.

Table 3-1
Regional Historical Population Change

Item	Population		1993 to 2003		Percent of Sacramento Region	
	Jan. 1, 1993	Jan. 1, 2003	Absolute Change	Avg. Annual Per. Change	1993	2003
YUBA COUNTY						
City of Wheatland	1,800	2,700	900	4.1%	0.1%	0.1%
City of Marysville	12,400	12,500	100	0.1%	0.7%	0.6%
Unincorporated Yuba County	47,100	47,700	600	0.1%	2.8%	2.3%
Subtotal Yuba County	**61,300**	**62,900**	**1,600**	**0.3%**	**3.6%**	**3.0%**
SUTTER COUNTY						
City of Live Oak	4,800	6,500	1,700	3.1%	0.3%	0.3%
Yuba City	31,000	48,400	17,400	4.6%	1.8%	2.3%
Unincorporated Sutter County [1]	34,400	28,500	(5,900)	-1.9%	2.0%	1.4%
Subtotal Sutter County	**70,200**	**83,400**	**13,200**	**1.7%**	**4.1%**	**4.0%**
PLACER COUNTY						
City of Lincoln	7,700	20,600	12,900	10.3%	0.5%	1.0%
Remaining Placer County	181,700	255,000	73,300	3.4%	10.7%	12.3%
Subtotal Placer County	**189,400**	**275,600**	**86,200**	**3.8%**	**11.1%**	**13.3%**
SACRAMENTO COUNTY	1,100,200	1,309,600	209,400	1.8%	64.5%	63.0%
YOLO COUNTY	146,700	181,300	34,600	2.1%	8.6%	8.7%
EL DORADO COUNTY	137,900	166,000	28,100	1.9%	8.1%	8.0%
Sacramento Regional Total	**1,705,700**	**2,078,800**	**373,100**	**2.0%**	**100.0%**	**100.0%**

Source: *E-4 Population Estimates for Cities, Counties and the State, 2001-2003*, Spring 2003, California Department of Finance and EPS

[1] Population decrease because of annexations by Yuba City.

FUTURE TRENDS IN THE REGIONAL HOUSING MARKET

Expected Housing Demand

The Sacramento region's location as an attractive site for additional employment and population growth is not expected to change in future years. As a result, by 2025 the regional population is projected to grow to 3 million people creating a demand for 391,000 new houses, as shown in Table 3-2. Table 3-2 estimates housing demand, assuming Department of Finance (DOF) projections, which are based on historical trends in migration and birth/death rates resulting in population growth. The DOF projection does not take into account the supply of land and, subsequently, housing.[2] Later in this section, the supply of housing defined as planned and approved projects is compared to the DOF projections.

[2] Table 3-2 shows projected population growth at 2025 based on DOF projections to 2020 escalated to 2025 by EPS assuming a constant average annual growth rate from 2015 to 2025. The projected housing demand is estimated assuming a forecasted regional average of 2.4 people per household in 2025. This estimate is based on projections by the CCSCE, which projects declining people per household factors in the Sacramento region because of an aging population.

During the next 20 years, housing demand is expected to be strongest in Sacramento County primarily because of this area's proximity to employment opportunities. Placer and El Dorado Counties are expected to realize the second and third highest housing demand levels given their reputation for quality of life and proximity to jobs along I-80, and in previous years, demand for housing in Sutter and Yuba Counties will likely be less strong than in other more central locations in the region. However, once land supply is factored in, these two counties are likely to realize increased housing demand given their land availability as compared with more central areas.

Table 3-2
Projected Population and Housing Demand by County - Based on Historical Trends

	Population - 2003 to 2025					Units
County	**Jan. 1, 2003** [1]	**2025 Projected** [2]	**Absolute Change**	**Avg. Annual Per. Change**	**Assumed People Per Household** [3]	**Projected New Housing Demand 2003 to 2025** [4]
El Dorado	166,000	274,600	108,600	2.3%	2.40	45,300
Placer	275,600	443,400	167,800	2.2%	2.40	69,900
Sacramento	1,309,600	1,832,600	523,000	1.5%	2.40	217,900
Sutter	83,400	124,700	41,300	1.8%	2.40	17,200
Yolo	181,300	254,600	73,300	1.6%	2.40	30,500
Yuba	62,900	87,900	25,000	1.5%	2.40	10,400
Regional Total	**2,078,800**	**3,017,800**	**939,000**	**1.7%**	**2.40**	**391,200**

Source: DOF, CCSCE, and EPS

[1] *E-4 Population Estimates for Cities, Counties and the State, 2001-2003*, Spring 2003, California Department of Finance.
[2] Based on *Interim County Population Projections*, California Department of Finance, June 2001, adjusted by EPS for 2025, assuming the DOF estimated average annual growth rate between 2015 and 2020 by county for the period 2020 to 2025.
[3] From *Projections of Population and Jobs in the SACOG Region From 2000 to 2050*, Center for the Continuing Study of the California Economy, January 2, 2003, for the year 2030. Regional average assumed for all counties in order to account for changing demographics in the region that include an aging population and fewer people per household.
[4] Calculated by multiplying absolute change in population by estimated people per household.

Estimated Quantity of Unmet Housing Demand

Region-wide, approximately 168,000 units of unmet housing demand are projected by 2025, as shown in Table 3-3. The quantity of unmet demand is based on projected demand for housing as shown in Table 3-2 compared with the number of units in the planned and approved stage throughout the region. As shown in Table 3-3, approximately 391,000 units will likely be demanded in the region by 2025, while 120,000 approved units and 103,000 planned units will

likely be supplied. This results in a projected housing gap or shortage of 168,000 units at 2025. Please note that this gap does not include the available capacity for additional development to occur in other outlying areas or in infill areas.

In the region, Sacramento County is likely to feel the effects of the housing shortage most acutely given demand estimates of 218,000 units compared to a supply of proposed, 107,000 units. Projections indicate a housing surplus in Yuba County given demand trends and housing supply, assuming all proposed projects are approved. However, not all of the demand projected for Sacramento, Placer, Yolo, and El Dorado Counties will be met in these counties given land availability and cost. As a result, Yuba County will likely realize additional demand for housing given its growth pressure from I-80, SR 99/70, and SR 65 corridors.

Table 3-3
Sacramento Region Housing Gap / Surplus by County

County	Housing Units - 2003 to 2025					
	Units Demanded *A* [1]	Units Approved *B* [2]	Housing (Gap) or Surplus - Approved Units *C = B - A*	Units Planned *D* [2]	Total Supply of Approved and Planned Units *E = B +D* [2]	Housing (Gap) or Surplus - Approved & Planned Units F = E - A
El Dorado County	45,300	6,100	**(39,200)**	2,800	8,900	**(36,400)**
Placer County	69,900	17,800	**(52,100)**	43,000	60,800	**(9,100)**
Sacramento County	217,900	67,600	**(150,300)**	39,000	106,600	**(111,300)**
Sutter County	17,200	0	**(17,200)**	1,000	1,000	**(16,200)**
Yolo County [3]	30,500	17,200	**(13,300)**	2,900	20,100	**(10,400)**
Yuba County	10,400	11,700	**1,300**	14,300	26,000	**15,600**
Regional Total	**391,200**	**120,400**	**(270,800)**	**103,000**	**223,400**	**(167,800)**

Source: Department of Finance, various local planning documents, and EPS

[1] See **Table 3-2**.
[2] See **Table A-1**.
[3] Demand for housing in Yolo County is based on historical trends and does not fully capture housing demand in the County. Instead demand for housing reflects the limited supply that has been made available for housing in previous years.

3.3 | THE YUBA/SUTTER SUB-REGION

Yuba and Sutter Counties make up the Yuba City Metropolitan Statistical Area (MSA) and function as a sub-regional economy in the larger Sacramento region. Both counties are located in the fertile Sacramento Valley and extend from Sacramento County northeast to the Sierra Mountain Range.

POPULATION TRENDS IN THE YUBA/SUTTER SUBREGION

Population growth during the last 10 years in the Yuba City MSA has been relatively slow when compared to the Sacramento region. As shown in Table 3-4, the sub-region added

approximately 15,000 people during the last 10 years, with Sutter County capturing 90 percent of the growth, primarily in Yuba City.

Population Growth from Future Residential Projects

As discussed in Section 3.2, Yuba and Sutter Counties will likely capture additional housing development beyond what has historically occurred. This is likely to be a result of increased home prices and decreased land availability in Sacramento and south Placer Counties. Plumas Lake residential development, with close to 12,000 proposed units, is an example of residential development pressures moving north along the SR 99/70 corridor. Table 3-5 projects that approximately 65,000 people will likely move to the Yuba/Sutter MSA because of planned or approved development projects primarily in Yuba County, assuming proposed projects are approved and planned and approved projects are developed.

Alternative Population Projections

Table 3-6 compares Yuba County population projections from the Sacramento Area Council of Governments (SACOG), the DOF, the CCSCE, and Woods & Poole Economics, Inc. Because of historically low population growth rates in Yuba County, the majority of the projection sources estimate a low population projection for Yuba County when compared to anticipated growth from planned or proposed projects. Only SACOG projects higher population growth based on the identification of projects in the development pipeline.

It is likely that given the shortage of housing in the Sacramento region, particularly in Sacramento and Placer Counties, population growth in Yuba County will grow at a rate higher than in previous years. The pace of development related to identified planned and proposed projects will depend, to some extent, on improved infrastructure, such as improvements to SR 65. As a result, the population growth identified based on planned and proposed projects may not occur by 2025; however, over the longer term it is likely to occur.

Table 3-4 Yuba City MSA - Historical Population Trends			
	Population		1993 to 2003
Item	1993	2003	Increase
Yuba County			
City of Wheatland	1,800	2,700	900
City of Marysville	12,400	12,500	100
Unincorporated Yuba County	47,100	47,700	600
Subtotal Yuba County	**61,300**	**62,900**	**1,600**
Sutter County			
City of Live Oak	4,800	6,500	1,700
Yuba City	31,000	48,400	17,400
Unincorporated Sutter County [1]	34,400	28,500	-5,900
Subtotal Sutter County	**70,200**	**83,400**	**13,200**
Subtotal Yuba City MSA	**131,500**	**146,300**	**14,800**

Source: Department of Finance

[1] Population decrease is a result of annexation by Yuba City.

Table 3-5 Projected Population from Planned or Approved Projects - Yuba City MSA			
Residential Development Projects	**Units**	**People per Household**	**Projected Population**
		[1]	
Yuba County			
Wheatland			
Jones Ranch	552	2.4	1,300
Heritage Oak Estates	810	2.4	1,900
Nichols Ranch	1,800	2.4	4,300
Subtotal Wheatland	3,162		7,500
Yuba County - Unincorporated			
Plumas Lake	11,737	2.4	28,200
Yuba Highlands	5,100	2.4	12,200
East Linda	6,000	2.4	14,400
Subtotal Yuba County Unincorporated	22,837		54,800
Yuba County Subtotal	**25,999**	**2.4**	**62,300**
Sutter County			
Yuba City Misc.	1,000	2.4	2,400
Yuba-Sutter MSA	**26,999**	**2.4**	**64,700**

Source: Various jurisdictions and EPS

[1] From CCSCE

Table 3-6 Population Projection Comparisons for Yuba County				
Yuba County Population				
Projection Source	**Jan. 1, 2003**	**Projected 2010**	**Projected 2025**	**Note**
SACOG	[1] 62,900	78,050	107,950	From 2001 projections
DOF	62,900	71,400	87,900	From 2001 projections estimated to 2025 by EPS, assuming constant growth rate
Woods & Poole	62,900	63,800	68,200	From 2003 projections
CCSCE	62,900	56,400	N/A	From 2003 household projections translated to population by EPS.
Planned & Proposed Projects [2]	62,900	N/A	125,200	From estimates of planned & proposed projects as shown in **Table 5**. All development may not occur by 2025.

Source: SACOG, DOF, Woods & Poole, CCSCE, and EPS

[1] January 1, 2003 estimate from Department of Finance.
[2] As summarized by EPS.

EMPLOYMENT TRENDS IN YUBA COUNTY

Since Wheatland is most immediately impacted by the economic trends of Yuba County, employment by sector was analyzed for Yuba County only. This is shown in Table 3-7.

Historical Employment Trends—Yuba County

- **Overall job growth in the county has been modest.** During the last 10 years, Yuba County grew by approximately 2,800 non-farm jobs and 2,500 total jobs. This represents a growth rate of approximately 1 percent annually (see Table 3-7).
- **Government continues to be the dominant sector.** Measured in terms of concentration of employees, Yuba County continues to be dominated by government jobs. In 2003, government employees comprised close to 40 percent of all jobs in the county, up from 35 percent in 1993. The large concentration of government jobs in Yuba County is largely the result of Beale Air Force Base which employees approximately 4,600 people.
- **Farming employment declined.** During the last 10 years, Yuba County realized a decline in farm employment by about 300 jobs (see Table 3-7). This is a trend facing many Central Valley communities as continued urbanization and increased agricultural mechanization reduce the labor force required for farming.
- **Manufacturing and service sectors grew.** The manufacturing sector grew substantially in terms of an average annual growth rate of 4.5 percent, which yielded approximately 600 new jobs. The service sector grew by close to 1,000 jobs adding to an already large employment base.

Projected Employment Changes – Yuba County

Employment projections for Yuba County by published sources are likely to be conservative given the historically modest growth in jobs the county has experienced. This is the case for projections developed by Woods & Poole. However, the City should consider planning for employment growth beyond what published sources project in order to ensure adequate land availability as the market for nonresidential development matures.

Similar to residential development trends, Yuba County will likely exceed Woods & Poole's projected rate of employment growth in future years as development moves north and east. However, unlike residential development, the amount and pace of employment growth is less predictable. Job growth in Sacramento and Placer Counties combined with a lack of adequate housing in these counties will likely push residential development to Yuba County. However, employment growth in Yuba County will likely be slower than that of residential development given available capacity for jobs in the more central areas of Sacramento. Even if the pace of job growth is slower than residential development, local communities should plan for job growth so that land is available when nonresidential development occurs.

Table 3-7
Historical and Projected Employment - Yuba County

	Historical Jobs		Projected Jobs	Historical Change 1993 to 2003		Projected Change 2003 to 2025	
Employment Sector	**1993**	**2003**	**2025**	**Absolute**	**Avg. Annual**	**Absolute**	**Avg. Annual**
Non-Farm Employment							
Agricultural Services	888	1,192	2,055	304	3.0%	863	2.5%
Mining	61	74	81	13	2.0%	7	0.4%
Construction	964	1,247	1,560	283	2.6%	313	1.0%
Manufacturing	1,077	1,680	2,044	603	4.5%	364	0.9%
T.C.P.U. [1]	1,150	950	1,002	-200	-1.9%	52	0.2%
Wholesale Trade	425	233	278	-192	-5.8%	45	0.8%
Retail Trade	3,314	2,957	3,099	-357	-1.1%	142	0.2%
F.I.R.E. [1]	974	863	1,014	-111	-1.2%	151	0.7%
Services	4,489	5,397	7,528	908	1.9%	2,131	1.5%
Government	8,808	10,314	12,163	1,506	1.6%	1,849	0.8%
Subtotal Non-Farm Employment	**22,150**	**24,907**	**30,824**	**2,757**	**1.2%**	**5,917**	**1.0%**
Farm Employment	2,327	2,027	2,090	-300	-1.4%	63	0.1%
TOTAL EMPLOYMENT	**24,477**	**26,934**	**32,914**	**2,457**	**1.0%**	**5,980**	**0.9%**

Source: Woods & Poole Economics

[1] T.C.P.U. is Transportation, Communication, & Public Utilities and F.I.R.E is Finance, Insurance, & Real Estate.

Table 3-7 shows the projected employment growth for Yuba County by 2025. In total approximately 6,000 jobs are projected countywide. The projections shown later in this report (Section IV) indicate that Wheatland should plan for 10,600 new jobs which is more than Woods & Poole projects for Yuba County. This report projects 10,600 jobs for Wheatland in order to identify the appropriate job base to plan for by 2025. Planning for and identifying land for retail, office, and industrial development will be critical to ensuring adequate land for economic opportunities as the market matures.

The Presence of Beale Air Force Base

Beale Air Force Base is located in Yuba County approximately 13 miles east of Marysville/Yuba City, 5 miles northeast of Wheatland, and approximately 15 miles northeast of Lincoln. Beale is accessible via five access roads, two of which lead to Marysville, another two lead to Wheatland, and one road leads to Grass Valley. Beale Air Force Base includes 23,000 acres of land generally considered free from encroachment, resulting in adequate land to carry out military operations.

Beale employed approximately 4,600 persons as of 2003, with average annual pay at approximately $28,000.[3] Beale currently has a large economic impact on approximately eight northern California counties as a result of supplier relationships and services required. Direct economic impacts in Yuba and Sutter Counties result from housing civilian employees who work at Beale. Children of on-base military families attend Bear River Middle School and Wheatland High School. Both civilian and armed services personnel from Beale reside in Wheatland.

Beale's Future

Recent decisions by the Department of Defense (DOD) to locate the Global Hawk aircraft at Beale have indicated a preference for Beale's competitive position for military operations. However, the outcome of the Base Realignment and Closure (BRAC) Act 2005 Round is still unknown. As national military leaders continue to revise goals, strategies, and operating procedures, decisions related to base closures will continue to be uncertain.[4]

There are two economic opportunities that are likely to impact Wheatland over time assuming Beale's continued operation and expansion.

- **The Global Hawk.** The United States Air Force chose Beale Air Force Base as the location of the Global Hawk aircraft which will be maintained and deployed from Beale. The Global Hawk is a military plane operated autonomously to conduct reconnaissance military operations.[5] Over 100 contractors are responsible for maintaining the Global Hawk and there is the potential for locating some of these contractors at or near Beale. The location of autonomous technology at Beale Air Force Base has the potential to increase the demand for office and industrial space in and around the Base, potentially offering economic opportunities to Wheatland in the future.
- **Beale Purchasing Power.** Beale operates numerous business programs that offer local businesses opportunities to sell goods and services to Beale. Local communities such as

[3] *Community Development Management. Analysis of Beale Air Force Base.* Prepared by the Beale Regional Alliance Committee, April 2003.

[4] Based on the analysis conducted by the Beale Regional Alliance Committee, Beale generally meets the criteria established for the 2005 BRAC in that infrastructure improvements are occurring, Beale has multiple missions, encroachment is not an issue, air space is not overly busy, housing is affordable, and deployment capabilities are adequate.

[5] Autonomous technology is a term that is given to describe a product or machine that performs challenging, real world problem(s) of practical and economic importance by integrating human behavior, mobility and sensing." From a presentation by Tim Johnson, Yuba-Sutter Economic Development Corporation on "The California Autonomous Technology Initiative."

Wheatland have the opportunity to grow small businesses that can be supported by demand from Beale.[6]

NONRESIDENTIAL DEVELOPMENT POTENTIAL

Yuba County will likely realize significantly more residential development during the next 25 years because of the housing shortage expected for Sacramento and Placer Counties and high home prices in central areas in the region. However, nonresidential development, such as office and industrial facilities, in Yuba County and subsequently Wheatland is likely to be slower. This is a result of available capacity for employment growth in core areas in south Placer County, such as Sunset Industrial Area, Lincoln Airpark, as well as sites in Sacramento County, such as McClellan Park, and Metro Air Park.

In an attempt to encourage employment growth, Yuba County is attempting to attract job growth and nonresidential development to areas generally within five miles of the newly constructed Sleep Train Amphitheatre in the county's Sports and Entertainment Zone. The following list is the areas designated for office/industrial development in Yuba County.

- **Plumas Lake Specific Plan.** Approximately 250 acres of land has been designated for community and highway commercial, although not all of this land is likely to be developable given wetland issues and access. An additional 240 acres of land dedicated to business park uses is also identified in the Plumas Lake Specific Plan.
- **Yuba County Airport**. Approximately 30 acres of land remains vacant for industrial development at the Yuba County Airport east of SR 70 and southeast of SR 65 adjacent to Marysville.
- **Yuba County Sports and Entertainment Zone.** Approximately 1,000 acres are available for sports and entertainment including, but not limited to, an amphitheatre, motorplex, golf course, family theme parks, and related entertainment venues. Office and industrial are not authorized uses. This zone is anchored by the Sleep Train Amphitheatre.
- **Yuba County Rancho Road.** Approximately 500 acres of land planned for industrial and some commercial is available along Rancho Road contingent upon private party negotiations. Currently, this area lacks access to water and wastewater infrastructure.
- **Yuba County Research and Development Park.** This area comprises about 2,500 acres zoned for light industrial, office, and corporate campus uses, and is located adjacent to Beale Air Force Base along South Beale Road. The zoning for this area occurred about 10 years ago to accommodate a potential Caltrans corporate campus that did not occur. This area does not have infrastructure.

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[6] These programs include the Small Business Administration 8(a) Business Development Program, the U.S. General Services Administration, General Services Administration Federal Government Charge Card Program, the Central Contractor Registration, the Federal Technology Center Procurement Technical Assistance, and Beale's appropriate and non-appropriate fund purchase actions.

Job growth in the areas listed above will likely be the result of local business development and some business relocation in the short term. In the longer term, nonresidential development will likely occur in Yuba County as a result of the growing labor force expected in Plumas Lake, Linda, Marysville, and Wheatland. Currently, Wheatland does not have any significant land allocated for industrial or office development, which reduces its ability to capture an appropriate balance of jobs and housing in future years.

3.4 | FUTURE DEVELOPMENT IN WHEATLAND

FUTURE RESIDENTIAL DEVELOPMENT

As the housing supply in Sacramento County becomes more constrained because of land availability and housing prices, development will continue east along Interstate 80 to Roseville, and northwest along SR 65 to unincorporated Placer County, Lincoln, and subsequently Wheatland. In addition, job growth is likely to increase in South Placer County, particularly in Roseville, Lincoln, and parts of unincorporated Placer County. Employers will continue to seek locations near the growing labor force that will likely become more desirable as higher education opportunities unfold in south Placer County.

Given these trends, Wheatland will be considered a desirable location for residents seeking to commute to jobs in Roseville, Rocklin, Lincoln, and south Placer County. Developers already are recognizing Wheatland's location as the next opportunity for residential development as indicated by the proposed Jones Ranch and Heritage Oak Estates residential projects.

The current configuration of SR 65 through Wheatland limits the residential development potential of Wheatland. However, a planned bypass around Wheatland will improve the commute times and proximity to employment centers, thereby increasing the potential for residential development in the city.

Wheatland Projected Population and Housing

The Sacramento Area Council of Governments (SACOG) has projected that Wheatland could have a population ranging from 21,000 to 30,000 persons in 25 to 50 years. Another method for projecting future population growth for Wheatland is based on the following two assumptions:

1. Wheatland will likely capture between 5 and 15 percent of the projected housing gap for Placer and Sacramento Counties.

2. Wheatland will likely grow slower in absolute numbers and higher in percent of growth than Lincoln in future years and can reasonably expect and additional 1,200 people per year. This absorption schedule is similar to Lincoln's growth trends during the last 10 years.

Using these assumptions results in an additional 27,400 people and 11,400 units between 2003 and 2025 for a total population of 30,100 in 2025.

Population and Housing Growth Projections

In order to quantify the extent of residential development the city of Wheatland should expect between 2003 and 2025, three projections were developed assuming low, medium, and high capture rates (see Table 3-8). The medium range forecast should form the basis for future planning of Wheatland through 2025 because it generally corresponds to the historical growth trends that Lincoln has witnessed during the last 10 years.

Assumed Population and Housing Projections

Table 3-9 shows the assumed growth projection for Wheatland and identifies a projected average annual growth rate of 1,200 people and 500 units by 2025.

EMPLOYMENT GROWTH IN WHEATLAND

New residential development in Wheatland has been at lower price points compared to similar products closer to the job market in south Placer County and Sacramento.

Pressures for office and industrial development will not be as strong as residential development in Wheatland. However, as the General Plan Update progresses, the City should plan for adequate employment opportunities to create an appropriate jobs to housing balance. This will give the City the opportunity to capture employment opportunities as they become available. If the City does not provide land for retail, office, or industrial development, the City will not have the opportunity to increase its employment base as the market matures.

Appropriate Jobs to Housing Balance

Throughout the six-county Sacramento region, the average jobs-to-housing ratio for the year 2000 was 1 job to 1.4 housing units. This is shown in Table A-2 in Appendix A. Communities such as West Sacramento and the city of Sacramento have a higher jobs housing ratio because of the extensive job base within their boundaries. Conversely, communities such as Citrus Heights, Elk Grove, and Rocklin have lower jobs-to-housing ratios when compared to the region. As of 2003, Wheatland's jobs-to-housing ratio was 0.53 as shown in Table 3-10.

Table 3-8
Potential Population and Housing in Wheatland - Three Projections

Item	Value	Note
Housing Gap Applicable to Wheatland		
Housing Gap - Number of Units		
Sacramento County	111,300	See **Table 5-3**
Placer County	9,100	See **Table 5-3**
Subtotal Housing Gap	120,400	
Potential Population and Housing in Wheatland		
LOW PROJECTION		
Wheatland Capture Rate of Housing Gap	5%	
New Units	6,000	
New Population	14,400	Assumes 2.4 people per unit
MID-RANGE PROJECTION		
Wheatland Capture Rate of Housing Gap	10%	
New Units	11,400	
New Population	27,400	Assumes 2.4 people per unit
HIGH PROJECTION		
Wheatland Capture Rate of Housing Gap	15%	
New Units	18,100	
New Population	43,400	Assumes 2.4 people per unit

Source: DOF, City of Lincoln, and EPS

Table 3-9
Projected Population and Housing - 2003 to 2025 - City of Wheatland

Item	Value	Notes
Population		
Population as of Jan. 1, 2003	2,700	
Projected 2003 to 2025	27,400	Based on the mid-range projection in **Table 5-7**
Total Population at 2025	30,100	
Projected Annual Absorption	*1,200*	
Housing Units		
Units as of Jan. 1, 2003	950	From DOF
Projected 2003 to 2025	11,400	Assumes 2.4 people per unit
Total Units at 2025	12,350	
Projected Annual Absorption	*500*	

Source: EPS

For planning purposes this report assumes Wheatland's jobs-to-housing ratio in 2025 will be equivalent to Lincoln's jobs-to-housing ratio as of 2000 (0.9 jobs to 1 housing unit).[7] It is unlikely that Wheatland will be able to generate demand for employment uses resulting in a jobs-

[7] Lincoln's jobs-to-housing ratio is 0.87 jobs to housing units. However, EPS rounded this ratio up to 0.90 to simplify calculations.

to-housing factor above one. Additionally, Wheatland may not be able to attract industrial uses at the same rate Lincoln has given Lincoln's airport and surrounding industrial land. Wheatland's proximity to Beale Air Force Base and the potential economic opportunities that could result from new technology at the base, however, could increase the economic potential of Wheatland as a job center. As a result, it is reasonable to assume a jobs-to-housing ratio of 0.9 for Wheatland by 2025. The following estimates the number of jobs to plan for assuming a 0.9-jobs-to-housing ratio at 2025 for Wheatland.

Table 3-10
Projected Jobs-to-Housing Ratio

Year	Jobs	Housing Units	Jobs-to-Housing Ratio	Note
2003 Existing	500	950	0.53	based on existing data from DOF
2025 Projected	11,100	12,350	0.90	Projected assuming Lincoln's 2000 jobs-to0housing ratio
2003 to 2025 New	10,600	11,400	N/A	

Source: SACOG and EPS.

FUTURE RETAIL DEVELOPMENT IN WHEATLAND

Retail development follows new housing construction and requires a critical mass of new rooftops before retail tenants are interested in new markets. For example, Lincoln is approaching 30,000 people and is only now starting to attract the attention of retailers, such as Home Depot. However, the City should plan for key retail opportunity areas in Wheatland to prepare for future development prospects.

Retail Space per Capita

The quantity and type of retail space depends on the market area served and the extent of residential development in a particular area. Table 3-11 illustrates the results of a survey of communities ranging in size from 30,000 people to 120,000 people. Based on the survey, smaller communities have less retail space and tend not to have regional or super regional retail centers. Instead, communities of less than 30,000 people often have neighborhood centers, some community commercial, and a mix of downtown or unclassified retail. The average retail space per capita for communities of 30,000 people and less is approximately 13.5, as shown in Table 3-11. Appendix A-4 offers greater detail about retail square feet per capital for smaller cities, containing less than 30,000 people.

Table 3-11
Summary of Retail Sq. Ft. per Capita Survey

City	Jan. 1, 2003 Population	RETAIL SQ. FT. Neighborhood Commercial [1]	Community Commercial [1]	Regional Commercial [1]	Super Regional Commercial [1]	Subtotal From Retail Directory	Estimated Unclassified Retail Not Captured in Retail Directory [2]	TOTAL ESTIMATED RETAIL	Total Retail Sq. Ft. per Capita
30,000 Category Cities									
Galt	22,151	0	150,000	0	0	**150,000**	100,000	**250,000**	**11.3**
Lafayette	24,400	75,500	100,000	0	0	**175,500**	120,000	**295,500**	**12.1**
Lincoln	20,550	0	120,000	0	0	**120,000**	166,000	**286,000**	**13.9**
Oakley	26,938	31,350	231,670	0	0	**263,020**	180,000	**443,020**	**16.4**
Santa Paula	28,970	58,554	171,700	0	0	**230,254**	150,000	**380,254**	**13.1**
Subtotal	**123,009**	**165,404**	**773,370**	**0**	**0**	**938,774**	**716,000**	**1,654,774**	
Avg. Sq.Ft. per Capita		***1.3***	***6.3***	***0.0***	***0.0***	***7.6***	***5.8***	***13.5***	
60,000 Category Cities									
Folsom	63,800	259,259	1,069,953	0	0	**1,329,212**	890,000	**2,219,212**	**34.8**
Merced	67,600	84,000	388,000	620,355	0	**1,092,355**	730,000	**1,822,355**	**27.0**
Petaluma	56,000	416,378	600,702	0	0	**1,017,080**	680,000	**1,697,080**	**30.3**
Subtotal	**187,400**	**759,637**	**2,058,655**	**620,355**	**0**	**3,438,647**	**2,300,000**	**5,738,647**	
Avg. Sq. Ft. per Capita		***4.1***	***11.0***	***3.3***	***0.0***	***18.3***	***12.3***	***30.6***	
90,000 Category Cities *without Super-Regional*									
Fairfield	102,500	233,505	742,710	1,055,249	0	**2,031,464**	1,350,000	**3,381,464**	**33.0**
Santa Barbara	90,500	374,841	260,553	941,294	0	**1,576,688**	1,050,000	**2,626,688**	**29.0**
Antioch	99,300	545,635	537,402	506,902	0	**1,589,939**	1,060,000	**2,649,939**	**26.7**
Subtotal	**292,300**	**1,153,981**	**1,540,665**	**2,503,445**	**0**	**5,198,091**	**3,460,000**	**8,658,091**	
Avg. Sq. Ft. per Capita		***3.9***	***5.3***	***8.6***	***0.0***	***17.8***	***11.8***	***29.6***	
90,000 Category Cities *with Super-Regional*									
Visalia	98,900	293,479	853,069	793,205	800,000	**2,739,753**	1,830,000	**4,569,753**	**46.2**
Roseville	90,700	442,620	1,269,075	1,141,833	1,035,600	**3,889,128**	2,590,000	**6,479,128**	**71.4**
Subtotal	**189,600**	**736,099**	**2,122,144**	**1,935,038**	**1,835,600**	**6,628,881**	**4,420,000**	**11,048,881**	**58.3**
Avg. Sq. Ft. per Capita		***3.9***	***11.2***	***10.2***	***9.7***	***35.0***	***23.3***	***58.3***	
120,000 Category Cities									
Concord	124,900	520,046	1,040,348	475,000	1,317,000	**3,352,394**	2,230,000	**5,582,394**	**44.7**
Escondido	138,000	987,346	1,295,073	933,929	1,243,900	**4,460,248**	2,970,000	**7,430,248**	**53.8**
Rancho Cucamonga	146,700	680,790	1,239,789	614,500	1,300,000	**3,835,079**	2,560,000	**6,395,079**	**43.6**
Modesto	203,300	1,020,231	2,191,637	1,663,820	1,039,972	**5,915,660**	3,940,000	**9,855,660**	**48.5**
Subtotal	**612,900**	**3,208,413**	**5,766,847**	**3,687,249**	**4,900,872**	**17,563,381**	**11,700,000**	**29,263,381**	
Avg. Sq. Ft. per Capita		***5.2***	***9.4***	***6.0***	***8.0***	***28.7***	***19.1***	***47.7***	
TOTAL - ALL CITIES	**1,405,209**	**6,023,534**	**12,261,681**	**8,746,087**	**6,736,472**	**33,767,774**	**22,596,000**	**56,363,774**	--
Avg. Sq. Ft. per Capita		***4.3***	***8.7***	***6.2***	***4.8***	***24.0***	***16.1***	***40.1***	

Source: National Research Bureau 2004 Retail Directory and EPS

[1] The NRB categorizes retail centers according to the following size categories:

Neighborhood Commercial - centers with less than 100,000 sq. ft. GLA
Community Commercial - centers with 100,000 to 299,000 sq. ft. GLA
Regional Commercial - centers with 300,000 to 749,999 sq. ft. GLA
Super Regional Commercial - centers with more than 750,000 sq. ft. GLA

[2] The National Research Bureau does not report information on all retail centers in a community. Based on a preliminary estimate of five Sacramento area communities, the NRB is capturing an estimated 60 percent of the total retail inventory in a community. As a result, EPS added an additional 40 percent of "other" retail space to each city to account for the incomplete measure by the NRB. Lincoln's estimate of unclassified retail space is based on information from the City.

Projected Retail Space in Wheatland

Based on the survey of retail space, Wheatland should plan for approximately 400,000 square feet of retail space by 2025, assuming a 30,100-person community. This is shown in Table 3-12. Retail space will likely be comprised of neighborhood-serving commercial, some community commercial, and a mix of downtown shops, existing stores, and stand-alone centers. Approximately 50 acres of land for retail space should be allocated for 2025.

EMPLOYMENT CENTER ZONING

In order to adequately plan for job growth, Wheatland should reserve at least 400 acres of land for employment center uses in addition to land dedicated for retail development. The zoning designation should be flexible in order to allow for a variety of uses including light industrial, office, research and development, or medical. As shown in Table 3-13, 400 acres should be identified and planned for based on an assumed 25 employees per acre and projected employment growth of 9,000 jobs that could be housed in employment center zoning.

Table 3-12 Projected Retail Space at Buildout of Wheatland General Plan				
Item	**Neighborhood Commercial**	**Community Commercial**	**Unclassified Retail**	**Total Retail**
Retail Product Description	Neighborhood serving centers with less than 100,000 sq. ft. GLA	Community serving centers with 100,000 to 299,000 sq. ft. GLA	Small centers including strip retail, downtown retail, or stand alone retail	N/A
Avg. Sq. Ft. Per Capita for 30,000 Population Cities	1.3	6.3	5.8	13.5
Wheatland Buildout Population	30,100	30,100	30,100	30,100
Projected Retail Space at Buildout (rounded)	40,000	190,000	180,000	400,000
Floor Area Ratio (FAR)	0.25	0.25	0.25	0.25
Net to Gross Factor [1]	0.70	0.70	0.70	0.70
Acres Required (rounded)	4	26	26	50
Number of Retail Centers	3 five acre sites or 1 ten acre site & 1 five acre site	1 - 35 acre site 2 - 15 to 20 acre sites	Mix of downtown, existing, & stand alone retail	N/A

Source: National Research Bureau 2004 Retail Directory and EPS

[1] Net to gross factor of 0.70:1.0 assumed to allow for adequate land for roads and infrastructure.

Table 3-13 Estimated Employment Center (EC) Land Required	
Item	**Value**
Projected Jobs at 2025	11,100
Existing Jobs - 2003	500
New Jobs 2003 to 2025	10,600
Less New Retail Jobs Assuming 450 Sq. Ft. per Employee [1]	(800)
Less New Education Jobs Housed in Schools [1]	(800)
New Jobs Potentially Housed in Employment Center Zoning	**9,000**
Assumed Emp / Acre [2]	25
Estimated Employment Center Land Required - Acres	**400**

Source: EPS and SACOG

[1] Land needed for retail uses is calculated separately in Table 3-12.
Education jobs will be housed in schools. "Education jobs" assumes a 0.7 student generation rate and 1 student per 10.5 employees.

[2] Based on employment center zoning from the North Natomas Community Plan.

3.5 | ECONOMIC DEVELOPMENT STRATEGIES

MIX OF GENERAL PLAN LAND USE DESIGNATIONS

The City of Wheatland has been, and appears to be becoming, a bedroom community where residential development is the dominant land use. New residential development in Wheatland has been at lower price points compared to similar products closer to the job market in South Placer County and Sacramento. Additionally, Wheatland is a manageable commute to the Sacramento regional job base, particularly in relation to jobs in south Placer County.

If Wheatland develops as a bedroom community only, it is likely that the following issues will become problematic for Wheatland residents and policymakers.

- **Longer commute times.** Wheatland residents will be forced to spend more time commuting to and from work thereby reducing the quality of life for many residents.
- **Less stable fiscal revenue stream.** A mix of land uses results in a diverse set of revenue streams including retail sales tax, business-to-business sales tax, business license fees, and property taxes. If developed as a bedroom community only, Wheatland's fiscal situation will be less secure. Residents will likely have to pay significant special taxes for an appropriate level of service to meet the needs of a growing community.

Identify Appropriate Land Use Mix

Given the issues described above, it is important that Wheatland policymakers designate the appropriate amount of retail and employment center land to accommodate future job growth. Capturing that job growth will require specific economic development strategies and favorable market and political decisions, among other factors. However, through the General Plan Update process, Wheatland should reserve land for economic opportunities in order to allow job growth to occur in the future. Strategies are the following land use mix:

- Adequate land to accommodate 11,400 new housing units at build out of the General Plan.
- Approximately 70 acres of land for retail development.
- Approximately 300+ acres of land designated for employment centers, with the flexibility to accommodate office, industrial, research and development, or medical job centers.

Other Strategies

- **Plan for a Future SR 65 Bypass.** There are currently several plans identifying a bypass around Wheatland to efficiently route traffic along SR 65. The future of this bypass will be critical to Wheatland's development potential given the availability of land on either side of the bypass as well its potential to effectively transport residents and employees to and from Wheatland.
- **Avoid encroaching on Beale Air Force Base.** A competitive advantage of Beale as compared to other military installations in the U.S. is the lack of encroaching land uses. When adopting a revised city boundary to the east as part of the General Plan Update, policymakers should consider the appropriate amount of buffering between Beale and the city so as not to limit Beale's economic potential.
- **Consider designating land for the potential demand resulting from the continued expansion of the Global Hawk at Beale, as well as other possible military operations.** Beale's future is uncertain given the BRAC 2005 base closure process. The Base's uncertain future will remain so during the next 13 months as the proposed 2005 base realignment process continues. At the same time, the United State Air Force has selected Beale as the location for the Global Hawk. Given inadequate information related to Beale's future, the City of Wheatland should be prepared to designate land to accommodate new businesses related to Beale, if and when, they seek opportunities. If this occurs, Wheatland should be prepared to coordinate with the County in order to ensure that land is available if demanded.

3.6 | SOURCES

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Table A-1 (Page 1 of 3)
Summary of Planned and Proposed Development Projects - Sacramento Region

Project	Total Gross Acres	Res. Acres	Total Units at Buildout	Units Already Built	Units to be Built	Total Acres in Density Calc.	Avg. Density (Units/ Gross Acre)	Avg. Density per Res. Acres	Status [1]
SACRAMENTO COUNTY									
City of Sacramento									
North Natomas	6,700	2,650	26,500	7,500	19,000	6,700	3.96	10.00	Approved
Willowcreek	418	323	1,874	1,400	474	418	4.48	5.80	Approved
Delta Shores	118	92	421	-	421	118	3.57	4.58	Planned
Railyards/Richards	1,300	N/A	6,560	-	6,560	1,300	5.05	N/A	Approved
R Street Corridor - Res.	125.00	125.00	2,391	-	2,391	125	19.13	N/A	Planned
Subtotal	**8,661**	**3,190**	**37,746**	**8,900**	**28,846**	**8,661**	**4.36**	**11.83**	
Elk Grove									
East Franklin	2,474	1,891	10,103	1,000	9,103	2,474	4.08	5.34	Approved
Lent Ranch	274	14	280	-	280	274	1.02	19.72	Approved
East Elk Grove	1,439	981	4,300	1,150	3,150	1,439	2.99	4.38	Approved
Laguna Ridge	1,534	1,352	7,600	-	7,600	1,534	4.95	5.62	Planned
Subtotal	**5,722**	**4,238**	**22,283**	**2,150**	**20,133**	**5,722**	**3.89**	**5.26**	
Folsom									
Empire Ranch	1,791	1,091	3,070	1,336	1,734	1,791	1.71	2.82	Approved
Willow Springs	266	164	750	700	50	266	2.82	4.58	Approved
The Parkway II	426	253	1,712	250	1,462	426	4.02	6.77	Approved
Broadstone III	570	261	687	350	337	570	1.21	2.63	Approved
Subtotal	**3,053**	**1,768**	**6,219**	**2,636**	**3,583**	**3,053**	**2.04**	**3.52**	
Unincorporated Sacramento County									
Rio Linda/Elverta	1,734	1,446	4,950	-	4,950	1,734	2.85	3.42	Planned
Vineyard Springs	2,560	2,047	6,004	-	6,004	2,560	2.35	2.93	Approved
Mather Field	5,754	380	1,531	1,381	150	5,754	0.27	4.03	Approved
North Vineyard Station	1,590	1,158	5,719	-	5,719	1,590	3.60	4.94	Approved
Sunridge	2,605	1,802	9,886	-	9,886	2,605	3.80	5.49	Approved
Sunrise/Douglas II	3,437	2,154	12,114	-	12,114	3,437	3.52	5.62	Planned
Stonelake	453	290	2,082	2,000	82	453	4.60	7.18	Approved
Villages of Zinfandel	823	344	1,875	400	1,475	823	2.28	5.46	Approved
Rancho Murieta	3,500	2,200	4,100	2,000	2,100	3,500	1.17	1.86	Approved
Aerojet/ Rio Del Oro	3,892	1,965	11,490	-	11,490	3,892	2.95	5.85	Planned
Subtotal	**26,347**	**13,786**	**59,751**	**5,781**	**53,970**	**26,347**	**2.27**	**4.33**	

Table A-1 (Page 2 of 3)
Summary of Planned and Proposed Development Projects - Sacramento Region

Project	Total Gross Acres	Res. Acres	Total Units at Buildout	Units Already Built	Units to be Built	Total Acres in Density Calc.	Avg. Density (Units/ Gross Acre)	Avg. Density per Res. Acres	Status [1]
PLACER COUNTY									
City of Lincoln									
Del Webb/ Sun City	2,945	1,629	6,700	4,300	2,400	2,945	2.27	4.11	Approved
Lincoln Crossing	1,070	623	2,958	-	2,958	1,070	2.76	4.75	Approved
Twelve Bridges	3,338	1,277	4,393	250	4,143	3,338	1.32	3.44	Approved
Foskett Ranch	152	152	698	-	698	152	4.59	4.59	Planned
Moore Ranch	3,037	2,142	10,822	-	10,822	3,037	3.56	5.05	Planned
Nader Property	516	328	2,010	-	2,010	516	3.90	6.13	Planned
Subtotal	**11,058**	**6,151**	**27,581**	**4,550**	**23,031**	**11,058**	**2.49**	**4.48**	
City of Roseville									
North Roseville	1,552	772	5,381	1,661	3,720	1,552	3.47	6.97	Approved
Stoneridge	1,071	615	2,810	500	2,310	1,071	2.62	4.57	Approved
Highland Reserve/ Park	615	304	1,770	1,000	770	615	2.88	5.82	Approved
West Roseville Specific Plan	3,162	1,762	8,430	-	8,430	3,162	2.67	4.78	Planned
Subtotal	**6,400**	**3,453**	**18,391**	**3,161**	**15,230**	**6,400**	**2.87**	**5.33**	
City of Rocklin									
Northwest Rocklin	1,700	870	4,160	-	4,160	1,700	2.45	4.78	Planned
Whitney Oaks	1,067	531	2,361	2,111	250	1,067	2.21	4.44	Approved
Clover Valley	622	622	844	-	844	622	1.36	1.36	Planned
Subtotal	**3,389**	**2,023**	**7,365**	**2,111**	**5,254**	**3,389**	**2.17**	**3.64**	
Unincorporated Placer County									
Dry Creek/West Placer	844	844	897	-	897	844	1.06	1.06	Approved
Placer Vineyards	5,026	3,815	14,132	-	14,132	5,026	2.81	3.70	Planned
Bickford Ranch	1,942	1,039	1,890	-	1,890	1,942	0.97	1.82	Planned
Winchester	1,117	703	409	50	359	1,117	0.37	0.58	Approved
Subtotal	**8,929**	**6,401**	**17,328**	**50**	**17,278**	**8,929**	**1.94**	**2.71**	

Table A-1 (Page 2 of 3)
Summary of Planned and Proposed Development Projects - Sacramento Region

Project	Total Gross Acres	Res. Acres	Total Units at Buildout	Units Already Built	Units to be Built	Total Acres in Density Calc.	Avg. Density (Units/ Gross Acre)	Avg. Density per Res. Acres	Status [1]
EL DORADO COUNTY									
Valley View	2,038	1,164	2,837	-	2,837	2,038	1.39	2.44	Planned
Carson Creek	713	369	1,700	-	1,700	713	2.38	4.61	Approved
Promontory	966	766	1,097	50	1,047	966	1.14	1.43	Approved
Serrano	3,381	1,875	4,453	2,500	1,953	3,381	1.32	2.38	Approved
Bass Lake Hills	1,414	1,167	1,404	-	1,404	1,414	0.99	1.20	Approved
Subtotal	**8,512**	**5,341**	**11,491**	**2,550**	**8,941**	**8,512**	**1.35**	**2.15**	
YOLO COUNTY									
The Rivers (Lighthouse)	300	200	1,139	220	919	300	3.80	5.70	Approved
Covell Center	386	175	688	-	688	386	1.78	3.93	Planned
University Village	220	84	1,635	-	1,635	220	7.43	19.46	Planned
SouthPort	7,120	3,752	14,051	6,250	7,801	7,120	1.97	3.74	Approved
Springlake	1,097	704	5,136	-	5,136	1,097	4.68	7.30	Approved
West Sac Triangle	188	50	3,000	-	3,000	188	15.96	60.00	Approved
Wild Wings	242	85	337	-	337	242	1.39	3.96	Approved
Winters Estates	25	25	107	-	107	25	4.28	4.28	Planned
Winters Highlands	100	88	468	-	468	100	4.68	5.32	Planned
Subtotal	**9,678**	**5,163**	**26,561**	**6,470**	**20,091**	**9,678**	**2.74**	**5.14**	
YUBA/ SUTTER COUNTIES									
Plumas Lakes	2,853	2,736	11,737	-	11,737	2,853	4.11	4.29	Approved
Jones Ranch	156	154	552	-	552	156	3.54	3.58	Planned
Heritage Oak Estates	215	194	810	-	810	215	3.78	4.18	Planned
Nichols Ranch	485	365	1,800	-	1,800	485	3.71	4.93	Planned
Yuba Highlands [2]	1,269	1,181	5,100	-	5,100	1,269	4.02	4.32	Planned
East Linda [2]	1,493	1,389	6,000	-	6,000	1,493	4.02	4.32	Planned
Yuba City Misc. (Sutter County) [2]	249	231	1,000	-	1,000	249	4.02	4.33	Planned
Subtotal	**6,720**	**6,250**	**26,999**	**-**	**26,999**	**3,224**	**4.02**	**4.32**	
TOTALS	**98,468**	**57,765**	**261,715**	**38,359**	**223,356**	**98,468**			
AVERAGES							**2.66**	**4.53**	

Source: EPS and various jurisdictions

[1] Approved projects are projects in approved or master planned projects. Planned projects are projects in the specific or master planning process.
[2] Acres estimated based on average densities in Yuba and Sutter Counties.

Table A-2
Summary of Jobs to Housing Ratios - Sacramento Region

Item	2000 Jobs	2000 Units	2000 Jobs to Housing	2005 Jobs	2005 Units	2005 Jobs to Housing
INCORPORATED AREAS						
Less than 10,000 People						
Colfax	1,060	736	1.44	1,194	831	1.44
Isleton	370	347	1.07	450	415	1.08
Live Oak	1,053	1,734	0.61	1,308	2,009	0.65
Loomis	2,342	2,240	1.05	2,741	2,502	1.10
Placerville	8,970	3,964	2.26	7,035	4,358	1.61
Wheatland	495	783	0.63	728	1,285	0.57
Winters	1,415	1,841	0.77	1,774	2,403	0.74
Less than 10,000 People Average	**2,244**	**1,664**	**1.35**	**2,176**	**1,972**	**1.10**
10,001 to 30,000 People						
Auburn	10,365	5,486	1.89	11,222	5,989	1.87
Galt	2,960	6,196	0.48	3,560	7,950	0.45
Lincoln	4,612	5,287	0.87	7,693	11,362	0.68
Marysville	10,176	5,020	2.03	10,432	5,148	2.03
10,001 to 30,000 People Average	**7,028**	**5,497**	**1.28**	**8,227**	**7,612**	**1.08**
30,001 to 100,000 People						
Citrus Heights	16,727	34,665	0.48	18,046	35,530	0.51
Elk Grove	11,137	24,817	0.45	20,585	34,250	0.60
Davis	13,514	23,685	0.57	16,378	25,424	0.64
Folsom	23,207	17,606	1.32	29,445	22,033	1.34
Rocklin	8,745	13,972	0.63	11,235	16,345	0.69
Roseville	60,390	33,096	1.82	76,331	42,695	1.79
West Sacramento	34,205	12,419	2.75	41,282	15,863	2.60
Woodland	20,602	16,667	1.24	24,634	19,333	1.27
Yuba City	16,914	13,608	1.24	19,993	15,996	1.25
30,001 to 100,000 People Average	**22,827**	**21,171**	**1.08**	**28,659**	**25,274**	**1.13**
Over 100,000 People						
City of Sacramento	268,309	159,894	1.68	308,696	173,667	1.78
Incorporated Areas Average	**24,646**	**18,289**	**1.35**	**29,274**	**21,209**	**1.38**
UNINCORPORATED AREAS						
El Dorado Uninc.	22,936	47,480	0.48	29,684	53,022	0.56
Placer Uninc.	27,281	37,913	0.72	32,213	43,863	0.73
Sacramento Uninc.	238,565	229,686	1.04	251,939	244,585	1.03
Sutter Uninc.	6,629	13,735	0.48	7,319	14,735	0.50
Yolo Uninc.	23,593	7,107	3.32	25,749	7,876	3.27
Yuba Uninc.	13,046	17,537	0.74	15,127	19,937	0.76
Unincorporated Areas Subtotal	**55,342**	**58,910**	**0.94**	**60,339**	**64,003**	**0.94**
Regional Average	**30,344**	**26,340**	**1.15**	**34,885**	**29,622**	**1.18**

Source: SACOG and EPS

Table A-3
Historical and Jobs by Sector - City of Wheatland

Item	Jobs			Historical Change	
	1990 [1]	1999 [1]	2003 [2]	Absolute	Avg. Annual
Retail	84	118	137	34	3.8%
Office	90	76	70	-14	-1.9%
Medical	8	8	8	0	0.0%
Education	107	162	195	55	4.7%
Manufacturing	7	7	7	0	0.0%
Other	75	78	79	3	0.4%
Total	**371**	**449**	**497**	**78**	**2.1%**

[1] From SACOG
[2] 2003 jobs estimated assuming the same average annual grow rates as from 1990 to 1999.

Source: SACOG and EPS

Appendix A-4
Summary of Retail Sq. Ft. per Capita Survey

City	Jan. 1, 2003 Population	RETAIL SQFT Neighborhood Commercial [1]	Community Commercial [1]	Regional Commercial [1]	Super Regional Commercial [1]	Subtotal From Retail Directory	Estimated Unclassified Retail Not Captured in Retail Directory [2]	TOTAL ESTIMATED RETAIL	Total Retail Sq. Ft. Per Capita
Fewer than 10,000 Category Cities									
Gridley / Biggs	7,581	0	105,129	0	0	**105,129**	70,000	**175,129**	**23.1**
Esparto	6,706	25,000	0	0	0	**25,000**	20,000	**45,000**	**6.7**
Winters	6,868	62,700	0	0	0	**62,700**	40,000	**102,700**	**15.0**
Colusa	5,618	95,000	0	0	0	**95,000**	60,000	**155,000**	**27.6**
Subtotal	**26,773**	**182,700**	**105,129**	**0**	**0**	**287,829**	**190,000**	**477,829**	
Avg. Sq. Ft. per Capita		***6.8***	***3.9***	***0.0***	***0.0***	***10.8***	***7.1***	***17.8***	
10 to 20,000 Category Cities									
Susanville	18,099	79,187	108,000	0	0	**187,187**	120,000	**307,187**	**17.0**
Dixon [3]	16,325	62,000	118,000	0	0	**180,000**	120,000	**300,000**	**18.4**
Lathrop	12,427	0	131,000	0	0	**131,000**	90,000	**221,000**	**17.8**
Kerman	10,666	0	207,525	0	0	**207,525**	140,000	**347,525**	**32.6**
Subtotal	**57,517**	**141,187**	**564,525**	**0**	**0**	**705,712**	**470,000**	**1,175,712**	
Avg. Sq. Ft. per Capita		***2.5***	***9.8***	***0.0***	***0.0***	***12.3***	***8.2***	***20.4***	
20 to 30,000 Category Cities									
Galt	22,151	0	150,000	0	0	**150,000**	100,000	**250,000**	**11.3**
Lafayette	24,400	75,500	100,000	0	0	**175,500**	120,000	**295,500**	**12.1**
Lincoln	20,550	0	120,000	0	0	**120,000**	166,000	**286,000**	**13.9**
Oakley	26,938	31,350	231,670	0	0	**263,020**	180,000	**443,020**	**16.4**
Santa Paula	28,970	58,554	171,700	0	0	**230,254**	150,000	**380,254**	**13.1**
Subtotal	**123,009**	**165,404**	**773,370**	**0**	**0**	**938,774**	**716,000**	**1,654,774**	
Avg. Sq. Ft. per Capita		***1.3***	***6.3***	***0.0***	***0.0***	***7.6***	***5.8***	***13.5***	
TOTAL - ALL CITIES	**207,299**	**489,291**	**1,443,024**	**0**	**0**	**1,932,315**	**1,376,000**	**3,308,315**	--
Avg. Sq. Ft. per Capita		***2.4***	***7.0***	***0.0***	***0.0***	***9.3***	***6.6***	***16.0***	

Source: National Research Bureau 2004 Retail Directory and EPS

[1] The NRB categorizes retail centers according to the following size categories:
centers with fewer than 100,000 sq. ft. GLA
centers with 100,000 to 299,000 sq. ft. GLA
centers with 300,000 to 749,999 sq. ft. GLA
centers with more than 750,000 sq. ft. GLA

[2] The National Research Bureau does not report information on all retail centers in a community. Based on a preliminary estimate of five Sacramento area communities, the NRB is capturing an estimated 60 percent of the total retail inventory in a community. As a result, EPS added an additional 40 percent of "other" retail space to each city in order to account for the incomplete measure by the NRB. Lincoln's estimate of unclassified retail space is based on information from the City.

[3] Includes newly developed Walmart retail center that opened in May 2004.

APPENDIX B | POPULATION PROJECTION COMPARISON

EPS researched several population projections for the Sacramento region and opted to use the DOF projections as a proxy to estimate demand for housing regionwide. The DOF projections were chosen because they are not capacity constrained, include all six counties in the Sacramento region, and have a timeline consistent with the requirements of this report (2020).

Please note that while the DOF population projections were most appropriate for the countywide population projections shown in this chapter, small area projections were required to perform an adequate retail market analysis and office market forecast. As a result, SACOG projections were used when forecasts were required at the city and subcity levels.

Table 2 shows the various population projection sources consulted and the resulting projections of population and subsequently housing estimated by each source.

- **DOF** population projections are derived using a regional model that incorporates births, deaths, and net migration to balance a statewide forecast between counties. The DOF projection is not capacity constrained, meaning it does not limit population growth by housing supply and land availability. In addition, DOF projections are available at the county level with a timeline up to 2020.
- **CCSCE** population projections are derived based on projected regional economic and job growth and are constrained by land availability using local sources, such as SACOG. CCSCE projections are not available to 2020. However, for comparison purposes EPS extrapolated CCSCE 2010 projections to 2020 assuming a declining average annual growth rate.
- **SACOG** population projections are based on future year housing stock estimates derived by input from local jurisdictions regarding general plan designations and planned and proposed projects. The SACOG projections are capacity-constrained because they are tied to land availability for residential development.
- **CCSCE Prepared Blueprint Projections.** Stephen Levy of the CCSCE prepared a regional population forecast for Sacramento as part of the SACOG Blueprint project. These projections are to 2050 and do not fit within the time frame of this analysis.

Chapter 4
HOUSING

KEY FINDINGS

- Wheatland's population growth accelerated to an average annual growth rate of 9.3 percent from 2000 to 2004.
- The average household size in Wheatland increased from 2.7 persons per household in 1990 to 3.02 persons per household in 2004.
- Approximately 60 percent of households own their own home in Wheatland, in comparison to about 57 percent statewide.
- Of the total housing units in Wheatland, 65 percent are single family detached units. Wheatland does not have many large multifamily unit developments.
- A housing conditions survey of the entire city was conducted on May 27, 2004, that used a standardized CDBG Housing Conditions Survey instrument to analyze existing housing units on the basis of foundation, roofing, siding/stucco, windows, and electrical. The results of the survey showed that Wheatland has a good housing stock overall (94 percent of all housing units are in sound condition).
- The Sacramento Area Council of Governments (SACOG) Regional Housing Needs Process (RHNP) allocated 702 new housing units for Wheatland for the period 2000 to 2007. This allocation is equivalent to a yearly need of approximately 94 housing units. Wheatland's housing units would need to increase by approximately 90 percent in a 7½-year period to meet the regional housing needs as defined by SACOG.
- There are three sites currently outside the city limits that have development potential during this housing element period: Heritage Oaks Estates, Jones Ranch, and the unincorporated "island." Wheatland will need to identify additional sites as part of the Housing Element Policy Document to meet the remaining identified need for units affordable to moderate-income and below units.
- CDBG and HOME grants are the primary sources of housing funds currently available to Wheatland on a competitive basis. Additional funding sources used by local developers include the following: Low Income Housing Tax Credits (LIHTC), RD 502 loans, and RD Section 515 loans.
- Wheatland has a small City staff with limited resources and cannot provide the same services that larger cities provide.

Duplex on McDevitt Drive

4.1 | INTRODUCTION

State Housing Element law (Government Code Section 65580) mandates that local governments must adequately plan to meet the existing and projected housing needs of all economic segments of the community. This Housing Element Background Report provides current (to summer of 2004) information on household characteristics, housing needs, housing supply, land inventory for new development, housing programs, constraints, and incentives for new housing development. It also evaluates progress made since the last Housing Element was adopted in 1992. Where available, population and housing projections are provided as well.

The City of Wheatland Housing Element covers the incorporated areas of Wheatland (incorporated 1874) and neighboring parcels with annexation potential (i.e. Heritage Oaks Estates and Jones Ranch developments). The assessment and inventory for this element includes the following:

- Analysis of population and employment trends and projections, and a quantification of the locality's existing and projected housing needs for all income levels. Such existing and projected needs shall include the locality's share of the regional housing need in accordance with Section 65584.

- Analysis and documentation of household characteristics, including level of payment compared to ability to pay; housing characteristics, including overcrowding; and housing stock condition.

- An inventory of land suitable for residential development, including vacant sites and sites having potential for redevelopment, and an analysis of the relationship of zoning, public facilities, and city services to these sites.

- Analysis of potential and actual governmental constraints upon the maintenance, improvement, or development of housing for all income levels, including land use controls, building codes and their enforcement, site improvements, fees and other exactions required of developers, and local processing and permit procedures.

- Analysis of potential and actual non-governmental constraints upon the maintenance, improvement, or development of housing for all income levels, including the availability of financing, the price of land, and the cost of construction.

- Analysis of any special housing needs for the handicapped, elderly, large families, farmworkers, homeless, and families with female heads of households.

- Analysis of opportunities for residential energy conservation.

The Background Report of the Housing Element identifies the nature and extent of the city's housing needs, which in turn provides the basis for the City's response to those needs in the

Policy Document. The Background Report also presents information on the community's setting in order to provide a better understanding of its housing needs.

4.2 | SECTION I: NEEDS ASSESSMENT

A. HOUSING STOCK AND DEMOGRAPHIC PROFILE

1. Demographic and Employment Characteristics and Trends

The purpose of this section is to present information on the population, employment, and housing characteristics for the city of Wheatland. The main source of the information in this section is from the 1990 and 2000 U.S. Census. Other sources of information include the *Final Regional Housing Needs Plan* prepared by the Sacramento Area Council of Governments (SACOG); the California Department of Finance (DOF); and local economic data (such as home sales prices, rents, wages, etc.)

Population/Demographic Trends and Employment Characteristics and Trends

As shown in Table 4-1 below, Wheatland's population grew at an annual average growth rate (AAGR) of approximately 3.4 percent between 1990 and 2000, while the overall population for Yuba County grew at only a 0.3 percent AAGR during this period. While Wheatland's growth rate was relatively high compared to Yuba County, the city grew by only 181 households and 137 housing units during this time period.

From 2000 to 2004 Wheatland's population growth accelerated to a 9.3 percent AAGR. Again, this was much higher than Yuba County's AAGR of 2.0 percent.

Average household size in Wheatland increased from 2.7 persons per household in 1990 to 3.02 persons per household in 2004.

Information on total population, total households, average household size, age distribution, household type, and household tenure are shown in Tables 4-1 and 4-2 below.

TABLE 4-1
1990, 2000, & 2004 POPULATION, HOUSEHOLDS, & HOUSING
WHEATLAND, YUBA COUNTY, & CALIFORNIA

	Population			Households				Housing Units		
	#	Growth from Previous Period	% AAGR from Previous Period	#	Growth from Previous Period	% AAGR from Previous Period	Average Household Size (1)	#	Growth from Previous Period	% AAGR from Previous Period
Wheatland										
1990	1,631	-	-	604	-	-	2.70	679	-	-
2000	2,275	644	3.4%	785	181	2.7%	2.90	816	137	1.9%
2004	3,178	903	9.3%	1,052	267	8.1%	3.02	1,094	278	8.1%
Yuba County										
1990	58,228	-	-	19,776	-	-	2.64	21,245	-	-
2000	60,219	1,991	0.3%	20,535	759	0.4%	2.87	22,636	1,391	0.6%
2004	64,840	4,621	2.0%	21,241	706	0.9%	2.99	23,364	728	0.8%
California										
1990	29,760,021	-	-	10,381,206	-	-	2.79	11,182,882	-	-
2000	33,871,648	4,111,627	1.3%	11,502,870	1,121,664	1.0%	2.87	12,214,549	1,031,667	0.9%
2004	36,144,267	2,272,619	1.7%	12,014,799	511,929	1.2%	2.94	12,759,585	545,036	1.2%

Sources: 1990 and 2000 Census (Summary File 1);
DOF; *E-5 City / County Population and Housing Estimates, 2004, Revised 2001-2003, with 2000 DRU Benchmark*, May 2004

Notes:
1990 and 2000 data are for April 1; 2004 figures are for January 1
AAGR for 2000-2004 calculated for 3.75-year period
(1) Non-group quarters population (not shown above) divided by the number of households.

Wheatland's population broken down by age categories for 1990 and 2000 is shown in Table 4-2. This table shows that the city has a greater proportion of its residents in the youngest and oldest age categories compared to California as a whole.

The Census separates households into two categories depending on their composition. Family households are those that consist of two or more related persons living together. Non-family households include either persons who live alone or groups composed of non-related individuals. As shown in Table 4-2, 74 percent of Wheatland's households in 2000 were family households, a slightly higher figure than that for California a whole.

Table 4-2 also shows that the rate of homeownership in Wheatland is slightly higher than in California as a whole – approximately 60 percent of households own their own home in Wheatland, in comparison to about 57 percent statewide.

TABLE 4-2
AGE DISTRIBUTION AND HOUSEHOLD COMPOSITION, WHEATLAND AND CALIFORNIA, 2000

	Wheatland		California	
	Total	%	Total	%
Age Distribution				
19 and under	826	36%	10,229,238	30.2%
20-34	400	18%	7,621,121	22.5%
35-44	340	15%	5,487,207	16.2%
45-54	263	12%	4,335,571	12.8%
55-64	159	7%	2,608,117	7.7%
65 & over	287	13%	3,590,395	10.6%
Total Population	**2,275**	**100%**	**33,871,648**	**100%**
Household Type				
Family	584	74.4%	7,985,489	69.4%
Non-Family	201	25.6%	3,526,531	30.6%
Total Households	**785**	**100%**	**11,512,020**	**100%**
Housing Tenure				
Renter	318	40.5%	4,957,737	43.1%
Owner	467	59.5%	6,545,133	56.9%
Total Households	**785**	**100%**	**11,502,870**	**100%**

Sources: 1990 and 2000 Census (Summary File 1).

Household Income

Table 4-3 shows the distribution of household incomes for Wheatland and California for 2000, based on income data for 1999. On the whole, household incomes in Wheatland are lower than incomes in California. About 40 percent of all households in the Wheatland earned under $25,000 in 1999, while about 26 percent of households in the state as a whole earned below $25,000. At the other end of the income spectrum, about 6 percent of households in Wheatland earned over $100,000 in comparison to 17 percent in California as a whole. While Wheatland and California have similar figures for income levels between $35,000 and $75,000, Wheatland's $15,000 to $24,999 income range accounts for 20.2 percent of its total household incomes, while only accounting for 11.5 percent of the state's total.

The median household income in Wheatland increased from $26,591 in 1989[1] to $34,861 in 1999, which was an increase of 24 percent (unadjusted for inflation). In comparison, California's median income was higher than Wheatland's ($47,493) in 1999 and the rate of increase during the same time period (1989-1999) was slightly higher at 33 percent.

These income differences reflect the employment opportunities and pay scales in Wheatland. Also, since the cost of living is lower, households on fixed incomes, such as retirees and other persons with limited incomes, can afford to live in Wheatland.

[1] 1990 Census (Summary File 3).

TABLE 4-3
HOUSEHOLD INCOME DISTRIBUTION, WHEATLAND AND CALIFORNIA, 1999

Income	Wheatland		California	
	Total	%	Total	%
Less than $10,000	96	12.0%	967,089	8.4%
$10,000 to $14,999	65	8.2%	648,780	5.6%
$15,000 to $24,999	161	20.2%	1,318,246	11.5%
$25,000 to $34,999	78	9.8%	1,315,085	11.4%
$35,000 to $49,999	140	17.6%	1,745,961	15.2%
$50,000 to $74,999	153	19.2%	2,202,873	19.1%
$75,000 to $99,999	58	7.3%	1,326,569	11.5%
$100,000 to $149,999	36	4.5%	1,192,618	10.4%
$150,000 to $199,999	2	0.3%	385,248	3.3%
$200,000 or more	9	1.1%	409,551	3.6%
Total Households	**797**	100%	**11,512,020**	**100%**
Median Household Income	**$34,861**	-	**$47,493**	-

Source: 2000 Census (Summary File 3).

Existing and Projected Employment

Table 4-4 shows employment by major industry classifications for Wheatland and Yuba County for 1990 and 1999 (these industry employment estimates are by place of work, not by place of residence so they indicate the number jobs within each jurisdiction). This data is from SACOG. More detailed information on employment by industry is not available for Wheatland.

As shown in the table, in 1999 Wheatland had a much higher percentage of jobs in the Retail and Education sectors than Yuba County as a whole. However, since there were so few jobs in Wheatland it is difficult to draw any firm conclusions from the data.

TABLE 4-4
EMPLOYMENT BY MAJOR SECTOR & JOBS PER HOUSEHOLD, WHEATLAND AND YUBA COUNTY, 1990 & 1999

Wheatland	**1990**		**1999**		
Industry	**Total**	**%**	**Total**	**%**	**% Increase: 1990-1999**
Retail	84	22.6%	118	26.3%	40.5%
Office	90	24.3%	76	16.9%	-15.6%
Medical	8	2.2%	8	1.8%	0.0%
Education	107	28.8%	162	36.1%	51.4%
Manufacturing	7	1.9%	7	1.6%	0.0%
Other	75	20.2%	78	17.4%	4.0%
Total Jobs	**371**	**100.0%**	**449**	**100.0%**	**21.0%**
Total Households (1)	**604**	-	**727**	-	**13.5%**
Jobs/Household Ratio	**0.61**	-	**0.62**	-	
Yuba County	**1990**		**1999**		
Industry	**Total**	**%**	**Total**	**%**	**% Increase: 1990-1999**
Retail	2,656	13%	2,918	13%	9.9%
Office	3,440	17%	2,538	12%	-26.2%
Medical	1,608	8%	2,936	14%	82.6%
Education	2,759	14%	2,559	12%	-7.2%
Manufacturing	1,339	7%	1,507	7%	12.5%
Other	8,099	41%	9,187	42%	13.4%
Total Jobs	**19,901**	**100%**	**21,645**	**100%**	**8.8%**
Total Households (1)	**19,776**	-	**21,556**	-	**9.3%**
Jobs/Household Ratio	**1.01**	-	**1.00**	-	

Sources: Sacramento Area Council of Governments (SACOG), *Current Employment Estimates* (2001); California Department of Finance (DOF), *City/County Population and Housing Estimates, January 1, 1999;* 1990 Census

Notes:

(1) 1990 figures are from the 1990 Census (see Table 4-1); 1999 figures are from DOF

Potential Population Change and Job Growth Impacts on Housing Need

Table 4-5 shows a summary of estimated and projected population, households, housing units, and employment for Wheatland and Yuba County for 1990, 2000, 2010, and 2025. The projections were prepared in 2001 by SACOG before 2000 Census results were released. However, Table 4-5 shows 2000 Census figures.

As shown in the table, SACOG projected Wheatland's population to be 4,770 in 2010, an average annual growth rate of 7.7 percent from the 2000 population of 2,275. This projected population growth represents a large increase compared to historical growth rates (Wheatland grew at a annual rate of about 3.4 percent from 1990 to 2000). The projected annual household growth rate from 2000 to 2010 of 8 percent is slightly higher than the projected population growth rate, indicating a projected decrease in average household size. However, as previously shown in Table 4-1, Wheatland's average household size increased from 1990 to 2004. In comparison, Yuba County's population is projected to grow at a 2.6 percent annual average growth rate from 2000 to 2010.

The annual average growth rate for employment in Wheatland from 1999 to 2010 is projected to be 8.4 percent. If current trends continue, Wheatland is projected to have a continuing low jobs per household ratio, meaning that the city will continue to function as a "bedroom community" with a small jobs base.

SACOG does not have a breakdown available of projected employment by sector for Wheatland. However, in general there is a direct link between population growth and retail employment growth, since new population creates an expanding local retail market which, in turn, requires new workers. The same is true of the Service sector, and the FIRE (Finance, Insurance, Real Estate) and Construction industries, which are a part of the Other sector. The Manufacturing sector is less dependent on local population growth.

TABLE 4-5
SUMMARY OF POPULATION, EMPLOYMENT, AND HOUSING PROJECTIONS, WHEATLAND AND YUBA COUNTY, 1990-2025

	Wheatland				Yuba County			
	1990 (1)	2000 (1999 for Jobs) (2)	2010 (3)	2025 (3)	1990 (1)	2000 (2)	2010 (3)	2025 (3)
Population	1,631	2,275	4,770	8,940	58,228	60,219	78,050	107,950
average annual growth rate (AAGR) from previous period	-	3.38%	7.68%	4.28%	-	0.34%	2.63%	2.19%
Households	604	785	1,700	3,126	19,776	20,535	28,007	38,707
AAGR from previous period	-	2.66%	8.03%	4.14%	-	0.38%	3.15%	2.18%
Housing Units	679	816	1,788	3,295	21,245	22,636	29,537	40,839
AAGR from previous period	-	1.85%	8.16%	4.16%	-	0.64%	2.70%	2.18%
Jobs	371	449	1,004	1,708	19,901	21,645	29,173	39,241
AAGR from previous period	-	1.93%	8.38%	3.61%	-	0.84%	3.03%	2.00%
Persons per Household (4)	2.70	2.90	2.81	2.86	2.64	2.87	2.65	2.67
Jobs/Household Ratio	0.61	0.57	0.59	0.55	1.01	1.05	1.04	1.01

Source: SACOG, *SACOG Projections* (2001)
Notes:
(1) Population, household, and housing unit data for 1990 are from the 1990 Census; jobs data are from SACOG
(2) Population, household, and housing unit data for 2000 are from the 2000 Census; jobs data are from SACOG and are for 1999.
(3) SACOG projections
(4) Takes existing or projected group quarters population (not shown in table) into account.

2. Housing Characteristics and Trends

Note: the discussion of the housing stock in this subsection relies on the 2000 Census Summary File 3 (SF3); whereas the housing unit totals presented in other sections of this document are based on Summary File 1 (SF1). SF3 is based on a sample, whereas SF1 is based on a complete count. Thus, unit totals from the two sources vary slightly.

Housing Inventory / Supply

Table 4-6 shows comparative data on the housing stock in Wheatland, Yuba County, and California in 2000. This table reports on the total housing stock in each area according to the type of structures in which units are located. Table 4-6 also shows vacancy rate information.

As shown in this table, single family detached housing units accounted for the majority of housing in Wheatland in 2000. At 65 percent of the total housing units, single family detached units in Wheatland make up a larger proportion of the total housing stock than they do in Yuba County (61.5 percent) and in California as a whole (56.4 percent). Wheatland does not have

many large multifamily unit developments. As of the 2000 Census, only 56 units, or 7 percent, of total units were in properties with 5 or more units. This is less than Yuba County as a whole that has ten percent of all units in properties with five or more units. In comparison, in California as a whole, 23 percent of all units are in properties with 5 or more units. However, Wheatland does have a very large percentage of multifamily units in properties with two to four units – 19 percent of all units. This is much more than the 7 percent and 8 percent share that these types of units represent out of all units in Yuba County and California, respectively. This difference is largely explained by the Sunset Valley Duplexes that consist of 88 duplex units, or over ten percent of Wheatland's total housing stock.

Finally, the percentage of housing units that are mobile homes in Wheatland (five percent) is about the same as the percentage of units that are mobile homes in California (four percent), but much lower than in Yuba County (14 percent).[2]

TABLE 4-6
HOUSING STOCK BY TYPE AND VACANCY, WHEATLAND, YUBA COUNTY & CALIFORNIA, 2000

	City of Wheatland		Yuba County		California	
	Total	%	Total	%	Total	%
Total Housing Units	**832**	**100.0%**	**22,636**	**100.0%**	**12,214,549**	**100.0%**
Single Family						
Detached	542	65.1%	13,925	61.5%	6,883,493	56.4%
Attached	36	4.3%	1,242	5.5%	931,873	7.6%
Multifamily						
2 to 4 units	158	19.0%	1,679	7.4%	1,024,803	8.4%
5 plus units	56	6.7%	2,290	10.1%	2,804,712	23.0%
Mobile Homes	40	4.8%	3,271	14.5%	538,423	4.4%
Boats, RVs, Vans	0	0.0%	229	1.0%	31,245	0.3%
Occupied Units	793		20,535		11,502,870	
Vacant Units	39	4.7%	2,101	9.3%	711,679	6.2%

Source: 2000 Census Summary File 3 (SF3)

Vacancy Rates

As shown in Table 4-6 above, Wheatland had a vacancy rate of approximately 5 percent in 2000, considerably lower than the vacancy rate in Yuba County (14 percent) and slightly lower than the vacancy rate in California (6 percent). HUD considers a vacancy rate of around at least five percent to be needed for a healthy housing market in order to provide market choice. It is important to note that these counts include all vacant units, including those units held vacant for seasonal use; not all of the vacant units were offered for sale or for rent at the time of the Census. Table 4-7 below provides a detailed breakdown of the types of vacant units in Wheatland, Yuba County, and California. A high percentage of vacant units (46 percent) in Wheatland were available for rent in 2000. In comparison, the comparable number in Yuba County is 34 percent

[2] Mobile homes refer to homes on wheels. The term "mobile home" is used in this document in two situations. The first situation is one in which the data source, usually the U.S. Census, uses the term "mobile home." The second situation is one in which the text refers to zoning ordinances or other regulations which specify "mobile home." The term "manufactured housing" is used in this document to refer both to mobile homes as defined above and to pre-fabricated housing placed on a permanent foundation on a standard single family lot.

and in California, 28 percent. Also, in comparison with California and Yuba County, a lower percentage of vacant units were available for seasonal use in Wheatland in 2000 (8 percent compared with 37 and 21 percent respectively). Finally, there are very few vacant units in Wheatland overall. As of the 2000 Census, there were only 39 vacant units.

TABLE 4-7
VACANT UNITS,
WHEATLAND, YUBA COUNTY, & CALIFORNIA, 2000

	City of Wheatland		Yuba County		California	
	Total	%	Total	%	Total	%
Total Vacant Units	**39**	**100.0%**	**2,101**	**100.0%**	**711,679**	**100.0%**
For rent	18	46.2%	707	33.7%	201,388	28.3%
For sale only	6	15.4%	212	10.1%	115,343	16.2%
Rented or sold, not occupied	7	17.9%	203	9.7%	54,785	7.7%
For seasonal, recreational, or occasional use	3	7.7%	444	21.1%	261,950	36.8%
For migrant workers	0	0.0%	17	0.8%	2,194	0.3%
Other vacant	5	12.8%	518	24.7%	76,019	10.7%

Source: 2000 Census Summary File 3 (SF3)

Overcrowded Housing

Information on overcrowded housing is available from the 2000 U.S. Census. Table 4-8 compares data for Wheatland with data for Yuba County and California.

A housing unit is considered overcrowded if there is more than 1.0 person per room. As of 2000, approximately 72 households were overcrowded in Wheatland. Approximately 91 percent of Wheatland's occupied housing units had 1.0 or fewer persons per room in 2000. Therefore, fewer than 9 percent of Wheatland's housing units would have been considered overcrowded in 2000. This percentage is similar to the percentage of overcrowded units in Yuba County where 11 percent of all households had more than 1.0 person per room. Overcrowding was less of a problem in 2000 in Wheatland than in California overall where 15 percent of all households lived in overcrowded conditions.

When disaggregated by tenure, it is clear that renters are disproportionately more crowded than owners; 14 percent of renter households are overcrowded in comparison to 5 percent of owners in Wheatland. This same disparity between renters and owners is evident in Yuba County as well as in the state of California.

TABLE 4-8 OVERCROWDING BY TENURE, WHEATLAND, YUBA COUNTY, & CALIFORNIA, 2000			
	City of Wheatland	Yuba County	California
Owner Occupied Units	462	11,088	6,546,237
Persons Per Room			
One or Fewer	437	10,261	5,984,221
1.01 or more	25	827	562,016
% Overcrowded	**5.4 %**	**7.5%**	**8.6%**
Renter Occupied Units	331	9,447	4,956,633
Persons Per Room			
One or Fewer	284	7,966	3,770,297
1.01 or more	47	1,481	1,186,336
% Overcrowded	**14.2%**	**15.7%**	**23.9%**
Total Occupied Units	793	20,535	11,502,870
Persons Per Room			
One or Fewer	721	18,227	9,754,518
1.01 or more	72	2,308	1,748,352
% Overcrowded	**9.1%**	**11.2%**	**15.2%**
Source: 2000 Census Summary File 3 (SF3)			

Housing Cost Burdens

Table 4-9 shows data from the 2000 U.S. Census regarding the percentage of household income spent on housing costs for Wheatland households. This information is shown separately by tenure groups.

According to federal and state affordability standards, a household's gross monthly housing costs should not require more than 30 percent of its gross monthly income. As shown in Table 4-9, 111 owner households (27 percent of all owners) in Wheatland paid 30 percent or more of their monthly incomes for housing. Among renters, this figure is higher. Thirty-six percent of renter households, or a total of 118 households, paid 30 percent or more of their monthly incomes for housing costs. Although the percentage of renters that experience cost burdens is higher than the percentage of owners with cost burdens, in absolute numbers the number of renters with housing cost burdens is similar to the number of owners with cost burdens.

As would be expected, housing cost burdens were most severe for households with incomes less than $20,000 per year. Approximately 68 percent of the 56 owner households that earned less than $20,000 per year paid 30 percent or more of their income for housing costs. In the higher income categories, the proportion of households that experienced a housing cost burden declined. Of owner households that earned more than $100,000 per year, none paid 30 percent or more for monthly housing costs.

In the renter category, 59 percent of the 177 renter households that earned less than $20,000 per year paid 30 percent or more of their monthly incomes for housing costs. In comparison, 70 percent of Yuba County households earning below $20,000 overpaid for rent, and the comparable figure for the State of California is 79 percent.

It is possible that subsidized rental housing in Wheatland is one of the reasons that a smaller percentage of renter households who earned below $20,000 in 2000 overpaid for rental costs. As

of 2000, there were 143 units of subsidized rental housing, out of a total of 331 rental units in Wheatland. This represents over 40 percent of the rental stock in Wheatland. Under most subsidy arrangements, tenants do not pay more than 30 percent of household income for rent.

TABLE 4-9
CITY OF WHEATLAND HOUSING COSTS
AS A PERCENTAGE OF INCOME BY TENURE

Percent of Income Paid for Housing Costs	Renters		Owners		Total Households	
	Total	%	Total	%	Total	%
Less than 20 percent	104	31.4%	197	48.6%	301	40.9%
20 to 24 percent	34	10.3%	56	13.8%	90	12.2%
25 to 29 percent	56	16.9%	41	10.1%	97	13.2%
30 to 34 percent	27	8.2%	28	6.9%	55	7.5%
35 percent or more	91	27.5%	83	20.5%	174	23.6%
Not computed	19	5.7%	0	0.0%	19	2.6%
Total	**331**	**100.0%**	**405**	**100.0%**	**736**	**100.0%**

Source: 2000 Census Summary File 3 (SF3)

The HCD Housing Element Review Worksheet calls for an analysis of the proportion of "lower income" households "overpaying for housing." Lower-income households are defined as those that earn 80 percent or less of the area median income. According to the Department of Housing and Urban Development (HUD), a four-person household in Yuba and Sutter Counties was defined as lower-income if it received $29,350 or less in 1999 (for program planning purposes, the Yuba/Sutter County threshold incomes are used for Wheatland). Income limits were higher or lower for larger or smaller households, respectively. Thus, an assessment of housing cost burdens requires that information about household size be combined with information on household income for each household individually. Since HUD creates special tables for use in Consolidated Plans that combine household size with income, the numbers presented below are from these special 2000 Census tabulations.

As of 2000, Wheatland had a total of 144 lower-income owner households. Of these households, 94 were estimated to pay 30 percent or more of their incomes for housing. This represents 65 percent of lower-income owners. There were a total of 274 lower-income renters in Wheatland, of which 127, or 46 percent were paying 30 percent or more of their incomes for housing. Thus, there were a total of 221 lower-income households that had housing cost burdens in 2000, or 53 percent of all lower-income households.[3]

According to the 1992 Wheatland Housing Element, 40 percent of low-income owners had housing cost burdens in 1980, while the comparable figure for low-income renters was 73 percent.[4] Thus, in comparison to the past, it appears that the problem of lower-income owners

[3]These numbers do not correspond completely to the figures presented above for households earning below $20,000. This is due to the way in which HUD defines lower-income households. The HUD definition takes into consideration household size when determining the number of low-income households, whereas the use of unadjusted Census information does not.

[4] It should be noted that this comparison is not completely accurate, since the 1992 Housing Element defined housing cost burden as paying over 25 percent of income for net housing costs (rent only and no utilities), while the HUD information defined cost burden as paying more than 30 percent of income on gross housing costs (rent and utilities).

with housing cost burdens increased during the 1980s and 1990s, while cost burdens among renters has slightly decreased.

Housing Affordability

The following section compares 2004 income levels and ability to pay for housing with actual housing costs. Housing is classified as "affordable" if households do not pay more than 30 percent of income for payment of rent (including a monthly allowance for water, gas, and electricity) or monthly homeownership costs (including mortgage payments, taxes and insurance). Since above moderate-income households do not generally have problems in locating affordable units, affordable units are frequently defined as those reasonably priced for households that are low- to moderate-income. Table 4-10 shows the definition of housing income limits as they are applied to housing units in Wheatland.

TABLE 4-10 2004 CITY OF WHEATLAND DEFINITIONS OF HOUSING INCOME LIMITS
Very Low-Income Unit is one that is affordable to households whose combined income is at or lower than 50% of the median income for Wheatland (Yuba/Sutter Counties) as established by the U.S. Department of Housing and Urban Development (HUD). For 2004 a Wheatland household of four is considered to be very low-income if its combined income is $24,550 or less.
Low-Income Unit is one that is affordable to a household whose combined income is at or between 51% to 80% of the median income for Wheatland as established by HUD. A household of four is considered to be low-income in Wheatland if its combined income is $39,300 or less for the year 2004.
Median-Income Unit is one that is affordable to a household whose combined income is at or between 81% and 100% of the median income for Wheatland as established by HUD. According to HUD, a Wheatland household of four is in the median income category if its combined income is $49,100 or less for the year 2004. Note that the California Department of Housing and Community Development (HCD) defines the median income as $49,100.
Moderate-Income Unit is one that is affordable to a household whose combined income is at or between 101% to 120% of the median income for Wheatland as established by HUD. In Wheatland a household of four is considered to be moderate-income if its combined income is $59,000 or less for the year 2004.
Above Moderate-Income Unit is one that is affordable to a household whose combined income is above 120% of the median income for Wheatland as established by HUD. A Wheatland household of four is considered to be above moderate-income if its combined income exceeds $59,000 for the year 2004.
Source: Vernazza Wolfe Associates, Inc.

Table 4-11 shows the 2004 HUD household income limits for Wheatland by the number of persons in the household for the first four income categories discussed above. The table also shows maximum affordable monthly rents and maximum affordable purchase prices for homes. For example, a four-person household is classified as low-income (80 percent of median) with an annual income of up to $39,300. A household with this income could afford to pay a monthly gross rent (including utilities) of up to $983 or to purchase a house priced at $122,297 or below.

TABLE 4-11
CITY OF WHEATLAND ABILITY TO PAY FOR HOUSING FOR VERY LOW-, LOW-, MEDIAN- AND MODERATE-INCOME HOUSEHOLDS

Very Low-Income Households at 50% of 2004 Median Family Income						
	Studio	**1 Bedroom**	**2 Bedroom**	**3 Bedroom**	**4 Bedroom**	**5 Bedroom**
Number of Persons	1	2	3	4	5	6
Income Level	$17,200	$19,650	$22,100	$24,550	$26,500	$28,500
Max. Monthly Gross Rent (1)	$430	$491	$553	$614	$663	$713
Max. Purchase Price (2)	$53,524	$61,148	$68,772	$76,396	$82,465	$88,688
Low-Income Households at 80% of 2004 Median Family Income						
	Studio	**1 Bedroom**	**2 Bedroom**	**3 Bedroom**	**4 Bedroom**	**5 Bedroom**
Number of Persons	1	2	3	4	5	6
Income Level	$27,500	$31,400	$35,350	$39,300	$42,400	$45,550
Max. Monthly Gross Rent (1)	$688	$785	$884	$983	$1,060	$1,139
Max. Purchase Price (2)	$85,576	$97,713	$110,005	$122,297	$131,943	$141,746
Median-Income Households at 100% of 2004 Median Family Income						
	Studio	**1 Bedroom**	**2 Bedroom**	**3 Bedroom**	**4 Bedroom**	**5 Bedroom**
Number of Persons	1	2	3	4	5	6
Income Level	$34,400	$39,300	$44,200	$49,100	$53,000	$57,000
Max. Monthly Gross Rent (1)	$860	$983	$1,105	$1,228	$1,325	$1,425
Max. Purchase Price (2)	$107,048	$122,297	$137,545	$152,793	$164,929	$177,377
Moderate-Income Households at 120% of 2004 Median Family Income						
	Studio	**1 Bedroom**	**2 Bedroom**	**3 Bedroom**	**4 Bedroom**	**5 Bedroom**
Number of Persons	1	2	3	4	5	6
Income Level	$41,200	$47,200	$53,000	$59,000	$63,600	$68,400
Max. Monthly Gross Rent (1)	$1,030	$1,180	$1,325	$1,475	$1,590	$1,710
Max. Purchase Price (2)	$128,209	$146,880	$164,929	$183,600	$197,915	$212,852

Sources: HUD FY 2004 Yuba County Income Limits (February 5, 2004) and Vernazza Wolfe Associates, Inc.
Notes:
(1) Assumes that 30% of income is available for monthly rent, including utilities.
(2) Assumes that 30% of income is available to cover mortgage payment, taxes, mortgage insurance, homeowners insurance; 95% loan @ 7%, 30 year term.

Table 4-12 below shows HUD-defined fair market rent levels (FMR) for Yuba County for 2004 as well as the payment standard that the Yuba County Housing Authority uses in its Housing Choice Voucher Program (110 percent of FMR). In general, the FMR for an area is the amount that would be needed to pay the gross rent (shelter rent plus utilities) of privately owned, decent, safe, and sanitary rental housing of a modest (non-luxury) nature with suitable amenities. FMRs are housing market estimates of rents that provide opportunities to rent standard quality housing throughout the geographic area in which rental housing units are in competition. The rents are drawn from the distribution of rents of all units that are occupied by recent movers. Adjustments are made to exclude public housing units, newly built units, and substandard units.

TABLE 4-12
YUBA COUNTY FAIR MARKET RENT, 2004

	Bedrooms in Unit				
	0 BR	**1 BR**	**2 BR**	**3 BR**	**4 BR**
Fair Market Rent (2004)	$380	$444	$571	$796	$919
Payment Standard (110% of FMR)	$418	$488	$628	$876	$1,011

Sources: Department of Housing and Urban Development (HUD).

As noted above, a four-person household classified as low-income (80 percent of median) with an annual income of up to $39,300 could afford to pay $983 monthly gross rent (including utilities). The FMR for a three-bedroom unit is $796, while the payment standard amount is $876. It appears that a low-income household at the top of the income range could afford to rent a unit at the FMR level, assuming that such a unit is available for rent. Finding a unit at the higher payment standard amount, which reflects the housing market more closely than the FMR rent levels, would mean that the household would be paying somewhat more than 30 percent of its income for housing.

However, a four-person household classified as very low-income (50 percent of median) with an annual income of up to $24,550 could afford to pay only $614 for monthly gross rent and thus could not afford the FMR rent of $796 for a three-bedroom unit. This household could afford the FMR rent for a two-bedroom unit ($571), but not the payment standard amount for a two-bedroom unit of $628. Households with incomes below 50 percent of median would have even less income to spend on rent.

Table 4-13 is an abbreviated list of occupations and annual incomes for Yuba and Sutter County residents such as nursing aids, managers, and salespeople, employees of the Wheatland Elementary School District, retired individuals, and minimum wage earners. The table shows the amounts that households at these income levels could afford to pay for rent as well as the purchase prices at which that they could afford to buy a home.

Of particular interest are those households with limited incomes, such as minimum wage workers, individuals on Supplemental Security Income (SSI), or Social Security recipients. The FMR for a one-bedroom unit is $444 and for a studio unit, $380. An individual working at the minimum wage could afford to pay only $351 for housing expenses, and an SSI recipient, $237. None of these individuals could afford the rent for a one-bedroom unit or even for a studio unit.

TABLE 4-13
AFFORDABLE RENTS AND HOUSING PRICES AND INCOMES FOR SELECTED HOUSEHOLDS AND OCCUPATIONS, WHEATLAND, 2003/04

Category	Annual Average Income	Monthly Affordable Rent (1)	Affordable House Price (2)
General –Yuba/Sutter Counties			
All Occupations	$35,042	$876	$109,046
Managers	$73,475	$1,837	$228,645
Child Care Worker	$20,645		
Sales and Related Occupations	$27,652	$691	$86,049
Nursing Aides	$20,991	$525	$65,321
Farmworkers and Laborers	$16,814	$420	$52,323
Wheatland Elementary School District			
Beginning Teacher	$32,411	$810	$100,859
Teacher, 15 years experience, step 5	$42,270	$1,057	$131,539
Custodian, step 5	$27,955	$699	$86,992
Library Technician, step 1	$20,675	$517	$64,338
Two Wage Earners			
Sales and Nursing Aide	$48,643	$1,216	$151,371
Beginning Teacher and Salesman	$60,063	$1,502	$186,908
Nursing Aide and Custodian	$48,946	$1,224	$152,314
Retired - Average Social Security			
One person household with SS only	$9,852	$269	$33,422
Two person household - both retired - only SS	$19,704	$445	$55,379
Minimum Wage Earners ($6.75 per hour)			
Single Wage Earner	$14,040	$351	$43,691
Two Wage Earners	$28,080	$702	$87,381
SSI (Aged or Disabled)			
One person household with SSI only	$9,480	$227	$28,268
Couple with SSI only	$18,960	$403	$50,188
HUD-Defined Income Groups for Yuba County (4-person HH)			
Extremely Low Income (below 30%)	$14,750	$369	$45,900
Very Low-Income (below 50%)	$24,550	$614	$76,396
Low-Income (below 80%)	$39,300	$983	$122,297
Moderate-Income (below 120%)	$59,000	$1,475	$183,600

Sources: Yuba/Sutter Counties Employment Development Department; Wheatland Elementary School District, Social Security Administration, and Vernazza Wolfe Associates, Inc.
(1) Assumes that 30% of income is available for maximum monthly rent, including utilities.
(2) Assumes that 30% of income is available to cover mortgage payment, taxes, mortgage insurance, and homeowner's insurance; 95% loan @7% interest rate, 30-year term.

Table 4-14 shows the average sales price for all homes sold in Wheatland and Sutter/Yuba Counties from 1999 through 2003 that were listed through the Multiple Listing Service (MLS). Since builders directly market new units to buyers, new subdivision homes built in the last several years in Wheatland are not included in Table 4-14 unless they are resales. As indicated in the table, only a small number of units are resold annually in Wheatland (ranging from 6 to 19 units between 1999 and 2003). Wheatland's percentage growth in average resales price exceeded that of the Sutter/Yuba area for this time period and by 2003, Wheatland's average resales price far exceeded the average resales price for the Sutter/Yuba area. The biggest jump in price so far occurred between 2002 and 2003, when the average resales price increased from $195,358 to $367,831 in Wheatland. Based on this average resales price, none of the Wheatland households earning incomes listed in Table 4-13 could afford to purchase a home, unless a much larger down payment was provided than the 5 percent was assumed in Table 4-13.

TABLE 4-14
AVERAGE HOME SALES PRICE,
WHEATLAND & SUTTER/YUBA COUNTIES, 1999-2003

Year	Wheatland		Entire Sutter/Yuba Area	
	# of Homes Sold	Average Price	# of Homes Sold	Average Price
1999	15	$93,886	1,177	$114,678
2000	6	$139,332	1,276	$126,412
2001	12	$149,941	1,437	$136,736
2002	12	$195,358	1,580	$164,002
2003	19	$367,831	1,776	$204,057
% Change 1999-2003		291.8%		77.9%
% Change 1999-2002		108.1%		43.0%

Source: Sutter-Yuba Association of Realtors
Note: Median sales price figures are available for 1999 and 2000 only. In 1999, the median sales price for Wheatland was $97,500, and the median price for Sutter/Yuba Counties was $107,900. In 2000, comparable figures were $118,250 and $115,000 respectively.

Some of the increase in prices in the last few years can be explained by the resales of the new subdivision homes, such as Ryan Town I and Wheatland Ranch. Prior to the late 1990s, homes in Wheatland were not built through a subdivision process and are priced below the newer homes. Wheatland is experiencing increased demand for new homes from two major sources. The strongest demand is from buyers who are moving out of Sacramento and Roseville for the more affordable housing provided in Wheatland. However, the price differential between Sacramento and Wheatland is beginning to decrease. Retirees from Beale Air Force Base, located less than ten miles from Wheatland, are another source of demand. These retirees prefer staying in the area and therefore purchase homes in Wheatland.

The rental market is also experiencing an increase in demand. As of the 2000 Census, 42 percent of the households in Wheatland, or 331 households, were renters. Since only 56 housing units were in properties with five units or more, the majority of renters live in single family homes or small multifamily properties. There is a shortage of rental units, and landlords do not need to advertise vacancies. Thus, there is only limited information available that describes market rents in Wheatland. Recent rent information that was obtained for this document pertains to two-bedroom units in small multiples, and to three bedroom units, primarily single family homes. As of April 2004, the median rent for two-bedroom units was $600, and the median rent for three-bedroom units was $1,000.

Based on these rents, a very low- and low-income household of four persons could afford to rent the two-bedroom apartment, but not a three-bedroom house. A person earning the minimum wage, on SSI, or living on social security income cannot afford to rent a two-bedroom apartment. Finally, the Fair Market Rent (FMR) listed on Table 4-12 is below the median market rent for a three-bedroom house, thus a Section 8 recipient would have a hard time finding an affordable, large unit. However, if a Section 8 recipient is able to pay the Payment Standard (or 110 percent of FMR), renting a two-bedroom unit in Wheatland is affordable.

Housing Conditions

The U.S. Census provides only limited data that can be used to infer the condition of Wheatland's housing stock. For example, the Census reports on whether housing units have complete plumbing and kitchen facilities. Since less than one percent of all housing units in Wheatland lack complete plumbing or kitchen facilities, these indicators do not reveal much about housing conditions.

Since housing stock age and condition are generally correlated, one Census variable that provides an indication of housing conditions is the age of a community's housing stock. According to the data shown in Table 4-15 below, as of 2000, approximately 27 percent of Wheatland's housing stock (for a total of 215 units) is estimated to be more than 40 years old. When the building permits issued from 2000 through April 2004 (384 units; see Tables 4-20 and 4-27 below) are taken into account, the total percentage of housing stock that is more than 40 years old drops to approximately 18 percent. However, there are still 215 of these older units. Because of these older housing units, it is likely that there is substandard housing in Wheatland.

TABLE 4-15
AGE OF HOUSING STOCK,
WHEATLAND, YUBA COUNTY, & CALIFORNIA, 2000

	Wheatland		Yuba County		California	
	Number	Percentage	Number	Percentage	Number	Percentage
Total	**793**	**100.0%**	**20,535**	**100.0%**	**12,214,549**	**100.0%**
Built 1990-2000	126	15.9%	2,663	13.0%	1,577,726	12.9%
Built 1980 to 1989	144	18.2%	3,504	17.1%	2,098,028	17.2%
Built 1970 to 1979	182	23.0%	4,740	23.1%	2,504,157	20.5%
Built 1960 to 1969	126	15.9%	3,799	18.5%	2,047,205	16.8%
Built 1950 to 1959	96	12.1%	2,839	13.8%	1,895,166	15.5%
Built 1940 to 1949	36	4.5%	1,424	6.9%	939,717	7.7%
Built 1939 or earlier	83	10.5%	1,566	7.6%	1,152,550	9.4%

Source: 2000 Census Summary File 3 (SF3)

Since the Census data is limited, in order to determine the housing stock condition for Wheatland, Mintier & Associates conducted a housing conditions survey of the entire city on May 27th, 2004. The firm was assisted in this survey by an expert building inspector from Mercy Housing, a non-profit organization that develops, operates, and finances affordable housing. The Wheatland survey used a standardized CDBG Housing Conditions Survey instrument to analyze existing housing units on the basis of foundation, roofing, siding/stucco, windows, and electrical. The surveyors used a number ranking for each category (highest being worst) to identify housing units that were in need of repair. A summary of the data collected in this survey is shown below in Table 4-16.

The results of the survey showed that Wheatland has a good housing stock overall. Ninety-four percent of all housing units are in sound condition. The remaining six percent of the housing stock needs anywhere from minor to substantial repair. There are two properties that are dilapidated and need to be either completely torn down or have major rehabilitation. The majority of housing units that have moderate to dilapidated status are located in the downtown area, near the railroad tracks and State Route (SR) 65.

TABLE 4-16 CITY OF WHEATLAND HOUSING CONDITIONS SURVEY SUMMARY		
Ranking	**Number of Housing Units**	**Percent of Total Units (1)**
Sound (score of 9 or less) (1)	1,023	93.5%
Minor (score of 10-15)	48	4.4%
Moderate (score of 16-39)	21	1.9%
Substantial (score of 40-55)	0	0%
Dilapidated (score of 56 and over)	2	0.2%
Total (1)	**1,094**	**100%**

Notes:
(1) Total housing unit count of 1,094is based on DOF's *E-5 City / County Population and Housing Estimates, 2004, Revised 2001-2003, with 2000 DRU Benchmark* , published in May 2004. The "sound" unit total is calculated by subtracting the count of sub-standard units from the total.
Source: *Housing Conditions Survey*, Mintier & Associates and Mercy Housing, 2004.

C. HOUSING NEEDS

1. Regional Fair Share Allocation

The Sacramento Area Council of Governments (SACOG) adopted its Final Regional Housing Needs Plan (RHNP) in September 2001. Required by state law, the RHNP is part of a statewide statutory mandate to address housing issues that are related to future growth. The RHNP allocates to cities and counties each jurisdiction's "fair share" of the region's projected housing needs by household income group over the housing element planning period (2000-2007).

The adoption of the Draft RHNP by the SACOG Board on May 17, 2001, started a 90-day period during which cities and counties could request revisions to their housing unit targets. SACOG would only consider such requests if they were based on the criteria specified in the RHNP.

The core of the RHNP is a series of tables that indicate for each jurisdiction the distribution of housing needs for each of four household income groups. The tables also indicate the projected new housing unit targets by income group for the ending date of the plan. These measures of units define the basic new construction that needs to be addressed by individual city and county housing elements. The allocations are intended to be used by jurisdictions when updating their housing elements as the basis for assuring that adequate sites and zoning are available to accommodate at least the number of units allocated.

The total number of units allocated to each jurisdiction for the 2000-2007 RHNP planning period are derived from SACOG's official housing projections up to 2020. The housing unit projections used as the basis for each jurisdiction's RHNP allocation were officially adopted by SACOG on March 15, 2001. Before being adopted by SACOG, each jurisdiction had approved their official housing projections. The RHNP did not allocate more total units to any jurisdiction during the 2000-2007 planning period than the jurisdiction planned to accommodate as reflected in SACOG's official housing projections.

As shown in Table 4-17 below, the SACOG RHNP allocated 702 new housing units to Wheatland for the period 2000 to 2007. The time frame for this Regional Housing Needs process is January 1, 2000, through June 30, 2007, (a 7½-year planning period). The allocation is equivalent to a yearly need of approximately 94 housing units for the 7½-year time period. Of the 702 housing units, 436 units are to be affordable to moderate-income households and below, including 164 very low-income units, 133 low-income units, and 139 moderate-income units.

The RHNP allocation for Wheatland applies to the incorporated area of Wheatland. However, this Housing Element includes some unincorporated areas that are being annexed to the City during the current housing element planning period. This land being annexed had been designated as agricultural/ranching and consequently was not assigned housing units by SACOG. Most of this land will be developed as part of Jones Ranch and Heritage Oaks Estates. If any housing units are built on parcels included in Jones Ranch and Heritage Oaks Estates by the end of the housing element period, they will be included in the new unit count that demonstrates Wheatland's commitment to meeting its regional housing needs.

TABLE 4-17
CITY OF WHEATLAND REGIONAL HOUSING NEEDS DETERMINATION BY INCOME, 2000-2007

	Very Low	Low	Moderate	Above Moderate	Total
RHND Allocation	164	133	139	266	702
Percent of Total	23.4%	18.9%	19.8%	37.9%	100.0%

Source: Sacramento Area Council of Governments (SACOG), *Regional Housing Needs Plan* (2001)

2. Evaluation of Regional Fair Share Allocation

The following is an evaluation of the RHNP numbers assigned to Wheatland by SACOG.

Total Number of Housing Units Assigned

In SACOG's official housing projections for Wheatland (see Appendix B in *the Final Regional Housing Needs Plan for the SACOG Region*), the projected growth for Wheatland from 2000 to 2025 is evenly distributed, with a projected increase of approximately 500 housing units for each 5-year time period from 2000 to 2025. Wheatland's RHNP allocation from 2000 to 2007 is based directly on this total housing unit projection. Since the RHNP numbers cover only part of this 25-year projection period, SACOG assigned an initial "raw" total of 684 new units from 2000 to 2007 (1,467 total projected units in 2007 minus 783 total units listed for 2000. As explained below, the raw target of 684 units was adjusted upward by 18 units to a new total of 702 units to account for required adjustments to the region-wide housing counts by income group.

Wheatland's RHNP allocation of 702 housing units for the period from 2000 to 2007 represents an increase of 89.7 percent over the 2000 estimate (the 2000 figures are California Department of Finance (DOF) estimates released before 2000 Census figures were available) of 783 housing units in the incorporated area. This is equivalent to a 8.9 percent annual average growth rate (AAGR) for the 7½-year period. In contrast, the allocated AAGR for the Yuba-Sutter Market Area for 2000-2007 is 2.2 percent and the allocated AAGR for the El Dorado-Placer-Sacramento-Yolo Market Area is 2.0 percent.

Wheatland's total number of housing units listed in the RHNP for 2000 (783) represents 1.49 percent of the total Yuba-Sutter Market Area housing units (52,417) in 2000. However, Wheatland's allocation of new housing units from 2000 to 2007 (702) is 7.5 percent of the total housing unit allocation for the Market Area (9,330), a share that is over five times its share of the current regional housing stock. Lincoln is the only municipality out of the 22 jurisdictions in the region that has a higher projected housing unit growth rate for the 2000 to 2007 period based on the RHNP. Lincoln is also the only other municipality that has a higher ratio of RHNP allocated units (new units) to existing units in 2000.

These figures indicate that Wheatland has been assigned a RHNP that is far out of proportion to its size relative to the Sutter-Yuba Market Area and the SACOG region as a whole. If Wheatland had been given an RHNP allocation commensurate with its relative size in 2000 compared to the Yuba-Sutter Market Area, it would have been assigned 139 new units. However, since Wheatland is projected to experience a relatively high rate of growth in SACOG's officially adopted housing projections from 2000 to 2025, it is also assigned a high rate of growth for housing for 2000 to 2007 in the RHNP.

Housing Unit Affordability

The guiding principle for income distribution in the RHNP is that household income distributions for jurisdictions within a Market Area (either the El Dorado-Placer-Sacramento-Yolo Housing Market Area or the Yuba-Sutter Housing Market Area) should converge towards the Market Area income distribution over the thirty-year period from 1990 to 2020 (the starting point was 1990 because household income figures from the 2000 Census were not yet available). The amount of adjustment depends on how much a jurisdiction's base-year (1990) household income distribution differs from the 2020 Market Area goal. For example, jurisdictions (such as Wheatland) that had a relatively low percentage of low-income households in 1990 (compared to the 2020 Market Area goal) are expected to facilitate the development of more affordable housing than are jurisdictions that already had a sizeable percentage of low-income households.

To determine how many units need to be affordable to each of the four target income groups (very low-, low-, moderate- and above moderate-income households), SACOG used a three-step process. First, the total units projected for 2020 were distributed to the income groups based on the Market Area goal for 2020. Second, each income group is assigned the same percentage of growth as total housing unit growth between 1990 and 2020 that should occur by 2007. The total number of housing units in Wheatland is projected to increase from 679 in 1990 to 2,115 units in 2020. Since only 1,467 units are projected by 2007, the difference between 1990 and 2007 is 684 units (the difference between 1,467 and 679 housing units). This translates into a growth rate of 37.3 percent. Therefore, SACOG allocated a growth rate of 37.3 percent for each income group.

The final step in this process adjusted the allocation so that the percentages of new housing units by income group for 2000 to 2007 for the Market Area match the percentages of housing units by income group for total housing units in the Market Area in. To accomplish this, SACOG allocated an additional 18 units to Wheatland by decreasing the allocation of very low-, low-,

and above moderate-income units by 3, 12, and 17 units, respectively; and increasing the number of moderate-income units by 50 units..

The end result is that Wheatland has slightly higher allocations on a percentage basis of very low- and low-income units than the Market Area as a whole, a higher allocation of moderate-income units, and a lower allocation of above moderate-income units.

Conclusion

The rate of housing unit growth in Wheatland required to meet the RHNP projections exceeds that of all other jurisdictions in the SACOG region except for one. Wheatland's housing units would need to increase by approximately 90 percent in a 7½-year period to meet the regional housing needs as defined by SACOG. At least in the short term, SACOG's housing growth projections for Wheatland were overly optimistic. As shown in Table 4-18 below, Wheatland had a net change of 279 units housing units from April 1, 2000 to January 1, 2004. In comparison, SACOG projected 502 unit increase for Wheatland from 2000 to 2005.

The allocation of housing units by income group for Wheatland is reasonable on a percentage basis, considering SACOG's goal of equalizing income distributions among all jurisdictions by 2020. However, it should be noted that this allocation does not take into account existing housing affordability, but instead uses household income as a proxy. For an area such as Wheatland that has relatively affordable housing compared to the region as a whole, but above-average household income levels, the result is an allocation of relatively more affordable housing to add to the already higher levels of existing affordable housing.

3. Comparison of Housing Unit Production with Projected Housing Needs

One of the Housing Element requirements is to report on actual production activity by income category for the housing element planning period. Table 4-18 below shows housing estimates for Wheatland published by the California Department of Finance (DOF) for the years 2000 through 2004. DOF estimates the number of housing units by adding new construction and annexations, and subtracting demolitions from the 2000 Census benchmark or a prior year's estimate. The housing unit changes are reported to DOF by the local jurisdiction and the U.S. Census Bureau.

Based on DOF's estimates, Wheatland added a total of 279 net new housing units from April 1, 2000 to January 1, 2004. Of these, 277 units were single family detached units and 2 were single family attached units. These figures are net figures and include any demolitions or annexations.

TABLE 4-18 CITY OF WHEATLAND HOUSING UNITS BY TYPE, 2000-2004						
	2000 (April 1) (1)	**2001**	**2002**	**2003**	**2004**	**Net Change: April 1, 2000-January1 , 2004**
Single	**566**	**572**	**587**	**695**	**845**	**279**
Detached	531	537	552	660	808	277
Attached	35	35	35	35	37	2
Multiple	**249**	**249**	**249**	**249**	**249**	**0**
2 to 4	155	155	155	155	155	0
5+	55	55	55	55	55	0
Mobile Homes	**39**	**39**	**39**	**39**	**39**	0
TOTAL	**815**	**821**	**836**	**944**	**1,094**	**279**

Source: DOF; *E-5 City / County Population and Housing Estimates, 2004, Revised 2001-2003, with 2000 DRU Benchmark* , May 2004

Notes:
(1) Housing unit estimate is for January 1 of all years listed, except for 2000 (April 1).

Table 4-19 below shows the number of building permits issued by year for 2000 through 2003 by the City of Wheatland as tabulated by the U.S. Census[5]. As shown in the table, Wheatland issued a total of 366 building permits for new residential units from January 1, 2000 through the end of 2003. This number is 87 units higher than the 279 net new units accounted for in Table 4-18 above. This discrepancy may have to do with demolitions, difference in the timing between the issuance of building permits and actual construction, and statistical imputation. There were no annexations during this time period.

TABLE 4-19 CITY OF WHEATLAND NEW RESIDENTIAL BUILDING PERMITS, 2000-2003					
	2000	**2001**	**2002**	**2003**	**Total: 2000-2003**
Single Family	13	50	134	169	366
Two Family	0	0	0	0	0
Three and Four Family	0	0	0	0	0
Five or More Family	0	0	0	0	0
Total	**13**	**50**	**134**	**169**	**366**
Total Construction Cost (1)	$1,489,567	$6,449,091	$16,322,363	$22,176,326	$46,437,347
Average Construction Cost Per Unit	$114,582	$128,982	$121,809	$131,221	$126,878

Source U.S. Bureau of the Census, *Monthly New Privately-Owned Residential Building Permits*, http://www.census.gov/const/www/permitsindex.html

Notes:
(1) Construction cost = valuation of construction as shown on the building permit.

[5] Note: The City of Wheatland does keep tabulated records of building permits by year. The City has provided information on building permits for new construction only to the Yuba County Assessor. The U.S. Census Bureau tabulates building permits based upon monthly reports submitted by local building permit officials to the Census Bureau in response to Form C-404, *Report of New Privately-Owned Residential Building or Zoning Permits Issued.* When a report is not received, missing data are either obtained from the Survey of Use of Permits (SUP) which is used to collect information on housing starts, or imputed. Imputations are based on the assumption that the ratio of current month authorizations to those of a year ago should be the same for reporting and nonreporting places.

A second component of this Housing Element requirement is to define the affordability of newly constructed units during the current housing element planning period. Since Wheatland has not itself built or issued permits for any affordable housing units during this Housing Element planning period, it is necessary to make some assumptions regarding affordability of new units.

Based on known sales prices, the building permits shown in Table 4-19 are all for market rate units that are priced above what a moderate-income household can afford. For example, the base price of new homes sold in Wheatland Park Place, one of the newest subdivisions in Wheatland, ranged between $212,590 and $239,990 at the beginning of 2003. Initial prices at Wheatland Ranch were around $169,000 in 2001. At these prices, newly constructed single family homes would only be affordable to above moderate-income households.[6] Consequently, this Housing Element assumes that new single family housing developed in Wheatland is affordable only to the above moderate-income group.

Table 4-20 below shows a comparison of Wheatland's housing unit production from 2000 through April, 2004, to its RHNP allocation for 2000 to 2007. As shown in the table, after taking into account units for which building permits have been issued, Wheatland has a remaining need of 436 units of which 164 are very low-, 133 are low-, and 139 are moderate-income.

TABLE 4-20
COMPARISON OF WHEATLAND'S HOUSING UNIT PRODUCTION WITH SACOG'S PROJECTED HOUSING NEEDS (2000-2007)

Year	Very Low-Income	Low-Income-	Moderate-Income	Above Moderate-Income	Total
Total RHNP Allocation (2000-2007)	164	133	139	266	**702**
Building Permits: 2000-2003 (1)	0	0	0	366	**366**
Building Permits: 2004 to-date (2)	0	0	0	18	**18**
Net Allocation to be Met: Jan. 1, 2004-June 30, 2007 (2)	**164**	**133**	**139**	**-**	**436**

Notes
(1) Based on U.S. Census Bureau records shown in Table 4-19. The numbers shown in this table are based on building permits issued. According to the City's Building Department, it is reasonable to assume that all units permits issued will be built within one year of issue date. Furthermore, there are very few cancelled permits for new single family dwellings.
(2) Data from the City of Wheatland; through April, 2004. All 18 units are single family units in the Wheatland Park Place development and assumed to be affordable only to above moderate-income households.
(3) As of May 1, 2004; total is sum of very low-, low-, and moderate-income totals.

4. Special Housing Needs

Within the general population there are several groups of people who have special housing needs. These needs can make it difficult for members of these groups to secure suitable housing. The following subsections discuss the special housing needs of six groups identified in State housing element law (Government Code, Section 65583(a)(6)). Specifically, these include homeless persons, persons with disabilities, senior households, large households, female-headed households, and farmworkers. Where possible, estimates of the population or number of

[6] To illustrate, in 1999, the highest priced home affordable to a moderate-income four-person household would have been $137,000; in 2000, the price would need to be below $138,200; in 2001, an affordable price would have been below $144,200; in 2002, the affordable price would be below $146,800, and finally in 2003, the affordable price would need to be below $169,400.

households in Wheatland falling into each group are shown When such information is unavailable for Wheatland, estimates for Yuba County are shown. For example, information on the homeless population covers the entire county and not just Wheatland.

Homeless Persons

Homelessness is usually the end result of multiple factors that converge in a person's life. The combination of loss of employment and the inability to find a job because of the need for retraining leads to the loss of housing for some individuals and families. For others, the loss of housing is due to chronic health problems, physical disabilities, mental health disabilities, or drug and alcohol addictions, along with an inability to access the services and long-term support needed to address these conditions.

It is very difficult to quantify the homeless population in a given area, particularly in a place such as Wheatland where the closest services for homeless persons, such as homeless shelters, drop-in service centers, and transitional housing, are located in Marysville.

According to a spokesperson for the Yuba County Department of Human Services, CalWORKS Program, there is no count of homeless families and adults for Wheatland or for Yuba County. Approximately sixty families per month apply for homeless assistance in Yuba County. These families may need help with eviction, temporary shelter (up to 16 nights of motel vouchers are available), or assistance with move-in costs (first month's rent and deposit). These services are provided to families at the One Stop office in Marysville. Very few Wheatland residents contact this office for assistance.

According to the Wheatland Police Department, they are not aware of a homeless problem in Wheatland. Although the police sporadically encounter homeless persons, these persons are generally passing through Wheatland on SR 65. Based on Yuba County information and local police encounters, the incidence of homelessness in Wheatland is minimal.

Additional services provided in Marysville for the homeless include the following:

- Salvation Army Family Service Center operates an emergency shelter program for both Sutter and Yuba County residents. The program provides short-term shelter for three days in a local motel. In addition to the shelter program, this Center also provides drug and alcohol rehabilitation, groceries, and other services.

- The Salvation Army Depot Family Crisis Center, Marysville, provides longer-term housing. Residents take part in a homeless prevention program. Transitional housing is also provided through the Depot Family Crisis Center.

- Twin Cities Rescue Mission is also located in Marysville, and provides 52 beds for homeless persons and families. The mission provides meals and housing for up to three days.

The 1992 Wheatland Housing Element stated that "Wheatland is a small town with very few services and retail establishments. Most of Yuba County's homeless population resides in the larger, urban areas such as Marysville, where services are more readily available." The same situation applies in 2004.

People with Disabilities

The 2000 Census provides some information on disabilities for persons five years and older. Table 4-21 below shows 2000 Census information on whether a person has a disability. In the general population ages five and older, there are 437 persons with one or more disabilities, for a disability rate of 21 percent. The lowest rate of disability is among persons between the ages of 5 and 15. Persons over the age of 75 experience the highest rate of disability (58 percent).

TABLE 4-21
DISABLED POPULATION FIVE YEARS AND OLDER, CITY OF WHEATLAND, 2000

Age	Disability	No Disability	Total Persons	% with Disability
Between 5-15	31	463	494	6.3%
16-20	22	148	170	12.9%
21-64	247	868	1,115	22.2%
65-74	62	114	176	35.2%
Over 75	75	54	129	58.1%
Total Population 5 Years and Older	**437**	**1,647**	**2,084**	21.0%

Source: 2000 Census.

Table 4-22 below provides information on the exact nature of these disabilities. The number of disabilities shown in Table 4-22 (870) exceeds the number of individuals with disabilities (437) because a person can have more than one disability. Among school age children, the most frequent disability is mental. For persons aged 16 to 64 years, the two most frequent disabilities are employment-related and physical. Finally, for seniors, physical and go-outside-home disabilities are the most frequent.

TABLE 4-22
TYPES OF DISABILITIES PERSONS FIVE YEARS AND OLDER, CITY OF WHEATLAND, 2000

Type of Disability	Age Group						Total	
	5-15 Years		16-64 Years		65 years and Over			
	#	%	#	%	#	%	#	%
Sensory	4	10.0%	34	6.6%	54	17.3%	92	10.6%
Physical	2	5.0%	121	23.4%	105	33.5%	228	26.2%
Mental	29	72.5%	69	13.3%	35	11.2%	133	15.3%
Self-Care	5	12.5%	23	4.4%	41	13.1%	69	7.9%
Go-Outside-Home	n/a	0.0%	113	21.9%	78	24.9%	191	22.0%
Employment	n/a	0.0%	157	30.4%	n/a	0.0%	157	18.0%
Total Disabilities	**40**	**100.0%**	**517**	**100.0%**	**313**	**100.0%**	**870**	**100.0%**

Source: 2000 Census.

According to statistics from the Social Security Administration, as of December 2000, there were 88 persons 18 to 64 years of age in zip code 95692 (Wheatland) who received Supplemental Security Income (SSI) because they were blind or disabled. SSI is a needs-based program that pays monthly benefits to persons who are 65 or older, blind, or have a disability. With the maximum monthly benefit of $757 as of January 2003, SSI recipients are likely to have difficulty finding housing that fits within their budgets since they can afford to pay only $227 for rent.

A spokesperson from FREED, a community based center for independent living, emphasized that one of the main needs for the disabled community is to develop more housing with universal design. For seniors, universal design is important since it allows them to remain in their homes longer. Some of the features that benefit both seniors and the disabled include doorways that are large enough to accommodate wheelchairs, grab bars installed in bathrooms, and passage in and out of a home without using stairs. Mobile homes are a particular problem because limited interior space makes universal design more difficult. Developmentally disabled persons require group homes and someone living on the premises to help them, if necessary.

According to State law, five percent of the units in new townhomes need to be accessible. This translates into providing some units that are entered at ground level and provide a bathroom, bedroom, and laundry area on the first floor.

In house Supportive Services (IHSS) is an important program in Yuba County. IHSS provides in-home services to low-income individuals who qualify through Medical or SSI. There is no age restriction, but there is an income restriction. Services include housekeeping and personal care. In house supportive services permit disabled persons to remain in their own homes. These services are available to Wheatland residents who are income-eligible.

Senior Households

Senior households are defined as households headed by an individual over the age of 65 years. Table 4-23 shows 2000 Census information on seniors. As of 2000, because of smaller household sizes, senior households represented 23 percent of all households in Wheatland while seniors made up only 13 percent of the total population. Approximately two-thirds of senior households own their homes.

TABLE 4-23 NUMBER OF SENIORS, CITY OF WHEATLAND, 2000	
Senior Population	
Number of Persons 65 years and Over	305
Seniors as a Percentage of the Total Population	13.4%
Number of Males	129
Percent of Senior Population that is Male	42.3%
Number of Females	176
Percent of Senior Population that is Female	57.7%
Households Headed by a Senior	
Number of Households Headed by Individuals 65 Years and Over	169
Seniors as a Percentage of All Households	23.0%
Number of Renter Households Headed by a Senior	58
Percentage of Senior Households	34.3%
Number of Owner Households Headed by a Senior	111
Percentage of Senior Households	65.7%
Source: 2000 Census.	

Table 4-24 shows the number and percentage of renter and homeowner households paying more than 30 percent of their incomes for housing costs. As shown, about one-third of senior renter households (31 percent or 18 households) have a cost burden greater than 30 percent. This proportion is similar to non-senior renter households, of which 30 percent paid more than 30 percent of their incomes for rent in 2000. Senior homeowners have lower cost burdens than do senior renters. Only 20 percent had cost burdens greater than 30 percent. However, because of the higher percentage of seniors who are homeowners, the number of senior owners with high cost burdens (22) is about the same as the number of renters with high costs burdens.

TABLE 4-24
COMPARISON OF COST BURDENS BY AGE AND TENURE,
CITY OF WHEATLAND, 2000

	Renters			Owners		
Age Category	**Total**	**Cost Burden Greater Than 30%**		**Total**	**Cost Burden Greater Than 30%**	
		#	%		#	%
15-64 Years	273	83	30.4%	294	89	30.3%
65 Years and Over	58	18	31.0%	111	22	19.8%
Total	**331**	**101**	**30.5%**	**405**	**111**	**27.4%**

Source: 2000 Census.

According to statistics from the Social Security Administration, as of December 2000, there were 30 Supplemental Security Income (SSI) recipients 65 years and over in zip code 95692, which includes Wheatland. Seniors who have never worked or have insufficient work credits to qualify for Social Security disability often receive SSI benefits. In fact, SSI is the only source of income for many of these low-income senior SSI recipients.

According to the Yuba County Housing Authority, as of the end of February 2004, there were 29 senior households over the age of 70 that were on the Section 8 program in Yuba County. In addition, there were 49 households, in which the head was between 60 and 69 years of age, who were also on the Section 8 Program. Of the 399 participating households, therefore,

approximately 23 percent of households receiving Section 8 assistance in Yuba County were age 60 and over as of February 2004.

Donner Trail Manor in Wheatland provides 44 affordable housing units to very low- and low-income seniors and persons with disabilities. As of May 2004, there were ten households on the waiting list for Donner Trail Manor. Although there are no state licensed residential care facilities for the elderly in Wheatland, there are four facilities in Marysville, housing up to 152 elderly persons. Finally, there is a mobile home park on 6th Street in Wheatland that is for seniors only. This park leases spaces only. The minimum age for occupants is 55 years. The park's 36 spaces were fully occupied as of the end of April 2004.

Although a lack of affordable rental housing for senior households is no worse a problem than for non-senior households, senior households experience other problems not encountered by younger households. These include access to services (for seniors who no longer drive) and a need for assistance to remain independent, for example in the areas of meal preparation and personal care. Since Wheatland is a very small city, it is not in a position to offer direct services to its senior residents. Instead, services are available through Yuba County in Marysville.

Large Households

Large households require housing units with more bedrooms than smaller households need. In general, housing for these households should provide safe outdoor play areas for children and should be located to provide convenient access to schools and child-care facilities. These types of needs can pose problems particularly for large families that cannot afford to buy or rent single family houses, as apartment units are most often developed with childless, smaller households in mind.

The U.S. Department of Housing and Urban Development (HUD) defines a large household or family as one with five or more members. According to the 2000 Census, 130 households, or approximately 16 percent of the total households in Wheatland, had five or more members. This proportion is slightly higher for renters (17 percent) than for owners (16 percent).

In Wheatland, as of the 2000 Census, owner-occupied units averaged 2.9 bedrooms per unit, whereas renter-occupied units averaged 1.4 bedrooms per unit. Thus, for the large families that are unable to rent single family houses, it is likely that these large renter households are overcrowded in smaller units.

Recognizing the need for larger rental units, a non-profit housing developer (Mercy Housing) acquired and rehabilitated a duplex development, now called Sunset Valley Duplexes. This affordable project provides 43 three-bedroom units, 1 four-bedroom unit, and 1 five-bedroom unit (along with 14 one-bedroom and 29 two-bedroom units).

According to the Yuba County Housing Authority, households that experience the most difficulty in locating housing under the Section 8 Program are those that require housing units with more than three bedrooms. Since there are no occupancy standards under the Section 8 Program, larger households may occupy smaller units, as long as the landlord does not object.

When planning for new multifamily housing developments, therefore, the provision of three- and four-bedroom units is an important consideration due to the likely demand for affordable, larger multifamily rental units.

Female-Headed Households

According to the U.S. Census Bureau, as of 2000, there were 242 female-headed households in Wheatland. This represented about 30 percent of all households. Among female-headed households, 103 or 43 percent of the total female-headed households were single person households, and 30 percent of female-headed households (or 73 total) have children living with them who are under 18 years of age.

Due to lower incomes, female-headed households often have more difficulties finding adequate, affordable housing than do families with two adults. Also, female-headed households with small children may need to pay for childcare, which further reduces disposable income. This special needs group will benefit generally from expanded affordable housing opportunities. More specifically, the need for dependent care also makes it important that housing for female-headed families be located near childcare facilities, schools, youth services, medical facilities, and senior services.

Farmworkers

There is no estimate of the number of agricultural workers who live in Wheatland. The 2000 Census combines Wheatland employees in agriculture with those who work in forestry, fisheries, and hunting, and mining. As of 2000, 55 Wheatland workers, or 6.2 percent of employed residents, worked in these sectors. In Yuba County as a whole, the 2000 Census reported an employment total of 1,347, or 6.7 of employed residents, in "agriculture, forestry, fishing and hunting, and mining."

The 2002 Census of Agriculture reported a total of 4,058 hired farm workers on 255 farms in Yuba County in 2002. Of these farms, 126 farms listed 879 workers as working 150 days or more during the year, while 211 farms listed 3,179 workers as working less than 150 days (greater than or less than 150 days is the only employment time period reported in the Census of Agriculture; farms could report workers in both categories and may therefore be listed more than once).

There was a dramatic decrease in farm jobs in Yuba County from 1992 to 2002. While the Census of Agriculture listed 255 farms in Yuba County in 1992, 1997, and 2002, hired farm labor declined from 6,035 in 1992 to 5,042 in 1997, and to 4,058 in 2002.

Information on migrant workers was collected for the first time in the 2002 Census of Agriculture. Farms were asked whether any hired or contract workers were migrant workers, defined as "a farm worker whose employment required travel that prevented the migrant worker from returning to his/her permanent place of residence the same day." For Yuba County, 63 farms, or 25 percent, of the total 255 farms listed were reported as using migrant farm labor.

Yet another measure of the number of farmworkers and their household members was provided in a report prepared for the Migrant Health Program covering all of Yuba County. This study reported in 2000 that there were 2,477 migrant farmworkers and 2,872 seasonal farmworkers in Yuba County for a total of 5,349 farmworkers. The migrant farmworkers had an additional 910 household members, while the seasonal farmworkers had an additional 3,259 household members. The total of all farmworkers and their associated household members was therefore estimated at 9,518 for Yuba County in 2000.

Migrant and seasonal farmworkers may be undercounted in official estimates for several reasons. They may not live in conventional housing units (e.g., garages), they may double up with other households, they may live in motels, and some may live outdoors. According to a spokesperson for California Rural Legal Assistance (CRLA), about half of Yuba County's farmworkers are migrant and move to Yuba County during the peak growing season. The remaining farmworkers are seasonal and live in the general county area year-round. The main season in Yuba County starts in April/May, and is the most intense between June and August. Orchard products, such as cherries, prunes, and peaches are the principal crops.

Seasonal workers are more likely to have their families with them, although some migrant workers come with their families if they feel they can locate suitable housing. Many workers are Latino immigrants. Due to increased border security with Mexico, more immigrant farmworkers are remaining in the area year round with their families, since it is more difficult to travel across the border in both directions.

As discussed earlier, there is no information available about the number of farmworkers and their families living specifically in Wheatland. Wheatland's 2000 population of 2,275 represents just 3.78 percent of the total Yuba County population of 60,219. Therefore, extrapolating county-wide farm worker figures to Wheatland based on relative population size would yield a small number of migrant and seasonal farmworkers. According to CRLA, although there is no real estimate of the number of farmworkers in Wheatland, it is likely that there are not many living there. However, housing for farmworkers is, in general, better provided in cities, where services are located nearby. This is particularly true of seasonal farmworkers whose families live with them.

Finally, according to the Butte County Board of Education Migrant Education Program students (Wheatland is within the service area for this program), there are 11 students in Wheatland (6 in elementary and 5 in high school) enrolled in the Migrant Education Program. These 11 students represent 6 families. The number of migrant students enrolled in this special program has remained about the same for the last several years.

Farmworkers have special housing problems due to seasonal income fluctuations, very low incomes, and substandard housing conditions. Housing that is targeted to very low-income households serves seasonal farmworkers. Although there is no special farmworker housing in Wheatland several farmworkers and their families live at the Sunset Valley Duplexes in Wheatland. Although Yuba County does not directly provide farmworker housing, a non-profit organization, Mercy Housing, provides farmworker housing in Linda, California, also in Yuba County.

Housing for migrant farmworkers should be affordable and flexible. Bunk style housing with bathrooms and kitchens is adequate, particularly if it is built so that if a family needs to stay in group quarters, there is a way to provide privacy. For seasonal farmworkers, housing needs to be affordable at extremely low incomes and provide large units to accommodate larger families. Therefore, the type of housing needed for seasonal farmworkers does not differ from the type of housing needed by other very low-income households.

4.3 | SECTION II: RESOURCE INVENTORY

A. AVAILABILITY OF LAND AND SERVICES

1. Survey of Available Land

This section provides an analysis of the land available for residential development and compares this to Wheatland's assigned need for new housing. This includes both sites that are available within incorporated City of Wheatland boundaries and in unincorporated areas that will be annexed within the Housing Element planning period. In addition to this assessment, this section considers the availability of sites to accommodate a variety of housing types suitable for households with a range of income levels and housing needs.

Inventory of Vacant and Underdeveloped Sites

Housing Element law requires an inventory of land suitable for residential development (Government Code, Section 65583(a)(3)). An important purpose of this inventory is to determine whether a jurisdiction has allocated sufficient land for the development of housing to meet the jurisdiction's share of the regional housing need, including housing to accommodate the needs of all household income levels.

Table 4-25 below shows a summary of residential development potential by affordability category within incorporated Wheatland boundaries. The table shows both the maximum development potential on the sites (based on acreage and maximum allowed density) and the inventoried development potential which is lower than the maximum development potential on some of the sites. As shown in the table, Wheatland has a total additional inventoried capacity of 410 residential units on vacant residential land (maximum development potential of 472 units). The number of affordable units calculated for each of these sites is derived from the density assumptions shown in the table. Based on allowable maximum densities of 18 units per acre (without density bonuses; 22.5 units per acre with density bonuses) for all of the land shown in the table with a HDR designation and R-3 zoning designation, this land is assumed to allow development of units affordable to very low- and low-income households. The remainder of the vacant sites listed are designated Low Density Residential (LDR) and zoned R-1. These sites are assumed to be affordable only to above moderate-income households.

The sites shown in Table 4-25 all have access to infrastructure and are not constrained by topography, environmental factors, or other site specific problems that would limit planned development.

TABLE 4-25
VACANT RESIDENTIAL SITES WITHIN WHEATLAND CITY LIMITS

APN#/ Location (1)	Acres	General Plan/ Zoning	Maximum Density in Units/Acre (2)	Assumed Affordability	Maximum Development Potential (3)	Inventoried Development Potential (4)
Wheatland Park Place (5) (Site #13)	52.46	LDR/R-1	5.00	above moderate	108	87
Almond Estates (6) (Site #2)	47.00	LDR/R-1	5.00	above moderate	235	205
between SR 65 and C Street at north boundary of City (7) (Site #10)	2.2	HDR/R-3	18.00	very low and low	36	35
B Street (8) Site #11	12.00	LDR/R-1	5.00	above moderate	60	54
between SR65 and Malone Street at south boundary of city (9)	1.85	HDR/R-3	18.00	very low and low	33	29
Total units					**472**	**410**

Sources: City of Wheatland Zoning Ordinance, 1991; and Mintier & Associates Land Use Database, 2004.
Notes:
(1) Site # refers to parcel location in 1995 Specific Plan Boundary Map (Figure A-2).
(2) Without 25% density bonus.
(3) Maximum development potential is based on acres multiplied by maximum density (without density bonus), and then rounded down. In the case of Wheatland Park Place, existing units and issued building permits have been accounted. See note #5for this site for further explanation.
(4) See individual notes for each site for explanation.
(5) The site is projected to be built out by the end of 2004 at 210 total single family units (87 units potential remaining – 105 building permits issued in 2003 and 18 building permits issued to-date (see Table 4-20)). This is equivalent to a total site density of 4.0 units/acre, or 80% of maximum density. Based on 123 issued building permits at an average of 4 units/acre, there is an estimated 21.71 vacant acres remaining. At a density of 5 units/acre, this is equivalent to maximum remaining development potential of 108 units.
(6) Constrained by drainage and access. Possible start in 2007; total of 205 single family lots. This is equivalent to a total site density of 4.36 units/acre, or 87% of maximum density.
(7) Constrained by need for off-site sewer. Unknown start date. Inventoried development potential is based on an assumed density of 16 units/acre. This site is within an existing street and utility infrastructure network.
(8) Constrained by need for off-site sewer. Unknown start date; total of 54 single family lots. This is equivalent to a total site density of 4.5 units/acre, or 90% of maximum density.
(9) Inventoried development potential is based on an assumed density of 16 units/acre. This site is within an existing street and utility infrastructure network.

Table 4-26 below shows residential development potential on sites currently outside of city limits. There are three sites: Heritage Oaks Estates, Jones Ranch, and the "island" between the new junior high and senior high schools.

The City recently approved pre-zoning on two of these sites. The City Council approved pre-zoning on Heritage Oaks Estates on November 18, 2003. As of October, 2004 Heritage Oaks had submitted its annexation application to the City and LAFCO. The development includes High Density Residential (HDR) designation and R-3 pre-zoning (11-18 units per acre) of 6 acres. The applicant indicated there was interest in that site for senior housing.

The City Council approved prezoning on Jones Ranch on December 9, 2003. As of October, 2004 Jones Ranch was on the verge of submitting its annexation application to the City and LAFCO. The development includes High Density Residential (HDR) designation and R-3

prezoning (11-18 units per acre) of 5 acres. The applicant indicated that there was a market for their site.

Both the Heritage Oaks and the Jones Ranch projects need the technical studies that are being prepared for the General Plan Update to be completed before receiving tentative map approval from the City. In addition, the projects need LAFCO approval before they are annexed by the City. As of October, 2004, LAFCO had a twenty-project backlog before it could process the Heritage Oaks and the Jones Ranch projects. However, it is anticipated that both projects will be under development within the time period of this Housing Element. There are no environmental or other physical constraints, or agricultural easements or contracts on these properties that would limit planned development.

The multifamily sites shown in the table are assumed to allow development of units affordable to very low- and low-income households. The duplex sites shown in the table are assumed to allow development of units affordable to moderate-income households The single family sites are assumed to be affordable only to above moderate-income households.

TABLE 4-26
RESIDENTIAL SITES OUTSIDE WHEATLAND CITY LIMITS

	Very Low	Low	Combined Low- and Very Low-	Moderate	Above Moderate	Total
Heritage Oaks Estates	-	-	**108**	**80**	**590**	**778**
multifamily units (1)	-	-	108	-	-	108
duplex units (2)	-	-	-	80	-	80
single family lots (3)	-	-	-	-	590	590
Jones Ranch	-	-	**55**	**56**	**442**	**553**
multifamily units (4)	-	-	55	-	-	55
duplex units (5)	-	-	-	56	-	56
single family lots (6)	-	-	-	-	442	442
"Island" between new junior high & senior high schools) (7)	-	-	-	-	**50**	**50**
TOTAL	-	-	**163**	**136**	**1,082**	**1,381**

Sources: City of Wheatland, Carstens Consulting, Inc., Mintier & Associates
Notes:
(1) 6 acres with High Density Residential (HDR) designation and R-3 pre-zoning; 108 unit potential at 18 units/acre.
(2) 7 acres with 40 planned structures (80 units); planned density of 11.4 units/acre.
(3) 181 acres with 590 planned units; planned density of 3.3 units/acre.
(4) 5 acres with High Density Residential (HDR) designation and R-3 pre-zoning; 90 unit potential at 18 units/acre
(5) 9 acres with 28 planned structures (56 units); planned density of 6.2 units/acre.
(6) 140 acres with 442 units; planned density of 3.2 units/acre.
(7) 8 existing single family units; planned for an additional 50 single family units on 31 acres.

Total Residential Holding Capacity vs. Projected Needs by Housing Type and Income Group

Table 4-27 below provides a summary of residential holding capacity in Wheatland compared to Wheatland's assigned housing need. The figures for total RHNP allocation, units built, and net allocation to be met are from Table 4-20. The figures for holding capacity on vacant land are from Tables 4-25 and 4-26. As shown in Table 4-27, Wheatland has a total residential capacity of units in excess of its net allocation to be met.

Because the capacity for housing production of exceeds Wheatland's net need for new housing of during the Housing Element planning period, a primary objective for the City over the Housing Element planning period will be to provide adequate sites to accommodate the housing needs of very low–, low-, and moderate-income households.

As shown in Table 4-27, after taking into account building permits issued from January 1, 2000 through April 30, 2004, Wheatland has a net allocation to be met of 436 moderate-income and below units . Wheatland has a capacity for 363 moderate-income and below units, for a deficit in capacity of 73 units, including 70 very low- and low-income units and 3 moderate-income units. The 363 unit capacity for moderate-income and below units could be increased, with application of the maximum 25 percent density bonus, to 453 units; however, density bonuses are not reflected in the table.

Wheatland will need to identify additional sites as part of the Housing Element Policy Document to meet the remaining identified need for units affordable to moderate-income and below units. In order to provide the potential for the 73 net remaining housing unit allocation for very low-, low-, and moderate-income units, 4.06 additional acres of vacant High Density Residential-designated land, would have to be made available (assuming development densities at 18 units per acre).

TABLE 4-27
CITY OF WHEATLAND RESIDENTIAL HOLDING CAPACITY ANALYSIS

	Very Low	Low	Combined Low- and Very Low	Moderate	Above Moderate	Total
Total RHNP Allocation (1)	164	133	297	139	266	**702**
Building Permits: 2000 through 4/30/2004 (1)	0	0	0	0	384	**384**
Net Allocation to be Met: January 2000-June 2007 (1)	**164**	**133**	**297**	**139**	-	**436**
Holding Capacity – Incorporated Land (2)	-	-	64	-	346	**410**
Holding Capacity – Unincorporated Land to be Annexed (3)	-	-	163	136	1,082	**1,381**
Remaining Need (4)	-	-	**70**	**3**	**0**	**73**

Notes:
(1) See Table 4-20.
(2) See Table 4-25.
(3) See Table 4-26.
(4) Total need shown in table is sum of very low-, low-, and moderate-income need. There is a surplus holding capacity of 1,473 total units (702 unit need minus 384 building permits issued, minus 410-unit holding capacity on incorporated land, minus 1,381-unit holding capacity on unincorporated land), when income levels are not taken into account.

2. Land Available for Other Types of Housing and Shelter

State law (Government Code Section 65583(c)(a)) requires that local land use regulations accommodate a range of housing types, as well as facilities for people in need of emergency shelter and transitional housing. The following is a brief analysis of the availability of land for other types of housing.

Manufactured Housing

In accordance with state law, the City allows manufactured homes on permanent foundations on all residential lots. In the Wheatland Land Use Survey there were eight vacant residential sites. In addition, the City does not have any land zoned exclusively for mobile home parks, however, they are allowed with a use permit in the R-3, C-1, C-3, and PD districts. Currently (May 2004), there were about six sites large enough (over 1 acre) to accommodate mobile home parks.

Transitional Housing, Emergency Shelters, and Other Group Living

Table 4-28 below shows the regulations for group living permitted by the Zoning Ordinance.

TABLE 4-28
ZONING ORDINANCE REGULATIONS FOR GROUP LIVING

Type	Zones
Group care, retarded (1)	Permitted use in RE-1, RE-½ , R-1, R-2, and R-3 zones (2).
Rest homes, hospital and hospital offices	Conditional use in R-2 zone Permitted use in:R-3 zone
Rooming and boarding of not more than two persons not employed on the premises	Permitted use in R-2 and R-3 zones
Rooming and boarding of three or more persons	Conditional use in R-2 zone
Sheltered care facilities (3)	Conditional use in R-2 and R-3 zones
Hotels, motels, roominghouses and boardinghouses (4)	Conditional use in R-3 zone

Source: Wheatland Zoning Ordinance

(1) From the "Definitions" chapter (18.06) of the Wheatland Zoning Ordinance. "Retarded group care" means any home, state authorized, certified or licensed family care home, foster home, or group home serving six or fewer mentally disordered or otherwise handicapped persons or dependent and neglected children on a twenty-four-hour basis. Such homers are considered a residential use. Such homes are conditionally permitted uses in all residential zones, including, but not limited to, residential zones for single-family and estate dwellings, per Section 5116 or (*sic*) the Welfare and Institutions Code.

(2) Listed as a conditional use in the R-E and R-1 zones only. Based on the definition in note #1 above though, these facilities would be conditional uses in all residential zones in Wheatland. However, note that Section 5116 ("Zoning Preemption") of the Welfare and Institutions Code (Zoning of Homes or Facilities for Mentally Disordered, Handicapped Persons, or Dependent and Neglected Children) states "Pursuant to the policy stated in Section 5115, a state-authorized, certified, or licensed family care home, foster home, or group home serving six or fewer mentally disordered or otherwise handicapped persons or dependent and neglected children, shall be considered a residential use of property for the purposes of zoning if such homes provide care on a 24-hour-a-day basis. Such homes shall be a permitted use in all residential zones, including, but not limited to, residential zones for single-family dwelling." Based on this zoning preemption, such facilities are a permitted use in all residential zones.

(3) From the "Definitions" chapter (18.06) of the Wheatland Zoning Ordinance: "Sheltered care home" means a facility other than a hospital or nursing home for two or more unrelated persons who are not acutely ill, which renders personal care and assistance with meals, dressing, medications prescribed by a physician or surgeon licensed in California, and other personal assistance of a similar type and includes homes for the aged and infirm who do not need skilled nursing care.

(4) From the "Definitions" chapter (18.06) of the Wheatland Zoning Ordinance: "Boardinghouse" means a dwelling in which there is no more than one dwelling unit and more than two but not exceeding five rooming units or guest rooms. Meals may or may not be provided to the occupants thereof. A boardinghouse shall not include homes for persons not members of the family requiring professional or semiprofessional; care by reason of physical or mental infirmity or disease or by reason of age.

As shown in the table, group homes for six or fewer residents are currently permitted in all residential zones due to the zoning preemption of Section 5116 of the California Welfare and Institutions Code.

Emergency shelters and transitional housing facilities would fall under the "sheltered care facilities" or "boardinghouse" definitions and allowed as a conditional use in the R-2 and R-3 zones. At this time, the city of Wheatland does not exhibit the typical needs of a more urban area

to require emergency shelters. However, if a shelter was proposed in the city, one acre of vacant land in the R-2 or R-3 zones could accommodate an emergency shelter.

Farmworker Housing

The lower density zones in Wheatland are not conducive to permanent farmworker housing development due to housing costs at this time. Therefore, it is not financially feasible to accommodate permanent farmworkers' housing needs in these zones. However, this need is addressed by sites where housing is developed for affordable households. These tend to be sites that are in higher density zones. The R-2 or R-3 zones both have high enough densities to accommodate residential units for farmworkers. Sites that best meet the needs of farmworker housing are those that are located near agriculture. The city currently (May 2004) has four acres of vacant land with R-3 zoning (see Table 4-25) that could be used to build housing to accommodate farmworkers. The duplex and multifamily sites shown in Table 4-26 could also potentially accommodate farmworker housing.

Temporary farmworker housing is allowed Yuba County's Agriculture Exclusive (A-E) zone with the approval of a use permit. There is no A-E zoned property in the city.

The provisions of Section 17020 (et. seq.) of the California Health and Safety Code relating to employee housing and labor camps supersede any ordinance or regulations enacted by local governments. Such housing is allowed in Wheatland, as in all of the jurisdictions in California, pursuant to the regulations set forth in Section 17020. Section 17021.5(b) states, for example:

> "Any employee housing providing accommodations for six or fewer employees shall be deemed a single-family structure with a residential land use designation for the purposes of this section. For the purpose of all local ordinances, employee housing shall not be included within the definition of a boarding house, rooming house, hotel, dormitory, or other similar term that implies that the employee housing is a business run for profit or differs in any other way from a family dwelling. No conditional use permit, zoning variance, or other zoning clearance shall be required of employee housing that serves six or fewer employees that is not required of a family dwelling of the same type in the same zone."

Second Units

The State of California legislation regarding second units (AB 1866) effective July 1, 2003, requires that second units be allowed by right on lots zoned for single family or multi-family use that contain an existing single family unit. The City does allow accessory structures on residential land, but has not adopted a second unit ordinance with development standards. By law the City must allow for second unit development by right. Hence, the City must use State guidelines for second units until a second unit ordinance is adopted by the City.

The following standards have been included in AB 1866 for communities without second unit ordinances development standards. Total floor space for a detached second unit shall not exceed 1,200 square feet, while an attached second unit shall not exceed 30 percent of the existing living area. Requirements relating to height, setback, lot coverage, architectural review, site plan

review, fees, charges, and other zoning requirements are to be applied as other residential construction allowed in the city zone in which the property is located.

During the past ten years the City of Wheatland has not recorded any building records for second units. In addition, information on the affordability level of second units in Wheatland is not available. However, in communities similar to Wheatland, second units generally rent to moderate-income groups. According to the California Department of Finance (DOF), there were approximately 808 single family detached dwellings in the city of Wheatland as of January 1, 2004 (see Table 4-18). With the exception of sites that already have second units or other impediments to the State requirements for second unit development, such as lot coverage, these single family sites offer second unit opportunities in Wheatland. The City cannot estimate the potential for second units through this housing element period, considering the ministerial review process now required by AB 1866. To facilitate expected number of second units, the City can pursue programs to adopt a second unit ordinance, promote second units, or ease development procedures/fees.

Sites Suitable for Redevelopment for Residential Use

There are numerous opportunities for redevelopment of residential uses in Wheatland. The City has worked with Mercy Housing to determine the location of sub-standard housing within the city. Based on the results of a city-wide housing conditions survey conducted in May 2004, 6.5 percent of the city's housing stock either does not meet UBC standards and/or needs minor repairs (see Table 4-16). The majority of these properties are located in the heart of the city, between SR 65 and the railroad tracks. The City is also working to invest CDBG Funds to refurbish or redevelop these properties. The City shall continue to promote and facilitate the rehabilitation of the existing housing stock using a variety of applicable, viable programs.

3. Adequacy of Public Facilities, Services, and Infrastructure

This section addresses the adequacy of public facilities, services, and infrastructure to accommodate planned residential growth between January 2001 and July 2008.

City facilities, services, and infrastructure are generally adequate to accommodate development of vacant residential sites within the existing city limits. The roads serving the sites are in adequate condition, although there is significant traffic congestion on SR 65, which bisects the city. The existing police, fire, and parks services are adequate as well. The City water system has been completely reconstructed and adequate water supply for the foreseeable future exists – including well beyond the Housing Element planning period. The wastewater system is generally adequate, although new State water quality permitting requirements are likely to require significant upgrades to the existing treatment and disposal system. It is unlikely that these upgrades will be required before 2008. The City has completed a flood analysis that indicates the city is not within the 100-year floodplain and has submitted a Letter of Map Amendment (LOMA) to the Federal Emergency Management Agency (FEMA). The existing drainage system is adequate.

The existing city facilities, services, and infrastructure (especially wastewater treatment) are not, however, adequate to accommodate new housing on sites currently outside the city limits. While there are significant constraints on the development of the unincorporated areas that are needed to meet Wheatland's housing needs allocation, there are no alternatives to these sites for providing affordable housing for this housing element planning period.

The developers of Heritage Oaks Estates and Jones Ranch will be required to extend infrastructure or fund service and facility expansion to accommodate new housing. The same is true for the "island" property. In particular, the wastewater treatment plant has capacity only for build-out of the existing city limits. The plant must be expanded, and possibly relocated, in order to accommodate new housing outside the existing city limits. As of the writing of this report in mid-2004, several technical studies were being prepared as part of the General Plan Update to determine the need, extent, and cost of such facility and service expansion to Heritage Oaks Estates and Jones Ranch. The City may consider allocating, on a temporary basis, some of the existing wastewater treatment facility capacity within the existing city limits to the Jones Ranch and Heritage Oaks Estates projects with the understanding that the projects will fund future facility expansion necessary to replace that allocation.

Roads

The existing road system in the city is generally adequate to accommodate development on residential sites within city limits. New roads must be constructed to serve areas outside the existing city limits. The absence of available funding sources to finance needed expansions and improvements is an obstacle to residential development. Developers are expected to take responsibility for paying the costs of necessary on-site and off-site traffic improvements to serve new residents. Assuming that developers add these costs to the sales prices for new homes, this is another factor that increases housing costs.

A bypass is being proposed for SR 65 on either the east or west side of town. The bypass would link with the planned Lincoln Bypass to the south and connect to the existing Beale Bypass north of Wheatland. The bypass is still in the planning phase and is dependent upon environmental and financing review.

Water

The City of Wheatland Public Works Department operates the City's water system provides water to the entire City plus approximately two residences outside the City. The City's source of water is entirely from ground water. The quality of the ground water is excellent and is disinfected by adding low levels of chlorine. The City maintains a water system capable of supplying approximately 1,035,000 gallons of water per day for domestic purposes. The City estimates its current average water usage per day is approximately 504,000 gallons. Thus, the current capacity is twice the average daily usage and an adequate water supply for the foreseeable future exists.

From 2001 to 2003 the City, using USDA Rural Development loan and grant funds, upgraded the total water system including wells, water main replacements, water services, metering of all

services, construction of a 600,000 gallon water tank and booster pumps, and a Supervisory Control and Data Acquisition (SCADA) system. With the improvements noted above and additional developer requirements, the resultant water system is designed and sized to provide service at General Plan buildout.

The operation and maintenance of the water system is funded by a monthly service charge, currently $25.62 per single family residence. Included in the monthly service charge is $13.50 to repay the USDA loan amount and develop a loan reserve account. The terms of the loan are for 40-years, at 4.50 percent, with the end of loan period at 2040.

Housing sites within the city have adequate access to water services. New residential developments currently outside the city are required to provide for water facilities including wells and pipes to meet their demands and/or pay an impact fee based on their demand and use of existing system facilities. New development is required to construct all internal water distribution system improvements associated with their projects.

Sewer

The City of Wheatland Public Works Department operates the City's sanitary sewer collection and treatment system. Except for new gravity sewer lines recently installed in the Wheatland Ranch, Park Place and Ryantown Subdivisions, most of the sewer gravity lines and their services predate 1962. The force main from Malone lift station to the WWTP has been recently inspected and found to be in excellent condition. The portion of the Spruce lift station force main from Hooper to Malone was installed in 2003 and is also in excellent condition. The main from the Forest Glen lift station is PVC pipe installed about 1992 and appears to be in good condition.

Due to the relatively flat topography of the City, the sewage must be lifted by sewer lift stations. There are a total of five sanitary lift stations in the City. Two of the lift stations, Spruce and Malone together lift the entire City's sewage to the City's wastewater treatment plant (WWTP). The Spruce lift station was completely rebuilt in 2003 and provided with standby power. The Malone lift station was pump and electrical panel updated in 2003 (it had and has standby power). And the Sunrise lift station was completely rebuilt in 2002 (except for relining of the inside of the lift station tank) and, provided with standby power.

Wheatland's WWTP capacity is 0.62 million gallons per day (MGD), which is equivalent to 2,296 dwelling units, as permitted by the California Regional Water Quality Control Board (RWQCB). The current (projected as of December 31, 2004) wastewater flow is 0.34 MGD which is equivalent to 1,268 dwelling units. The City has a very limited discharge from industrial-type users. Therefore, the majority of the sewage is domestic in nature, coming from residential and commercial users. The largest users connected to the sewer system are Wheatland High School and Bear River Junior High School. The average discharge is approximately 240 gallons per day per service location. In the calendar year 2003, the total wastewater treated was 105 million gallons. The 2003 average annual daily amount treated was 0.287 million gallons which equates to approximately 90 gallons per day per person and 240 gallons per day per service location. The maximum day of wastewater entering the plant in calendar year 2003 was 0.525 million gallons or 1.83 times the average day.

The operation and maintenance of the sewer system is funded by a monthly service charge, currently $16.00 per single family residence which includes a $2.50 surcharge for refund to Forecast Homes for deferred maintenance they performed on some of the City system. The current fee is not adequate to provide for the actual system maintenance and operation costs and the City will be considering in the near future increasing the monthly sewer service charge.

The existing collection and treatment system currently has capacity to accommodate development on residential sites within the city limits and beyond. With a projected flow at the end of 2004 at 0.34 MGD, and a plant capacity of 0.62 MGD, the available wastewater treatment capacity is 0.28 MGD, or approximately and additional 1,037 dwelling units. This is far in excess of the 436 unit net remaining RHNP allocation to be met (see Table 4-27). New residential developments proposed for annexation into the city are required to provide for sewer facilities including lift stations and pipes to meet their demands and/or pay an impact fee based on their demand and use of existing system facilities. New development is required to construct all internal sewer distribution system improvements associated with their projects. The wastewater treatment plant will ultimately have to be expanded to accommodate these projects. New development will be required to fund wastewater treatment facilities expansion to accommodate the proposed projects.

Storm Drainage

The existing City is separated into four general drainage areas. The areas are separated by a higher east-west area through the approximate middle of town and the UPRR/SR 65 north-south line/road.

The City currently funds the operation and maintenance of the storm drainage system through general fund revenue except for the Wheatland Ranch Subdivision which is funded through a Lighting and Landscape District. New developments are required to provide for drainage facilities including pump systems and pipes to meet their demands and/or pay an impact fee based on their demand and use of existing system facilities. New development is required to construct all internal drainage system improvements associated with their projects. Existing system deficiencies include undersized or deteriorated drain lines and ditches, inadequate inlets or capacity, and some problems with gutters. Development of new housing sites will include required drainage improvements.

Law Enforcement

Wheatland has had its own Police Department since the City's incorporation in 1874. Wheatland currently receives police service twenty-four hours a day, seven days a week ("24/7"). The Police Department is staffed by six patrol officers, one sergeant and the Chief. Supplemental police services are provided by six on-call level-one reserve officers who are paid an hourly wage and are considered part-time employees. They are used to replace full-time officers due to illness, time off, or other unplanned leaves. Based on the current number of patrol officers (6) and a sergeant (1), the ratio of officers per thousand residents is 1.9 (assuming an estimated current resident population of 3,200).

The current level of police staffing is adequate for development of the remaining residential sites within city limits. New development outside the existing city may be required to contribute funds to support expansion of the Police Department

Fire

The Wheatland Fire Department functions from one fire station located at 313 Main Street. It has three apparatus bays that house four vehicles. The Department provides emergency response to all emergencies within the City. The City of Wheatland's Fire Department has an Insurance Services Office (ISO) rating of 6, which is used to set fire insurance premiums. The Department operates entirely with volunteers.

The time needed to mobilize volunteers (i.e., "reflex time") so they arrive at the fire station or at the scenes of emergencies ranges from one to more than seven minutes. The average response for volunteers to arrive at the Wheatland Fire Station is four minutes. However, during 2003 volunteer response has been as low as 30 seconds and as high as 7 or more minutes between 8:00 a.m. and 6:00 p.m. and has been as low as 1 minute and as high as 12 minutes between 6:00 p.m. and 8:00 a.m.

A Fire System Master Plan is currently being prepared to determine future fire service and facility needs.

Schools

The City has five public schools and two private schools (including one middle school currently under construction) that serve the city and surrounding community. The public schools are as follows:

- Wheatland High School
- Wheatland Elementary School
- Bear River Elementary School
- Far West Elementary School
- Lone Tree Elementary School
- Junior High School (under construction)

The Wheatland School District (WSD) operates four schools, two within the City and two at Beale Air Force Base. In addition, the WSD is currently constructing a new middle school in Wheatland. When this school opens, the existing middle school will become an elementary school

Both school districts have determined that facilities are adequate to accommodate student population generated from all potential housing sites both within and outside the city through 2008.

Summary

The City of Wheatland generally has adequate public facilities, services, and infrastructure to accommodate planned residential growth between January 2001 and July 2008 within the city limits. The anticipated growth of Wheatland outside of city limits in the near future will require substantial upgrading and expansion of existing public facilities and services.

B. INVENTORY OF LOCAL, STATE, AND FEDERAL HOUSING AND FINANCING PROGRAMS

1. Current City Programs

Wheatland does not act as a developer in the production of affordable units. However, the private sector, which can apply for assistance under various state and federal funding programs, has developed three affordable rental housing projects in Wheatland, and one for-sale project. The city has very limited financial resources of its own to allocate for housing. Instead, housing and rehabilitation funds come from the state and federal governments. For example, Wheatland can apply directly for Community Development Block Grant (CDBG) funds through the statewide program administered by the Department of Housing and Community Development (HCD).

Since the city lacks staff to write grant applications or administer programs, it hires grant writers or relies on non-profit organizations to submit grant applications on its behalf. A good example of collaboration with a non-profit organization was the application for a state CDBG grant intended for housing rehabilitation and public services submitted on behalf of Wheatland by Rural California Housing Corporation (RCHC). RCHC successfully obtained this grant for Wheatland in the late 1990's. Although RCHC would have administered the grant, it still needed some assistance from staff and city officials. The city decided to return the CDBG funds to the State of California because it was unable to provide the needed assistance to RCHC at that time.

The city has not applied for HOME funds and does not have a redevelopment project area. However, by working with a non-profit developer, such as Mercy Housing, it is possible for the city to compete for HOME and CDBG funds. The city must advertise for a developer via an RFQ process. Then, the city would need to review the applications and select a developer with which to work. Both HOME and CDBG funds could be used for new construction, a first-time homebuyer program and housing rehabilitation.

2. Yuba County

Housing and Community Development Services

Yuba County operates a housing rehabilitation program funded by CDBG. This program is available to all residents in Yuba County, so Wheatland residents are eligible to apply for housing rehabilitation loans. The County has been receiving CDBG grants from the state for the past 10 to 12 years. Last year's grant was between $350,000 and $400,000.

There are 150 active loans, and 15 applications were being processed as of April 2004. Although $40,000 is the loan limit now, the County is working to increase this limit, since it is not high enough. At one point, much of the loan money went to the 1997 flood victims who had not received assistance from FEMA to fix up their homes. However, there is no longer a priority for flood victims.

If an applicant is elderly, on a fixed income, or meets other criteria, the loans are deferred for 30 years, or until the home is sold, or title transferred. For other program participants, the loans bear an interest rate of between three and five percent.

The Housing Authority of Yuba County

The Yuba County Housing Authority administers the federal Section 8 rental assistance program for the entire County. As of March 2004, 399 households received assistance. Of these 327 recipients were female-headed households, and 78 recipient-households were over the age of 60. Seventeen households in Wheatland receive Section 8 assistance. Finally, there were 356 households on the waiting list as of March, 2004. Of these, 12 live in Wheatland. The majority of the Wheatland applicants are female-headed households (11 out of 12), and two applications are seniors.

3. Private Organizations

Aside from the CDBG Rehabilitation Program and the Housing Authority's Section 8 program, housing assistance available to Wheatland residents is provided by private, non-profit organizations.

Mercy Housing California

Mercy Housing California is a non-profit developer that develops affordable housing for families, seniors, farmworkers, formerly homeless persons, individuals with HIV/AIDS and persons with chronic mental illnesses and physical impairments. With the assistance of public and private funding, MHC builds or rehabilitates housing to meet community needs. The types of housing developed include multifamily and single family homes, single room occupancy apartments for formerly homeless adults, and accessible units for individuals with physical disabilities. Mercy Housing merged with the former Rural California Housing Corporation in the 1990s, adding their focus of developing homeownership opportunities for low-income households using the self-help development process. Forest Glen, a 33-unit single family detached subdivision located on the north side of the city, is a good example of a self-help ownership project developed by Mercy Housing.

First-Time Homebuyer Program

Although Yuba County does not operate a first-time homebuyer program, local lenders, such as Central Pacific Mortgage Company, offer two types of loans that can benefit first-time

homebuyers if the buyers meet certain income restrictions and can locate housing that is priced below the upper sales price limit.[7]

One loan type is available through the California Housing Finance Agency (CalHFA), and the second type of loan is available through the Federal Housing Administration (FHA).[8] If a home's sales price is at or below $215,600, then a FHA loan is a preferred option. If a home is between this amount and $247,500, then CalHFA is used. Both loans are sold on the secondary market and have strict underwriting criteria that are used by the lender. If the lender is able to submit a loan application using the electronic underwriting provided by FHA and CalHFA, then the lender will not be asked to take back the loan in the event that FHA or CalHFA decide that the loan was not sound. Furthermore, the electronic underwriting may allow higher debt ratios than manual underwriting. This is because the program is designed to examine a variety of factors in deciding how credit-worthy an applicant is.

The income categories used to decide who qualifies for these loans are not the same as those used by HCD or HUD. For example, if a household is one or two persons, the gross income in Sutter and Yuba Counties that is allowable is $62,500, and for households of three or more the limit is $71,875.

The CalHFA loan is for 97 percent of value. Then, an additional three percent is provided as a silent second through CHFA at a three percent interest rate. Buyers can also finance closing costs and prepaid expenses. Homeownership counseling for these loans is not required. Potential applicants learn about these loan options through word of mouth or from their realtors.

Although homeownership counseling is not required for these loans, counseling is helpful for buyers, particularly for those buyers who lack direct experience with homeownership. A HUD-sponsored counseling office will open in Marysville in 2004. This office will provide one workshop per month that includes first time homebuyer education with financial management training. A training session lasts about five hours. This training covers the process of purchasing a home, foreclosure prevention, and help with financial management. Wheatland residents are eligible for this service.

California Rural Legal Assistance (CRLA)

A CRLA office is located in Marysville. Although this office deals with a number of legal issues, (e.g., education and labor law, civil rights, health access issues, family law, and benefits law), over half of its work has been housing. During the past several years, CRLA has been holding weekly tenant/landlord clinics. The office developed the clinic approach to be able to handle more clients. People call in about fair housing issues, and then they are referred to the clinic.

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[7] Other first time homebuyer programs had included the Mortgage Credit Certificate Program (MCC) and Rural Gold. Although there are some owners that still benefit from the MCC program in Yuba County, very few new mortgage credit certificates are being issued in California, and none in Yuba County. The Rural Gold program is no longer in operation.

[8] The following program regulations are current as of May 2004.

Services provided at the Marysville office are available to residents of Colusa, Sutter, and Yuba Counties. On average, about 20 people attend. About half of those attending are from Yuba County, followed by Sutter County. The smallest percent come from Colusa County. The clinic lasts for two hours. After the clinic, if staff decides it is appropriate, staff may refer a complainant to the legal clinic (conducted only in English), or a staff attorney may provide additional help. CRLA advertises its services through a monthly calendar sent to public offices, such as Wheatland City Hall and the Wheatland City Council.

4. Assisted Housing Projects in Wheatland

Wheatland has three subsidized rental projects, and one affordable homeownership project. Table 4-29 below shows information on these projects. The Donner Trail and Bear River Apartments are the most affordable, since tenants only pay 30 percent of their incomes for rent. In comparison, the Sunset Valley Duplexes charge tax credit rents, which may require that more than 30 percent of household income be paid for rent.[9]

- The Donner Trail Apartments provides 44 units for seniors and disabled persons. It is the oldest subsidized project in Wheatland built in 1980 under the USDA 515 Program. The owner manages the development. It is no longer at risk, since the owner worked with the Rural Development Agency of USDA to refinance the development. (See the at-risk discussion below.)

- The Bear River Apartments, built in 1990, provides 24 family units for very low- and low-income tenants. A realty company manages these privately owned apartments.

- The Sunset Valley Duplexes were acquired by Mercy Housing in 1993, and rehabilitated over the next three years. This duplex development provides 88 affordable family units. A part time community and resident initiatives coordinator works at Sunset Valley. The coordinator works one-to-one with residents in providing support and referrals to social services, as well as on a community and property level to organize community programs. In addition, a Head Start child care center is included in the development.

[9] Households that earn at the lower end of an eligible income category could pay more than 30 percent of income for rent in subsidized projects. The affordable rents presented earlier in the housing element are based on the highest income for each affordability group. So, a lower-income rent for a household of four is calculated on the highest eligible income, which in this case is $39,300. However, a household of four earning $30,000 would also be classified as low-income and could be expected to pay up to $983 for monthly rent. In contrast, 30 percent of income for rent for this same household earning $30,000 translates into a rent of $750 per month.

TABLE 4-29
SUBSIDIZED RENTAL AND OWNERSHIP UNITS, CITY OF WHEATLAND

Project Name	Address	Number of Units/ Site Size	Funding Sources	Target Group	Rents	Year Built	Waiting List
Rental Housing							
Bear River Apartments	115 Hooper Street	24 units (6 one-bdrm, 14 two-bdrm & 4 three-bdrm) on 1.86 acres; 12.9 du/ac	USDA 515 loan, Tax Credits, Rental Assist.	Very low- and low-income families (one-bdrm units can be for seniors). Very low-income households have priority	30% of income	1990	8 households
Donner Trail Apartments	431 North C. Street	44 units(six two-bdrm & 38 one-bdrm) on 5.4 acres; 8.1 du/ac	USDA 515 loan	Very low- and low-income seniors or disabled	30% of Income	1980	20 households
Sunset Valley Duplexes	512 Spruce Avenue, (Manager's Office)	88 units (14-one-bedrm, 29 two-bdrm, 43 three-bdrm, 1 four-bdrm & 1 five-bdrm)	State CHRP & Tax Credits	Very low- and low-income families	Tax credit rents, @ 40%, 50% and 60% AMI	Built in 1962. Rehabilitated bet. 1993-96	87 households
For-Sale Housing							
Forest Glen	Various addresses on Lofton Road, Keyser Drive, and Redwood Avenue	20 self-help homes (three-, four-, and five-bdrm units)	USDA 502	Very low- and low-income. Initial sales price approximately $135,000.	n/a	1997	n/a

Source: Vernazza Wolfe Associates, Inc.

5. Funding Programs

There are several local, State, and federal funding programs that can be used to assist first-time homebuyers, build affordable housing, and help special needs groups, such as seniors and large households. In most cases other entities, including for-profit and non-profit developers, apply for funds or other program benefits. For example, developers apply directly to USDA for Section 515 loans or to HUD for Section 202 and Section 811 loans or to the California Tax Credit Allocation Committee (TCAC) for low-income tax credits.

The City can help sponsor grant and loan applications, provide matching funds, or furnish land at below-market cost. City financial support of private sector applications for funding to outside agencies is very important. Local funding is important for leverage. City support of private sector applications enhances the competitive advantage of each application for funds. Since the City does not currently have the resources to support private sector applications, it should consider the establishment of a housing impact mitigation fee to be imposed on new developments. These fees can then be used to support affordable housing initiatives.

CDBG and HOME grants are the primary sources of housing funds currently available to Wheatland on a competitive basis. Additional funding sources used by local developers include the following:

- Low Income Housing Tax Credits (LIHTC) were used by Mercy Housing to acquire and rehabilitate Wheatland Meadows, now called Sunset Valley.

- RD 502 loans (available to very low- and low-income households to buy, build or repair a home) were used in Mercy Housing' s 20-unit Self-Help Project (Forest Glen).

- RD Section 515 loans (available for construction or substantial rehabilitation of rental and cooperative housing for very low- and low-income families, elderly, or disabled persons) were used to construct Bear River Apartments.

6. Preserving At-Risk Units

As discussed above, there are three assisted rental housing developments located in Wheatland. Table 4-30 below provides information on the earliest termination of affordability restrictions. The only at-risk project had been Donner Trail. Donner Trail's owner initiated a prepayment process with USDA Rural Development (RD) in June 2000, in order to convert the project to market rate housing. RD determined that subsidized rental housing for seniors was still needed in Wheatland, so the agency offered incentive financing to avert prepayment. Incentive financing entails the issuance of an equity loan secured by the project and re-amortization of the existing project loan. The equity loan advances additional funds to the owner. Re-amortization of the existing loan lowers the monthly debt service providing more affordable rents. In return for this incentive financing, the owner agrees to another 20 years of restricted use. In addition, RD will continue to subsidize rents for tenants, so that tenants pay only 30 percent of their income for rent. The RD subsidy pays the difference between the project's "basic" rents and 30 percent of tenants' incomes.[10]

[10] Basic rents are defined by the necessary cash flow required to provide return to the owner and cover debt service on the new loan. So, basic rents can vary from project to project.

Incentive financing includes an "interest credit" whereby the owner only pays one percent for debt service. "Interest credit" is a monthly credit for the difference between the project's note rate of interest and one percent.

In summary, under incentive financing, the owner receives the following advantages:

- A cash loan to the owner repaid by the rental project.
- Rental assistance to tenants. This assistance bridges the gap between 30 percent of income and basic rents.

Once the incentive financing was agreed to, Donner Trail was placed on a waiting list for limited funding allocations for this purpose from the Section 515 program. Funding was finally provided in 2003, but due to elapsed time, the owner wanted a reappraisal to evaluate any possible increase in equity. The reappraisal was completed as of early 2004, and now Donner Trail has been approved for incentive funding.

If these units had converted to market rate, a recent "as is" appraisal, based on conventional market rate rents, placed a value of $2.2 million for the Donner Trail Apartments. Thus, $2.2 million is a good estimate of acquisition costs. Based on information provided by Mercy Housing, replacement costs of these 44 units are estimated at $5.5 million.

HCD maintains a list of Qualified Entities who are interested in purchasing government-subsidized multifamily housing projects. The current list of Qualified Entities, HPD 00-01 (Adobe PDF), is periodically updated. It is available on HCD's website at:
http://www.hcd.ca.gov/hpd/hrc/tech/presrv/

According to the list, there are two qualified entities in Yuba County: Christian Church Homes of Northern California, Inc. and Rural California Housing Corp. (now Mercy Housing).

TABLE 4-30
ASSISTED RENTAL PROJECTS AND EXPIRATION DATES, CITY OF WHEATLAND

Project Name	Number of Units	Funding Sources	Expiration
Bear River Apartments	24	USDA 515 loan, Tax Credits, Rental Assist.	The USDA financing expires by 2010, but tax credits continue until 2040. Tax Credit rents would be higher than Section 515 rents. Whether the owner will increase rents to tax credit levels in 2010 will depend on the contract that is offered at that time by USDA. Even if rents are increased to tax credit levels, they will still be affordable.
Donner Trail Apartments	44	USDA 515 loan	Affordability restrictions have been extended until 2020.
Sunset Valley Duplexes	88	State CHRP & Tax Credits	Tax Credit project. Affordability covenants until 2039.

Source: Vernazza Wolfe Associates, Inc.

C. ENERGY CONSERVATION OPPORTUNITIES

State Housing Element Law requires an analysis of the opportunities for energy conservation in residential development. Energy efficiency has direct application to affordable housing because the more money spent on energy, the less available for rent or mortgage payments. High energy costs have particularly detrimental effects on low-income households that do not have enough income or cash reserves to absorb cost increases and must choose between basic needs such as shelter, food, and energy. In addition, energy price increases since 2001 combined with rolling electricity blackouts have led to a renewed interest in energy conservation.

All new buildings in California must meet the standards contained in Title 24, Part 6 of the California Code of Regulations (Energy Efficiency Standards for Residential and Nonresidential Buildings). These regulations were established in 1978 and most recently updated in 1998 (effective date of July 1, 1999). Local governments through the building permit process enforce energy efficiency requirements. All new construction must comply with the standards in effect on the date a building permit application is made. As of now, Wheatland does not have any additional energy conservation programs in place.

4.4 | SECTION III: POTENTIAL HOUSING CONSTRAINTS

A. POTENTIAL GOVERNMENTAL CONSTRAINTS

There are a number of local regulatory requirements and incentives that affect the production of housing in Wheatland, including parking requirements, residential densities, heights and setbacks, standards for second units, and other standards. This section defines these standards and assesses whether any serves as a constraint to affordable housing development.

Lack of City staff is an additional constraint that is not strictly a result of regulations, ordinances or practices. This problem was cited in the prior housing element and continues to be a problem. As with most small cities, Wheatland has a small staff and limited resources and cannot provide the same services that larger cities can provide. Wheatland depends on consultants to perform activities that are normally staff responsibilities, such as building inspection and planning.

1. Land Use Controls

The City's General Plan Land Use Element and Zoning Ordinance provide the framework within which development may take place. There are four residential land use designations in the Land Use Element:

- Suburban: 0.5 to 3.0 dwelling units per acre (compatible with RE-1, RE-½, and R-1 zones)
- Low Density: 2.0 to 5.0 dwelling units per acre (compatible with R-1 zone)
- Medium Density: 5.0 to 10.0 dwelling units per acre (compatible with R-2 zone)
- High Density: 9.0 to 18.0 dwelling units per acre (compatible with R-3 zone)

Table 4-31 below shows the four major residential zones in the City of Wheatland's Zoning Ordinance. The table shows the permitted and conditional residential uses. and intensity of use from the Zoning Ordinance.

TABLE 4-31
RESIDENTIAL ZONES IN THE WHEATLAND ZONING ORDINANCE

Land Use Designation		Primary Residential Uses (1)	Conditional Residential Uses (1)	Intensity of Use
Residential Estates	RE-1, RE-½	Single family dwellings	Group care, retarded (2)	The minimum lot size for RE-1 is one acre and for RE-½, the minimum lot size is 20,000 SF. Only one unit can be built on a lot.
Single-Family Residential	R-1	Single family dwellings	Group care, retarded (2)	The minimum lot size is 6,000 SF or 7,000 SF for a corner lot. Only one unit can be built on a lot.
Two-Family Residential	R-2	Single family dwellings; two-family dwellings; rooming and boarding of not more than two persons not employed on the premises	Rest homes, hospital and hospital offices; rooming and boarding of three or more persons; sheltered care facilities (3)	Minimum parcel size is 6,000 SF or 7,000 SF for a corner lot. 4,000 SF minimum per dwelling unit.
Multifamily Residential-Limited	R-3	All principal permitted uses in the R-2 zone. In addition, multifamily dwellings, triplexes, fourplexes, group dwellings, and multiple numbers of individual or combined dwelling units on a single parcel are permitted subject to density restrictions.	Hotels, motels, roominghouses and boardinghouses (4); mobile home parks; rest homes, hospital and hospital offices; sheltered care facilities (3)	Minimum parcel size is 6,000 SF. Maximum density of 18 du per net acre.
Planned Development Combining District	PD	All uses permitted in any residential district.	Not specified.	Not specified.

Source: Wheatland Zoning Ordinance.

Notes:

(1) Residential uses only; see Zoning Ordinance for full list of permitted uses.

(2) From the "Definitions" chapter (18.06) of the Wheatland Zoning Ordinance: "Retarded group care" means any home, state authorized, certified or licensed family care home, foster home, or group home serving six or fewer mentally disordered or otherwise handicapped persons or dependent and neglected children on a twenty-four-hour basis. Such homers are considered a residential use. Such homes are conditionally permitted uses in all residential zones, including, but not limited to, residential zones for single-family and estate dwellings, per Section 5116 or (*sic*) the Welfare and Institutions Code.

Based on the definition above though, these facilities would be conditional uses in all residential zones in Wheatland. However, note that Section 5116 ("Zoning Preemption") of the Welfare and Institutions Code (Zoning of Homes or Facilities for Mentally Disordered, Handicapped Persons, or Dependent and Neglected Children) states "Pursuant to the policy stated in Section 5115, a state-authorized, certified, or licensed family care home, foster home, or group home serving six or fewer mentally disordered or otherwise handicapped persons or dependent and neglected children, shall be considered a residential use of property for the purposes of zoning if such homes provide care on a 24-hour-a-day basis. Such homes shall be a permitted use in all residential zones, including, but not limited to, residential zones for single-family dwelling." Based on this zoning preemption, such facilities are a permitted use in all residential zones.

(3) From the "Definitions" chapter (18.06) of the Wheatland Zoning Ordinance: "Sheltered care home" means a facility other than a hospital or nursing home for two or more unrelated persons who are not acutely ill, which renders personal care and assistance with meals, dressing, medications prescribed by a physician or surgeon licensed in California, and other personal assistance of a similar type and includes homes for the aged and infirm who do not need skilled nursing care.

(4) From the "Definitions" chapter (18.06) of the Wheatland Zoning Ordinance: "Boardinghouse" means a dwelling in which there is no more than one dwelling unit and more than two but not exceeding five rooming units or guest rooms. Meals may or may not be provided to the occupants thereof. A boardinghouse shall not include homes for persons not members of the family requiring professional or semiprofessional; care by reason of physical or mental infirmity or disease or by reason of age.

Table 4-32 below lists the allowable residential uses for the RE-1/RE-½, R-1, R-2, and R-3 zones as well as the non-residential zones that permit housing in Wheatland. In the table, "CUP" means a

Conditional Use Permit is required. All conditional uses require site plan review as delineated in Chapter 18.67 of the Zoning Ordinance ("Architectural Review").

As shown in the table, single family housing in the R-1, R-2 and R-3 zones, and multifamily housing in the R-3 zone does not require design review (Architectural Review) unless there is an overlay zoning.

Chapter 18.67 of the Zoning Ordinance outlines the application requirements for Architectural Review, including site plan, building elevations as well as "Principals of Compliance" (Section 18.67.040) that list items such as: identification of ingress, egress, internal traffic circulation, off-street parking and pedestrian ways; landscaping; preservation of existing trees; building diversity such as design, size, and massing; exterior buildings should be compatible with the neighborhood and should reinforce or improve the visual character of the environment surrounding the proposed building; building color should be subdued; architectural consistency between all elevations of the building including a consistent use of colors, materials and details; the range of acceptable building materials is quite broad since Wheatland favors the use of natural appearing materials such as wood, brick, stone or stucco treated with subdued colors; appurtenant facilities and energy conservation.

The processing of an Architectural Review application is outlined in the Wheatland Administrative Procedures Manual dated June 1993. The City policy is full cost recovery for processing applications therefore the financial amount for an Architectural Review application is difficult to estimate because of unknown location, size, issues and applicant's submittal of materials. The City has not processed a Architectural Review application of an R-3 project in the last 6 years.

In conclusion, since the primary residential uses are allowed by right in the residential zones, the design review process is not applicable and therefore does not significantly impact housing availability and affordability.

TABLE 4-32
ALLOWABLE RESIDENTIAL USES
WHEATLAND RE, RE-½, R-1, R-2, R-3, C-1, C-2, AND C-3 ZONES

	Zone						
	RE/ RE-½	R-1	R-2	R-3	C-1 (1)	C-2 (1)	C-3 (1)
Single family dwellings	Yes	Yes	Yes	Yes	CUP	CUP	CUP
Duplex or zero lot line single family dwelling (half-plex)	No	No	Yes	Yes	CUP	CUP	CUP
Multifamily dwellings, triplexes, fourplexes	No	No	No	Yes	CUP	CUP	CUP
Group care, retarded (2)	Yes	Yes	Yes	Yes	No	No	No
Rooming and boarding of not more than two persons not employed on the premises	No	No	Yes	Yes	No	No	No
Rooming and boarding of three or more persons	No	No	CUP	CUP	No	No	No
Hotels, motels, roominghouses and boardinghouses	No	No	No	CUP	No	No	No
Sheltered care facilities	No	No	CUP	CUP	No	No	No
Rest homes, hospital and hospital offices	No	No	CUP	CUP	No	No	No
Mobile home parks	No	No	No	CUP	No	CUP	No
Recreational vehicle parks	No	No	No	No	No	No	CUP

Source: Wheatland Zoning Ordinance

Notes: CUP = conditional use permit; Yes = permitted use (by right). All conditional uses require site plan review as delineated in Chapter 18.67 of the Zoning Ordinance ("Architectural Review"). This design review requires approval from the Planning Commission. The design review procedure is described in Section 18.67.030. Review criteria are described in Section 18.67.040 and include such themes as compatibility, traffic and circulation, landscaping, building diversity, visual character, architectural consistency, building materials, and energy conservation.

(1) The Zoning Ordinance states that "residential uses with the density and setback requirements of the R-3 zone" are allowed as a conditional use. We are interpreting the intent of the zoning ordinance narrowly to mean that single family, duplex, and multifamily uses are allowed by CUP as long as density and setback requirements of the R-3 zone are met; and that group homes are not be allowed in the commercial zones.

2. Growth Controls/Growth Management

Wheatland does not have a growth management plan or growth controls.

3. Site Development Standards

Table 4-33 below lists the minimum lot size and setbacks for the RE, R-1, R-2, and R-3 zones. The lowest density in the RE zone is one unit per acre, while the highest density in the R-3 district is up to 18 units per acre.

TABLE 4-33 SITE DEVELOPMENT STANDARDS CITY OF WHEATLAND RE, RE-½, R-1, R-2, AND R-3, ZONES					
	RE	RE-½	R-1	R-2	R-3
Parcel size (sq. ft.)	43,560 SF	20,000 SF	6,000 SF	6,000 SF	6,000 SF
Corner lot	n/a	n/a	7,000 SF	7,000 SF	not specified
Building site area per unit	same	same	same	3,000 SF	2,000 SF
Minimum Depth	140 feet	120 feet	60 feet	90 feet	90 feet
Minimum Width	150 feet	130 feet	60 feet	60 feet	60 feet
Maximum Ground Coverage	n/a	n/a	40%	45%	60%
Setbacks					
Minimum Front	40 feet	30 feet	20 feet	20 feet	20 feet
Minimum Side	20 feet	15 feet	5 feet	5 feet	5 feet
Minimum Rear	40 feet	30 feet	15 feet	15 feet	10 feet
Height Limits	30 feet	30 feet	30 feet	35 feet	40 feet

Source: Wheatland Zoning Ordinance and Ordinance 378 amending the Zoning Code Lot Standards for the R-1 Zone.

4. Building Codes and Enforcement

Through building codes and other land use requirements, local government influences the style, quality, size, and costs of residential development. Wheatland must, by state law, adopt and implement the requirements of various uniform construction codes, as amended by the state. Wheatland has adopted the 1997 Uniform Building Code (UBC) and 1998 California Building Code. No local amendments to these codes have been adopted.

Building and zoning code enforcement is initiated on a complaint basis and from informal observation by City officials. The city manager/ building official conducts code enforcement activities.

5. Processing and Permit Procedures

Developers must negotiate several steps to secure all necessary approvals to build housing on a given parcel of land. From the standpoint of the City, this process is necessary to ensure that new development adequately complies with local regulations that are meant to ensure the health, safety, and welfare of the entire community. From the developer's standpoint, this process can complicate and lengthen the development process, increasing the difficulty and cost to develop new housing. The City's contract planning director manages the review and approval process.

The following is a summary of Wheatland's processing and permit procedures. Wheatland has ten steps to process planning entitlements ranging from annexation to rezoning to lot split to design review:

- Step 1: Call the City's Planning or Engineering staff regarding development concepts to determine feasibility and/or major issues. This provides a quick and inexpensive method for the applicant to determine the "go" or "no go" to the next step. Time: usually one week. Application package is provided to the prospective applicant.

- Step 2: Submit a "pre-application package" to initiate formal City review regarding the proposed project. Time: usually 30 days.
- Step 3: Pre-application meeting (optional) where City staff provides the applicant formal feedback regarding issues. Meetings with staff members, including city consultants, can be held individually or as a group.
- Step 4: Formal application submittal that starts the City's review process. Application submitted at City Hall along with required fees and deposit.
- Step 5: Application is reviewed by City staff for completeness. Application routed to the Planning Director. Planning Director or City Engineer reviews application materials for completeness. City advises applicant about completeness of materials. If application is found to be incomplete, the 30-day review period re-starts upon submittal of additional materials. Completed application distributed to other City staff members for review and comment.
- Step 6: Environmental determination. Based on materials submitted with the application, the Planning Director will determine whether the application is exempt from CEQA requirements, or if not categorically exempt, whether a negative declaration can be recommended or an environmental impact report (EIR) must be prepared.
- Step 7: Planning Director prepares notice of public hearing, if required. Notice includes publishing in local newspaper, posting, and mailing notices to all surrounding property owners.
- Step 8: Planning Director prepares a staff report. Where action is recommended, the Planning Director or City Attorney will prepare a draft resolution prior to the meeting. Materials are provided to the applicant, included in the meeting agenda packet and made publicly available at City Hall.
- Step 9: Planning Commission public hearing (Commission provides recommendation to City Council for annexations, general plan amendments, rezonings, and tentative maps, but has final authority on use permits, variances, and design review; all actions of the Planning Commission may be appealed to the City Council).
- Step 10: City Council Public hearing (if necessary). After the hearing, the actions of the Planning Commission and City Council will generally be by resolution. Adopted resolution is sent to the applicant, pertinent staff, the County Clerk, and interested parties. Where a zone change has been approved for a parcel of ten acres or larger in size, the staff report and resolution, including findings and conditions, is inserted into meeting minutes.

Table 4-34 below shows information on typical processing times for a various steps required for conditional use permits, subdivisions (tentative maps and parcel maps), variances, lot line adjustments, general plan and zoning ordinance amendments, and architectural (design) review.

TABLE 4-34
SCHEDULE OF APPLICATION PROCESSING TIMES, CITY OF WHEATLAND

Residential Approvals	Maximum Processing Time (Days)
Routing of Applications	2
Notification of Completeness of Application	30
Application Review Period, Once Complete	30
Environmental Review	
Negative Declaration	21
Negative Declaration Submitted to State Clearinghouse	30
Staff Report Provided to Applicant Prior to Planning Commission/City Council Meeting	3
Tentative Maps	
Planning Commission Reports Sent to City Council	5
Placed on City Council Agenda	30
Notification of Action (no appeal)	10
Appeals	
General Appeals	10
General Plan Amendment	5
Administrative Actions	10
Environmental Documentation	Varies from 180 to 365
Source: City of Wheatland, Administrative Procedures Manual	

No specific subdivision approval process is described in the Administrative Procedures Manual at this time. Wheatland has not processed a residential subdivision since 1991 and has no records available to determine the average processing time frames for these.

In summary, Wheatland's processing and permit procedures are reasonable and comparable to those in other California communities. The permit process only increases in complexity and duration when the circumstances of individual projects warrant extra consideration on the part of local staff and officials. This is especially true of the environmental review component of the process, yet Wheatland has little flexibility to change this, since CEQA specifies procedures that local jurisdictions must observe in reviewing the impacts of development projects.

6. Development Fees and Exactions

The most recent resolution establishing fees was adopted in 1990. The resolution adopted the following fees:

- Environmental Fees
  - Filing for determination of initial environmental assessment: $250 (initial fee covers first four hours of staff time only; any additional time that is required will be based on hourly rates.)
  - Cost of preparing an EIR, if found to be required: no exact amount specified.
- Subdivisions
  - Tentative map filing: $360 plus $4 per lot.
  - Final map checking: $360 plus $5 per lot.
- Parcel Splits (Minor Land Division)

  - Filing tentative map: $360.
  - Check final map: $360.
- Check Improvement Plans: 1.5% of estimated cost of construction.
- Inspect Construction Improvements
  - Four percent of first $50,000 estimated cost of construction.
  - Three percent of estimated cost of construction between $50,000 and $100,000.
  - Two percent of all costs over $100,000.
- Design Review Processing: 0.25% of estimated costs of construction, provided that such design review costs are not applied to single family dwelling construction.
- Zone Change Application: $180.
- Variance: $120.
- Use Permit: $180.
- Lot Line Adjustment: $120.
- City Council Appeal: $50.
- Special Meeting of Planning Commission or City Council: $150.
- General Plan Amendment: $300 for initial application (all preparation costs are to be borne by applicant.)
- Encroachment Permit: $120.

All fees listed above are base fees. The total fee is the actual administrative cost to the City. The City Council annually establishes an hourly rate of cost for City staff.

7. On/Off–Site Improvement Requirements

Previous subsections in this Housing Element discussed the extension of infrastructure, such as roads, sewers, water and drainage to accommodate new development. Since Wheatland lacks financial resources with which to help developers provide infrastructure to new developments, it is the developers' responsibility to connect to and augment existing systems.

Potentially problematic infrastructure areas were discussed in Section II.A.3 and include the need for a new wastewater treatment plant and drainage to accommodate expanded residential development. Other on-site improvements, such as curbs, gutters, and sidewalks, reflect typical urban standards and are not particularly onerous for new development. These regulations are less stringent than many communities across California, and as such do not represent an undue constraint on the development of affordable housing.

The City's site improvement standards were adopted as the "Public Works Construction Standards" in 1992. This document discusses design criteria for the following topic areas: general, streets, underground, water system, sanitary sewer, and storm drains.

The following is a summary of Wheatland's improvement standards as found in the "Public Works Construction Standards" document and other sources:

Parking

The off-street parking requirement is listed in Section 18.63.040 of the Zoning Ordinance (top of page 81). Multiple-family dwellings are required least two parking space per unit (need not be enclosed), with a minimum size of nine feet wide and twenty feet long.

Streets

The current street standards are located on pages 5-6 of the Wheatland General Plan Transportation and Circulation Element (dated August 1986). The City's standards for Arterial Residential streets are: right-of-way - 74 feet; minimum width back to back curbs - 66 feet; and a 3-foot utility easement on the lot line on each side of the street right-of-way. The City's standard for Collector streets are: minimum right-of-way - 60 feet; and minimum width back to back curbs - 46 feet. The City's standard for Local streets are: minimum right-of-way - 52 feet; and minimum width back to back curb - 38 feet.

Other

Other site improvements for residential construction include the following items (source: Chapter 17.05 of the Zoning Ordinance, entitled "Tentative Map Application Materials"):

- Identification of existing trees (note the Zoning Ordinance makes reference to a Tree Preservation Ordinance but the City Clerk had not been able to find the Tree Preservation Ordinance);
- Identification of easements and existing utilities;
- Preparation of drainage study to ensure that the site in not with in the 100 year floodplain,;
- Preparation of soils report, grading and drainage plan to ensure that the development of the site allows runoff to designed direction(s);
- Elevation of existing sewer lines at points of proposed connections;
- Identification of the source of water supply;
- Identification of the location of existing and propose fire hydrants;
- Proposed phasing of the development.

Summary

These regulations are, if anything, less stringent than many communities across California, and as such do not represent an undue constraint on the development of affordable housing.

8. Open Space and Park Requirements

Wheatland does not place park and recreation requirements or fees on new development.

9. Parking Standards

Since the need for more required parking spaces directly affects land utilization, parking requirements are one of the development standards that impact the cost of new housing. Wheatland's parking standards are as follows:

- Single family homes require two garage spaces.
- For multifamily units, two covered parking spaces are required. Carports are acceptable.
- For mobile homes, two spaces are required as well as one space for every five mobile homes to accommodate visitors.

There are some elements of the parking standards for multifamily housing that increase the cost of housing development. For example, in reviewing existing parking requirements, the City may wish to give consideration to reducing the requirement for studio units. In addition, the City may wish to consider creating a reduced standard for affordable housing, since such units generally have a lower parking demand than market-rate units. In addition, consideration should be given to reducing or eliminating the covered parking requirement for affordable units.

10. Secondary Dwelling Unit Policies

Requirements for secondary units are not included in the Zoning Ordinance. This has not been a constraint in the development of affordable housing thus far. However, since second units cannot be required to go through the conditional use process under State of California law, modifying Wheatland's Zoning Ordinance to include secondary unit regulations is included as one of the Housing Element's implementation programs.

11. Inclusionary Requirements

There are no inclusionary housing requirements at present.

12. Density Bonus

Requirements for density bonuses are not included in the Zoning Ordinance. This has not been a constraint in the development of affordable housing thus far. However, since density bonuses are permitted under State of California law, modifying Wheatland's Zoning Ordinance to include density bonus regulations is included as one of the Housing Element's implementation programs.

13. State of California, Article 34

Article 34 of the State Constitution requires voter approval for specified "low rent" housing projects that involve certain types of public agency participation. Generally, a project is subject to Article 34 if more than 49 percent of its units will be rented to low-income persons. If a project is subject to Article 34, it will require an approval from the local electorate. This can constrain the production of affordable housing, since the process to seek ballot approval for affordable housing projects can be costly and time consuming, with no guarantee of success.

The provisions of Article 34 allow local jurisdictions to seek voter approval for "general authority" to develop low-income housing without identifying specific projects or sites. If the electorate approves general parameters for certain types of affordable housing development, the local jurisdiction will be able to move more quickly in response to housing opportunities that fall within those parameters.

Thus far, Wheatland has not built housing itself. Thus, it has not needed Article 34 authorization. The lack of Article 34 authorization has not served as a constraint to the development of affordable housing.

14. Development, Maintenance, and Improvement of Housing for Persons with Disabilities

The following text describes Wheatland's current (2004) regulations and practices for accommodating persons with disabilities. Wheatland has reviewed its zoning laws, policies and practices for compliance with fair housing laws.

Wheatland does not have a formal process for individuals with disabilities to make requests for reasonable accommodation with respect to zoning, permit processing, or building laws.

Wheatland has made efforts to remove constraints on housing for persons with disabilities as follows. Both single family and multifamily housing in Wheatland may accommodate persons with disabilities. State laws and building codes mandate accessibility provisions for certain types and sizes of housing developments.

On a local level, the city's Zoning Ordinance allows, as a conditional use, "group care, retarded" (this outdated description refers to the same type of housing as described in Section 5116 of the California Welfare and Institutions Code: a state-authorized, certified, or licensed family care home, foster home, or group home serving six or fewer mentally disordered or otherwise handicapped persons or dependent and neglected children that provides care on a 24-hour-a-day basis. However, this is restriction superceded by Section 5116, which states that all such facilities are permitted in all residential zones (see discussion in the notes to Table 4-28 of this document). Sheltered care facilities and rest homes for more than six residents are conditional uses in the R-2 and R-3 zones.

Wheatland does not restrict the siting of group homes and does not have occupancy standards in its Zoning Ordinance that apply specifically to unrelated adults and not to families. The community input process for the approval of group homes does not differ from that of other types of approvals under the conditional use process. Wheatland does not have specific requirements for group homes that provide services on-site. The Land Use Element does not regulate the siting of special needs housing in relationship to one another.

Wheatland has adopted the California Building Code, including Title 24 regulations of the code dealing with accessibility for disabled persons. The City has not adopted any additional universal design elements in its building code beyond Title 24 requirements.

Finally, one potential constraint to addressing access for persons with disabilities could be setback and other physical standards specified by the Zoning Ordinance. Front or side yard setback standards for example, could potentially conflict with retrofitting a building with a wheelchair ramp. These setbacks are generally established to ensure that visibility is maintained for vehicles on city roads and driveways. The city will consider establishing variance procedures to permit development within the setback when it can be determined that such variance will not be detrimental to the public welfare, injurious to other property, and that special circumstances exist that would deprive the property owner of privileges enjoyed by other properties in the vicinity.

15. Other Standards

At this time, no other standards have been identified that serve as constraints to affordable housing development.

16. Local Efforts to Remove Barriers

Based on the foregoing discussion of governmental constraints, four potential constraints to the construction of affordable housing have been identified. These include:

- Multifamily housing parking requirements;
- Lack of secondary unit and density bonus regulations;
- Parking and setback requirements that can make housing for the disabled more expensive and less accessible; and
- Infrastructure inadequacies.

The Policy Document of the Housing Element will address the first three of these constraints as follows:

- The City will evaluate parking requirements for affordable multifamily and single family housing to see whether a reduction in the number of spaces for multifamily housing and/or requirement for covered parking in single family housing can be waived.
- The City will include regulations for secondary units in its Zoning Ordinance that conform to State law.
- The City will include density bonus regulations for affordable housing in its Zoning Ordinance that conform to State law.
- The City will examine its setback requirements to assess whether they make housing less accessible for the disabled population.

Since the City lacks funds to address infrastructure inadequacies, it will rely on private development to expand wastewater treatment facilities and provide drainage for future residential developments.

B. POTENTIAL NON-GOVERNMENTAL CONSTRAINTS

Cost factors, such as financing, land, and construction costs are the principal non-governmental constraints to the development of affordable housing. Since the last Housing Element, the costs of

new development have doubled in Wheatland. All cost factors have increased, with the exception of mortgage interest rates, which have declined. Although interest rates are relatively low, the financing cost component increased as well, since costlier new housing construction requires additional financing.

The typical new subdivision house built today in Wheatland is about 2,200 square feet, has three-bedrooms, two bathrooms, and a three-car garage, and is built on a 6,000 sq. ft. lot. According to the 1992 Housing Element, new homes constructed in the early 1990's were smaller at 1,200 sq. ft.

In the past, lots in Wheatland may have been larger, but now land prices are going up. One builder stated that the cost of land has doubled or tripled in the last few years in Wheatland. Since the housing market in Wheatland is price sensitive, as land costs are increasing, it is likely that land will be used more intensively. For example, Wheatland builders are building between 5.5 to 6 units to the acre. If Wheatland's land prices continue to increase, similar to the Sacramento market, future projects could be duplexes, townhouses, or single family detached units on lots at about 3,500 sq. ft. /unit.

1. Land Costs

Land costs are a major factor in the cost to build housing in Wheatland. According to local builders, typical land costs for residential lots approximately 6,000 square feet in size are estimated at approximately $67,000 per lot. For this price, a developer would obtain unimproved residential land with full entitlements.

The main way that a jurisdiction can decrease the land cost component is by increasing the number of units that can be built on a given piece of land.

2. Availability of Financing

For credit-worthy projects, residential construction loan rates are relatively low. However, since interest rates reflect deliberate monetary policy selected by the Federal Reserve Board, it is not possible to forecast what will happen to interest rates during the upcoming Housing Element planning period. Rates have risen slightly during 2004, and it is possible that future interest rate increases will occur. If interest rates rise, not only will it make new construction more costly (since construction period loans are short term and bear a higher interest rate that amortized mortgages), but it will also lower the sales price that buyers who can afford to pay. In the affordability examples presented earlier in the Housing Element, a seven percent interest rate was used to accommodate the potential increase in interest rates in the next five years.

3. Development Costs

Required Site Improvement Costs

Upon securing the raw land, a residential developer would have to make certain site improvements to "finish" the lot before a home could actually be built on the property. Such improvements would include connections to existing utility systems, rough grading, construction of streets, installation of

water, and sewer lines, and construction of curbs, gutters, and sidewalks. According to a local developer, typical site improvement costs for single-family lots are estimated at $15,000. This does not include cost for utilities not maintained by the City such as PG&E, telephone, and CATV.

Construction Costs

Many factors can affect the cost to build a house, including type of construction, materials, site conditions, finishing details, amenities, and structure configuration. Construction costs presented below here are based on one local developer's residential prototype for Wheatland. These costs assume the following: a 2,192 square foot (living area) detached, single-family home that is average quality wood frame construction with an attached three-car garage (638 square feet). Construction costs are estimated at $52.00 per square foot averaged over the main dwelling and garage. These costs include the following expenses: structural, electrical, plumbing, mechanical, interior finish, normal site preparation (excavation and backfill for building – not curbs, gutters, sewers, etc.), architectural and design fees, overhead and profit. Total construction costs are estimated at $147,160 for the housing unit and garage.

4. Total Housing Development Costs

As shown in Table 4-35, the total of all housing development costs discussed above for a typical single-family home is $254,160, including land, site improvements, construction costs, profit, fees and permits. According to the figures shown in Table 4-11, none of Wheatland's very low-, low- or moderate-income households could afford to purchase a new home of this size and quality.

Costs estimates have not been made for the construction of multifamily housing since there have been no recent multifamily developments in Wheatland on which to base an estimate.

TABLE 4-35
CITY OF WHEATLAND
ESTIMATED SINGLE FAMILY HOUSING DEVELOPMENT COSTS, 2004

Cost Component	Amount
Land Price	$67,000
Site Improvement Costs	$15,000
Total Permits/Fees (includes school fees)	$25,000
Total Construction Cost	$147,160
Total Housing Development Cost	**$254,160**

Source: Vernazza Wolfe Associates, Inc., Mintier & Associates
Notes: Costs assume a 2,192 sq. ft. home with a 638sq. ft. garage. Assumed profit margin is built in.

4.5 | SECTION IV: EVALUATION

A. REVIEW OF EXISTING HOUSING ELEMENT

The following section reviews and evaluates Wheatland's progress in implementing the previous Housing Element. It reviews the results and effectiveness of programs for the previous Housing

Element planning period. It also analyzes the difference between projected housing need and actual housing production.

The 1992 Housing Element was intended to serve a planning period from 1989 to 1996. However, HCD subsequently extended the planning period through 1999.

Table 4-36 below shows the number of net new housing units in Wheatland from 1990 to 2000. These are the number of net new units and take into account demolitions and annexations; the City does not have yearly building permit data available for this time period. Wheatland had a net increase of 136 units from 1990 to 2000. As shown in Table 4-1 above, Wheatland's population grew by 644 from 1990 to 2000. The low rate of housing growth compared to population growth is related to an increased household size of 2.7 in 1990 to 2.9 in 2000.

TABLE 4-36
HOUSING UNITS BY TYPE,
CITY OF WHEATLAND, 1990 & 2000

	1990	2000	Net Change: 1990-2000
Single	**505**	**566**	**61**
Detached	431	531	100
Attached	74	35	-39
Multiple	**174**	**249**	**75**
2 to 4	98	155	57
5+	42	55	13
Mobile Homes	34	39	5
TOTAL	**679**	**815**	**136**

Source: DOF

Table 4-37 below shows a comparison of the SACOG-assigned regional fair share allocation of housing units for the January 1, 1989 to December 31, 1999 period for Wheatland to the housing produced between April 1990 and April 2000, by income group. This is the closest comparison that can be provided, given the lack of building permit date for this time period.

There were two affordable housing projects built in Wheatland during the last housing element period: Forest Glen (self-help ownership development) and Sunset Valley (acquisition/ rehabilitation project of a previously market rate development).

By the end of 1999, Wheatland had met 200 percent of its total housing production goals for the previous housing element planning period. The acquisition and substantial rehabilitation of the Sunset Valley duplexes in the early 1990s represents the only addition to the permanently affordable rental housing stock, and because of it, Wheatland as able to meet its very low-income and low-income housing needs. The percentage of housing goals achieved varies by income group. For example, 329 percent of the very low-income housing goal was achieved, 213 percent of the low-income goal was reached, and none of the moderate-income housing goals were met.

TABLE 4-37
COMPARISON OF WHEATLAND'S HOUSING UNIT PRODUCTION WITH SACOG'S PROJECTED HOUSING NEEDS (1991)

Year	Very Low-Income	Low-Income-	Moderate-Income	Above Moderate-Income	Total
SACOG allocation (1989-1996; extended through 1989)	**21**	**23**	**8**	**60**	**112**
Net New Units: 1990-2000 (1)	10	10	0	116	136
Rehabilitated Units: 1990-2000 (2)	59	39	0	0	88
Housing Production: 1990-2000	**69**	**49**	**0**	**116**	**224**
Percent Goals Achieved	329%	213%	0%	193%	200%

Notes:
(1) See Table 4-36. There were 136 net new units in Wheatland from 1990 to 2000. Forest Glen, a 20-unit, self-help project, was newly built in the 1990s and is affordable to very low- and low-income buyers. 10 units was allocated to each of these categories and 20 units were subtracted from the above moderate-income category.
(2) Sunset Valley Duplexes (88 total units) was not a new construction project and the units existed prior to 1990. However, since they were market rate units in disrepair, and were acquired, substantially rehabilitated, and have affordability restrictions, they are included as additions to the affordable market in this table. Since these units rent to 40%, 50%, and 60% AMI groups, they were allocated 2/3 to the very low- and 1/3 to the low-income categories.

Table 4-38 below provides an evaluation of existing City of Wheatland Housing Element (1992) goals and programs. Many of the 1992 Housing Element's goals are still applicable to Wheatland and will be retained in the 2004 Housing Element update. More changes are needed for implementation programs, and policies need to be defined (the existing element contains only goals and implementation programs). Some programs will be added, some will be made more specific, and a few will be deleted.

To some extent, Wheatland is limited in what it can accomplish through its housing strategy due to a lack of funds and staff. For example, Wheatland does not have a redevelopment project area and therefore does not have housing set-aside funds. The City does not have an inclusionary housing program, nor does it have a housing mitigation program. In the past, other organizations, such as Mercy Housing and the Yuba County Housing Authority, have provided housing assistance to residents in Wheatland. This situation is likely to change in Wheatland, since, according to SACOG's 2001 projections, the population is projected to grow by 5,762 residents by 2025 (3,178 estimated population as of Jan.1, 2004 (see Table 4-1) and 8,940 projected population in 2025 (see Table 4-5)). A larger Wheatland population and tax base should bring in more public revenues that could allow for more extensive affordable housing assistance.

TABLE 4-38
1992 CITY OF WHEATLAND HOUSING ELEMENT IMPLEMENTATION PROGRAMS

Goal/ Program	Implementation Programs	Actual Accomplishment	Explanation of Difference between Program and Accomplishment	Recommendation to Delete, Retain or Modify in 2004 Housing Element Update
Goal IV.A	**New Construction**			
1	Re-zone 10 acres of land for multifamily use – seven acres to R-3, and three acres to R-2.	Rezonings have occurred over time. At this time, it is not known how many acres have been rezoned in	-	Retain.

TABLE 4-38
1992 CITY OF WHEATLAND HOUSING ELEMENT IMPLEMENTATION PROGRAMS

Goal/ Program	Implementation Programs	Actual Accomplishment	Explanation of Difference between Program and Accomplishment	Recommendation to Delete, Retain or Modify in 2004 Housing Element Update
		each of the land use categories.		
2	Allow density bonus according to state law.	Developers have not used density bonuses in Wheatland.	No zoning changes were made to facilitate bonus densities.	Recommend modifying the Zoning Ordinance to allow bonus densities that are consistent with State law.
3	Continue to allow child care facilities within the residential zones.	R-2 and R-3 allow as conditional use. No mention in R-1.	-	In addition to considering adding child care as a conditional use in R-1, the City will consider including an implementation program to work with the Yuba/Sutter Counties child care coordinator.
4	Revise zoning ordinance to permit second dwelling units with kitchen facilities, subject to a conditional use permit, within the residential zones.	Accessory buildings are allowed in R-1, R-2, and R-3. However, there is no mention of second units per se.	This has not been an issue in Wheatland.	Retain program and specify that the new second unit ordinance will be consistent with State law.
5	Approve submittal of a 1991 MCC application. Continue to cooperate with the Yuba County Housing Authority to apply for additional funding under this program.	According to the Housing Authority Director, there is no evidence that Wheatland worked directly with the Housing Authority.	Program is no longer issuing new MCCs.	Delete
6	Allow partial fee waivers to affordable housing developers on a case-by-case basis, to the extent that the partial fee waivers are not cost prohibitive to the city. Expedite (fast track) processing of affordable housing developers, to the extent that it does not incur higher costs.	This action was not undertaken.	-	Retain
7	The city shall modify/waive landscaped median dividers at subdivision entrances for affordable housing developers on a case-by-case basis.	At this time, it is not known whether any waivers or modifications to landscaping requirements were provided.	-	Since changing landscaping requirements is only one way to reduce housing costs, this program could be modified to include additional ways to reduce housing costs associated with development requirements.
8	Research inclusionary housing programs and recommend a policy.	No research was conducted.	Lack of staff.	Retain
9	Continue to allow planned unit developments in accordance with the established guidelines of the general plan and zoning ordinance.	This is city policy.	-	Delete, since this is not a program for the Housing Element.
10	Prepare brochure of affordable housing development programs and funding sources.	There is no evidence this was done.	Non-profit developers already know the funding sources and development programs.	Delete or reword

TABLE 4-38
1992 CITY OF WHEATLAND HOUSING ELEMENT IMPLEMENTATION PROGRAMS

Goal/ Program	Implementation Programs	Actual Accomplishment	Explanation of Difference between Program and Accomplishment	Recommendation to Delete, Retain or Modify in 2004 Housing Element Update
11	Encourage the development of self-help housing within the city, thus creating affordable homeownership opportunities for low and very low income families	It is unknown whether applications were expedited in the one self-help project that was built.	-	Retain
12	The city council and planning commission will give priority in processing projects designed to serve low income and special needs groups, thereby reducing development time and costs by expediting processing	It is unknown whether applications were expedited in the affordable projects that were built.	-	Retain
Goal IV.B	**Housing Rehabilitation/Energy Conservation**			
13	Apply for a CDBG Planning and Technical Assistance Grant. If this application is funded, the city will then conduct a housing condition survey and prepare a CDBG application. If the planning grant is not funded, the City will apply again during a subsequent funding cycle or seek other sources of funding to apply for CDBG funds.	Rural Housing and Development Corporation (now Mercy Housing) submitted a successful CDBG application as a sub-recipient for Wheatland. Although the application was funded prior to 1999, the City decided to return the funds to the State, since it did not have the staff resources to help administer the grant program. A housing conditions survey was conducted as part of the 2004 Housing Element preparation.	Lack of City staff or citizen committee to provide oversight.	Retain
14	Apply for CHRP-O funding if funds become available and if CDBG funds are insufficient to meet the housing rehabilitation needs.	This action was not undertaken. The CHRP-O Program is no longer in operation.	In the future, CHRP-O funds cannot be used, since this program is no longer available from the state.	Although CHRP-O funds are not available, CDBG and HOME funds are available for rehabilitation.
15	Continue to provide assistance to experienced affordable housing developers in applying for funds for the Wheatland Meadows (if necessary) or other rental housing development within the city.	Mercy Housing acquired and rehabilitated Wheatland Meadows using CHRP-R funds and low-income tax credits. The project is now called Sunset Valley Duplexes.	In the future, CHRP-R funds cannot be used, since this program is no longer available from the state.	Although CHRP-R funds are not available, CDBG and HOME funds are available for rehabilitation.
16	Prepare a brochure of housing rehabilitation and conservation programs available for city residents.	This action was not undertaken.	There is no City staff to implement this program.	Retain
Goal IV.C	**Fair Housing Policy**			
17	Display multi-lingual fair housing	This action was not	There is no City staff	Retain

TABLE 4-38
1992 CITY OF WHEATLAND HOUSING ELEMENT IMPLEMENTATION PROGRAMS

Goal/ Program	Implementation Programs	Actual Accomplishment	Explanation of Difference between Program and Accomplishment	Recommendation to Delete, Retain or Modify in 2004 Housing Element Update
	posters in prominent locations in city buildings and facilities.	undertaken.	to implement this program.	
18	Compile and make available to the public information materials from the State Department of Fair Employment and Housing on compliance with fair housing laws and how to obtain assistance in filing fair housing complaints	This action was not undertaken.	There is no City staff to implement this program.	Since a referral to CRLA will provide this same information, this program can be deleted from the Housing Element.
19	Compile a list of local and state organizations that provide counseling, enforcement, information and/or other services related to compliance with fair housing laws.	This action was not undertaken.	There is no City staff to implement this program.	Since a referral to CRLA will provide this same information, this program can be deleted from the Housing Element.
20	Distribute to social service agencies within the city informational materials about fair housing laws.	This action was not undertaken.	There is no City staff to implement this program.	Retain
21	Develop working agreements with local fair housing organizations to expedite referrals to fair housing enforcement agencies, and ensure that complainants receive assistance in filing charges with enforcement agencies.	CRLA is the principal fair housing organization in Yuba County. CRLA notifies the City of the services they provide, and Wheatland residents attend tenant/landlord clinics conducted by CRLA.	There is no City staff to implement this program.	Retain
22	Distribute public service announcements regarding fair housing to local media. Include language on fair housing in all public notices regarding meetings for state and federal housing programs	This action was not undertaken.	There is no City staff to implement this program.	Since there is very limited local media, this program can be deleted from the Housing Element.
7	Meet annually with the building industry and provide industry representatives with information from the State Department of Fair Employment and Housing.	This action was not undertaken.	There is no City staff to implement this program.	Retain
8	Encourage local builders to include equal housing opportunity references in their advertising.	This action was not undertaken.	There is no City staff to implement this program.	Retain
Goal IV.D	**Action Plan**			
	During the six year planning period, the city of Wheatland will continue to monitor the progress or the programs outlined in this housing element. The city planning director will prepare and annual status report of the city's progress in meeting its housing element goals. City staff will present these reports at an annual public hearing held before city council and will also send a copy to the Department of Housing and Community Development.	This did not happen.	Lack of staff.	Retain

Source: Vernazza Wolfe Associates, Inc.

B. WHAT WAS LEARNED FROM THE PREVIOUS HOUSING ELEMENT

Based on the experience in implementing the previous housing element and on the analysis of City policies and regulations in this document, the following information and lessons will be taken into account in updating the Housing Element policies and implementation programs:

- There are some programs such as encouraging density bonuses and second units that require changes to the Zoning Ordinance. Program recommendations for the upcoming period will include modifying the Zoning Ordinance. As discussed previously in the Governmental Constraints Section, these will include:
  - The City will evaluate parking requirements for affordable multifamily and single family housing to see whether a reduction in the number of spaces for multifamily housing and/or requirement for covered parking in single family housing can be waived.
  - The City will include regulations for secondary units in its Zoning Ordinance that conform to State law.
  - The City will include density bonus regulations for affordable housing in its Zoning Ordinance that conform to State law.
  - The City will examine its setback requirements to assess whether they make housing less accessible for the disabled population.

- Group homes for six or fewer residents are currently permitted in all residential zones due to the zoning preemption of Section 5116 of the California Welfare and Institutions Code. Since it currently provides confusing direction on the subject, the Zoning Ordinance's group home provisions will be updated to conform with State law. Also, the Zoning Ordinance does not state in which zoning districts group homes for more than six individuals are allowed, and will be modified to address this.

- Currently, emergency shelters and transitional housing facilities would fall under the "sheltered care facilities" or "boardinghouse" definitions of the Zoning Ordinance and are allowed as a conditional use in the R-2 and R-3 zones. The Zoning Ordinance will be modified to explicitly reference emergency shelters and transitional housing.

- The number of programs listed under the Fair Housing Policy will be reduced, since the main program for the City is to advertise the services provided by CRLA.

- The importance of working with other organizations, both public and private, will be emphasized in the new Housing Element policies and programs.

- Since the City has very limited staff, it is not in a position to administer its own housing programs.

4.6 | SOURCES

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Premier Homes

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Sutter Yuba Counties Association of Realtors MLS Data

Valley Fair Realty

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Wheatland Elementary School District

Chapter 5

PUBLIC FACILITIES AND SERVICES

KEY FINDINGS

- A master plan must be prepared to identify Waste Water Treatment Plant (WWTP) expansion or relocation options.
- The existing city sewer system and WWTP are sized and planned to serve only the area within the existing city limits.
- The city relies exclusively on groundwater for domestic water supply.
- Existing flood control deficiencies limit potential development within the northwest portion of the city and outside the city to the northeast, northwest, and southwest areas.
- Dry Creek and Bear River levees will need to be improved to provide adequate flood protection for future growth.
- Existing local drainage facilities are generally adequate but require substantial deferred maintenance work to achieve their capacity.
- Wheatland's Police and Fire Departments capabilities will have to be increased to meet future demands.
- Fire and Police facilities are inadequate.
- The city's water system should be reviewed to assure adequate fire flows will be present.
- The City and the Plumas-Brophy Fire Protection District should complete negotiations and begin the establishment of the recommended Joint Powers Authority (JPA).

Wheatland Water Tower

5.1 | INTRODUCTION

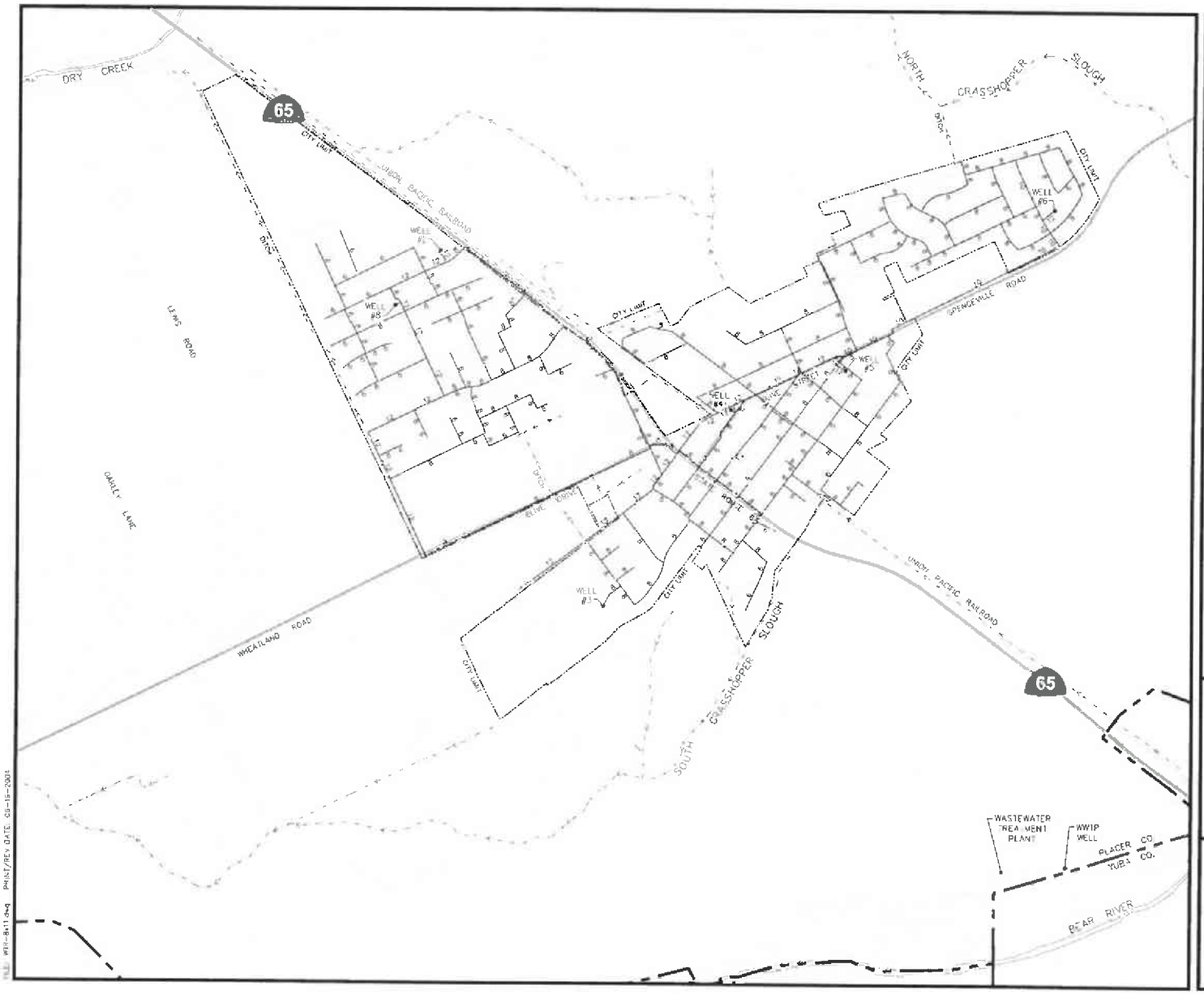
City development is dependent on a network of public facilities and services. Each facility and service has a unique set of constraints and must adapt to growth and change differently. The Public Facilities and Services chapter focuses on essential elements of the city of Wheatland's public service infrastructure, describing the various systems and their capacities, and discussing their implications for the General Plan. Background information on these facilities and services provides a basis for land use planning and protection of public health and welfare. Information used in this chapter was initially compiled from the 1980 City of Wheatland General Plan; the Yuba County General Plan, Volume 1 (1994); the 1996 Environmental Setting for the City of Wheatland General Plan Update; and various other local and regional policy and implementation documents. In addition, City staff and project consultants have performed research and data collection on existing conditions within the Study Area to refine and update the data. This chapter is a summary of those findings, and has been divided into 11 sections:

- Water Supply
- Wastewater System
- Storm Drainage
- Street System
- Law Enforcement
- Fire Protection
- Parks and Recreation
- Solid Waste
- Gas and Electric Service
- Communication Systems
- Schools

5.2 | WATER SUPPLY

Domestic water service in the city was originally provided by Wheatland Water Works, a private company. The first water lines were placed in 1889 by Wheatland Water Works shortly after the city incorporated in 1874. In 1906 the company constructed a 130-foot high water tower. Shortly thereafter the City purchased the water works, forming the Wheatland City Water Department.

The City of Wheatland Public Works Department operates the City's water system today and provides water to the entire city plus approximately two residences outside the city. The city's water source is entirely from ground water. The quality of the ground water is excellent and is disinfected by adding low levels of chlorine. The existing water supply available from ground water sources is adequate to supply the existing city limits to buildout. The water system and major component locations are shown in Figure 5-1 and tabulated in Table 5-1.



WHEATLAND
GENERAL PLAN

LEGEND

- Wheatland City Limits
- County Line
- Water Service Pipe w/ Diameter in Inches
- Open Drainage Course

N

Feet
0 500 1,000 1,500 2,000

Figure 5-1

Existing Water System

Source: TLA and Mintier & Associates

TABLE 5-1
WHEATLAND WATER SYSTEM MAJOR FACILITIES INVENTORY, MAY 2004

WATER METERS				
Size in inches	**Domestic**	**Irrigation**	**City Facilities**	**Total**
¾ & 1"	1,027	0	5	1,032
1 ½"	5	0	0	5
2"	10	7	1	18
3"	1	0	0	1
4"	0	0	0	0
6"	2	0	0	2
Total Meters	1,045	7	6	1,058
WATER LINES				
Size in inches	**Length in feet**			
6"	39,299			
8"	56,056			
10"	3,763			
12"	11,466			
Totals	110,584			
WATER WELLS				
Well Number and Location		**Production, gpm**	**Standby Power & ATS**	
#3 at Corporation Yard		740	Yes	
#4 at Police Department		675		Has receptacle for portable generator
#5 at Evergreen		740	Yes	
#6 at High School		740		Has receptacle for portable generator
#7 at Wheatland Ranch		550	Yes	
#8 at Park Place		800	Yes	
Totals	6 wells	4,245	4	
WATER TANKS				
Tank Type & Location		**Size, Gallons**		
Elevated Tank at Corporation Yard		67,000		
Ground Level at Corporation Yard with booster pump		667,000		
Totals	2 tanks	734,000		

Source: Terrance E. Lowell and Associates, 2004

EXISTING CONDITIONS

From 2001 to 2003 the City used USDA Rural Development loan and grant funds to upgrade the total water system including wells, water main replacements, water services, installation of water meters on all services, construction of a 667,000 gallon water tank and booster pumps, and the installation of a Supervisory Control and Data Acquisition (SCADA) system. The SCADA system allows for the continuous monitoring and control of all well sites, water tanks, and pumps from the City's corporation site control center at 4th and B Street. In the event of a problem in the water system, the SCADA system provides warning alarms and notification to the base station and after hours to an on-call Department of Public Works employee. The on-call

employee has a dedicated laptop computer which is connected to the base station and can be used to operate the system if necessary from a remote location.

The city has six municipal well sites that are all currently (2004) active. The wells have capacities ranging from 550 to 800 gallons per minute (gpm) with a total capacity of approximately 4,245 gpm (Dauwalder, May 4, 2004). Four of the well sites have dedicated permanent standby power with automatic switching in case of a power outage. The other two well sites have a receptacle plug available for a portable generator. The depth to ground water is approximately 80 to 100 feet with the wells drawing water from depths ranging from 200 to 400 feet below grade.

The city has a monthly flat rate service charge by type of use. The city water system was completely metered under the recently completed USDA project. The meters are currently in the test stage of reading and have not yet been used for billings due to configuration needs by the meter manufacturers. It is anticipated that conversion from the flat rate billing schedule to a metered rate billing schedule will commence sometime between August and October 2004.

Existing Water Main and Distribution System

The water system includes one ground level 667,000 gallon storage tank with booster pump and one elevated 66,000 gallon storage tank. Both of these tanks are located at the City's B Street Corporation Yard. The existing water system, based on computer model calculations and field tests, is capable of providing at least 2,500 gpm fire flow to non-residential areas and 1,500 gpm to residential areas on a maximum day of water use while maintaining a main line residual pressure of at least 20 pounds per square inch (psi) in any part of the water main system.

As of May 1, 2004, there were 1,058 water service meters in the city (including single-family residential, multi-family residential, commercial and industrial, and City buildings/facilities). In 2003 the total water consumption was 261 million gallons. The 2003 average annual daily consumption was 0.715 million gallons per day (MGD). Based on a population of 2,620 (Carstens), this equates to approximately 273 gallons per day per person and 676 gallons per day per meter location. The maximum day use in 2003 was 1.789 million gallons or 2.50 times the average daily use.

The existing system supply capacity is capable of serving all areas within the existing city limits (480+/-acres). Another well may need to be added to the system in the undeveloped northwest portion of the city (known as Almond Estates) for redundancy purposes, depending on the water main system designed for the area. The water system does not have sufficient capacity to serve areas outside the existing city limits and service area. Land annexed to the city for development would be required to develop an additional water supply and looped connection into the existing city system. For example, the two proposed annexation areas of Heritage Oaks and Jones Ranch are required to provide a well(s) and storage tank in addition to a water line loop and SCADA connection.

The largest water users connected to the system are Wheatland High School and Bear River Junior High School. Water meters are not currently being used for billing purposes because of

programmatic problems. It is anticipated that all meters and readings will be used for billings by the fall of 2004.

The water main line system consists of pipelines ranging in size from 4" to 12" in diameter. The entire City water system has looped mains except for short cul-de-sac streets. With the recent addition of the Wheatland Ranch and Park Place subdivision improvements and the new Junior High School water main line extension, the entire city is now provided with a looped water system.

There is one private irrigation water well in the city, located at the northwest end of C Street in a senior apartment housing project. Domestic water service to the residences is provided by the City. The irrigation well is a separate system and provided with backflow devices to prevent cross connection to the city domestic water supply. There also is a small-capacity untreated water well used for wash down and irrigation at the City's Wastewater Treatment Plant (WWTP). The WWTP is currently outside the city limits, but is proposed for annexation with the Heritage Oaks Estates project. There are two single family residential lots outside the city limits that are connected to the City water system.

The operation and maintenance of the water system is funded by a monthly service charge, currently $25.62 per single family residence. Included in the monthly service charge is $13.50 to repay the USDA loan amount and develop a loan reserve account. The terms of the loan are for 40 years at 4.5 percent, and the end of loan period being 2040. The current $25.62 per single family residential unit monthly water service charge was adequate to provide for 2003/04 system water costs. However, the rate is currently being reviewed for the next fiscal year (2004/05) as to adequacy.

Water System User Demand Rates and Equivalent Dwelling Units

Water system maximum day demand rates by type of land use are shown in Table 5-2. These are the demands to be used in determining the total maximum day system demands for existing city users and for proposed annexation areas. The maximum day demand factor is between 2.3 to 2.5 times the average day demand and is used to determine the amount of annual water supply needed.

TABLE 5-2 WHEATLAND DOMESTIC WATER SYSTEM DEMAND RATES					
Use	**Description**	**Unit of Measure**	**Maximum Day Demand, gpd/unit**	**Average Day Demand, gpd/unit***	**EDU/unit c.**
SF	Single Family to 4-plex	Dwelling unit	1,150	500	1.00
MF	Multifamily	Dwelling unit	690	300	0.60
P	Park	Acre	9,000	3,570	7.83
C	Commercial	Acre	5,750	2,500	5.00
ES	Elementary School	ADA	23	10	0.020
MS	Middle School	ADA	35	15	0.030
HS	High School	ADA	46	20	0.040
Irr	Irrigation	Acre	9,000	3,570	7.83

* Average day demand per unit is based on a maximum day factor of 2.3.
** Unit demands are for sizing and projects therefore may not reflect actual existing unit demands because of different persons/unit for example which can change substantially over time.
*** Based on ratio of maximum day demand to a SF use maximum day demand.

Source: Terrance E. Lowell and Associates, 2004

Existing Water System Deficiencies

There are three remaining existing water system deficiencies that need to be addressed. The most pressing of these is to empty, renovate, and resurface the inside of the 66,000-gallon elevated water tank at the City's corporation yard. The other two deficiencies are the replacement of approximately 2,000 feet of asbestos cement water line with 1,400 feet located in Olive Street and 600 feet in 4th Street. While these two water lines do not represent maintenance, operation, or health problems, the City expects to replace the existing pipes with pipes that meet current standards. In addition to the physical deficiencies noted above, the City's Public Works Improvement Standards relative to water systems was last updated in 1992 and should be updated to reflect current materials and construction standards.

With the improvements noted above and additional developer requirements, the resulting water system is designed and sized to provide service to buildout within the existing city limits only and does not include capacity for additional land annexed to the City, including the proposed Heritage Oaks Estates and Jones Ranch projects.

WATER SYSTEM EXPANSION

Areas annexed into the city are required, prior to development, to provide engineered improvement plans to the City for all water system improvements needed including water system design, supply calculations, wells, tanks, pumps, water lines, water services, and water meters. The City Engineer and Director of Public Works review the plans for conformance to City and State standards and the Water Service Master Plan. The Water Service Master Plan addresses the

area within the existing city limits and the proposed annexation areas of Jones Ranch and Heritage Oaks Estates.

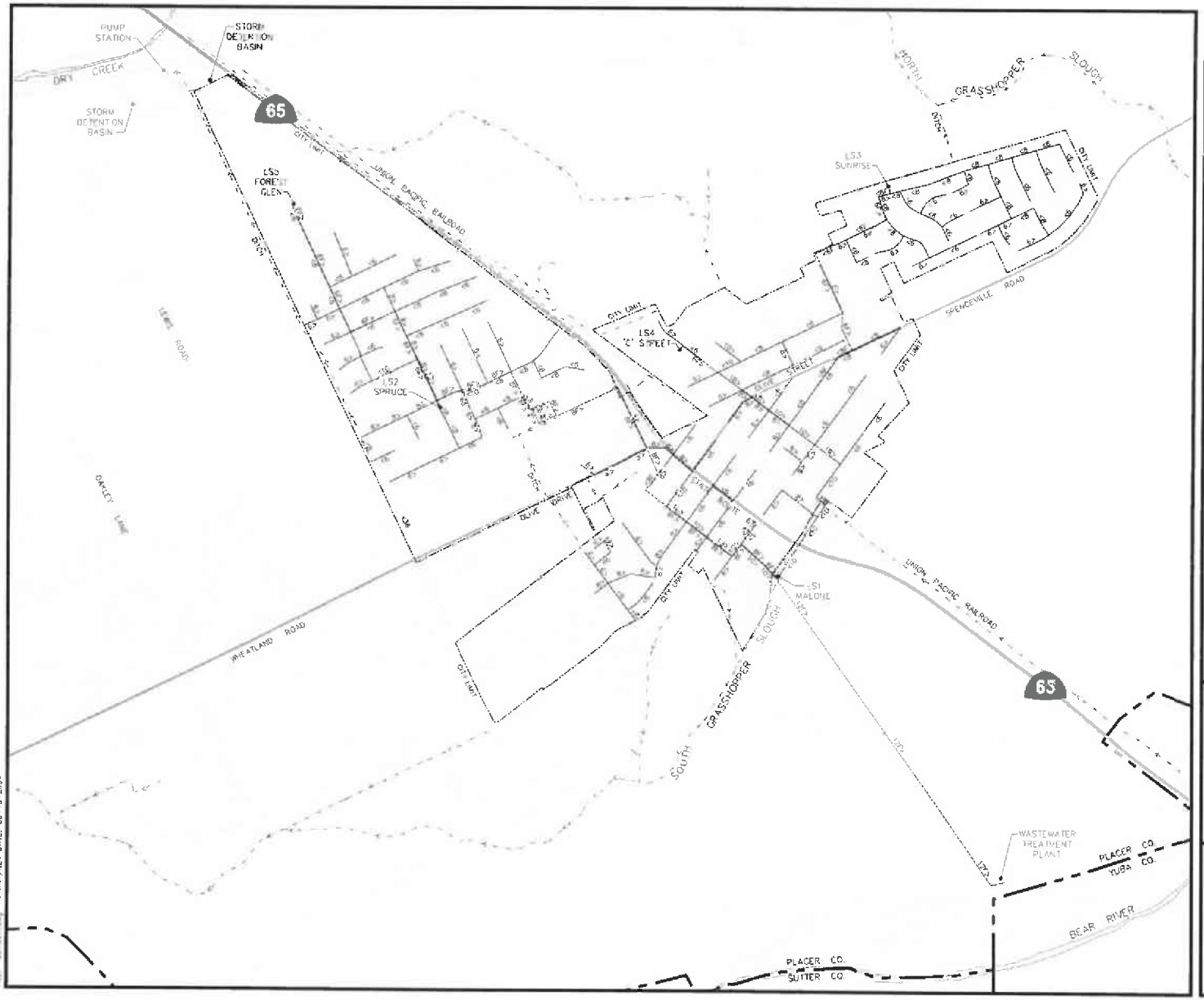
City costs incurred for water system plan review, processing, and construction are to be borne by land developers or builders. Upon completion to the satisfaction of the City, the water system improvements are accepted as part of the city water system. In areas where a developer is required to install a system larger than required for a project, there will be a reimbursement agreement or other repayment method for oversizing.

In any new area proposed for annexation and development in the city, the amount of water supply (well and or surface water supply) and major system configuration including necessary water tanks, treatment, booster pumps, and major pipe network is determined when development is proposed. For areas outside the existing city limits that are proposed for annexation, the City determines the availability of a water supply from wells and or surface water adequate to serve the areas.

5.3 | WASTEWATER SYSTEM

The Public Works Department operates the City's sanitary sewer collection and wastewater treatment plant (WWTP) system. The collection system consists of gravity collection lines and main lines ranging in size from 4" to 15" in diameter, and 5 sewage lift stations with force mains ranging in size 4" to 12" in diameter. The sewage lift stations are needed due to the relatively flat topography of the city, the sewage must be lifted by sewer lift stations. The WWTP was upgraded and expanded in 1990. It is located outside of and south of the city limits adjacent to Bear River.

All buildings within the city limits that require wastewater disposal are connected to the city sewer system. There are no private septic tank/leach field systems serving any uses within the city limits. The major components and location of the sewer system are shown in Figure 5-2 and tabulated in Table 5-3.



WHEATLAND
GENERAL PLAN

LEGEND

- Wheatland City Limits
- County Line
- Sewer Pipe (Gravity) w/ Diameter in Inches and Flow Direction (< or ->)
- Sewer Pipe (Force Main) w/ Diameter in Inches and Flow Direction (< or ->)
- Open Drainage Course

N

0 500 1,000 1,500 2,000 Feet

Figure 5-2

Existing Sanitary Sewer System

Source: Terrance E. Lowell & Associates, Inc.; and Mintier & Associates

TABLE 5-3
WHEATLAND SEWER SYSTEM MAJOR FACILITIES INVENTORY, MAY 2004

SEWER SERVICES

Type	Number Serviced	Number of Units	
Single family	917	917	
Multi family	79	280	
Commercial	45		
Schools	4		
City Buildings	6		
Total	1,051	1,197	

SEWER LINES

Size in inches	Length in feet	Miles		
6"	16,300	18.56		
8"	13,600	20.57		
10"	5,890	11.16		
12"				
Totals	35,800	50.29		

SEWER LIFT STATIONS

Lift Station Number and Location		Force Main Size	Standby Power & ATS	
#1 at Malone		12"	Yes, no ATS	
#2 at Spruce		8"	Yes	
#3 at Sunrise		8"	Yes, no ATS	
#4 at "C" Street, Senior Citizens		6"	No	Has receptacle for portable generator
#5 at Forest Glen		4"	No	Has receptacle for portable generator
Totals	5 lift stations		3	

WASTEWATER TREATMENT PLANT

No discharge, final treated effluent to percolation/evaporation ponds	0.62 mgd ADDWF		

Source: Terrance E. Lowell and Associates, 2004

EXISTING CONDITIONS

Existing Gravity Sewer System

The existing gravity sewer system is adequate to fulfill the sewer service need of the existing city limits to buildout. There is no excess capacity to provide service to any proposed annexation areas currently outside the city.

Except for new gravity sewer lines recently installed in the Wheatland Ranch, Park Place and Ryantown Subdivisions, most of the sewer gravity lines and their services predate 1962. The oldest system sewer lines consist primarily of clay pipe with cement joints. Some of these lines have broken joints and the cement deteriorated. Several portions of older lines are asbestos cement pipe (ACP). In one location in Hooper Street, the ACP gravity line is located under the Spruce lift station force main and was found to be soft (squishy) and in a deteriorated condition. A small portion of this line was replaced in 2003 but the remaining portion will need to be replaced in the near future. There are also some rear yard sewer mains that have maintenance problems due to sags in the line, dislocated joints, and tree roots.

The sewer system experiences some infiltration (from ground water) and inflow (storm water) entering the gravity system. Flows entering the WWTP increase significantly during periods of rain. The inflow locations and necessary corrective measures must be addressed through infiltration/inflow (I/I) studies.

In 2003 the City Engineer developed a preliminary list and estimated cost of projects and improvements to correct sewer system deficiencies including repair/replacement of sewer lines that would eliminate some of the I/I. This report was used as the background for a USDA a loan/grant application to correct these deficiencies. The USDA preapplication is currently under review by USDA

Existing Sewage Lift Stations and Force Main System

There are a total of five sanitary lift stations in the City. Two of the lift stations (Spruce and Malone) lift the entire city's sewage to the City's wastewater treatment plant (WWTP). The Malone lift station pump and electrical panel was updated in 2003. It has an old standby power unit but not an automatic transfer switch in case of power outage. The 12" diameter ductile iron cement lined force main from Malone lift station to the WWTP has been recently exposed and found to be in excellent condition.

The Spruce lift station was completely rebuilt in 2003 and provided with standby power and automatic transfer switch. The portion of force main from the lift station to Hooper Street is an 8" diameter asbestos cement (ACP) force main installed in 1962. The force main is in relatively good condition. The force main was extended as an 8" diameter PVC force main from Hooper to Malone in 2003 and is in excellent condition. With the 2003 improvements, the Spruce 8" force main now terminates and is connected into the 12" Malone force main which discharges directly to the WWTP.

The Sunrise lift station was completely rebuilt in 2002 (except for relining of the inside of the lift station tank). It now has a non-automatic transfer switch. The force main consists of an 8" PVC or ACP and during recent construction activities in 2001 was determined to be in good condition. The force main discharge termination manhole was replaced in 2002 with a specially lined manhole with protective coating to prevent deterioration that had occurred in the prior standard material constructed manhole.

The Forest Glen lift station was installed in 1992. The lift station is in fair condition, has a receptacle for connection to standby power, but has no standby power at the site. The 4" diameter PVC force main is in good condition and a portion of the length was recently eliminated with the construction of the Park Place Subdivision Improvements (2002/04). The 4" force main now extends from the lift station and terminates in a manhole near Redwood and Carpenter Streets. The main from the Forest Glen lift station is PVC pipe installed in 1992 and appears to be in good condition. The force main discharge termination manhole was replaced in 2002 with a specially lined manhole with protective coating to prevent deterioration that had occurred in the prior standard material constructed manhole.

The "C" Street lift station was installed in 1990. The lift station is in fair condition but has no standby power. The 4" force main is of unknown material and condition. The force main discharge termination manhole is in fair condition but needs to be replaced with a specially lined manhole with protective coating to prevent deterioration that has occurred.

Existing Wastewater Treatment Plant

The WWTP is located south of and outside of the existing city limits adjacent to the Bear River and west of SR 65. The WWTP facilities are located outside of the Bear River levee and not in the floodplain. However, the discharge percolation and evaporation ponds are located within the Bear River levee. When Heritage Oaks Estates is annexed into the city, the WWTP site and discharge ponds will also be annexed into the city.

The WWTP's last permit update by the State of California Regional Water Quality Control Board (RWQCB) was in 1991. The City's WWTP is a "no discharge" treatment plant, is well operated, and is in compliance with the RWQCB requirements. The WWTP has a permitted and design capacity of 0.62 million gallons per day (MGD) average day dry weather flow (ADDWF). The average day dry weather flow for calendar year 2003 was 0.274 MGD. The WWTP's last expansion occurred in 1990 when the plant was expanded from 0.21 MGD to 0.62 MGD ADDWF capacity. The expansion to 0.62 MGD ADDWF is adequate to meet the WWTP demands within the existing city limits when built out, but is not sized to provide for any substantial new proposed annexation development areas such as Heritage Oaks Estates and Jones Ranch. In the past, the RWQCB reviewed treatment plant permits every 10 years. Beginning in 2000, the RWQCB began reviewing permits every five years. Thus, the city is past due for a permit review.

The plant is in need of modification and upgrade to provide for some treatment redundancy. In addition, the City has recently received a letter from the RWQCB indicating that the existing discharge percolation/evaporation ponds that are inside the Bear River levee may be required to

be located outside of the levee. Discharge locations inside river levees are generally not acceptable under current State standards.

There are presently (2004) approximately 1,051 sanitary sewer services connected to the city system, including two single family residential units outside the existing city limits in the unincorporated island area north of the high school. The city has very limited discharge from industrial users. The majority of the sewage is domestic in nature, coming from residential and commercial users. The largest users connected to the sewer system are Wheatland High School and Bear River Junior High School. The average discharge is approximately 260 gallons per day per service location. In the calendar year 2003, the total wastewater treated was 105 million gallons which equals average daily amount treated of 0.288 million gallons. Based on an existing population of 2,620 (Carstens), this equates to approximately 110 gallons per day per person/day and 273 gallons per day per service location. The maximum day of wastewater entering the plant in calendar year 2003 was 0.525 million gallons or 1.83 times the average day. There are no septic tank/leach field uses within the city limits. There is no public sewage collection or treatment system to areas outside the city limits except for the two single-family areas noted above. All of the properties outside of the existing city limits and within the study plan area currently rely on individual septic tank/leach field systems for sewage disposal.

The operation and maintenance of the sewer system is funded by a monthly service charge, currently $16 per single-family residence which includes a $2.50 surcharge for refund to Forecast Homes for deferred maintenance the company performed. The current fee is not adequate to cover all system maintenance and operation costs. The City will be considering increasing the monthly sewer service charge in the future.

Sewer System User Demand Rates and Equivalent Dwelling Units

Sewer system average day dry weather demand (ADDWF) rates by type of land use are shown in Table 5-4. These rates are used to protect the system demands for existing city users and proposed annexation. The City design standards provide for a peak flow demand factor varying between 2.3 to 4.5 times the ADDWF.

TABLE 5-4 WHEATLAND DOMESTIC SEWER SYSTEM DEMAND RATES				
Use	**Description**	**Unit of Measure**	**ADDWF* gpd/unit****	**EDU/unit*****
SF	Single Family to 4-plex	Dwelling unit	350	1.000
MF	Multifamily	Dwelling unit	250	0.710
P	Park	Acre	30	0.086
C	Commercial	Acre	1,750	5.000
ES	Elementary School	ADA	7	0.020
MS	Middle School	ADA	10	0.029
HS	High School	ADA	12	0.034
I	Industrial	Acre	2,500	7.140

Notes:
*ADDWF = Average Day Dry Weather Flow.
**Unit demands are for sizing and projects therefore may not reflect actual existing unit demands because of different persons/unit for example which can change substantially over time.
*** EDU/unit is based on the ADDWF of a use divided by the ADDWF of a single family use.
****Peak Flow factor varies from 2.3 to 4.5 depending on total flow to portion of system being studied. The smaller the ADDWF in a system, the larger the Peak Flow factor.

Source: Terrance E. Lowell and Associates, 2004

Existing Sewer System Deficiencies

There are substantial existing sewer system deficiencies that need to be addressed. A report by the City Engineer dated June 2003 listed the deficiencies and estimated the construction cost at $4,800,000. As a result, the City has made a preapplication submittal to USDA Rural Development for loan and grant funds to make construct the system improvements. The improvements identified in the City's application only provide for needed facilities within the existing city limits and would not provide for any expansion of facilities to serve new development proposed for annexation to the city including the proposed Heritage and Jones Ranch annexations.

Sewer system deficiencies fall into the following four categories: sewer line, lift station, WWTP, and central control and warning system. Sewer line deficiencies in general consist of: old pipe with deteriorated, dislocated, or broken joints; broken and cracked pipe; portions of softened ACP; broken and separated sewer service lines; lack of cleanouts on sewer services; old brick manholes that leak; manhole covers with pick holes and vent holes that allow storm water entry; long lines without manholes that do not allow proper access for cleaning and inspection; rear yard main lines that have become broken, sagged, and dislocated due to trees and other disturbances.

Lift station deficiencies in general consist of the following: lack of standby power at "C" Street and Forest Glen lift stations; inspection and relining of "C" Street, Forest Glen, Sunrise, and Malone wet wells; need of automatic transfer switches at Malone, "C" Street, Forest Glen, and Sunrise lift stations; alternate bypass pump connection into force main at "C" Street, and Forest Glen lift stations; new standby power generator to replace the old unit at Malone; order control devices at Malone, Forest Glen, Sunrise, and "C" Street; and install redundant ultrasonic level sensors in Forest Glen, and "C" Street.

WWTP deficiencies in general consist of the following: the need to replace and upgrade electrical panels and controls; additional sludge drying beds; provide a second clarifier; replace ditch aerators; replace the existing flow measuring device; install a grit chamber and debris removal device; replace existing sludge drying bed valves; modify existing plumbing and valves to enable bypassing each facility in order to provide maintenance on system. In addition, because of a recent communication from the RWQCB, it may be necessary to relocate the existing percolation/evaporation ponds from inside the Bear River levee to another location outside the levee.

Central control and warning deficiencies consist of the following: the need to have a SCADA system installed that connects all of the lift stations and wastewater treatment plant to a base station at the City's Public Works Yard. This system would provide for warning signals in case of problems and allow the operator to remotely control the system pumps and devices. Also, the on call Public Works employee would have a dedicated laptop computer which would be connected to the base station and can be used to operate the system if necessary from a remote location.

In addition to these physical needs, the City's Public Works Improvement Standards relative to sewer systems was last updated in 1992 and is in need of revision to make them more current with present day materials and construction standards.

New developments are required to provide for sewer facilities including lift stations and pipes to meet their demands and/or pay an impact fee based on their demand and use of existing system facilities. New development is required to construct all internal sewer distribution system improvements associated with their projects. Once facilities are completed they will become the City's and the City will provide for the maintenance and operation of the system.

The current monthly sewer service charge of $16 per single-family residence (includes a $2.50 surcharge for refund to Forecast for deferred maintenance) is not adequate to provide for the actual system maintenance and operation costs. The City will be considering in the August 2004 increasing the monthly sewer service charge.

5.4 | DRAINAGE

There are two types of drainage systems that affect the City of Wheatland: flood control systems and local drainage systems. The systems, jurisdictions, and current status are described below. Areas proposed for development located within a floodplain and a flood control area must first be removed from the floodplain with construction of appropriate flood control structures. Once removed from the floodplain, then the local drainage system can be designed.

FLOOD CONTROL SYSTEMS

Flood control systems are typically designed to provide protection against 25-year to 200-year events. Examples of these facilities are dams, levees, drainage channels, and pump stations.

Systems associated with flooding events in the Wheatland area are due to flows from the Bear River located south of the city limits which flows east to west, Dry Creek located north of the city limits with flows from east to west, and the San Joaquin Drainage canal east of the city limits with flows from south to north into Dry Creek.

The Reclamation District 2103 is responsible for maintenance and operation of the Dry Creek levees, Bear River levee, and the San Joaquin drainage canal that are near the city. These three channels are outside of the existing city limits, but are within the area of interest.

Portions of the Bear River levee system east of SR 65 are located in Placer County. West of SR 65 the levees are located in Sutter County. Also, Reclamation Districts within which these levee systems are located are: Reclamation Districts 2103, 817, and 1273.

The current Federal Emergency Management Agency (FEMA) floodplain map is Community Panel No. 060460A, adopted September 29, 1986. The map is outdated and is considered an approximate study type map. The map is not based on hydrologic and hydraulic studies, does not include floodplain elevation information, and is in need of substantial revision.

From 1998 to 2002, Reclamation District 2103 prepared plans for and improved the Bear River levee from east of SR 65 near the San Joaquin canal to approximately 13,000 feet west of SR 65. Because of these changes, Reclamation District 2103 sponsored a study to certify the rehabilitated Bear River north levee and improve the definition of the floodplains under existing conditions. Based on better topographic information and hydrologic and hydraulic analyses, an application was prepared requesting a Letter of Map Revision (LOMR) for the city of Wheatland and adjacent areas. FEMA requires the floodplain mapping to reflect existing 100-year flooding conditions. FEMA is nearing the end of a detailed technical review. When all of the analyses and floodplain mapping is accepted, then FEMA will revise the current "effective" map to incorporate the updated information. Figure 5-3 shows the extent of the LOMR currently being reviewed. It is anticipated that this request for a LOMR will be approved by FEMA in the fall/winter of 2004.

The FEMA 100-year floodplain is important because it provides the elevations to establish whether an area is in or out of a floodplain and determines the applicable insurance rates. Based on the proposed floodplain work map submitted to FEMA, a substantial portion of the northern area within the existing city limits is within a FEMA floodplain as well as areas west and east of the city limits.

Developers, utilities, or municipalities can submit an application for a Conditional Letter of Map Revision (CLOMR) or a LOMR. For a CLOMR, FEMA will provide a "letter from FEMA commenting on whether a proposed project, if built as proposed, would meet minimum National Flood Insurance Program Standards or proposed hydrology changes." For a LOMR, FEMA will provide "a letter from FEMA officially revising the current National Flood Insurance Program map to show changes to floodplains, floodways on flood elevations." (FEMA, 2002)

Areas outside of the FEMA "effective" 10-year floodplain can be developed following the normal City of Wheatland or County standards. In order to develop within the "effective"

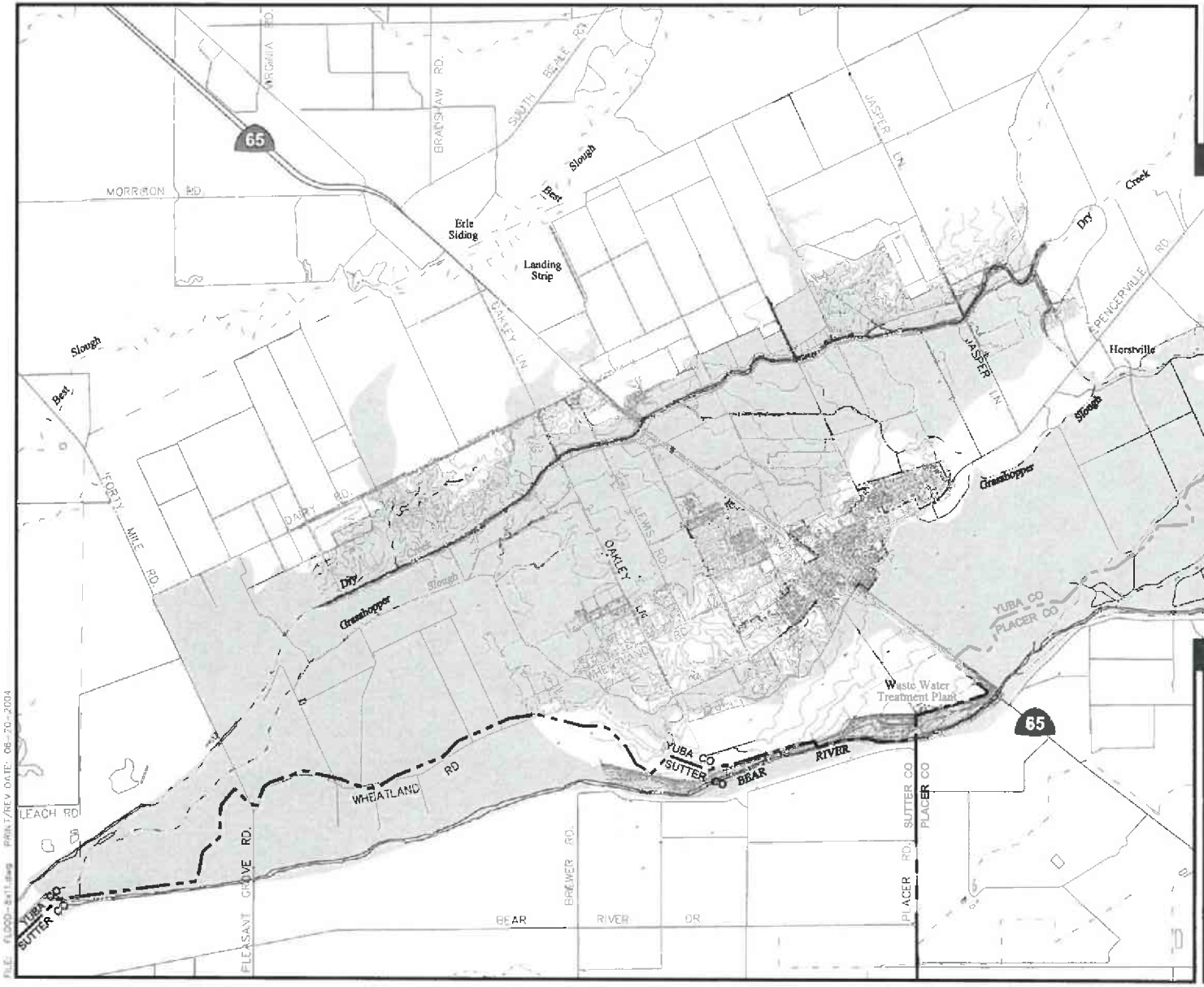


Figure 5-3
100 Year Floodplain
April 22, 2003 - LOMAR
Source: Terrance E. Lowell & Associates, Inc. and Mintier & Associates

floodplain, the area to be developed must be protected by flood control facilities to safely handle a 100-year event. Prior to start of construction, the developer can submit an application for a CLOMR. The CLOMR can be prepared and submitted during the planning and design period. This provides FEMA a chance to uncover problem areas that need to be addressed before FEMA will approve the start of construction. Since most of the required information is submitted prior to construction, the follow-up application for a LOMR only needs to describe significant changes to the proposed plan and submit as-built drawings to complete the process and receive approval.

Based on previous studies of the Wheatland area, the anticipated protective facilities are levees, stop log structures at bridge crossings, floodwalls, culverts, and pump stations. The levee systems are under the jurisdiction of each Reclamation District in which the levee or portion of the levee is located. Any improvements to the levee systems or other types of improvements to remove areas from the floodplain will require an adequate comprehensive financing system to provide system maintenance to FEMA required standards.

LOCAL DRAINAGE

Local drainage systems are typically provided to prevent flooding of streets and structures from 10-year to 100-year storm events. Examples of these facilities are culverts, drain lines, drain inlets, detention ponds, local open channels, detention basins, and pumping plants. These systems are located in areas that are protected by flood control systems or are not in an area subject to a flood control system.

Local flooding occurs because of inadequate sized facilities or deteriorated facilities such as drainage inlets, pipes, drainage ditches and related facilities that transport water to the Bear River, Dry Creek, or the San Joaquin Drainage canal. Public Works Department operates and maintains the local drainage system within the city, as well as the two facilities outside the City limits consisting of:

1. The northwest detention pond and discharge pumps located west of SR 65 and south of Dry Creek; and,

2. Partial maintenance of the east side ditch that connects the Wheatland Ranch Subdivision detention basin to Dry Creek.

The system and related facilities are shown in Figure 5-4. An inventory of the system is shown in Table 5-5. Outside the city limits, except as noted above, the Yuba County Public Works Department operates the county local drainage systems which consist primarily of county roadway drain lines and side ditches. All other drainage facilities are maintained by the local property owners.

The existing city is separated into four general drainage areas. The areas are separated by a higher east-west area through the approximate middle of town and the UPRR/SR 65 north-south line/road.

TABLE 5-5 LOCAL DRAINAGE SYSTEM DEMAND RATES				
Use	**Description**	**Unit of Measure***	**Impervious Area acres/unit**	**EDU/unit****
SF	Single Family to 4-plex	Dwelling unit	0.1375	1.00
MF	Multifamily	Dwelling unit	0.0500	0.36
P	Park	Acre	0.0000	0.00
C	Commercial	Acre	0.8000	5.82
ES	Elementary School	Acre	0.5000	3.64
MS	Middle School	Acre	0.5000	3.64
HS	High School	Acre	0.5000	3.64
I	Industrial	Acre	0.8000	5.82

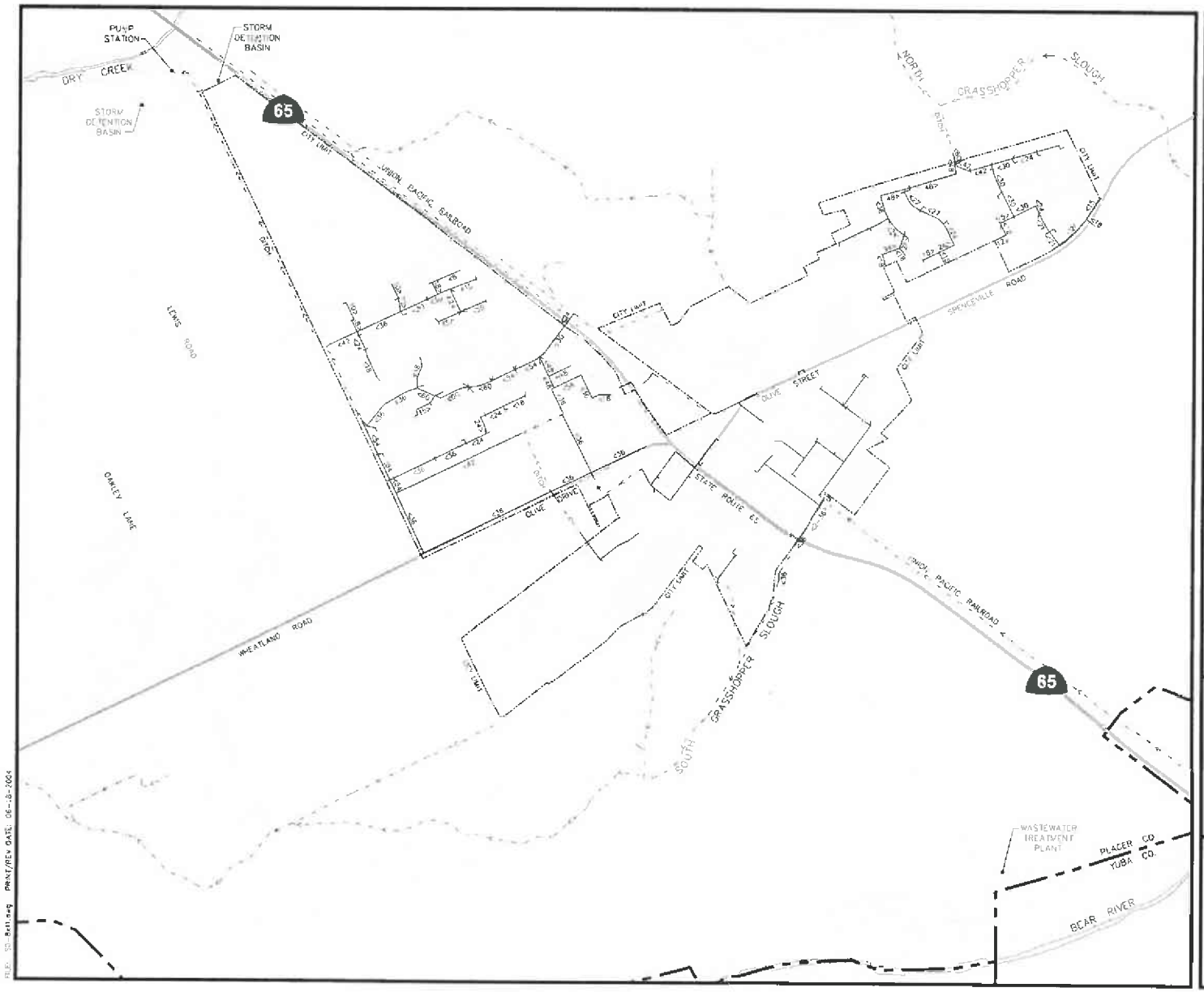
Note: *Unit demands are for sizing and projects therefore may not reflect actual existing unit demands because of different persons/unit for example which can change substantially over time.
** EDU/unit is based on the imperviousness use divided by the imperviousness of a single family use.

Source: Terrance E. Lowell and Associates, 2004

The northeast city drainage area drains through the Wheatland Ranch Subdivision into a detention basin constructed in 2002. The detention basin discharges into an existing ditch, outside the city limits to the northwest into Dry Creek. The flap valve closes when the water level is higher in Dry Creek than in the local discharge canal. The flap valve prevents the Dry Creek water from backflowing into areas south of the Dry Creek levee. When the flap valve is closed, local stormwater cannot be discharged into Dry Creek and can puddle on the land side of the levee. In addition, the northeast area has an east to west ditch that discharges stormwater to the west under a UPRR trestle and SR 65 bridge. The westerly discharge capacity is restricted because the downstream channel is confined and has limited capacity for carrying runoff west of SR 65. Possible solutions to allow discharge to Dry Creek when flows in Dry Creek are high is to install a detention basin/pump station or enlarge the east-west channel.

The northwest city drainage area drains through a system of pipes, open ditches, and a major north draining channel that discharges into the detention. The major north draining channel and detention basin is in the process of being improved and enlarged in conjunction with the Park Place Subdivision currently under construction (almost complete) and due for completion the summer of 2004. When the northwest side of the city is removed from the FEMA 100-year floodplain, a berm around the detention basin must be raised one to three feet to maintain adequate freeboard. The detention basin berm cannot be raised at this time because the berm would restrict the flow of the existing "flood control system (FEMA)." This detention basin also receives stormwater from under SR 65 from the bridge area described in the northeast drainage.

The southeast city drainage area drains through a system of pipes and open ditches to a small 24" diameter concrete culvert that crosses to the west under the UPRR into the south fork of Grasshopper Slough. This pipe also drains a large area outside the city limits. Periodically flows are restricted at this point, resulting in water ponding on the east side of the UPRR and north of the Bear River. The natural ground slope outside the city limits in this area is generally downhill



WHEATLAND
GENERAL PLAN

LEGEND

- Wheatland City Limits
- County Line
- Storm Drainage Pipe w/ Diameter in Inches and Flow Direction (< or ->)
- Open Drainage Course

N

Feet
0 500 1,000 1,500 2,000

Figure 5-4

Existing Storm Drainage System

Source: Terrance E. Lowell & Associates, Inc.; and Mintier & Associates

from the land side of the Bear River levee north toward the city. Possible solutions to allow this area to drain are installing of a detention basin/pump station on the east side of SR 65 with a discharge to the Bear River, or enlarging the east-west culvert under the UPRR and SR 65 and enlarging the channel west of SR 65.

The southwest city drainage area drains through a system of pipes and open ditches and discharges into the south fork of Grasshopper Slough. This slough also receives stormwater runoff from the east as noted in the southeast drainage area description. The natural ground slope outside the city limits in this area is generally downhill from the land side of the Bear River levee north toward the city. The city's wastewater treatment is uphill from the south fork of Grasshopper slough. The south fork Grasshopper slough drains toward the west. This slough has been the subject of a preliminary drainage study by the proposed Heritage Oaks Estates and Jones Ranch projects. This slough crosses Wheatland Road west of the existing city limits and becomes a small ditch with limited capacity. Solutions to local drainage problems have been partially addressed by the Jones Ranch and Heritage Oaks Estates projects, which propose a series of detention basins and pumps to discharge storm water to the Bear River.

The city funds the operation and maintenance of the storm drainage system through general fund revenue except for the Wheatland Ranch Subdivision detention basin and the Park Place drainage canal, which is funded through a Lighting and Landscape District. New developments are required to provide for drainage facilities including pump systems and pipes to meet their demands and/or pay an impact fee based on their demand and use of existing system facilities. New development is required to construct all internal drainage system improvements associated with their projects.

The city requires engineering drainage studies to be provided with all new development plans. The studies are to identify existing onsite and offsite conditions, storm water flows, capacity of existing onsite and offsite inlets, culverts, ditches, canals, detention basins, pump systems, and determine if the proposed development would result in increased stormwater runoff from the site and or result in restricting flow from existing upstream uses under existing conditions. Any individual developing or improving land is required to mitigate all potential drainage impacts to upstream or downstream users which could result from the development. Such corrective or design measures could include enlarging existing culverts and ditches, building detention basins and pumps to discharge to a flood control facility, and/or obtaining of flowage easements. Existing drainage system deficiencies include undersized or deteriorated drain lines and ditches, inadequate inlets or capacity, some broken and offset gutters, and valley gutters. In addition to these physical needs, the city's Public Works Improvement Standards relative to water systems was last updated in 1992 and is in need of revision to make the standards consistent with current industry practice.

BEST MANAGEMENT REQUIREMENTS (BMP's)

The State of California requires BMP's be implemented for treatment of stormwater before discharge into a natural channel or river. The BMP's can be either temporary during construction of new improvements or permanent after construction is completed. For

construction projects, the City of Wheatland currently requires BMP's be furnished and maintained by the construction contractor.

Temporary BMP's during construction, may include some or all of the following: wattles (rolled straw) to filter mud; drain inlet screens and dikes; sedimentation basins; cover of loose uncompacted material (including landscape materials) during the winter; concrete truck wash containment facilities; debris containers; sand/oil containment facilities; rocked construction access road; hydroseeding; straw mulch; and on-going monitoring during rain events.

Permanent BMP standards have not been adopted by the city. However, the city expects to adopt standards in the near future. Examples of some permanent BMP's are vegetative swales, oil/sand separators, settling basins, reduction of impervious area by using open graded or pervious structural material in vehicle (non-truck parking) areas, and infiltration trenches.

5.5 | LAW ENFORCEMENT

The Wheatland Police Department was established with the city's incorporation in 1874. Crime in the city is minimal by population standards according to the 2003 Uniform Crime Report (UCR) provided by the California State Department of Justice's Division of Criminal Justice Information Services. Reported felony crimes (murder, rape, robbery, assault, burglary, motor vehicle theft, and grand theft) have risen from 18 in 2001 to 31 in 2003, a 72 percent increase in three years. The majority of these 2003 crimes (19) were grand thefts (i.e., a theft of over $400). Juvenile and misdemeanor crimes are average for the demographics of this rural community.

Calls for police service also have increased in the past three years: 1,240 calls in 2001; 1,607 calls in 2002; and 1,839 calls in 2003. Traffic congestion and accidents are a significant concern to the Police Department, and responding to them requires a substantial commitment of police resources. The Department has been modernized and expanded over the years by the City, which has provided it with the latest equipment and additional officers.

Current Level of Service and Staffing

Wheatland currently receives police service twenty-four hours a day, seven days a week ("24/7"). The Police Department is staffed by six patrol officers, one sergeant and the Chief. Supplemental police services are provided by six on-call level-one reserve officers who are paid an hourly wage and are considered part-time employees. They are used to replace full-time officers due to illness, time off, or unplanned leaves.

Regarding response times, the city area is small enough to allow an officer to get anywhere in the city in two minutes. This is an exceptional response time; however it can be affected by traffic congestion on SR 65 and trains traveling through the city. The traffic congestion may slow responses, but slow or stopped freight trains will halt the responses until the train passes. Train-caused response delays are not common, but they have occurred in the past and remain a potential problem.

Departmental Staffing and Work Load

According to the Department, the minimum recommended ratio of police officers to population is 1.5 per 1,000 persons. This ratio is currently considered to be an acceptable staffing level, but due to a variety of local conditions many police departments operate at a lesser ratio while others operate with a higher ratio. The optimum ratio depends on the incident activity levels, response times, and officer safety factors. Such ratios also are dictated by what the community determines to be an acceptable level of service.

Based on the current number of patrol officers (6) and a sergeant (1), the ratio of officers per thousand residents is 2.5 (assuming an estimated current resident population of 2,800). This ratio currently is necessary to maintain 24/7 coverage and to allow for some overlap. The ratio of officers per thousand residents is a measurement often used to compare the staffing levels of different police departments.

Wheatland's officers currently are assigned to work 12 hour shifts, which allows the city maximum coverage and often permits two officers to be on duty at the same time. It takes a minimum of four officers working 12 hour shifts to provide full coverage. Currently, the city's one beat is staffed by one and sometimes two officers. This staffing level does not allow for absences due to vacation, injury/illness, or training. Overtime is used to offset these types of scheduled events, and part-time police reserves are used to fill-in for unscheduled absences.

The Police Chief advocates high patrol visibility. This is achieved in Wheatland by having the patrol officers located in the busiest areas where they will be seen by the most people, giving the impression that there are many police officers on duty.

Patrol officers spend approximately 70-80 percent of their time involved with traffic matters. These include accident investigations, traffic code enforcement and complaints, removal of abandoned vehicles, parking violations, and controlling congestion related to SR 65. Commuter traffic in the morning and evenings keep the officers busy during the work week, and in the summer months, concerts at the nearby Sleep Train Amphitheater (north of Wheatland) add to traffic on SR 65 on the weekends and evenings. Because there are no traffic signals in Wheatland, cross traffic has a difficult time getting from one side of town to the other during heavy traffic flows on SR 65.

Wheatland's Police Chief believes that two patrol beats, each staffed by two officers, would be the optimum staffing level. The necessity for two officers to be on duty is especially important on the weekends and during evenings when law enforcement incident activity increases. If one officer makes an arrest, the other officer can cover the city while the arresting officer deals with the prisoner(s). Arrested subjects must be transported to and processed into the Yuba County Sheriff's jail in Marysville. This is a minimum one-hour trip, if the jail is not busy and can accept the prisoner immediately upon arrival. However, jails often are busy and the trip could take considerably longer.

The police station is staffed only when the Chief or an on-duty officer is present. If no one is present at the station, the on-duty patrol officer must come to the station to assist the public. Last

year (2003) the clerk who doubled as a dispatcher was laid off. The dispatch of calls is accomplished now by the Chief when he is present at the station. After hours and on weekends the on-duty patrol officer carries a cell phone and receives the calls for service directly from the public.

Facilities and Equipment

The Police Department currently operates out of a double-wide trailer located at 413 Second Street. The trailer is 24 years old and was installed originally as a temporary facility. Minimal maintenance has occurred, and is need of repair (e.g., the roof leaks when it rains). Several years ago another 14-foot trailer was attached to increase storage space which is now full. The existing Police Department facility is inadequate to meet the Department's current and future needs.

The Police Department currently uses four patrol vehicles that vary in age and condition. The Department tries to keep its patrol vehicles in service up to 125,000 miles by performing regular maintenance. Patrol vehicles typically accrue such mileage in a four to five-year period. However, there are times when the vehicles require major repairs and need replacing before the 125,000 mile criterion is reached. When this occurs, the Police Department requests funds for a new patrol vehicle. The current cost of a new police vehicle is about $35,000, which includes reinstalling or replacing on-board equipment (e.g., radios, computer, emergency equipment, prisoner cage).

Related Information

Wheatland police officers occasionally have had to call for additional external assistance. If no other Wheatland officers are on duty or available, the call goes out to the California Highway Patrol or the Yuba County Sheriff's Department. Response times for those agencies vary due to the responding units' availability and distance from Wheatland. There is a good mutual working relationship amongst the officers in the area when any request assistance.

Wheatland's officers occasionally are called on to leave the city to respond to incidents elsewhere in the County. Usually this is due to circumstances requiring immediate attention and when response from the normally responsible law enforcement agency is delayed. For example, Wheatland's officers have responded to incidents at Camp Far West in the summer months due to requests from the Sheriff's Department, and off-duty Wheatland officers also provide security and traffic control for events at the Sleep Train Amphitheater. The Amphitheater can accommodate up to 18,500 people, and occasionally on-duty Wheatland officers have been requested to respond to the amphitheater to help with crowd control.

The Police Department has no ongoing community programs with schools or businesses. The Department was pursuing a grant in cooperation with the Wheatland School District to hire a school resource officer. However, given current and pending (FY 2004 and 2005) budget constraints and decisions, patrol officers may be laid off and the Chief's position reduced to half-time. The Department indicated that it cannot continue to support the proposal if it means having to layoff any of the patrol officers.

Police officers also provide animal control services. They are dispatched to answer calls involving injured or stray animals. Frequently, the officers have to catch the animal and then place the animal in the back seat of their patrol vehicles. Wheatland has a contract with Yuba County Animal Services in Marysville to care for the animals. It is a 28-mile round trip to Marysville to deposit the animal.

5.6 | FIRE PROTECTION

The Wheatland Fire Department functions from one fire station located at 313 Main Street. It has three apparatus bays that house four vehicles. The Department provides emergency response to all emergencies within the city. The City of Wheatland's Fire Department has an Insurance Services Office (ISO) rating of 6, which is used to set fire insurance premiums.

The City provides additional response to the Plumas Brophy Fire Protection District for single incidents that require multiple fire engines or for multiple emergencies requiring multi-agency responses. The Fire Department's performance has not met with significant public dissatisfaction, and the Department appears to enjoy a good reputation.

The Plumas Brophy Fire Protection District is staffed and equipped in a similar manner to Wheatland's, and its headquarters fire station is located on Dairy Road (off SR 65 and approximately two miles north of Main Street in Wheatland). The District responds to city emergencies in the same manner as Wheatland does for the District.

The Wheatland and Plumas Brophy departments generally operate as one under joint policies and procedures governing training and operations. The departments share one paid full-time Fire Captain (see below). Both departments have stated that they rely on each other to operate, and that if one was disbanded, the other would have great difficulty functioning effectively. Therefore, for master planning purposes, where the area's total resources must be considered, relevant comments about the District are included.

The City and the Plumas-Brophy Fire District are considering the establishment of a joint powers authority (JPA) to provide fire protection services to presently unincorporated areas which may be developed and annexed into the City of Wheatland.

The City's Building Inspector conducts construction review and compliance with codes and ordinances. The Fire Chief conducts some inspections at new construction sites with the Building Inspector, and he consults as needed with contractors and builders. The Wheatland Fire Department has not adopted the Uniform Fire Code or proposed fire protection amendments to the Uniform Building Code for adoption by the City.

Chain of Command

Both departments are led by volunteer Fire Chiefs and Assistant Fire Chiefs. In addition, and with the exception of the shared Fire Captain, each department has Fire Captains,

Engineer/Firefighters, and Firefighters, all of whom are volunteers. The on-scene incident commander at emergencies is the senior officer or firefighter. There have been no legal actions against the Department for services provided during the past three years.

Departmental Strength and Incident Response Staffing

Both fire departments recruit, train, and depend on volunteer staff from the same area of Yuba County. As is common with many other areas, volunteers can only give limited amounts of their time. The shallow pool of potential volunteers appears also to be a limiting factor to increasing the number of volunteers in each department. The increasing number of residents who commute out of the immediate response area during most daytime work hours further limits the agencies' capabilities.

In 2004, the Wheatland Fire Department has 16 volunteer personnel distributed by rank as follows:

- One Fire Chief
- One Assistant Fire Chief
- Three Fire Captains
- Eight Engineer/Firefighters
- Three Probationary Firefighters

The two departments share a paid full-time Fire Captain who maintains the equipment, performs administrative tasks, and organizes the training. The department will need full-time leadership in the near future. As development and growth occur, the daily demands for greater amounts of leadership, management and administrative activity will require a full time effort. Fire protection issues will need to be addressed more rapidly, particularly the preservation of the volunteer system and its effectiveness as well as growth demands requiring full time employees.

Incident Response Staffing

Incident response staffing policy is that each responding unit must contain a minimum of two firefighters, with the maximum number determined by the number of seatbelts on the vehicle. All responding units must have an appointed crew leader. The Department uses a system to track the commitment of its personnel at emergency sites.

Department policy specifies that each responding fire engine must contain a minimum of two qualified firefighters with an allowable maximum determined by the number of seat belts on the engine. In addition, when the Wheatland Fire Department dispatches an engine outside of the city limits, the Department must maintain another fire engine on stand-by that is staffed with one officer and one firefighter.

Vehicles and Equipment

The Wheatland and Plumas-Brophy Fire Departments use the National Fire Protection Association (NFPA) standards as a guide for equipping their departments to respond to structural and open space emergencies. Specialized rescue equipment is divided between each department.

The Department maintains three fire engines as follows:

- Engine 411: a 2002 Type 2 Engine with a 1,000 gpm* pump and 500 gallon water tank
- Engine 412: a 1976 Type 2 Engine with a 1,000 gpm pump and 500 gallon water tank
- Engine 413: a 1982 Type 2 Engine with a 1,500 gpm pump and 500 gallon water tank
  *gpm: gallons per minute

These engines are equipped with a variety of standard safety equipment that include hand, electric, air, and hydraulic tools. The fire engines are equipped with 1 inch, 1-¾ inch and 2-½ inch hoses to distribute water and a 5 inch hose to supply water from the hydrant to the engine's fire pump. The fire engines also carry foam and foam applicators for specialized use on chemical and flammable liquid fires.

The departments maintain their vehicles and equipment with weekly checks that are documented, and they operate the vehicle-mounted fire pumps bi-weekly. Broken parts or equipment are replaced immediately. The departments commenced keeping mechanical records in September 2003, and Wheatland has experienced only one recent breakdown, which was the auxiliary motor on Engine 413.

Breathing apparatus is maintained to required safety standards by a private contractor. Hydraulic equipment (i.e., Hurst Rescue Tool) also is maintained by a private contractor. Air and electric tools are maintained by the personnel of both fire departments.

Personnel Training and Safety

The level of service provided by the two fire departments to the City of Wheatland has been effective during the past years, and both are aware of the challenges presented by future growth, including traffic.

The Department has 26 scheduled training sessions for 2004. The Department trains jointly with the Plumas Brophy using NFPA recommended safety and operational standards or those required by the Occupational Health and Safety Administration (OSHA). Attendance at training sessions ranges from 50 to 99 percent of the current volunteer staff.

Both departments have added contemporary fire protection subjects to their training schedules. For example, these include Emergency Medical Technician (EMT) I; Automatic Defibulation; Esophageal Tracheal Airway Insertion; Harassment; Volunteer Firefighter I Certification; Breathing Apparatus Fit Testing; and live firefighting training. The departments maintain a basic but solid set of operational and safety policies. The Department maintains an agreement with the Sierra Sacramento Valley Emergency Medical Services Agency to provide EMT-I, Esophageal Tracheal Airway, and Automated External Defibrillator training and certifications.

Personnel are provided with safety equipment and clothing for structural and open space firefighting and for medical emergencies. The firefighters are trained in the proper use and care of the safety equipment, including the proper maintenance, handling, and fit-testing of breathing apparatus.

Personnel are trained in proper protocols to participate on the State of California's Master Mutual Aid Strike Teams and to place orders for air ambulance services.

The Department did not file any workers compensation claims during 2003. Management direction is provided to assure compliance with the OSHA's procedures for establishing Rapid Intervention Crews (RIC). However, the Fire Department does not have a Safety Committee or maintain an OSHA-specified safety manual.

Mutual and Automatic Aid Agreements

The Department is a signatory to several agreements that augment its capabilities in turn for committing itself to assisting others. They are:

1. Automatic Aid Agreement between the Wheatland Fire Department and Plumas-Brophy Fire District (under this agreement the Wheatland and Plumas-Brophy fire departments essentially operate functionally as one fire department);
2. Mutual aid Agreement between the Wheatland Fire Department and the Yuba City Fire Department;
3. Mutual Aid Agreement between the Wheatland Fire Department and the Sutter County Fire Department;
4. Mutual Aid Agreement between the Wheatland Fire Department and the Linda Fire Department; and
5. Mutual Aid Agreement between the Wheatland Fire Department and the Marysville Fire Department.

Emergency Response Data

The Department responds to emergencies ranging from fires, rescues, hazardous materials incidents, and vehicle and other accidents to medical emergencies. The current number of responses within the city of Wheatland is approximately .69 emergencies per day or 1.4 emergencies every other day. The call rate represents approximately 11 emergencies per 100 population or 110 emergencies per 1000 population. The Department reported that the number of overlapping emergencies to which both agencies must respond is approximately 10 per year.

The primary method of transport for medical emergencies is the Bi-County Ambulance Co. Secondary response would be by the closest ambulance to the emergency. In addition, medical emergency air transport is available by Calstar, Reach, and H20 air ambulance companies.

TABLE 5-6 SUMMARY OF EMERGENCY RESPONSES			
Response Type	**2001**	**2002**	**2003**
Medical Aid	131	157	172
Vehicle Accident	21	19	27
Grass Fires	7	6	3
Unknown Response	2	6	10
Public Assist	7	18	25
Structure Fires or Alarms	5	10	5
Vehicle Fires	1	6	2
Utility Emergencies	2	4	1
Other	7	4	5
Mutual & Automatic Aid	169	292	220
Total Responses	**352**	**522**	**470**
(City & mutual aid responses)			
Total Responses within the City	**183**	**230**	**250**

Source: Robert Olson Associates, Inc., 2004.

Response Protocols and Communications

The Wheatland and the Plumas-Brophy Fire Departments share joint response dispatch protocols that further indicate the depth of their close interdependence. The major integrated protocols include:

- First Alarm assignment: two fire engines, one heavy rescue vehicle, one squad and one Chief Officer,
- Second Alarm assignment: two additional fire engines, and for
- Larger incidents: use of Master Mutual Aid Strike Teams.

Volunteer personnel are dispatched through pagers by the Yuba County Sheriff Department's Communications Office. Backup dispatch is provided by the Linda Fire Department. Additional communication is provided through landline and/or cellular telephone service to the Fire Chief and the Assistant Fire Chief. In addition, the Bi-County Ambulance Company's vehicles are dispatched for all medical emergencies from Marysville by the Sheriff Department's Public Safety Answering Point (PSAP). The response time for this ambulance ranges from 13 to 16 minutes.

Response Times

The Wheatland and Plumas-Brophy Fire Departments use driving time when calculating their response times from a fire station. The Department's driving time ranges from approximately one to four minutes within the city's limits. The time needed to mobilize volunteers (i.e., "reflex time") so they arrive at the fire station or at the scenes of emergencies ranges from one to more than seven minutes. The average response for volunteers to arrive at the Wheatland Fire Station is four minutes. However, during 2003 volunteer response was reported to range from zero to seven minutes between 8:00 a.m. and 6:00 p.m. and zero to twelve minutes between 6:00 p.m. and 8:00 a.m.

Fire Loss Data

The Department does not maintain fire loss records. These records would provide estimates of the losses calculated after a fire has been suppressed (i.e., "mitigation"). Fire loss data should be collected because it is one measure of the effectiveness of emergency response along with the adoption and effective enforcement of building codes and standards and other loss prevention ordinances and programs.

Emergency Response Planning

Both fire departments maintain emergency plans of their own design. They contain basic information, such as command structure, important telephone numbers, locations of staging areas, and traffic, crowd control, and evacuation information. These agencies are part of the Yuba County Operational Area (OA). Emergency response plans should be consistent with federal guidance or the State of California's Standardized Emergency Management System (SEMS).

The Department provides fire prevention and CPR education at elementary and day schools. Annual fire inspections are conducted at business sites and at residences upon request. The Department also provides standby general safety and emergency medical services at local high school football games.

The Water System and Fire Suppression Delivery Capabilities

The City of Wheatland maintains a water system capable of supplying approximately 1,035,000 gallons of water per day for domestic purposes. The City estimates its current average water usage per day for non-fire flow purposes is approximately 504,000 gallons.

Water is supplied by six wells, a 97,000-gallon elevated water tower to insure adequate pressure, and a 667,000 gallon on-grade water tank, delivering approximately 600,000 gallons of usable water for fire flow. Water is obtained from wells with pump capacities ranging from approximately 550 to 800 gpm. Additional wells are in the planning stage. The City's six wells are capable of pumping 4,600 gpm. Three wells are provided with emergency power to insure fire flows and are capable of automatically going on line to pump 2,500 gpm. The well in the Public Works Corporation Yard has emergency power supplied by natural gas, and the wells at Wheatland Ranch and Park Place have emergency power supplied by diesel fuel.

Water System Design for Fire Protection

Water systems are designed to meet the requirements of generally accepted engineering principles for domestic water flow (non-fire flows), and they should be designed to provide fire flows above the maximum daily use. The ISO and the UFC are common references for determining fire flow requirements, which normally are calculated to provide uniform flows to specific areas and to specific buildings within the same areas.

Nevertheless, the provision of water alone does not insure safety from fire. Rather, the water system is an essential component of the community's fire protection infrastructure that also

includes response capabilities, building design and construction controls, public education, access, and other preventive measures. There always will be circumstances in which emergency response resources can be overwhelmed regardless of the amount of available water. For instance, vegetation fires have overwhelmed firefighting resources and water supplies in urban/wildland interface areas.

The determination of water resources requires a careful analysis of risk and cost. In light of the UFC's requirements and general conditions within the city of Wheatland, the policy decision to establish the strategic needs of the water system is fairly straightforward. Design considerations need to consider many factors, but for fire protection purposes, the water system should be entirely looped with no dead-end mains and be capable of supplying the recommended fire flows with at least 20 pounds per square inch of residual pressure in addition to meeting the community's maximum daily usage of 1,000 GPM.

Automatic fire extinguishing systems (AFS) provide greater environmental protection because they use less water to extinguish a fire than application of water by fire hoses. This results is less water runoff into storm drains and less percolation into the ground that contain toxic and hazardous materials involved in the fire or form byproducts of combustion

The model used to establish current fire hydrant flows is 750 gallons per minute (GPM) considering two concurrent fires, or 1,500 GPM and 2,500 GPM for commercial zones. It is recommended that fire flow be based upon a concurrent residential fire (1,000 GPM minimum) and commercial fire (3,500 GPM) assuming all buildings will be protected by AFS with flow alarms monitored on a 24/7 basis.

An important factor for the City to consider in planning its water system is that if the fire flow for commercial areas is not increased by 3,500 GPM in all commercial areas, particularly areas of proposed development, the type and size of buildings permitted by zoning regulations may be restricted.

If the City controls the interface between buildings and open space (especially regarding combustible vegetation), the residential areas within the city of Wheatland can be considered moderate hazard zones as defined by the Uniform Fire Code. Where combustible building interfaces are not regulated, the UFC calls for increased fire flows of 2,500 gpm or greater, as established by the local fire chief. Residential areas should have a minimum fire flow of 1,500 gpm unless buildings are protected by sprinklers, in which case the fire flow can be 1,100 gpm.

Fire Hydrant Standards

Although the City has not adopted the Uniform Fire Code, it appears that water system engineers have applied the code's basic rules applying to fire hydrants. The UFC specifies that the minimum number of fire hydrants to assure fire flows of 3,500 gpm shall be a minimum of four hydrants spaced 350 feet apart; and for fire flows of 1,000 to 1,500 gpm there shall be a minimum of two hydrants spaced 450 feet apart. These hydrants are required to be within a range of 180 to 225 feet of any point on a street or road frontage and no further than 150 feet from a structure that needs to be protected.

Water Storage

Fire flow needs are calculated assuming two concurrent fires, one residential and one commercial. This fire flow calculation is in addition to the storage needed to maintain maximum daily use for non-fire uses plus a reserve capacity of approximately 20%.

TABLE 5-6
WHEATLAND WATER STORAGE AND PUMP CAPACITY FOR FIRE FLOWS

Water Storage/Use	Gallons of Water
Current Storage (2 Tanks)	600,000
Fire Flow of 3,500 gpm at 3 hrs.	630,000
Fire Flow of 1,500 gpm at 2 hrs. (120,000 gpm if AFS* required)	180,000
Reserve Storage of 20%	198,000
Amount maintained for Max. Daily use (1,000 gpm for 3 hours)	180,000
Total Minimum Storage Equivalent	**1,188,000**
Storage Deficiency	588,000
Less Emergency Pump Capacity 2,150 gpm(2,150 gpm at 3 hrs.)	387,000
Deficiency in delivering anticipated fire flow	201,000**

*AFS = automatic fire sprinklers
**This deficiency can be made up by placing additional wells on-line or by providing one or more of the existing three wells with automatic on-line pumping capabilities and emergency power. ROA encourages greater amounts of above ground storage as a dependable source of water for Fire Protection use rather than use of pump capacity.

Source: Robert Olson Associates, 2004.

5.7 | PARKS AND RECREATION

The city of Wheatland has four public parks. City Park and Tomita Park are located in downtown Wheatland in the SR 65/UPRR corridor, while the two other parks are located in the Park Place and Wheatland Ranch subdivisions.

- City Park is the largest park, occupying 3.8 acres on the east side of SR 65 between C Street and the Union Pacific tracks. Most of City Park is occupied by a little league baseball diamond (Tom Abe Field).

- Tomita Park occupies a quarter-acre site in downtown, and is located along the Union Pacific tracks on the west side of Front Street, the location of the city's original train depot. Tomita Park is landscaped with turf and large trees, and includes benches, a gazebo, and a plaque commemorating the Johnson's Rancho historical landmark.

- The Park Place subdivision contains a landscaped park occupying approximately two acres, as well as open space totaling approximately 4.2 acres. Most of this open space is taken up by a drainage channel.

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1. **City Park**
   The largest park in Wheatland and occupies 3.8 acres on the east side of Highway 65, between C Street and the Union Pacific railroad tracks

2. **Tomita Park**
   Quarter-acre site located along the Union Pacific railroad tracks on the west side of Front Street.

3. **Park Place Subdivision**
   Landscaped park occupying approximately two acres, as well as open space totaling approximately 4.2 acres.

4. **Wheatland Ranch Subdivision**
   1.1 acres of landscaped parkland, and 3.8 acres of open space/turf area. Approximately 2.3 acres of the open space/turf area consists of a joint use detention basin/athletic field.

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Figure 5-5
Location of City Parks

Source: Mintier & Associates, 2004

- The Wheatland Ranch subdivision contains approximately 1.1 acres of landscaped parkland, and 3.8 acres of open space/turf area. Approximately 2.3 acres of the open space/turf area consists of a joint use detention basin/athletic field.

The City's 1995 Specific Plan called for the development of four additional parks to serve the recreation needs of residents anticipated under that plan. The Park Place and Wheatland Ranch parks comprise two of those parks. Figure 5-5 shows the location of the city's parks.

5.8 | SOLID WASTE

Garbage collection for Wheatland residents is provided by Yuba-Sutter Disposal, Inc. (YSDI), which has a franchise agreement with the City to collect residential and commercial refuse and dispose of the refuse at the YSDI sanitary landfill on SR 20 near the northeast corner of the city of Marysville. This landfill is the primary solid waste disposal site for Yuba County. The landfill occupies 124 acres, of which 74 acres have already been used for refuse disposal. The remaining landfill capacity of 50 acres is located on the northern portion of the site. At any given time, two to three acres are in active use. The quarterly waste disposal rate is $12.15 for weekly pickup of one can. This service is contracted on an individual basis.

5.9 | GAS AND ELECTRIC SERVICE

Pacific Gas and Electric Company (PG&E) is the primary service provider in Yuba County for natural gas and electricity. Some electric power is produced locally by the Colgate Power House and the Narrows Powerhouses I and II. Electricity is also generated by a biomass cogeneration plant near Olivehurst in Yuba County.

5.10 | COMMUNICATION SYSTEMS

TELEPHONE SERVICE

SBC (formerly Pacific Bell) is the primary local telephone service provider for Yuba County, including the city of Wheatland. SBC also provides long distance access for a limited portion of the county; AT&T, Sprint, and MCI also provide long distance service in accordance with the rules of the Federal Communications Commission (FCC). SBC has installed modern telephone facilities in Yuba County that include digital transmission of voice and data communications.

SBC serves approximately 22,000 residences and 4,000 businesses, and has 5,000 other lines in Yuba County for SBC internal communications, government, and special services (such as the California Lottery). The company is confident that it has the capabilities to expand its facilities and service capacity to meet future county needs.

OTHER SERVICES

Comcast Corporation provides television and internet services in the Wheatland area, including state-of-the-art services such as digital cable and high-speed internet access.

5.11 | SCHOOLS

EXISTING SETTING

Four school districts serve the Wheatland General Plan Update Study Area. The Wheatland School District and the Wheatland Union High School District serve the majority of the Study Area. Approximately 75 acres of the proposed Heritage Oaks Estates is in the Browns Elementary School District and East Nicolaus High School District. The boundary of these two districts is coterminous with, and on its east side, partially follows the Yuba/Placer County line.

Most of the school facilities within the city of Wheatland and in the surrounding area are currently operating below capacity. Table 5-7 shows the enrollment numbers for the Wheatland School District schools and Wheatland High School, while Figure 5-6 shows the locations of the schools within the city limits. Following are brief descriptions of the schools operated by the two school districts serving Wheatland.

TABLE 5-7
SCHOOL ENROLLMENT AND CAPACITY
WHEATLAND SCHOOL DISTRICT AND WHEATLAND UNION HIGH SCHOOL

School	*Enrollment*	*Capacity*[1]	*Percent of Capacity*
Wheatland Elementary	228	330	69.1%
Bear River Middle School	545	627	86.9%
Far West Elementary (Beale AFB)	280	405	69.1%
Lone Tree Elementary (Beale AFB)	416	1,134	48.1%[2]
Wheatland Charter Academy	86		
Pre-school	43		
Wheatland High School	656	994	72.0%[3]
Academy for Career Education	60		
TOTAL	**2,314**	**3,490**	

[1]These figures are accurate as of 2004.
[2]Includes Wheatland Charter Academy and Pre-school enrollment.
[3]Includes Academy for Career Education enrollment.

Source: Wheatland Elementary School District and Wheatland Union High School District, June 2004

Wheatland School District

The Wheatland School District (WSD) operates four schools, two within the city and two at Beale Air Force Base. In addition, the WSD is currently constructing a new middle school in Wheatland. When this school opens in Fall 2004, the existing middle school will become an elementary school.

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1. Wheatland Union High School
2. Bear River Middle School
3. Virginia School
4. Wheatland Elementary School

Figure 5-6
School Locations

Source: Mintier & Associates, 2004

As of June 2004 total WSD enrollment was 1,598 and total capacity was approximately 2,300. However, both schools within the city (Wheatland Elementary School, grades K-3 and Bear River School, grades 4-8) are near capacity, with portable classrooms being used. The two schools on Beale Air Force Base (Lone Tree School, grades K-3; and Far West School, grades 4-6) are operating well below capacity, presumably because of reductions in military staff in recent years. (Lone Tree School includes the Wheatland Charter Academy and a pre-school.) While it appears that there is considerable excess capacity district-wide, most of that excess is at Beale and is, therefore, not available to the general public.

Wheatland School District estimates the current "yield rate" for grades K-8 at 0.553 students per single family dwelling. The District's Master Plan establishes the optimal capacity of K-5 elementary schools at 600 students and 6-8 middle schools at 800 students. Among the District's concerns are that planning for the new subdivisions consider the size of schools planned, the District's yield rate, and State Department of Education school siting criteria. Similarly, new development planning should provide for foot paths, bicycle trails, and safe bus routing needs to ensure safe transport for students to and from school. The District would welcome the opportunity to purchase school sites in new developments that meet State Board of Education criteria.

Wheatland Union High School District

Wheatland Union High School District operates Wheatland High School, which is located on Wheatland Road at the western edge of the city. The High School District also operates the Academy for Career Excellence, a charter school providing alternate education options to high school-age students. The curriculum includes Core Academics, Career Preparation, and Technology Training. The District's boundaries are shown on 5-9.

As of June 2004 the District's enrollment was approximately 716, up from 575 in April 1994. Total capacity is estimated at approximately 1,000 students. The capacity was designed to accommodate students from Beale Air Force Base, but enrollment has fluctuated with changes in Base operations. Currently, overcrowding is not a problem, and the campus has capacity to accommodate enrollment increases. However, the High School District will soon be accommodating new students from both the Heritage Oaks Estates and Jones Ranch housing developments in Wheatland, as well as from three subdivisions in the Plumas Elementary School District, which does not currently have its own high school. The Wheatland High School superintendent has indicated the school has the capacity to accommodate students from these planned developments.

The Wheatland Union High School District projects an average of 0.18 high school students (grades 9-12) per new household. The District expects that new high schools eventually will be needed as a result of growth and development. Each new high school would serve about 1,300 to 1,400 students and would require between 40 and 45 usable acres. Such suitable sites that meet the State Board of Education's criteria and are acceptable to local residents are difficult to find. Therefore, sites should be identified early in the planning stage for new developments.

5.12 | SOURCES

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Chapter 6

NATURAL AND CULTURAL RESOURCES

KEY FINDINGS

- The riparian areas along the Bear River, Grasshopper Slough, and Dry Creek provide a fairly continuous corridor along their length supporting migration and transit routes for various forms of wildlife.
- There are several large portions of the study area that provide important plant and wildlife habitat, specifically the fresh emergent wetlands and Valley Oak Woodlands.
- Several special-status species could potentially exist in the study area, including the valley elderberry longhorn beetle, bank swallow, burrowing owl, and several plant species.
- Existing stationary sources of air pollutants that would restrict the location of residential or other uses currently do not exist within the study area.
- The study area is in Attainment for most State and Federal criteria pollutants, but designated Nonattainment for State ozone and PM_{10} standards.
- Cumulative development within the study area, and elsewhere within the FRAQMD, could increase other criteria pollutants over accepted thresholds.
- The California Geological Survey has not identified the potential for valuable mineral deposits in the study area. Tests for commercial-grade aggregate deposits in the study area have been inconclusive.
- The study area is highly sensitive to contain historic resources and of low sensitivity to contain prehistoric resources.
- The study area does not contain a large number of prehistoric sites or artifacts.
- While the study area is of general traditional importance to the Nisenan, no known sites occur within the study area.

Agriculture to the north of Wheatland

6.1 | INTRODUCTION

The Natural and Cultural Resources chapter addresses several conservation and open space topics including biological, agricultural, mineral, and cultural resources and air quality. Background information on these resources provides a basis for land use planning that would reduce unreasonable risks and protect public health and welfare. Information used in this chapter has been compiled from the 1980 City of Wheatland General Plan; the 1994 Yuba County General Plan, Volume I: Environmental Setting and Background; the 1996 Environmental Setting for the City of Wheatland General Plan Update; and various other local and regional policy and implementation documents. In addition, City staff and the consultants have performed research and data collection on existing conditions within the Study Area. The Natural and Cultural Resources chapter is a summary of those findings and has been divided into six sections:

- Biological Resources
- Air Quality
- Agricultural Resources
- Mineral Resources
- Water Resources
- Cultural Resources

Technical terms used in each section are defined in the Glossary at the end of this chapter.

EXISTING SETTING

The city of Wheatland is located in southern Yuba County, approximately 12 miles south of Marysville and 30 miles northeast of Sacramento. The topography in Wheatland slopes gently to the west, although the land appears essentially flat. Elevation is 87 feet above mean sea level (MSL). The climate is typical of the Sacramento Valley, being characterized by hot, dry summers and wet, mild winters. Daytime high temperatures in the summer often exceed 100 degrees, while winter low temperatures rarely drop below the mid-30s. The frost-free season is 275 days. Average annual precipitation is approximately 20 inches; the majority of this precipitation occurs between October and May.

Biological Resources

Wetlands in the area provide critical habitat for fish and wildlife, including migrating waterfowl using the Pacific Flyway. Plant communities found in or near Wheatland include non-native grassland, riparian woodland, and several varieties of Great Valley riparian forest. Each of these plant communities provides habitat for various special-status species which occur, or have the potential to occur, in the Wheatland area.

Air Quality

Wheatland is part of the Northern Sacramento Valley Air Basin (NSVAB). Air quality in the region frequently suffers from the effects of pollutants transported from metropolitan areas to the south and trapped by mountains on either side of the Valley. The area is currently in Nonattainment for State ozone and PM_{10} standards. Air quality management in Wheatland is provided by the Feather River Air Quality Management District (FRAQMD).

Agricultural Resources

The local Class II and Class IV soils contribute to agriculture's status as the most important component of the area's economy. Class II soils are designated Prime Agricultural Soils by the USDA and are typically used for field crops and orchards. Class IV soils are best suited to hay production or livestock grazing. In addition, the agricultural lands surrounding Wheatland provide open space and wildlife habitat, and preserve the landscape's aesthetic qualities.

Mineral Resources

Yuba County's mineral resources include precious metals and aggregate deposits. The Wheatland Clay Pit is the only known developed mineral resource within the General Plan Update Study Area. No other specific mineral resources have been evaluated within the Study Area. However, borings from drill holes less than one mile outside the northwestern boundary of the Study Area indicate the potential for commercial grade aggregate deposits.

Water Resources

The city is located in the Bear River watershed, between Dry Creek and Grasshopper Slough to the north, and the Bear River to the south. Surface water in the area's major drainages typically originates from snowmelt runoff produced in the Sierra Nevada and Cascades mountain ranges to the east and north, respectively. The natural hydrology of the area has been extensively altered by human land use practices, beginning during the Gold Rush era. Siltation caused by hydraulic mining in the foothills raised streambeds by as much as 70 feet in the Wheatland vicinity, causing widespread flooding. Construction of flood control levees and agricultural canals have further affected the local hydrology. Currently, water quality in the Study Area is a function of surrounding land uses. Agricultural practices contribute sediment, fertilizer, and pesticide residue, and other pollutants to the waterways. Wheatland's domestic water supply source is groundwater and is generally of high quality.

Cultural Resources

The Wheatland area is known to contain significant cultural resources. Upon the arrival of Europeans to the Sacramento Valley in the 19th Century, the area was settled by the Nisenan (Maidu) people. The Yuba County General Plan[1] states that while over 1,500 significant archaeological sites have been found in the county, only 18 percent of the ounty has been

[1] *Yuba County General Plan, Volume I: Environmental Setting and Background,* Section 15.2. May 1994

surveyed by professional archeologists. Therefore, it is likely that hundreds, if not thousands, of currently unknown cultural resources exist in the Study Area. In addition, the county likely contains many historic resources, including structures or farming implements over 50 years old.

6.2 | BIOLOGICAL RESOURCES

EXISTING SETTING

The Wheatland General Plan Update Study Area consists of the city of Wheatland and surrounding land (Figure 1-2). This analysis evaluates the existing biological resources present within the Study Area and includes a discussion of the special-status species potentially occurring and sensitive habitats within the Study Area. Information contained in this section is drawn from Foothill Associates' City of Wheatland General Plan: Biological Resources Background Report (June 2004), which is based on a review of documents pertaining to the natural resources of the Study Area; examination of aerial photography, biological resources, and vegetation maps; and field investigations.

Methodology

The available documents with information pertaining to the natural resources of the Study Area include:

- The California Natural Diversity Data Base records search (CNDDB: Sheridan and Wheatland USGS 7.5-minute Quadrangles, May 2004);
- The California Native Plant Society (CNPS) "Inventory of Rare and Endangered Vascular Plants of California" (CNPS, 2001);
- Federal Endangered and Threatened Species that may be affected by Projects in the Wheatland, Sheridan, Nicolaus, and Olivehurst USGS 7.5 minute Quadrangles (USFWS, March 1, 2004);
- Wheatland General Plan, October 6, 1980;
- *Yuba County General Plan*, December 1994;
- EIP Associates, Biological Background Report, 1996.

A field reconnaissance was conducted on May 7, 2004, to collect general plant, wildlife, and habitat data. In addition to fieldwork an aerial photograph was taken of the Study Area on May 13, 2004. The fieldwork, aerial photograph interpretation, and review of related reference materials, formed the basis of the biological analysis for this document.

Regional Setting

The city of Wheatland is located in the Sacramento Valley in the northern portion of California's Central Valley in Yuba County. The city is situated just north of the Bear River and the junction of the boundaries of Sutter, Placer and Yuba counties. This region of California is part of the Great Central Valley geographic subdivision which typically consists of long, very hot summers and moderately cold winters.[2] More specifically, the city of Wheatland is located in the Sacramento Valley subregion, the smaller, wetter, northern subregion of the Great Central Valley which extends from Red Bluff in Tehama County to the salt marshes of Suisun Slough in outhwest Solano County.[3] Plant communities predominant in the region include agriculture, open range (grassland), Oak woodland, riparian (associated with creeks and rivers), and wetlands.

Study Area

The city of Wheatland is located in the northern portion of the Sacramento Valley, on SR 65 north of the city of Lincoln and south of the city of Marysville. The Study Area, which encompasses approximately ±4,570 acres including the city of Wheatland, is located within the USGS 7.5 minute Wheatland and Sheridan quadrangles. Elevations within the plan area range from 65 feet to approximately 100 feet above mean sea level (MSL). Plant communities within the Study Area include annual grassland, cropland/orchard, valley foothill riparian, riverine, lacustrine, seasonal wetlands, and vernal pool. Land use within the Study Area varies; the predominant uses include agricultural, commercial, and residential. Natural undisturbed open space is present along creeks, sloughs, and rivers within the Study Area.

BIOLOGICAL COMMUNITIES

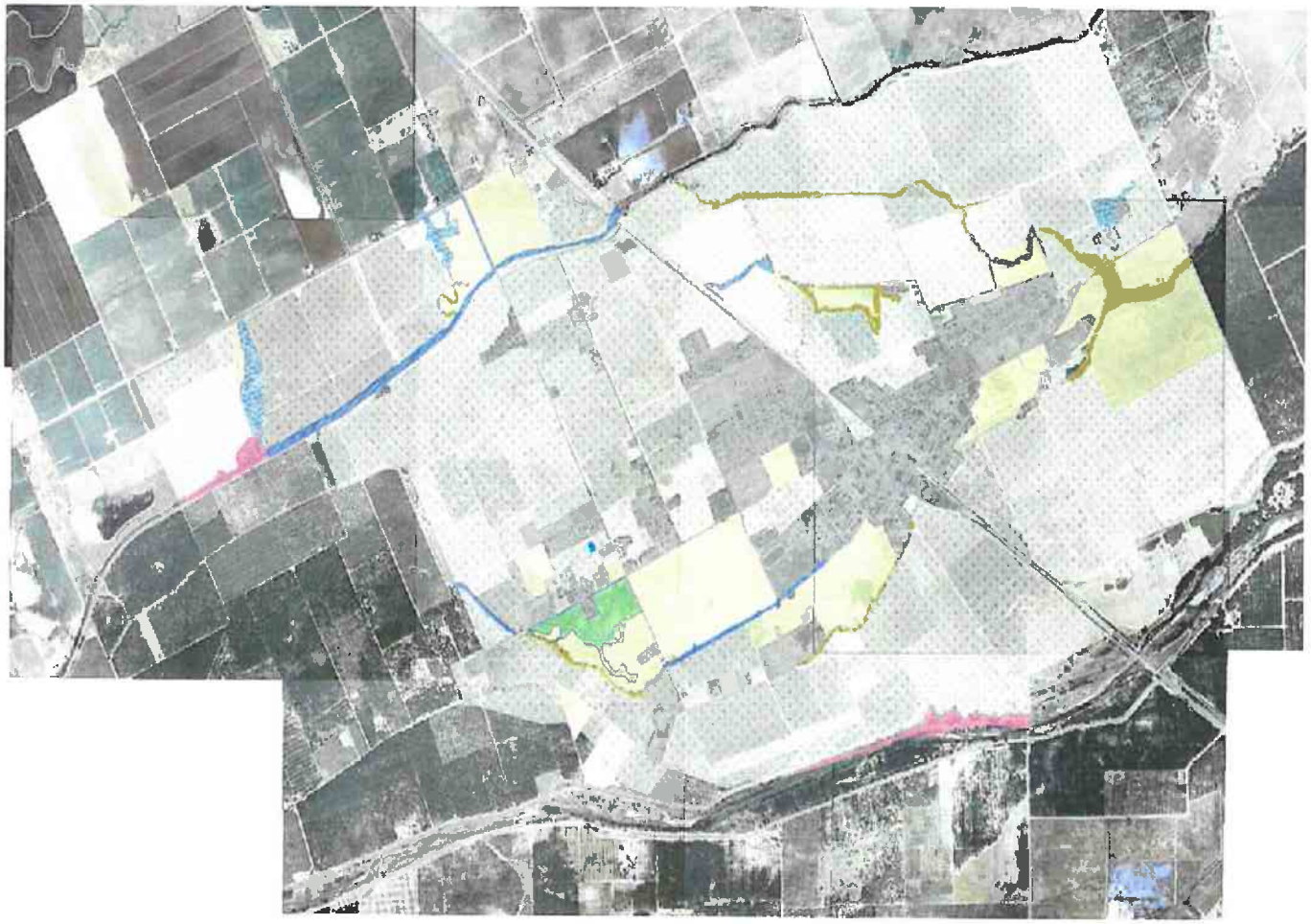
Habitat Types

The habitat communities occurring in the Study Area are discussed below as defined by the California Department of Fish and Game's Wildlife Habitat Relationship System (WHR). Common plant and wildlife species occurring, or expected to occur, within these habitats are addressed for each habitat type. Habitat communities observed within the Study Area include man-made/urbanized, annual grassland, cropland/orchard, valley foothill riparian, riverine, lacustrine, irrigated pastures, and seasonal wetlands (Figure 6-1, Habitat Communities).

Annual Grassland

Annual grassland is the most widely distributed biological community within the Study Area. For the most part, annual grassland occupies grazing pasture, areas adjacent to the riparian habitat of Dry Creek and Grasshopper Slough, and vacant lots. Annual grasslands of the Central Valley occur mostly on flat plains and gently rolling foothills.[4] Based on the dominant grasses

[2] Hickman, 1993
[3] Ibid.
[4] Mayer and Laudenslayer, 1988



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LEGEND

- Annual Grassland
- Crop/Orchard
- Irrigated Pasture
- Manmade/Urbanized
- Valley Foothill Riparian
- Valley Oak Woodland
- Lacustrine
- Riverine
- Seasonal Wetland
- Study Area*

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Figure 6-1
Habitat Communities

Sources: Foothill Associates and Mintier & Associates, 2004

observed within the Study Area, this biological community is best classified as California Annual Grassland Series.[5]

Annual grassland habitat is characterized by annual grasses and forbs. This type of habitat generally occupies what was once a native grassland dominated by native perennial bunch grasses. However, annual grassland habitats today are composed largely of non-native annuals which have effectively displaced the native perennial species. Dominant species in the Study Area include wild oat (*Avena fatua*), rip-gut brome (*Bromus diandrus*), barley (*Hordeum sp.*), medusahead grass (*Taeniatherum caput-medusae*), red stem filaree (*Erodium cicutarium*), lupine (*Lupines sp.*), true clovers (*Trifolium* spp.), and bur clover (*Medicago polymorpha*). Widespread grassland species within the Study Area are yellow star thistle (*Centaurea solstitialis*), tarweed (*Holocarpha sp.*), bindweed (*Convolvulus arvensis*), and several species of brodiaea (*Brodiaea* spp.).

Many wildlife species use annual grassland habitat for all or part of their life cycle. Wildlife typically found in annual grassland habitat include western meadowlark (*Sturnella neglecta*), white-crowned sparrow (*Zonotrichia leucophrys*), California vole (*Microtus californicus*), black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Spermophilis beecheyi*), and western harvest mouse (*Reithrodontomys megalotis*). Rodent populations provide foraging opportunities for mammalian predators, such as common gray fox (*Urocyon cinereoargenteus*) and coyote (*Canis latrans*), as well as avian predators such as white-tailed kite (*Elanus leucurus*), American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), barn owl (*Tyto alba*) and great horned owl (*Bubo virginianus*).

Cropland/Orchard

Agricultural cropland occurs interspersed throughout the Study Area with the majority occurring on the surrounding lands of the city center. Because this habitat is intensively managed, vegetation is limited to cultivated crops, predominately almond orchards, with ruderal (weedy) vegetation along the margins. Plant species observed within this habitat type include Italian ryegrass (*Lolium multiflorum*), johnsongrass (*Sorghum halepense*), ripgut brome, and yellow star-thistle.

Orchard and row-crops generally provide low breeding habitat for wildlife species due to the high level and frequency of disturbance. However, orchard and row-crops can provide cover and foraging habitat for many species. While trees in orchards provide cover from predation for small birds and mammals, row-crops present a foraging opportunity for birds of prey given that they provide little cover for small birds and mammals. Row-crops are particularly important to migratory raptors for foraging.[6] Species expected to occur in these habitats include American crow (*Corvus brachyrhynchos*), American robin (*Turdus migratorius*), western scrub jay (*Aphelocoma californica*), yellow-billed magpie (*Pica nuttalli*), western kingbird (*Tyrannus verticalis*), red-tailed hawk, white-tailed kite, black-tailed jackrabbit, California ground squirrel, and deer mouse (*Peromyscus maniculatus*).

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[5] Sawyer and Keeler-Wolf, 1995
[6] Snyder and Snyder, 1997

Valley Oak Woodland

Valley oak woodland in the Central Valley usually merges with annual grasslands or borders agricultural land.[7] This habitat varies from savanna-like to forest-like stands with partially closed canopies, comprised mostly of winter deciduous, broad-leaved species. Valley oak (*Quercus lobata*) stands with little or no grazing tend to develop a partial shrub layer with species, such as, poison oak (*Toxicodendron diversilobum*), toyon (*Heteromeles arbutifolia*), and coffeeberry (*Rhamnus californica*). Ground cover consists of a well-developed carpet of annual grasses and forbs.[8] Based on the dominant trees observed within the Study Area, this biological community is best classified as Valley Oak Series.[9]

A very small portion of the Study Area supports valley oak woodland habitat in the northwest section near Grasshopper Slough. Oak woodlands are considered a valuable biological community for several wildlife species. This community provides food, cover, and nesting sites for resident and migratory birds as well as several species of mammals, reptiles, and amphibians. Some common species that may occur in this habitat type include acorn woodpecker (*Melanerpes formicivorus*), California quail (*Callipepla californica*), red-tailed hawk, oak titmouse (*Parus inornatus*), screech owl (*Otus asio*), and gray squirrel (*Sciurus carolinesis*).

Valley-Foothill Riparian

Valley-foothill riparian occurs along portions of the Bear River, Dry Creek, Grasshopper Slough, and various irrigation canal systems throughout the Study Area. Typically, valley-foothill riparian habitat is found in valleys bordered by sloping alluvial fans, terraces, and lower foothills.[10] Valley-foothill riparian vegetation varies from a two-layered canopy of trees and herbs (riparian woodland) to a multi-layered canopy of canopy trees, subcanopy trees, shrubs, and herbs (riparian forest). Based on the dominant trees observed within the Study Area, this biological community is best classified as Fremont Cottonwood Series.[11]

Within the Study Area the valley-foothill riparian community is made up of willows (*Salix* spp.), sycamore (*Platanus racemosa*), cottonwood (*Populus fremontii*), valley oak, box elder (*Acer negundo*), and Oregon ash (*Fraxinus latifolia*). Understory shrub layer plants include wild grape (*Vitis californica*), wild rose (*Rosa californica*), blue elderberry (*Sambucus mexicana*), poison oak, and willows (*Salix spp*). The herbaceous layer consists of sedges, rushes, and grasses.

Riparian habitats are unique and ecologically important habitats that support an exceptionally high diversity of plants and wildlife. This community provides an important source of food, water, and protection for wildlife, as well as breeding and nesting habitat for both resident and migratory bird species. Species that may occur within this habitat type include red-shouldered hawk, great horned owl, northern flicker (*Colaptes auratus*), black phoebe (*Sayornis nigricans*), marsh wren (*Cistothorus palustris*) and common gray fox. Amphibian and reptile species such

[7] Mayer and Laudenslayer, 1988
[8] Ibid.
[9] Sawyer and Keeler-Wolf, 1995
[10] Mayer and Laudenslayer, 1988
[11] Sawyer and Keeler-Wolf, 1995

as western toad (*Bufo boreas*) and common garter snake (*Thamnophis sirtalis*) may occur in areas directly adjacent to standing water within the valley-foothill riparian community.

Riverine

Riverine habitats can occur in association with many terrestrial habitats and are often contiguous to lacustrine.[12] The riverine habitat for this analysis includes the aquatic habitat of Dry Creek, Grasshopper Slough, and the Bear River. These natural water courses have well-defined beds and banks and in some areas adjacent wetlands occur. The aforementioned valley-foothill riparian habitat is used to describe the adjacent terrestrial habitat that is interdependent with the riverine systems within the Study Area.

The open water zones of rivers provide resting and escape cover for many species of waterfowl. Gulls, terns, osprey (*Pandion haliaetus*) and bald eagle (*Haliaetus leucocephalus*) forage in open water. Near shore waters provide food for waterfowl, herons, and shorebirds. Many species of insectivorous birds (swifts, flycatchers, swallows) forage for their prey over water. Some of the more common mammals that may occur in riverine habitat include river otter (*Lutra canadensis*), muskrat (*Ondatra ziebethicus*), and beaver (*Castor canadensis*).

Lacustrine

Lacustrine habitat is generally constructed for agricultural purposes (stock ponds for livestock) throughout the Study Area. Lacustrine habitats are inland depression or dammed riverine channels containing standing water. They may vary from small ponds to very large bodies of water.[13] Typical lacustrine habitats can be divided into two types, permanent and intermittent. Permanent lacustrine habitats include perennial flooded lakes and reservoirs, while intermittent lacustrine habitats include lakes, and ponds (including vernal pools) that are periodically flooded.

The plants and animals found in lacustrine habitat can vary with water depth and vegetation composition. A blanket of vegetation on the surface of water provides suitable habitat for micro-organisms, minute crustaceans, and snails and mosquitoes. Submerged plants such as algae and pondweeds serve as supports for smaller algae and as cover for swarms of minute aquatic animals. As sedimentation and accumulation of organic matter increases toward the shore, floating rooted aquatics such as water lilies and smartweeds often appear. Floating plants offer food and support for numerous herbivorous animals that feed both on phytoplankton and the floating plants.[14]

Perennial lacustrine habitats are used by water birds, such as mallards (*Anas platyrhynchos*), cinnamon teal (*Anas cyanoptera*), killdeer (*Charadrius vociferus*), herons and egrets for resting and foraging grounds. Additionally, lakes and ponds that support fish provide optimal foraging

[12] Mayer and Laudenslayer, 1988
[13] Mayer and Laudenslayer, 1988
[14] Ibid.

habitat for osprey and bald eagle as mentioned in the riverine discussion above. Intermittent lacustrine habitat, such as vernal pool, is further discussed below.

Irrigated Pasture

Irrigated pasture is typically associated with livestock grazing. The vegetation within pastures would include a mix of perennial grasses and legumes. The height of the vegetation can vary, according to season and livestock stocking levels, from a few inches to two or more feet. Common grassland and forbs species observed in this habitat include perennial ryegrass (*Lolium perenne*), Mediterranean barley (*Hordeum marinum*), and narrowleaf plantain (*Plantago lanceolata*), soft brome (*Bromus hordeaceus*), butterweed (*Senecio sp.*), filaree (*Erodium cicutarium* and *E. botrys*), vetch (*Vicia sp.*), California poppy (*Eschscholzia californica*), common owls clover (*Triphysaria eriantha*), and rose clover (*Trifolium hirtum*). Although several areas within the Study Area may be active irrigated pasture, one area was identified through field investigation.

Irrigated pastures support foraging habitat for a variety of avian and small mammal species and the wetland areas interspersed throughout this habitat likely support a variety of wildlife species. Species expected to occur within this habitat include great egret (*Casmerodius albus*), great blue heron (*Ardea herodias*), red-winged blackbird (*Agelaius phoeniceus*), bullfrog (*Rana catesbeiana*), and Pacific chorus frog (*Pseudacris regilla*)

Seasonal Wetland

Seasonal wetland habitat is typically associated with shallow drainages and swales (riverine features) or depressions, that inundate long enough to support hydric soils and hydrophytic vegetation such as vernal pools. Riverine seasonal wetlands are characterized by the seasonal flow of water induced by the onset of the rainy season and are typically vegetated with hydrophtic species. These features can be supported by ground water and surface water sources, and, therefore, are typically more expansive than other seasonal wetlands, often flowing linearly across the landscape. A depressional seasonal wetland is characterized by shallow land depressions that are inundated or saturated by water often enough to support hydrophytic plant species.

Vernal pools are a unique type of seasonal wetland located within annual grassland habitats. Vernal pools are shallow depressions underlain by an impermeable layer, such as clay hardpan or bedrock, that fills with water seasonally, providing habitat for various plant and animal species. Vernal pools occur within the Study Area where the topography of the landscape is gently sloping to nearly level. Annual herbs and grasses adapted to the unique seasonal conditions dominate vernal pool communities. Dominant plant species typically found within the vernal pools include coyote thistle (*Eryngium vaseyi*), annual hairgrass (*Deschampsia danthonioides*), popcorn-flower (*Plagiobothrys* sp.), spikerush (*Eleocharis macrostachya*), and western manna grass (*Glyceria occidentalis*).

Seasonal wetlands including vernal pools are used by resident and migratory animal species. The Central Valley is part of the pacific flyway, a migratory route for waterfowl species

extending from Alaska to South America. In the spring, migrating waterfowl are often observed foraging and resting in Central Valley seasonal wetlands. Resident invertebrates and crustaceans, as well as the roots and leaves of vernal pool plants, provide an important seasonal food source for waterfowl and other non-migratory bird species. In addition, vernal pool habitat is vital to the life cycle of special-status crustaceans such as vernal pool fairy shrimp (*Branchinecta lynchi*).

SPECIAL-STATUS SPECIES

Special-status species are plant and animal species that have been afforded special recognition by Federal, State, or local resource agencies or organizations. Listed and special-status species are of relatively limited distribution and may require specialized habitat conditions. Listed and special-status species are defined as:

- Listed or proposed for listing under the Federal Endangered Species acts;
- Listed or proposed for listing under the State Endangered Species acts;
- Protected under other regulations (e.g. Migratory Bird Treaty Act);
- CDFG Species of Special Concern;
- Listed as species of concern by CNPS or USFWS; or
- Receive consideration during environmental review under CEQA.

Special-status species considered for this analysis are based on field survey results, review of the CNDDB occurrence records of species, review of the USFWS lists for special-status species occurring in the region, and CNPS literature (Table 6-1). The locations of special-status species occurrences in the project vicinity are shown in Figure 6-2, which is from a search of the CNDDB. Table 6-1 includes the common name and scientific name for each species, regulatory status (Federal, State, local, CNPS), habitat descriptions, and potential for occurrence within the Study Area. The following set of criteria has been used to determine each species potential for occurrence within the Study Area:

- **Present**: Species known to occur within the Study Area, based on CNDDB records, and/or was observed to occur during the field survey(s).
- **High**: Species known to occur on or near the Study Area (based on CNDDB records within 8 km or 5 mi, and/or based on professional expertise specific to the area or species) and there is suitable habitat within the Study Area.

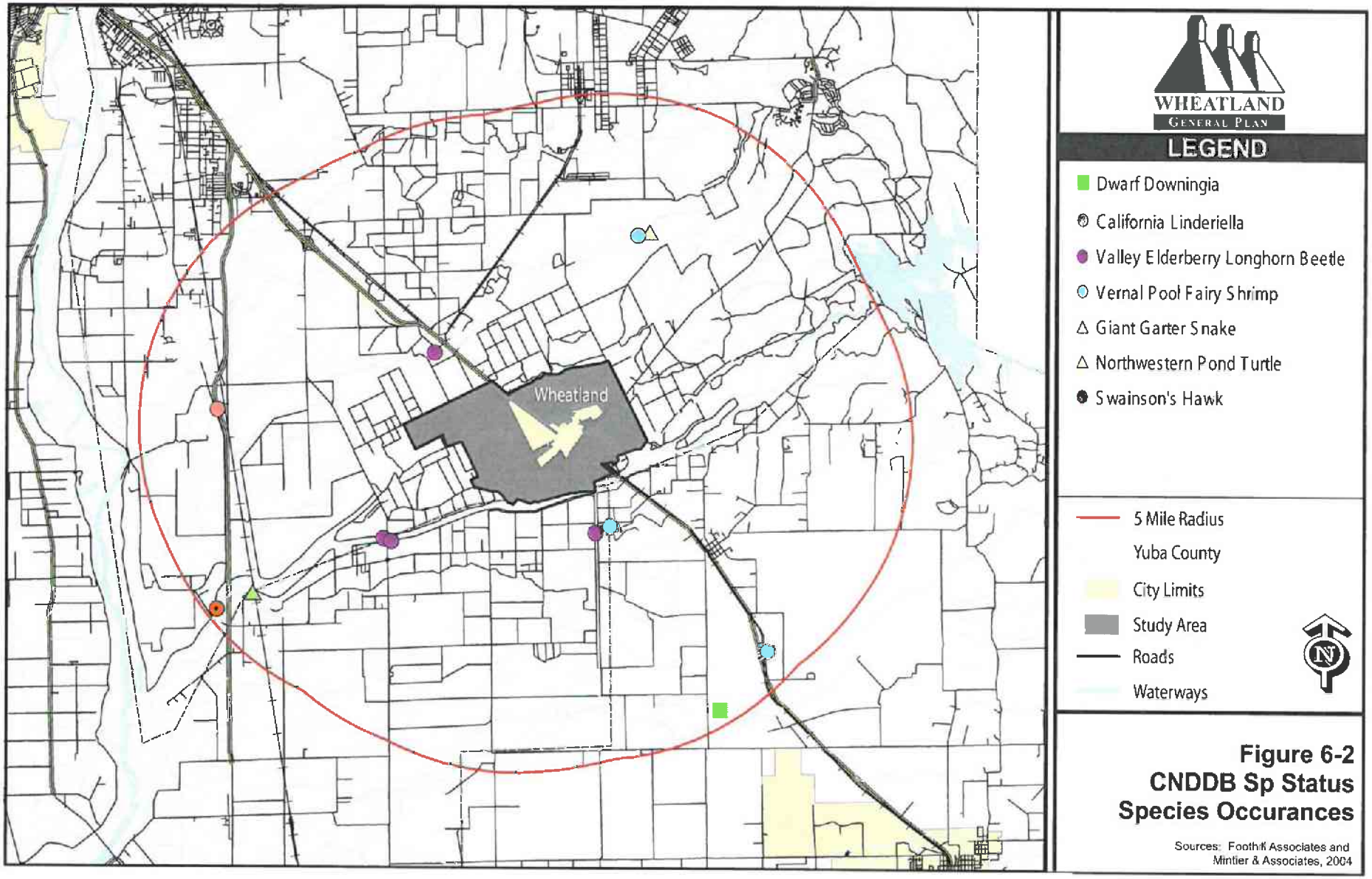

Figure 6-2
CNDDB Sp Status
Species Occurances

Sources: Foothill Associates and Mintier & Associates, 2004

- **Low**: Species known to occur in the vicinity of the Study Area and there is marginal habitat, or species are not known to occur in the vicinity of the Study Area however there is suitable habitat.

- **No**: Species are not known to occur on or in the vicinity of the Study Area and there is no suitable habitat for the species, or species were surveyed for during the appropriate season with negative results for the species occurrence.

Species that are unlikely to occur within the Study Area due to lack of habitat or geographic location, will not be further discussed in the document. Only those species that are known to be present or that have a high or low potential for occurrence within the Study Area will be discussed further following Table 6-1.

TABLE 6-1
LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA

Common Name	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
Plants			
AHART'S DRAWF RUSH *Juncus leiospermus var. ahartii*	FSC; --; --; 1B	Vernal pools and swales in agricultural lands and valley grasslands, usually in sparsely vegetated microhabitats such as gopher mounds. Elevations range from 100 to 300 feet.	**Low**
BRANDEGEE'S CLARKIA *Clarkia biloba ssp brandegeeae*	--; --; SLC; 1B	Chaparral, cismontane woodland, often in roadcuts. Elevations range from 900–3,000 feet.	**No**; Study Area is located outside of the known range of this species.
BUTTE FRITILLARY *Fritillaria eastwoodiae*	FSC; --; --; 3	Openings in lower mixed-conifer forest, especially forest-shrub ecotones, and semishade in chaparral and foothill woodland, including serpentine-related soils. Elevations range from 1,000 to 4,000 ft.	**No**; Study Area is located outside of the known range of this species.
CALIFORNIA PITCHERPLANT *Darlingtonia californica*	--; --; --; 4	Endemic to the northern Sierra Nevada and Coast Ranges of southwestern Oregon and northern California, including the Klamath, Siskiyou, Salmon, and Trinity Mountains. In the Sierra Nevada, it occurs as far south as Nevada County.	**No**; Study Area is located outside of the known range of this species.

TABLE 6-1 LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA			
Common Name	**Regulatory Status (Federal; State; Local; CNPS)**	**Habitat Requirements**	**Potential for Occurrence**
CLUSTERED LADY'S-SLIPPER *Cypripedium fasciculatum*	FSC; --; --; 4	Populations are found in areas with 60 to 100 percent shade provided by plant communities, including mixed evergreen, mixed conifer, Douglas-fir, pine tree, and black oak forest. Elevations range from 1,000 to 5,300 feet.	**No**; Study Area is located outside of the known range of this species.
DWARF DOWNINGIA *Downingia pusilla*	--; --; --; 2	Northern claypan vernal pools in the central Sacramento Valley, northern hardpan vernal pools in the Sierra Nevada foothills, and vernal pools of the interior Coast Range valleys in Napa and Sonoma Counties.	**High**
HARTWEG'S GOLDEN SUNBURST *Pseudobahia bahiifolia*	FE; CE; --; 1B	Cismontane woodland, valley and foothill grassland with clay soils. Elevations range from 50 to 500 feet.	**Low**
LAYNE'S BUTTERWEED *Senecio layneae*	FT; CR; --; 1B	Chaparral, cismontane woodland on serpentine or gabbroic soils in rocky areas. Elevations range from 650 to 3,300 feet.	**No**; Study Area is located outside of the known range of this species.
LEGENERE *Legenere limosa*	FSC; --; --; 1B	Found in vernal pool habitats.	**Low**
TEHAMA NAVARRETIA *Navarretia heterandra*	--; --; --; 4	Valley and foothill grassland (mesic), vernal pools; elevations range from 100 to 300 feet.	**Low**
QUINCY LUPINE *Lupinus dalesiae*	FSC; --; --; 1B	Open, dry, mixed-conifer forests, often on light-colored fractured shale soils and disturbed areas. Elevations range from 2,900 to 6, 300 feet. elevation.	**No**; Study Area is located outside of the known range of this species.
Wildlife			
Invertebrates			
CALIFORNIA LINDERIELLA FARIY SHRIMP *Linderiella occidentalis*	FSC; --; --; --	Vernal pools, swales, and ephemeral freshwater habitat.	**High**
CONSERVANCY FAIRY SHRIMP *Branchinecta conservatio*	FE; --; --; --	Vernal pools, swales, and ephemeral freshwater habitat.	**High**

TABLE 6-1
LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA

Common Name	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
VALLEY ELDERBERRY LONGHORN BEETLE *Desmocerus californicus dimorphus*	FT; --; --; --	Associated with host plant, elderberry trees (Sambucus spp.) in California's Central Valley during its entire life cycle.	**High**
VERNAL POOL FAIRY SHRIMP *Branchinecta lynchi*	FT; --; --; --	Vernal pools, swales, and ephemeral freshwater habitat.	**High**
VERNAL POOL TADPOLE SHRIMP *Lepidurus packardi*	FE; --; --; --	Vernal pools, swales, and ephemeral freshwater habitat.	**High**
Amphibians/Reptiles			
CALIFORNIA RED-LEGGED FROG *Rana aurora draytonii*	FT; CSC; --; --	Requires a permanent water source and is typically found along quiet slow moving streams, ponds, or marsh communities with emergent vegetation.	**Low**
GIANT GARTER SNAKE *Thamnophis gigas*	FT; CT; --; --	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	**High**
NORTHWESTERN POND TURTLE *Clemmys marmorata marmorata*	FSC; CSC; --; --	Occurs from the vicinity of the American River northward in permanent or nearly permanent ponds and streams, in a wide variety of habitats including valley, foothill, and montane regions.	**High**
WESTERN SPADEFOOT TOAD *Spea hammondii*	FSC; CSC; --; --	Grassland habitats associated with long-lasting rain pools including, large vernal pools, or other seasonal wetlands. These habitats are essential for breeding and laying eggs.	**Low**
Fish			
CENTRAL VALLEY FALL/LATE FALL-RUN CHINOOK SALMON *Oncorhynchus tshawytscha*	FC; CSC; --; --	Sacramento and San Joaquin Rivers and their tributaries, such as the Bear River.	**Low**
DELTA SMELT *Hypomesus transpacificus*	FT; ST; --; --	Middle and lower Delta region.	**Low**
GREEN STURGEION *Acipenser medirostris*	--; CSC; --; --	Found in large rivers from San Francisco Bay northward.	**No;** the Study Area is located outside of the known range for green sturgeon.

TABLE 6-1
LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA

Common Name	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
LONGFIN SMELT *Spirinchus thaleichthys*	FSC; CSC; --; --	Found in major bays and estuaries from San Francisco Bay northward.	**No;** there is no suitable habitat within the Study Area for longfin smelt.
PACIFIC LAMPREY *Lampetra tridentata*	FSC; --; --; --	Spawning adults are found in gravel riffles and runs of clear coastal streams; feeding adults usually in the ocean.	**No;** there is no suitable habitat within the Study Area for pacific lamprey.
SACRAMENTO SPLITTAIL *Pogonichthys macrolepidotus*	FSC; CSC;--; --	Delta region and lower Sacramento and San Joaquin Rivers.	**Low**
Birds			
AMERICAN BITTERN *Botaurus lentiginosus*	FSC; --; --; --	Marshes and reedy lakes. Seldom seen in trees.	**Low**
ALEUTIAN CANADA GOOSE *Branta canadensis leucopareia*	FD (FSC); CSC; -- (Wintering)	Winter resident of agricultural lands.	**Low**
BALD EAGLE *Haliaeetus leucocephalus*	FPD; CE (fully protected); --; -- (Nesting and Wintering)	Nesting restricted to the mountainous communities near permanent water sources. Winters throughout most of California at lakes, reservoirs, river systems, and coastal wetlands.	**Low**
BANK SWALLOW *Riparia riparia*	FSC; CT; --; -- (Nesting)	Restricted to riparian areas with vertical cliffs and banks with fine or sandy soils.	**Low**
BLACK SWIFT *Cypseloides niger*	FSC; CSC; --; -- (Nesting)	Areas with rocky cliffs available for nesting, varying from ocean cliffs to mountain ledges, at elevations from sea level to 11,000 feet.	**No;** the Study Area is outside the known nesting range of this species.
CALIFORNIA THRASHER *Toxostoma redivivum*	FSC; CSC; --; --	Endemic to coastal and foothill areas of California, in dense chaparral and conifer forests.	**No;** although this species may occur along the foothills, it is unlikely that California thrasher would occur within the Study Area.
FERRUGINOUS HAWK *Buteo regalis*	FSC; CSC; --; -- (Wintering)	A winter resident of open habitats in California including grasslands, and brushy forests.	**High**
GREATER SANDHILL CRANE *Grus canadensis tabida*	--; CT & Fully protected; --; -- (Nesting & Wintering)	Nests in wet meadows interspersed with emergent marsh habitat. Winters in agricultural croplands and irrigated pastures.	**Low**

TABLE 6-1 LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA			
Common Name	**Regulatory Status (Federal; State; Local; CNPS)**	**Habitat Requirements**	**Potential for Occurrence**
LAWRENCE'S GOLDFINCH *Carduelis lawrencei*	FSC; --; --; -- (Nesting)	Nests in open oak or other arid woodland and chaparral habitats near water. Nest built in a tightly woven cup, in a low tree or bush.	**Low**
LEWIS' WOODPECKER *Melanerpes lewis*	FSC; --; --; -- (Nesting)	Nests in cavities in dead or live snags of trees. Breeds along eastern slopes of the Coast Ranges, and in the Sierra Nevada.	**No;** although wintering habitat occurs within the Study Area, this specie's known nesting range is in the Coast Range and Sierra Nevada mountain ranges.
LITTLE WILLOW FLYCATCHER *Empidonax traillii brewsteri*	--; CE; --; -- (Nesting)	Nests in shrubby riparian vegetation with saturated soil conditions or near a water source.	**No;** the known nesting range of this species occurs in the Sierra Nevada.
LOGGERHEAD SHRIKE *Lanius ludovicianus*	FSC; CSC; --; -- (Nesting)	Nests on stable branches in densely foliaged shrubs or trees. Typically found in open habitats with scattered shrubs, trees, posts, utility lines or other perching sites.	**High**
LONG-BILLED CURLEW *Numenius americanus*	FSC; CSC; --; -- (Nesting)	Frequent wet meadow habitats, large coastal estuaries, and upland herbaceous areas including croplands. Nest built in grass-lined depressions on open ground.	**Low**
MOUNTAIN PLOVER *Charadrius montanus*	FPT (FCS); CSC; --; -- (Wintering)	Open and flat valley grasslands and short-grass prairies.	**Low**
NUTTALL'S WOODPECKER *Picoides nuttallii*	--; --; SLC; --	Permanent resident of low elevation riparian deciduous and oak woodland habitats.	**High**
OAK TITMOUSE *Baeolophus inornatus*	--; --; SLC; --	Oak and pine-oak woodland, chaparral, and oak-riparian communities.	**Low**
RUFOUS HUMMINGBIRD *Selasphorus rufus*	FSC; --; --; --; -- (Nesting)	Nests in berry brambles, shrubs and conifers, within wooded habitats. Known to breed in Oregon and Washington and the trinity Mts., of Trinity and Humboldt counties.	**No;** Study Area is outside the known range of this species.
SWAINSON'S HAWK *Buteo Swainsoni*	FSC; CT; -- (Nesting)	Nests in isolated trees or riparian woodlands adjacent to suitable foraging habitat (agricultural fields, grasslands, etc.).	**High**

TABLE 6-1 LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA			
Common Name	**Regulatory Status (Federal; State; Local; CNPS)**	**Habitat Requirements**	**Potential for Occurrence**
TRI-COLORED BLACKBIRD *Agelaius tricolor*	FSC; CSC; --; -- (Nesting colony)	Nests in dense blackberry, cattails, tules, willows, or wild rose within emergent wetlands throughout the Central Valley and the foothills surrounding the valley.	**Low**
VAUX'S SWIFT *Chaetura vauxi*	FSC; CSC; --; -- (Nesting)	Nests within large hollow trees and snags in coniferous forest habitats.	**No**; Study Area is located outside of the known range of this species.
WESTERN BURROWING OWL *Athene cunicularia hypugaea*	FSC; CSC; --; -- (Burrow Sites)	Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open valley and foothill grassland and desert habitat.	**High**
WESTERN YELLOW-BILLED CUCKOO *Coccyzus americanus occidentalis*	FC; CE; --; -- (Nesting)	Nests in valley and foothill riparian communities typically within mature cottonwood trees with dense canopy.	**Low**
WHITE-FACED IBIS *Plegadis chihi*	FSC; CSC; --; -- (Rookery)	Inhabits large freshwater emergent wetlands. Nesting colonies typically occur hidden within dense stands of vegetation such as reeds or willows.	**No;** although this species could occur during migration, the Study Area is outside of the known range.
WHITE-TAILED KITE *Elanus leucurus*	FSC; Fully protected; --; -- (Nesting)	Inhabits herbaceous lowlands with variable tree growth. Nests in substantial groves of dense trees, typically adjacent to agricultural land or grassland habitats.	**High**
OTHER RAPTORS (HAWKS, OWLS AND VULTURES)	MBTA and §3503.5 Department of Fish and Game Code	Nests in a variety of communities including cismontane woodland, mixed coniferous forest, chaparral, montane meadow, riparian, and urban communities.	**High**
Mammals			
FRINGED MYOTIS BAT *Myotis thysanodes*	FSC; --; --; --	Chiefly inhabits coastal and montane forests and mountain meadows. Forms nursery colonies in caves, mines or buildings.	**Low**

TABLE 6-1
LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA

Common Name	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
GREATER WESTERN MASTIFF-BAT *Eumops perotis californicus*	FSC; CSC; --; --	Inhabits open areas in annual and perennial grasslands, coniferous and deciduous woodlands, with potential roost locations having vertical faces to drop off from and take flight, such as crevices in rock outcrops and cliff faces, tunnels and tall buildings.	**Low**
LONG-EARED MYOTIS *Myotis evotis*	FSC; --; --; --	Roosts in buildings, crevices, spaces under bark and snags. Uses caves for night roosts and forages among trees, over water and shrubs in forests between 7,000-8,500 feet above MSL.	**Low**
LONG-LEGGED MYOTIS BAT *Myotis volans*	FSC; --; --; --	Woodland and forest communities above approximately 4,000 feet above MSL. Roosts in rock crevices, buildings, under tree bark, in snags, mines, and caves.	**Low**
PACIFIC WESTERN BIG-EARED BAT *Corynorhinus townsendii townsendii*	FSC; CSC; --; --	Typically occurs in mesic habitats, and requires caves, crevices, mines, tunnels, buildings or structures for roosting.	**Low**
SAN JOAQUIN POCKET MOUSE *Perognathus inornatus inornatus*	FSC; --; --; --	Flat ground and low hills in Central Valley north to Marysville Buttes and south to Carrizo Plain.	**Low**
SMALL FOOTED MYOTIS *Myotis ciliolabrum*	FSC; --; --; --	Occurs in open stands of trees in forests and woodland, as well as scrubland. Often seen flying above water. Roosts in buildings and caves.	**Low**
YUMA MYOTIS BAT *Myotis yumanensis*	FSC; CSC; --; --	Reside in open forests and woodland habitats with sources of water over which to feed. Roost in buildings, mines, caves, and crevices.	**No**; there is no potential habitat for this species within the Study Area.
Federally Listed Species:		**California State Listed Species:**	**CNPS* List Categories:**
FE = federal endangered	FC = candidate	CE = California state endangered	1A = plants presumed extinct in California
FT = federal threatened	PT = proposed threatened	CT = California state threatened	1B = plants rare, threatened, or endangered in California and elsewhere

TABLE 6-1 LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA			
Common Name	**Regulatory Status (Federal; State; Local; CNPS)**	**Habitat Requirements**	**Potential for Occurrence**
FSC = federal species of concern	FPD = proposed for delisting	CR = California state rare	2 = plants rare, threatened, or endangered in California, but common elsewhere
	FD = delisted	CSC = California Species of Special Concern	3 = plants about which we need more information
			4 = plants of limited distribution
			Other Special-status Listing:
			SLC = species of local or regional concern or conservation significance

Source: Foothill Associates, 2004.

Listed and Special-Status Plants

Based on records search of the CNDDB, CNPS Inventory of Rare and Endangered Plants, and the USFWS species list for Yuba County, suitable habitat for the following plant species occurs in the Study Area: Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), dwarf downingia (*Downingia pusilla*), Hartweg's golden sunburst (*Pseudobahia bahiifolia*), legenere (*Legenere limosa*), and Tehama navarretia (*Naverretia heterandra*). These species are further discussed below.

Ahart's Dwarf Rush

Ahart's dwarf rush is known from fewer than six occurrences in Butte, Calaveras, Placer, Sacramento, and Yuba counties.[15] This small, reddish, grass-like annual is in the rush family (Juncaceae). Typically the height of this plant ranges from less than an inch to 2.5 inches and each plant produces as many as 100 slender stems from its base. The grass-like leaves arise from the base and are approximately half as long as the stems. The flowering period for Ahart's dwarf rush is April–May with each stem producing a single flower at its tip.[16] This species will occur in vernal pool margins within moderately moist valley and foothill grasslands.[17] More specifically, Ahart's dwarf rush is more commonly found in vernal pools with short inundation durations and/or the upper margins of deeper vernal pools.[18] Currently, there is no known occurrence within five miles of the Study Area. However, vernal pools and seasonal ponded areas could support this species. Therefore, Ahart's dwarf rush has a low potential to occur within the Study Area.

[15] CNPS, 2001
[16] Ibid.
[17] Ibid.
[18] CNDDB, 2004

Dwarf Downingia

Dwarf downingia is an annual herb that occurs in vernal pools within moderately moist valley and foothill grasslands.[19] This species is a small (0.8– 5.9 inches) plant with flowers that vary from white to blue which can be seen from March through May.[20] Typically, dwarf downingia occurs in vernal pools and artificial features within the annual grassland, such as stock ponds, roadside ditches, gravel pits, tire ruts, and scraped depressions.[21] This species can occur in areas that hold water for short periods of time as well as on along the margins of areas that hold water for longer durations such as marshes and sloughs. Because a known CNDDB occurrence of dwarf downingia exists within five miles and suitable habitat such as vernal pool is present, this species has a high potential to occur within the Study Area.

Hartweg's Golden Sunburst

Hartweg's golden sunburst is a member of the sunflower or aster family (Asteraceae) and is known to occur in valley and foothill grasslands. This species can be two to six inches tall and is covered throughout with white, woolly hairs. This species, which is in bloom during March or April, shows a solitary bright yellow flower. Only known from fewer than 20 occurrences, Hartweg's golden sunburst is very rare and seriously threatened by development and agricultural uses. Because CNDDB records for this species do not exist within five miles of the Study Area and the wide spread agricultural use throughout the Study Area, Hartweg's golden sunburst has a low potential to occur.

Legenere

Legenere is in the bellflower family and is known to occur within vernal pools in valley grasslands. The flowering period for legenere is generally from April through June depending on the depth of the vernal pool or the duration of ponding.[22] Legenere can occur within matted vegetation at the bottom of drying vernal pools and grows to approximately four to six inches tall.[23] Many historical occurrences of legenere have been extirpated through California due to grazing and development. Because CNDDB records for this species do not exist within five miles and because of cattle grazing activity within annual grassland communities, legenere has a low potential to occur.

Tehama Navarretia

Tehama navarretia (List 4) is an annual herb that occurs in vernal pools of the valley and foothill grasslands. This species generally blooms from April through June.[24] Because CNDDB records for this species do not exist within five miles and because of cattle grazing activity within annual grassland communities, Tehama navarretia has a low potential to occur.

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[19] CNDDB, 2001
[20] CNPS, 2001
[21] CNDDB, 2001
[22] CNPS, 2001
[23] Ibid.
[24] CNPS, 2001

Listed and Special-Status Wildlife

Based on a records search of the CNDDB and the USFWS species list for Yuba County, suitable habitat for the following wildlife species occurs in the Study Area: California linderiella (*Linderiella occidentalis*), conservancy fairy shrimp (*Branchinecta conservatio*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), California red-legged frog (*Rana aurora draytonii*), giant garter snake (*Thamnophis gigas*), northwestern pond turtle (*Clemmys marmorata*), and western spadefoot toad (*Spea hammondii*). Additionally, special-status fish species and several migratory birds, including raptors, could potentially occur in the Study Area and are discussed below.

Special-Status Invertebrates

California Linderiella, Conservancy Fairy Shrimp, Vernal Pool Fairy Shrimp, and Vernal Pool Tadpole Shrimp

Typical habitat for special-status vernal pool crustaceans in California include vernal pools, seasonally ponded areas within vernal swales, rock outcrop ephemeral pools, playas, and alkali flats. Fairy shrimp are small, delicate animals that grow 10 to 20 mm in a period as short as two to three weeks and about 40mm in some of the species that may live several months. They filter bacteria, algae, and protozoa from their aquatic habitat. These short-lived animals hatch and reproduce during a short interval in the winter when the vernal pools are filled with water. Fairy shrimp cysts fall to the bottom of the pool where they withstand the hot, dry summers of California's grasslands. After one or more dry seasons, the cysts will hatch when the pools are once again full of water, and the cycle of life begins again.

The CNDDB lists several records of California linderiella and vernal pool fairy shrimp within the five miles of the Study Area.[25] Approximately 1,324 acres are designated critical habitat for vernal pool species within Yuba County. Seasonal wetlands such as vernal pools are considered suitable habitats for these species. Consequently, these special-status invertebrates could occur within vernal pools and seasonal wetlands throughout the Study Area.

Valley Elderberry Longhorn Beetle

The Federally-listed valley elderberry longhorn beetle is known to occur in association with its host plant, the elderberry (*Sambucus* sp.), that is critical for the larval stages. Because of the valley elderberry longhorn beetle dependence on its host plant, the USFWS considers the elderberry, which is a common species of riparian and upland habitats in the Central Valley, habitat for the valley elderberry longhorn beetle. This species is recorded in the CNDDB within five miles of the Study Area.[26] Additionally, elderberry shrubs were observed along roadways and within the riparian areas during field reconnaissance. Consequently, valley elderberry longhorn beetle has a high potential to occur on elderberry shrubs within the Study Area.

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[25] CNDDB, 2004
[26] CNDDB, 2004

Special-Status Amphibians and Reptiles

California Red-Legged Frog

California red-legged frog is listed as Federally threatened and a California Species of Special Concern. The California red-legged frog is the largest native frog in the western United States. This species requires dense, shrubby, or emergent riparian vegetation closely associated with deep, still, or slow-moving water. The largest densities of California red-legged frogs are associated with deep-water pools with dense stands of overhanging willow trees and an intermixed fringe of cattails (*Typha latifolia*). Well-vegetated terrestrial areas within the riparian corridor may provide important sheltering habitat during winter. California red-legged frogs estivate in small mammal burrows and moist leaf litter.[27] There is no occurrence record of California red-legged frogs within five miles of the Study Area. However, the riparian, riverine, and lacustrine habitat within the Study Area are considered suitable habitat for this species. Consequently, California red-legged frog could occur within the riparian corridors and slow-moving waterways throughout the Study Area.

Giant Garter Snake

The giant garter snake is Federally listed as threatened and is listed in California as threatened. This species occurs in vegetated canals, streams, and rivers throughout the Central Valley. Grassy banks and emergent vegetation are used for basking and high ground with burrows or crevices, which are protected from winter flooding, is used for hibernacula (winter retreats). An occurrence record of the giant garter snake is listed in the CNDDB within five miles of the Study Area.[28] The riverine and adjacent riparian habitats in the area support suitable habitat for this species. Consequently, the giant garter snake could occur in irrigation canals, Grasshopper Slough, and Dry Creek within the Study Area.

Northwestern Pond Turtle

The Northwestern pond turtle is a Federal species of concern and is a California Species of Special Concern. This species requires permanent, still to slow-moving water with basking sites such as submerged logs, rocks, mats of floating vegetation, or mud banks. One occurrence of this species is listed in the CNDDB within five miles of the Study Area.[29] The lacustrine habitats in the Study Area support suitable habitat for this species and, consequently, this species could occur in ponds within the Study Area.

Western Spadefoot Toad

The western spadefoot toad is a Federal species of concern and a California Species of Special Concern. This species occurs in shallow temporary pools adjacent to annual grassland habitat. There are no occurrences listed in the CNDDB within five miles of the Study Area.[30] However,

[27] USFWS, 1996
[28] CNDDB, 2004
[29] CNDDB, 2004
[30] Ibid.

seasonally inundated wetland habitat within annual grassland communities are considered suitable habitat for this species. Therefore, this species has a low potential to occur within the Study Area.

Special-Status Fish

Anadromous Fishes and Other Aquatic Species

Several special-status anadromous fish and other aquatic fish species are known to occur, or could occur in the Study Area (Bear River) including Central Valley fall/late fall-run Chinook salmon, Delta smelt, and Sacramento splittail. The Bear River is a tributary to the Feather River that eventually drains into the Sacramento River. These fish species are known to occur within the Delta region and the southern San Joaquin and Sacramento Rivers. Consequently, these species have the potential to occur within the open water habitat of the Bear River.

Special-Status Birds

American Bittern

The American bittern is a Federal species of concern. This species occurs in fresh or saline emergent wetlands throughout the Central Valley. American bittern nest on a platform of matted emergent vegetation usually in shallow water. Although no records of this species are listed in the CNDDB, suitable habitat occurs adjacent to several of the open water features in the Study Area. Therefore, American bittern has a low potential to occur in stock ponds, flooded agricultural fields, and Grasshopper Slough within the Study Area.

Aleutian Canada Goose

The Aleutian Canada goose was recently removed from the federal endangered species list. Currently, the U.S. Fish and Wildlife Service is monitoring the species. In autumn, Aleutian Canada geese migrate from their breeding grounds in the Aleutian Islands to their wintering grounds in Oregon and California. Suitable wintering habitat for this species in California occurs in the Central Valley, which includes agricultural croplands, marshes, and pastures. No records of the Aleutian Canada goose are listed with the CNDDB within five miles of the Study Area.[31] However, suitable wintering habitat for this species occurs within the agricultural cropland, annual grassland, riverine and lacustrine habitats within the Study Area. Therefore, this species has a low potential to use agricultural fields, stock ponds, irrigation canals, Dry Creek, and Grasshopper Slough for foraging within the Study Area.

Bald Eagle

Bald Eagles live near large bodies of open water such as lakes, marshes, seacoasts and rivers, where there are plenty of fish to eat and tall trees for nesting and roosting. Bald Eagles use a specific territory for nesting, winter feeding or a year-round residence. Bald Eagles are a year-

[31] CNDDB, 2004

round resident in mountain ranges of northern California. Some Bald Eagles that reside in the southern U.S. migrate slightly north during the hot summer months. Bald Eagles feed primarily on fish, but also eat small animals (ducks, coots, muskrats, turtles, rabbits, snakes, etc.) and occasional carrion (dead animals). Although wintering habitat occurs, the Study Area is outside of the known nesting range for Bald Eagles. Therefore, this species has a low potential to nest within the Study Area.

Bank Swallow

The bank swallow is listed in California as threatened. The majority of this specie's breeding population occurs along banks of lakes, ponds, rivers, and steams in the Central Valley. This species is restricted to riparian habitats with vertical cliffs and banks with fine-textured or sandy soils, into which it digs nesting holes. There are no occurrence records of this species within five miles of the Study Area.[32] However, suitable habitat for this species occurs adjacent to the riverine habitat. Therefore, this species has a low potential to occur along the banks of the Bear River within the Study Area.

Ferruginous Hawk

The ferruginous hawk is a Federal and State species of concern. This hawk is a winter resident and migrant at lower elevation and open grassland in the Modoc Plateau, Central Valley, and Coast Ranges. Ferruginous hawks are known to frequent open grasslands in search for prey and roosts in open areas, usually in a lone tree or utility pole. This species can tolerate heat, and nests are often found out in the open with no shade. Ferruginous hawks tend to displace red-tailed and Swainson's hawks, and compete with numerous avian and mammal species that prey upon small mammals. Occurrence records do not exist within five miles of the Study Area for this species.[33] However, the annual grassland is considered suitable foraging habitat for Ferruginous hawk. Consequently, this species has a high potential to occur during wintering months foraging in agricultural fields and vacant lands within the Study Area.

Greater Sandhill Crane

The greater sandhill crane is listed in California as threatened. This species is a winter migrant to the Central Valley where it occurs in wet meadows that are often interspersed with emergent marsh, agricultural croplands with cereal grain crops, and irrigated pastures. No records of this species are listed in the CNDDB within five miles of the Study Area.[34] The cropland, annual grassland, and lacustrine habitats in the Study Area provide suitable wintering habitat for this species and it is likely that this species regularly forages within these habitats. Consequently, greater sandhill crane could occur during wintering months foraging in agricultural fields, open grasslands, and along edges of Dry Creek and Grasshopper Slough as well as stock ponds. Therefore, greater sandhill crane has a low potential to occur within the Study Area.

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[32] Ibid.
[33] CNDDB, 2004
[34] Ibid.

Lawrence's Goldfinch

Lawrence's goldfinch is a Federal species of concern. The breeding range of the species is confined to the Central Valley and coastal foothills of California. Lawrence's Goldfinches typically nest in arid, open woodlands near chaparral, weed fields, and small bodies of water. Breeding generally occurs between mid-April and late July. The species feeds mostly on seeds of annual plants, with a strong preference for fiddlenecks (*Amsinckia spp.*). There is no occurrence record of this species within five miles of the Study Area.[35] However, the oak woodland and annual grassland habitats within the Study Area would provide suitable nesting and foraging habitat for Lawrence's goldfinch. Therefore, this species has a low potential to occur within the oak woodland and annual grassland communities within the Study Area.

Loggerhead Shrike

Loggerhead shrike is a Federal species of concern and is a California species of concern. This species prefers open habitats with scattered shrubs, trees, post, fences, or other perches. Loggerhead shrike nest in desert, savanna, open-canopied hardwood, hardwood-conifer, and riparian habitats. Although no records of this species are listed in the CNDDB within five miles of the Study Area, suitable foraging and nesting habitat for this species occurs adjacent to open water habitat and within the riparian habitat in the Study Area. Consequently, this species has a high potential to occur within the riparian corridors along Dry Creek and Grasshopper Slough within the Study Area.

Long-billed Curlew

Long-billed curlew is a Federal and State species of concern. The long-billed curlew breeds on plains, grasslands and prairies. It spends the winter on lake and river shores, marshes, mudflats, and sandy beaches. When they are in the grasslands, the long-billed curlew eats grasshoppers, beetles and crickets. When they are in their winter habitats, they eat small crustaceans, mollusks, berries and seeds. Occurrence records do not exist for long-billed curlew within five miles of the Study Area. However, the Study Area is within the known range of this species and the annual grassland and wetland habitats would be considered suitable nesting and foraging habitat for this species. Therefore, this species has a low potential to occur within annual grassland and seasonal wetland communities within the Study Area.

Mountain Plover

The mountain plover is a proposed Federal threatened species and is a California species of concern. This species is a Great Plains native that breeds on the arid short-grass prairie from northern Montana to southern New Mexico and winters in California with small numbers in Arizona and Texas. Wintering habitat for this species includes short grasslands and plowed fields. No records are listed in the CNDDB within five miles of the Study Area.[36] Although, suitable wintering habitat for this species occurs within annual grassland, fallow agricultural

[35] Ibid.
[36] CNDDB, 2004

land, and irrigated pasture habitats in the Study Area, it is unlikely that this species regularly forages within Study Area. Therefore, this species has a low potential to occur within these habitats throughout the Study Area.

Nuttall's Woodpecker

Nuttall's woodpecker is a species of local concern. This species is a common resident of low-elevation riparian deciduous and oak habitats. Nest holes are excavated in willow, alder, cottonwood, sycamore, or oak trees, and these are found anywhere from 2.5 feet to 60 feet above the ground. Nuttall's woodpeckers forage preferentially in oaks, but acorns make up only a small part of their diet. Insects such as beetles, caterpillars, ants, and bugs are sought among the dense foliage of trees. Records of this species are not listed in the CNDDB within five miles of the Study Area.[37] However, suitable habitat for Nuttall's woodpecker occurs within the oak woodland habitat within the Study Area. Consequently, this species has a high potential to occur within woodland communities throughout the Study Area.

Oak Titmouse

Oak titmouse is a species of local concern. Suitable nesting habitat includes oak woodland, pine-oak woodland, chaparral, and oak-riparian habitats. Nests are typically constructed in natural tree cavities; however, this species will also use old woodpecker holes or bird boxes. Records of this species are not listed in the CNDDB within five miles of the Study Area.[38] However, suitable nesting habitat for oak titmouse occurs within the valley oak woodland habitat within the Study Area. Therefore, this species has a low potential to occur within woodland communities throughout the Study Area.

Swainson's Hawk

Swainson's hawk is a migratory species that is typically found in California during the breeding season, from early March through early September. This species migrates from their wintering grounds in the La Pampas region in Argentina to their breeding ground in east-central Alaska, southwest Canada, eastern Washington and Oregon, and the Central Valley of California.[39] On breeding grounds Swainson's hawk prefer open habitats including mixed and short grasslands, with scattered trees or shrubs for perching, dry grasslands, irrigated meadows, and edges between two habitat types. Breeding occurs from late March to late August, peaking in late May through July.[40] In the Central Valley of California, Swainson's hawk nest in stands with few trees in juniper-sage flats, riparian woodlands and oak woodlands. This species nests in close proximity to suitable foraging habitat. Swainson's hawk is recorded in the CNDDB within ten miles of the Study Area.[41] Suitable foraging and nesting habitat occurs within the Study Area and, consequently, this species has a high potential to occur.

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[37] Ibid.
[38] CNDDB, 2004
[39] Bloom and De Water, 1994
[40] Zeiner et al. 1990b
[41] CNDDB, 2004

Tricolored Blackbird

Tricolored blackbird is a Federal species of concern and a California species of concern. This species is a common resident throughout the Central Valley and coastal areas south of Sonoma County. Tricolored blackbirds nests in emergent wetlands with dense cattails or tules, and also in thickets of blackberry and willow. Records of this species are not listed with the CNDDB within the Study Area; however, potential nesting habitat for this species occurs in the valley foothill riparian habitat and adjacent to the irrigation ditches and open water habitats in the Study Area. Therefore, this species has a low potential to occur within wetland communities that support thickets of blackberry and stands of cattail within the Study Area.

Western Burrowing Owl

The western burrowing owl is a Federal species of concern and is a California species of concern. Burrowing owls inhabit open grasslands of the Central Valley. Typically, they nest in small colonies in abandoned ground squirrel burrows.[42] This species may also occur along canal banks. Occurrence records do not exist for the western burrowing owl within five miles of the Study Area.[43] However, suitable habitat occurs within the annual grassland and cropland habitat in the Study Area. Consequently, this species has a high potential to use this habitat in the Study Area.

Western Yellow-Billed Cuckoo

The western yellow-billed cuckoo is a Federal species of concern and is a State-listed endangered species. Typically, western yellow-billed cuckoos nest in mature cottonwood and willow (riparian) habitats with dense canopy cover and understory vegetation near water. There are two known occurrences of western yellow-billed cuckoo along the Feather and Yuba River confluence. However, there are no occurrence records within five miles of the Study Area.[44] Additionally, the valley foothill riparian habitat along the Bear River, Dry Creek, and Grasshopper Slough lacks large stands of mature trees and dense canopy cover. Therefore, this species has a low potential to occur in riparian corridors along Dry Creek, Grasshopper Slough, and the Bear River within the Study Area.

Raptors and Other Migratory Birds

Raptor nests including Cooper's hawk (*Accipiter cooperii*), short-eared owl (*Asio flammeus*), and white-tailed kite (*Elanus caeruleus*) are protected under the MBTA and Section 3503.5 of the California Fish and Game Code. Suitable raptor nesting habitat occurs in the Study Area. Additionally, the Study Area supports suitable raptor foraging habitat. American kestrel, red-tailed hawk, and white-tailed kite were observed during the field reconnaissance. Consequently, raptor species likely forage and nest in the Study Area.

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[42] Zeiner et al. 1990b
[43] CNDDB, 2004
[44] Ibid.

Migratory birds forage and nest in multiple habitats such as annual grasslands and riparian oak woodlands. The nests of all migratory birds are protected under the MBTA, which makes it illegal to destroy any active migratory bird nest. Numerous migratory bird species have the potential to nest in the Study Area.

Special-Status Mammals

San Joaquin Pocket Mouse

The San Joaquin pocket mouse is a Federal species of concern. Seeds of grasses, forbs, and shrubs such as *Atriplex* are the main food source and soft-bodied insects such as cutworms and even grasshoppers are also eaten. The pocket mouse lives in arid habitats, therefore; all water needs are metabolized through seed digestion. The foraging habits of the pocket mouse tend to occur under the cover of shrubs and even above the ground within a shrub. They generally do not travel far to forage and stay out of relatively open areas. The occurrence of the San Joaquin pocket mouse is unknown within five miles of the Study Area.[45] However, the annual grassland and oak woodland habitats would be considered suitable foraging and nesting habitat. Consequently, this species could occur within the Study Area.

Bats

Pacific western big-eared bat and small-footed myotis are both Federal species of concern. The Pacific western big-eared bat is also a State species of concern. Habitat for bat species consists of foraging habitat, maternity roost sites, night roosting cover, and winter hibernacula. In general, the CDFG is most concerned about the loss of maternity roosting sites. These species forage over open water or land and could use open water and riparian habitats in the Study Area to forage. Potential maternity and night roosting sites could occur in abandoned outbuildings and within the riparian habitats in the Study Area. Therefore, these bat species could occur in the Study Area.

Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, or Section 404 of the Clean Water Act. Sensitive habitats within the Study Area include potential waters of the U.S., which could include lakes, rivers, streams (including intermittent and ephemeral streams), sloughs, and seasonal wetlands. Sensitive habitat types as defined above that occur within Study Area include Valley Foothill Riparian, Valley Oak Woodland, Lacustrine, Riverine, and seasonal wetlands and are shown in Figure 6-3.

Jurisdictional Waters of the U.S.

Jurisdictional waters of the U.S. include jurisdictional wetlands as well as other waters of the U.S. such as creeks, ponds, and intermittent drainages. Wetlands are defined as "those areas that

[45] CNDDB, 2004

are inundated or saturated by surface or ground water at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions".[46] The majority of jurisdictional wetlands in the United States meet three wetland criteria: hydrophytic vegetation, wetland hydrology, and hydric soils. Jurisdictional waters of the U.S. can also be defined by exhibiting a clearly defined bed and bank and ordinary high water mark (OHWM). Jurisdictional waters of the U.S. are subject to Section 404 of the CWA and are regulated by the U.S. Army Corps of Engineers.

Potential jurisdictional waters of the U.S. in the Study Area include ponds, intermittent and perennial creek, slough, irrigation ditch, river, seasonal wetland, and vernal pool.

Trees

Although native trees such as oaks (*Quercus* sp.), are not afforded special protection under State or Federal law, loss of these species is a concern of the CDFG and CNPS because of their continued depletion throughout California. Additionally, Oaks are considered important to birds and mammals as a food resource and are typically protected under an oak woodland management plan in most cities or counties throughout California. Although the City of Wheatland does not have tree policies in place as of June 2004, the *Yuba County General Plan EIR* (1994) discusses the conservation of oak woodlands under Goal 7-OSCG.[47]

REGULATORY FRAMEWORK

The following describes Federal, State, and local environmental laws and policies that are relevant to the California Environmental Quality Act (CEQA) review process. The CEQA significance criteria are also included in this section.

Federal Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. The FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

The FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct.[48] Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns.[49] Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly

[46] U.S. Army Corps of Engineers, 1987

[47] *Yuba County General Plan, Volume III: Draft Environmental Impact Report.* p. 3-75. May 1994.

[48] FESA Section 3 [(3)(19)]

[49] 50 CFR §17.3

WHEATLAND
GENERAL PLAN

LEGEND

- Valley Foothill Riparian
- Valley Oak Woodland
- Lacustrine
- Riverine
- Seasonal Wetland
- Study Area

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Figure 6-3
Biological Constraints

Sources: Foothill Associates and Mintier & Associates, 2004

disrupt normal behavior patterns.[50] Actions that result in take can result in civil or criminal penalties.

The FESA and Clean Water Act (CWA) Section 404 guidelines prohibit the issuance of wetland permits for projects that jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species. The U.S. Army Corps of Engineers (Corps) must consult with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) when threatened or endangered species under their jurisdiction may be affected by a proposed project. In the context of the proposed project, the previous FESA would apply if development could result in the taking of a threatened or endangered species or if issuance of a Section 404 permit or other Federal agency action could result in the taking of an endangered species or adversely modify critical habitat of such a species.

Migratory Bird Treaty Act

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

California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires State agencies to consult with the California Department of Fish and Game (CDFG) when preparing California Environmental Quality Act (CEQA) documents. The purpose is to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available.[51] The CESA directs agencies to consult with CDFG on projects or actions that could affect listed species, directs CDFG to determine whether jeopardy would occur and allows CDFG to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFG to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA.[52]

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[50] Ibid.
[51] *Fish & Game Code §2080*
[52] *Fish & Game Code §2081*

CDFG Species of Concern

In addition to formal listing under the FESA and the CESA, species receive additional consideration by CDFG and local lead agencies during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFG. CDFG tracks species in California whose numbers, reproductive success, or habitat may be threatened.

California Native Plant Society

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

- List 1A: Plants presumed Extinct in California
- List 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- List 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere
- List 3: Plants about which we need more information – A Review List
- List 4: Plants of limited distribution – A Watch List

Jurisdictional Waters of the United States

Federal Jurisdiction

The Corps regulates discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act. "Discharges of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines.[53] In addition, *Section 401* of the CWA requires any applicant for a Federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.[54]

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[53] 33 C.F.R. §328.2(f)
[54] 33 U.S.C. 1341

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

- Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions".[55] Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the "normal circumstances" for the site.

- The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM).[56] The OHWM is defined by the Corps as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas".[57]

State Jurisdiction

The CDFG is a trustee agency that has jurisdiction under *Section 1600 et seq.* of the California Fish and Game Code. Under *Section 1603*, a private party must notify the CDFG if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds…except when the department has been notified pursuant to *Section 1601*." If an existing fish or wildlife resource may be substantially adversely affected by the activity, the CDFG may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the party, they may enter into an agreement with the CDFG identifying the approved activities and associated mitigation measures.

Wildlife Migration Corridors

Wildlife migration corridors are important for the movement of migratory wildlife populations. Corridors provide foraging opportunities and shelter during migration. Generally, wildlife migration corridors are established migration routes for many species of wildlife. In wooded areas, these corridors often occur in open meadow or riverine habitats and provide a clear route for migration in addition to supporting ample food and water sources during movement.

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[55] *33 C.F.R. §328.3(b)*
[56] *33 C.F.R. §328.4(c)(1)*
[57] *33 C.F.R. §328.3(e)*

CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFG or USFWS;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and

- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

City of Wheatland General Plan

In addition to Federal and State regulations, the Wheatland General Plan (1980) identifies goals, objectives, and policies to provide protection to biological resources within the Wheatland City Limits.[58]

Open-Space Element

Goal: To enhance and protect the environmental and ecological qualities of the creek, sloughs, and river.

Policies

1. These conservation features should be retained in their natural state.
2. Prime agricultural lands should be protected from urbanization.
3. Floodplains should be protected from urban uses.

6.3 | AIR QUALITY

EXISTING SETTING

This analysis evaluates existing air quality within the Study Area and includes a discussion of State and Federal air quality standards. Information contained in this chapter is drawn from documentation provided by the Feather River Air Quality Management District (FRAQMD) and from a report provided by Donald Ballanti, Certified Consulting Meteorologist. Air quality terminology is defined in the Glossary.

Air Pollution Climatology

Wheatland is located in the northeastern portions of the Sacramento Valley, a broad, flat valley bounded by the coastal ranges to the west and the Sierra Nevada to the east. The Northern Sacramento Valley Air Basin (NSVAB), which includes Wheatland, is about 200 miles long in a north-south direction, and has a maximum width of about 150 miles, although the valley floor averages only about 50 miles in width.

The climate of the project area is characterized by hot, dry summers and cool, wet winters. During the summer months form mid-April to mid-October, significant precipitation is unlikely and temperatures range from daily maxima approaching 100 degrees F to evening lows in high 50s and low 60s. Winter conditions are characterized by occasional rainstorms interspersed with stagnant and sometimes foggy weather. Winter daytime temperatures average in the low 50s and nighttime temperatures average in the upper 30s.

[58] *City of Wheatland General Plan*, p. 35. 1980.

Wind direction is primarily up- and down-valley due to the channeling effect of the mountains to either side of the valley. During the summer months surface air movement is from the south, particularly during the afternoon hours. During the winter months wind direction is more variable.

In addition to prevailing wind patterns that control the rate of dispersion of local pollutant emissions, Yuba County experiences two types of inversions that affect the air quality. The first type of inversion layer contributes to photochemical smog problems by confining pollution to a shallow layer near the ground. This occurs in the summer, when sinking air forms a "lid" over the region. The second type of inversion occurs when the air near the ground cools while the air aloft remains warm. These inversions occur during winter nights and can cause localized air pollution "hot spots" near emission sources because of poor dispersion.

Ambient Air Quality Standards

Both the U. S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The Federal and California State ambient air quality standards are summarized in Table 6-2.

The Federal and State ambient standards were developed independently with differing purposes and methods, although both processes attempted to avoid health-related effects. As a result, the Federal and State standards differ in some cases. In general, the California State standards are more stringent. This is particularly true for ozone and particulate matter (PM_{10} and $PM_{2.5}$).

TABLE 6-2
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	Federal Primary Standard	State Standard
Ozone	1-Hour 8-Hour	0.12 PPM 0.08 PPM	0.09 PPM --
Carbon Monoxide	8-Hour 1-Hour	9.0 PPM 35.0 PPM	9.0 PPM 20.0 PPM
Nitrogen Dioxide	Annual Average 1-Hour	0.05 PPM --	-- 0.25 PPM
Sulfur Dioxide	Annual Average 24-Hour 1-Hour	0.03 PPM 0.14 PPM --	-- 0.05 PPM 0.25 PPM
PM_{10}	Annual Average 24-Hour	[2]50 $\mu g/m^3$ 150 $\mu g/m^3$	20 $\mu g/m^3$ 50 $\mu g/m^3$
$PM_{2.5}$	Annual 24-Hour	15 $\mu g/m^3$ 65 $\mu g/m^3$	12 $\mu g/m^3$ --
Lead	Calendar Quarter 30 Day Average	1.5 $\mu g/m^3$ --	-- 1.5 $\mu g/m^3$
Sulfates	24 Hour	25 $\mu g/m^3$	--
Hydrogen Sulfide	1-Hour	0.03 PPM	--
Vinyl Chloride	24-Hour	0.01 PPM	--

[1]PPM = Parts per Million
[2]$\mu g/m^3$ = Micrograms per Cubic Meter

Source: California Air Resources Board, Ambient Air Quality Standards (7/9/03), available at: www.arb.ca.gov.aqs/aaqs2.pdf

Pollutants Affecting Wheatland's Air Quality

The State and Federal ambient air quality standards cover a wide variety of pollutants. Only a few of these pollutants are problems in the Wheatland area either due to the strength of the emission or the climate of the region. The closest monitoring site to Wheatland is in Yuba City, where concentrations of ozone, PM_{10}, $PM_{2.5}$, carbon monoxide and nitrogen dioxide are measured.

Table 6-3 below summarizes violations of air quality standards in Yuba City for the five-year period 1999-2003. Table 6-3 shows that the Federal ambient air quality standards are met, but the more stringent State standards for ozone and PM_{10} are exceeded. The following is a description of problem pollutants in the Feather River AQMD.

TABLE 6-3 AIR QUALITY DATA SUMMARY FOR YUBA CITY, 1999-2003						
Pollutant	**Standard**	**Days Standard Exceeded In:**				
		1999	**2000**	**2001**	**2003**	**2004**
Ozone	Federal 1-Hour	0	0	0	0	0
Ozone	State 1-Hour	6	3	4	3	0
Ozone	Federal 8-Hour	1	1	1	3	0
PM_{10}	Federal 24-Hour	0	0	0	0	0
PM_{10}	State 24-Hour	9	5	8	4	5
$PM_{2.5}$	Federal 24-Hour	0	0	0	0	0
Carbon Monoxide	State/Federal 8-Hour	0	0	0	0	0
Nitrogen Dioxide	State 1-Hour	0	0	0	0	0

Source: Air Resources Board, Aerometric Data Analysis and Management (ADAM), 2004. (www.arb.ca.gov./adam/cgi-bin/adamtop/d2wstart)

Ozone

Ozone is the main component of photochemical smog. Ozone is not emitted directly into the air, but is formed through a series of chemical reactions involving other compounds that are directly emitted. These directly emitted pollutants (also known as ozone precursors) include reactive organic gases (ROG) and nitrogen oxides (NOx). The time period required for ozone formation allows the reacting compounds to spread over a large area, producing a regional pollution problem. Ozone problems are the cumulative result of regional development patterns, rather than the result of a few significant emission sources.

Once formed, ozone remains in the atmosphere for one to two days. Ozone is then eliminated through chemical reaction with plants (reacts with chemical on the leaves of plants), rainout (attaches to water droplets as they fall to the earth) and washout (absorbed by water molecules in clouds and later fall to the earth with rain).

Ozone is a public health concern because it is a respiratory irritant that increases susceptibility to respiratory infections. Ozone causes substantial damage to leaf tissues of crops and natural vegetation and damages many materials by acting as a chemical oxidizing agent.

Particulate Matter

Suspended particulate matter (PM) is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust. "Inhalable" PM consists of particles less than 10 microns in diameter, and is defined as "suspended particulate matter" or PM_{10}. Fine particles are less than 2.5 microns in diameter ($PM_{2.5}$). $PM_{2.5}$, by definition, is included in PM_{10}.

In Yuba County, PM emissions are generated by a variety of sources. The primary sources of PM are entrained road dust, farming operations, and agricultural burning. Traffic generates particulate matter and PM emissions through entrainment of dust and dirt particles that settle onto roadways and parking lots. PM is also emitted by burning wood in residential woodstoves and fireplaces and open burning of residential and agricultural wastes.

Fine particulate matter is a concern because it can bypass the body's natural filtration system more easily than larger particles, and can lodge deep in the lungs. Health effects of PM vary depending on a number of factors, including the type and size of particle. Research has shown a correlation between high PM_{10} concentrations and increased mortality rates. Elevated levels can aggravate chronic respiratory illness such as bronchitis and asthma. PM also causes visibility reduction.

Regulatory Framework

Feather River Air Quality Management District

Wheatland is located within the Feather River Air Quality Management District (FRAQMD). The FRAQMD is part of the Northern Sacramento Valley Air Basin (NSVAB) that includes Butte, Colusa, Glen, Tehama, Shasta, Yolo, Sacramento, Yuba, Sutter, and parts of Placer and Solano Counties. The FRAQMD is the local air quality agency. The District adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs and regulates agricultural burning. Other District responsibilities include monitoring air quality, preparation of clean air plans and responding to citizen air quality complaints. NSVAB air quality monitoring location are shown on Figure 6-4.

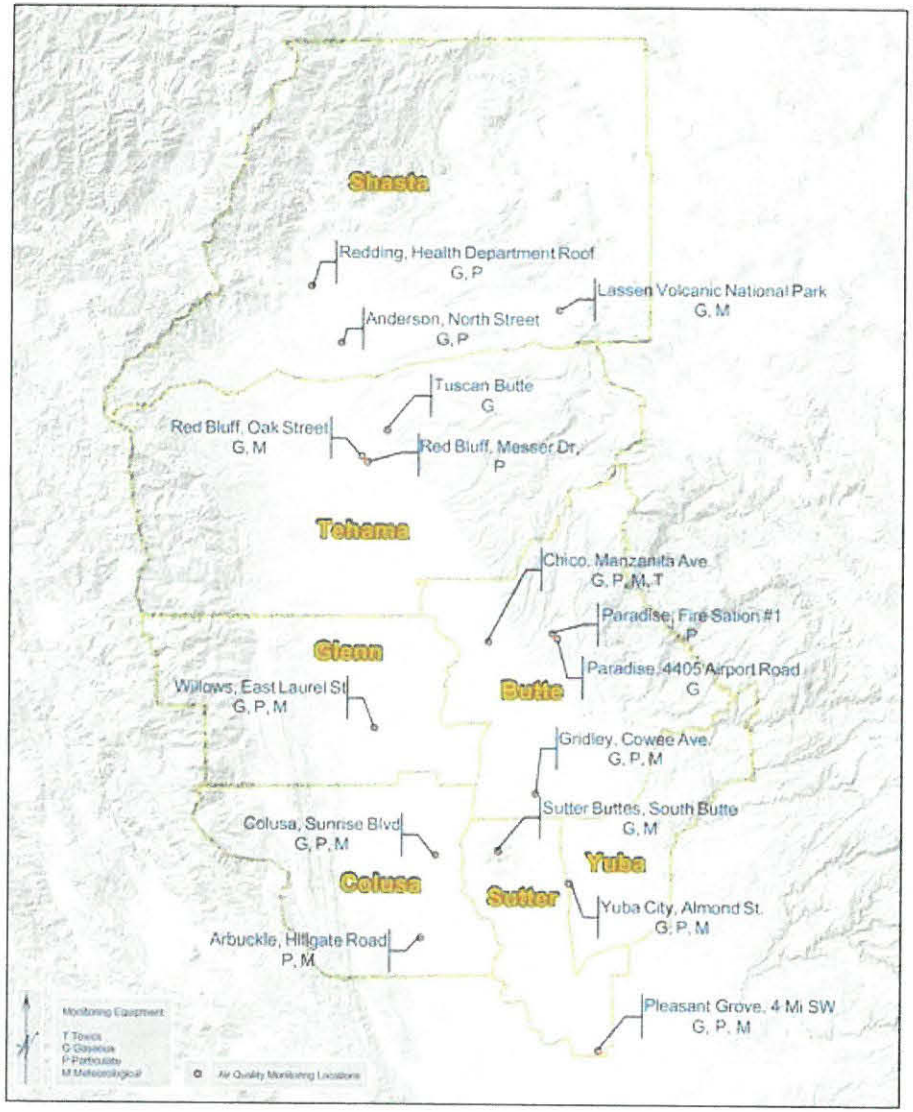
State/Federal Air Programs

Both the Federal and State governments have enacted laws mandating the identification of areas not meeting the ambient air quality standards and development of regional air quality plans to eventually attain the standards. Under the Federal Clean Air Act the FRAQMD has been designated Attainment or Unclassified for all national ambient air quality standards except the 1-hour ozone standard.

Under the State system, the FRAQMD is designated "Nonattainment" for the California standards for ozone and PM_{10}. The air districts of the NSVAB have jointly prepared and adopted a uniform air quality attainment plan addressing ozone and PM_{10}.[59]

The U.S. Environmental Protection Agency established new national air quality standards for ground-level ozone and for fine particulate matter in 1997. The existing 1-hour ozone standard of 0.12 PPM microns or less) is to be phased out and replaced by an 8-hour standard of 0.08 PPM. Implementation of the 8-hour standard was delayed by litigation, but was determined to be valid and enforceable by the U. S. Supreme Court in a decision issued in February of 2001.

[59] FRAQMD, 2004.



WHEATLAND
GENERAL PLAN

LEGEND

Figure 6-4
NSVAB Monitoring Locations

Sources: Foothill Associates and Mintier & Associates, 2004

The U. S. Environmental Protection Agency has classified Yuba County as an Attainment area for the new Federal 8-hour ozone standard. The California Air Resources Board and U.S. Environmental Protection Agency have both proposed that Yuba County be considered Unclassifiable with respect to the Federal $PM_{2.5}$ standards. Unclassifiable means that an area cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant. U.S. EPA plans to finalize $PM_{2.5}$ designations by December 15, 2004.

Emerging Air Quality Issues and Programs

The following is a discussion of emerging air quality issues that may not have been previously addressed.

Diesel Exhaust

In 1998, after a 10-year scientific assessment process, the California Air Resources Board identified particulate matter from diesel-fueled engines as a toxic air contaminant (TAC). The exhaust from diesel engines contains hundreds of different gaseous and particulate components, many of which are toxic. Many of these compounds adhere to the particles, and because diesel particles are so small, they penetrate deep into the lungs. Diesel engine particulate has been identified as a human carcinogen. Mobile sources, such as trucks, buses, automobiles, trains, ships, and farm equipment are by far the largest source of diesel emissions. Studies show that diesel particulate matter concentrations are much higher near heavily traveled highways and intersections.

The State of California has begun a program of identifying and reducing risks associated with particulate matter emissions from diesel-fueled vehicles. The plan consists of new regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles, new retrofit requirements for existing on-road, off-road and stationary diesel-fueled engines and vehicles, and new diesel fuel regulations to reduce the sulfur content of diesel fuel as required by advanced diesel emission control systems.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. Many different types of TACs exist, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least forty different TACs. The most important, in terms of health risk, are diesel particulate, benzene, formaldehyde, 1,3-butadiene and acetaldehyde. Public exposure to TACs is primarily addressed through Airborne Toxic Control Measures (ATCMs) promulgated by the California Air Resources Board.

Wood Smoke

Wood smoke has long been identified as a significant source of pollutants in urban and suburban areas. Wood smoke contributes to particulate matter and carbon monoxide concentrations reduces visibility and contains numerous TACs. Present controls on this source include the adoption of emission standards for wood stoves and fireplace inserts. Interest in wood smoke is likely to increase with the recent adoption of national and state standards for $PM_{2.5}$.

Yuba-Sutter Transportation Management Association

The Yuba Transportation Management Association recently received a grant from the Feather River Air Quality Management District to launch rideshare services in Yuba and Sutter Counties. The new venture will be known as the Yuba-Sutter Transportation Management Association (YSTMA).[60] Plans are underway to work with a number of local companies and agencies to provide information and hands-on assistance leading to expanded carpooling, vanpooling, public transit, and local bicycle commute options. With Marysville, Yuba City, and other area communities attracting a large number of commuters who work in the metropolitan Sacramento region, SR 70 and SR 99 are showing increased congestion. The goal of the YSTMA is to work with the community and local businesses to improve regional air quality by reducing single occupancy vehicle trips and dependency on the automobile, thereby, reducing motor vehicle emissions, the major source of air pollutants in the Sacramento Valley.

FRAQMD Indirect Source Review Guidelines

The FRAQMD has developed Indirect Source Review Guidelines for use in the environmental evaluation of projects. The guidelines provide project pollutant thresholds that, when exceeded, may be considered a significant air quality effect by the air district. The guidelines also provide a minimum list of feasible mitigation measures to reduce the air pollutant impacts from transportation and land-use projects, and a Best Available Mitigation Measures (BAMM) list. The mitigation measures in these guidelines are transportation and land use control measures. They are intended to reduce dependency on the automobile for mobility, and mitigate the air quality impacts of new development.

Heat Island Reduction Initiative

In 1997, EPA launched the Heat Island Reduction Initiative (HIRI), a multi-agency effort to work with communities and public officials to reduce the impacts of urban heat islands. Heat islands form as vegetation is replaced by asphalt and concrete for roads, buildings, and other structures necessary to accommodate growing populations. These surfaces absorb – rather than reflect – the sun's heat, causing surface temperatures and overall ambient temperatures to rise. The displacement of trees and shrubs eliminates the natural cooling effects of shading and evapotranspiration (a natural cooling process in which water transpires from a leaf's surface and evaporates into the atmosphere, reducing ambient temperature).

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[60] FRAQMD, 2004.

Because heat and sunlight increase the formation of ground-level ozone and its precursor compounds, the heat island effect can increase ozone pollution to levels higher temperatures resulting from the heat island effect can increase the demand for energy to cool homes, offices, and other buildings. HIRI, EPA and the Department of Energy (DOE) promote common-sense measures that can reduce local ambient temperature, smog, cooling energy demand, and greenhouse gas emissions.

6.4 | AGRICULTURAL RESOURCES

EXISTING SETTING

The city of Wheatland currently has no agricultural activities. However, agriculture such as orchards and row crops, along with some grazing and fallow lands, is the primary use surrounding the city (see Figure 1-11). Information for the Agricultural Resources section is taken from the City of Wheatland General Plan (1980); the Yuba County General Plan, Volume I: Environmental Setting and Background (1994); and the Environmental Setting for the City of Wheatland General Plan Update (1996).

Agricultural Soils

Farmland Classifications

Two systems are used by the United States Department of Agriculture's Natural Resources Conservation Service (USDA-NRCS) to determine a soil's agricultural productivity: the Soil Capability Classification and the Storie Index Rating System. The "prime" soil classifications of both systems indicate the absence of soil limitations, which if present, would require the application of management techniques (e.g., drainage, leveling, special fertilizing practices) to enhance production.

Soil Capability Classification

The Soil Capability Classification System takes into consideration soil limitations, the risk of damage when the soils are used, and the way in which soils respond to treatment. Capability classes range from Class I soils, which have few limitations for agriculture, to Class VIII soils, which are unsuitable for agriculture. Generally, as the ratings of the capability classification system increase, the yields and profits are more difficult to obtain. According to the City of Wheatland General Plan (1980), Class II and Class IV soils are found within the Wheatland General Plan Update Study Area.[61]

Class II soils have moderate limitations that reduce the choice of agricultural crops that can be produced, or require moderate conservation practices. Class II soils are very deep, nearly level, moderately well drained to somewhat excessively drained soils with the following capability: good cultivable land with moderate limitations; excellent agricultural land. The soils found in

[61] *City of Wheatland General Plan Land Use Element*, p. 8. 1986.

the area immediately south of Wheatland and running parallel to the Bear River are predominantly Class II soils.

Class IV soils have very severe limitations that reduce the choice of agricultural crops that can be produced, require very careful management, or both. Class IV soils are shallow to moderately deep, well drained, nearly level to moderately sloping soils with the following capability: fairly good cultivable land with limitations for most crops; poor drainage or alkali on level lands. Due to the limitations of shallow or poor soil, this land is suited primarily for pasture or hay. Class IV soils are found in a sizeable area to the north of Wheatland.

A general description of soil classification, as defined by the NRCS, is provided in Table 6-5, Soil Capability Classification. For a more detailed description of Wheatland area soils, please refer to the "Geologic and Seismic Hazards" section of the Safety and Noise chapter.

TABLE 6-5
SOIL CAPABILITY CLASSIFICATION

Class	*Definition*
I	Soils have few limitations that restrict their use.
II	Soils have moderate limitations that reduce the choice of plants, or that require special conservation practices.
III	Soils have severe limitations that reduce the choice of plants, require conservation practices, or both.
IV	Soils have very severe limitations that reduce the choice of plants, require very careful management, or both.
V	Soils are not likely to erode but have other limitations; impractical to remove that limit their use largely to pasture or range, woodland, or wildlife habitat.
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture, or range, woodland, or wildlife habitat.
VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat.
VIII	Soils and landforms have limitation that preclude their use for commercial plant production and restrict their use to recreation, wildlife habitat, or water supply, or to aesthetic purposes.

Source: USDA Soil Conservation Service, Soil Survey of Sacramento County, April 1993.

Storie Index Rating System

The Storie Index Rating system ranks soil characteristics according to their suitability for agriculture from Grade 1 soils (80 to 100 rating), which have few or no limitations for agricultural production to Grade 6 soils (less than 10), which are not suitable for agriculture. Under this system, soils deemed less than prime can function as prime soils when limitations such as poor drainage, slopes, or soil nutrient deficiencies are partially or entirely removed. The six grades, ranges in index rating, and definition of the grades, as defined by the NRCS, are provided below in Table 6-6, Storie Index Rating System.

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) was established in 1982 to continue the Important Farmland mapping efforts begun in 1975 by the USDA Soil Conservation Service (USDA-SCS) (predecessor to the NRCS). The intent of the USDA-SCS was to produce agricultural resource maps based on soil quality and land use across the nation. As part of the nationwide agricultural land use mapping effort, the USDA-SCS developed a series of definitions known as Land Inventory and Monitoring (LIM) criteria. The LIM criteria classified the land's suitability for agricultural production; suitability included both the physical and chemical characteristics of soils and the actual land use. Important Farmland Maps are derived from the USDA-SCS soil survey maps using the LIM criteria.

TABLE 6-6
STORIE INDEX RATING SYSTEM

Grade	Index Rating	*Definition*
1 Excellent	80 through 100	Soils are well suited to intensive use for growing irrigated crops that are climatically suited to the region.
2 Good	60 through 79	Soils are good agricultural soils, although they may not be so desirable as Grade 1 because of moderately coarse, coarse, or gravelly surface soil texture; somewhat less permeable subsoil; lower plant available water holding capacity, fair fertility; less well drained conditions, or slight to moderate flood hazards, all acting separately or in combination.
3 Fair	40 through 59	Soils are only fairly well suited to general agricultural use and are limited in their use because of moderate slopes; moderate soil depths; less permeable subsoil; fine, moderately fine or gravelly surface soil textures; poor drainage; moderate flood hazards; or fair to poor fertility levels, all acting alone or in combination.
4 Poor	20 through 39	Soils are poorly suited. They are severely limited in their agricultural potential because of shallow soil depths; less permeable subsoil; steeper slope; or more clayey or gravelly surface soil textures than Grade 3 soils, as well as poor drainage; greater flood hazards; hummocky micro-relief; salinity; or fair to poor fertility levels, all acting alone or in combination.
5 Very Poor	10 through 19	Soils are very poorly suited for agriculture, are seldom cultivated and are more commonly used for range, pasture, or woodland.
6 Non-Agricultural	Less than 10	Soils are not suited for agriculture at all due to very severe to extreme physical limitations, or because of urbanization.

Source: USDA Soil Conservation Service, Soil Survey of Sacramento County, April 1993.

Since 1980, the State of California has assisted the NRCS with completing its mapping in the state. The FMMP was created within the State Department of Conservation (DOC) to carry on the mapping activity on a continuing basis and with a greater level of detail. The DOC applied a greater level of detail by modifying the LIM criteria for use in California. The LIM criteria in California utilize the NRCS and Storie Index Rating systems, but also consider physical conditions such as a dependable water supply for agricultural production, soil temperature range, depth of the ground water table, flooding potential, rock fragment content, and rooting depth.

Important Farmland Maps for California are compiled using the modified LIM criteria (as described above) and current land use information. The minimum mapping unit is 10 acres unless otherwise specified. Units of land smaller than 10 acres are incorporated into the surrounding classification. Acres of Important Farmland are shown in Table 6-7 below. The Important Farmland Maps identify four agriculture-related categories: prime farmland, farmland of statewide importance, unique farmland, and grazing land. Each is summarized below, based on *A Guide to the Farmland Mapping and Monitoring Program (1998)*, prepared by the California Department of Conservation.

TABLE 6-7
ACRES OF IMPORTANT FARMLANDS - YUBA COUNTY (1998)

Acres Present by Type	*Acreage*
Prime Farmland	45,785
Farmland of Statewide Importance	11,032
Unique Farmland	36,928
Grazing Land	143,224
Urban and Built-Up Land	11,180
Other Land	157,476
Water	6,192
Total Acres	**411,817**

Source: California Department of Conservation, 2004, available at: www.consrv.ca.gov

Prime Farmland

Prime farmland, as defined by the California Department of Conservation, is land with the best combination of physical and chemical features able to sustain the long-term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The land must have also been used for the production of irrigated crops at some time during the two update cycles (a cycle is equivalent to 2 years) prior to the FMMP mapping of Yuba County in 1998.

Much of western Yuba County, including the majority of the Wheatland General Plan Update Study Area, is designated as Important Farmlands under the FMMP (Figure 6-5). The prime agricultural soils in the vicinity of Wheatland have played an important role in the development of the area's agricultural economy. Many of the soil types found in and around Wheatland fall into NRCS Capability Classes II and IV.

Farmland of Statewide Importance

Farmland of statewide importance, as defined by the California Department of Conservation, is land similar to prime farmland, but with minor shortcomings, such as greater slopes or with less ability to hold and store moisture. The land must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date (or since 1994).

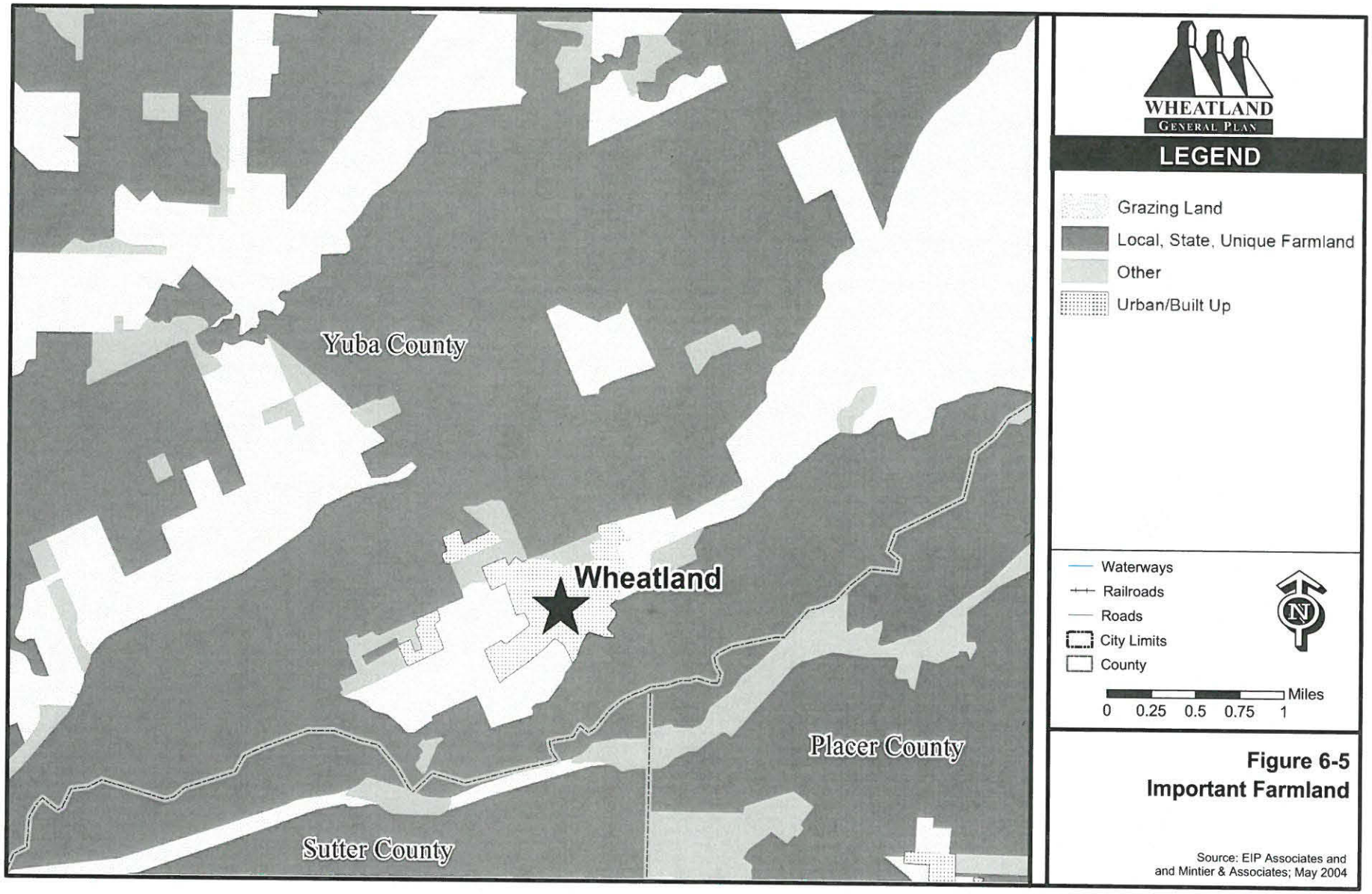

Figure 6-5
Important Farmland

Source: EIP Associates and
and Mintier & Associates; May 2004

Unique Farmland

Unique farmland, as defined by the California Department of Conservation, is land of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards, as found in some climatic zones in California. The land must have been cultivated at some time during the two update cycles prior to the mapping date (or since 1994).

Grazing Land

Grazing land, as defined by the California Department of Conservation, is land on which the existing vegetation, whether grown naturally or through management, is suited to the grazing of livestock. The minimum mapping unit for this category is 40 acres.

Urban and Built-Up Land

Urban and built-up land, as defined by the California Department of Conservation, is occupied with structures with a building density of at least one unit to one-half acre. Uses may include, but are not limited to, residential, industrial, commercial, construction, institutional, public administration purposes, railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation facilities are mapped as part of this unit, if they are part of a surrounding urban area.

Other Land

Other land, as defined by the California Department of Conservation, is land that is not included in any other mapping categories. The following uses are generally included: rural development, brush, timber, government land, strip mines, borrow pits, and a variety of other rural land uses.

Yuba County Farmland Conversion

One of the basic underlying premises of agricultural conversion is that the proximity of agricultural land to urban uses increases the value of the agricultural land either directly through formal purchase offers, or indirectly through recent sales in the vicinity, and through the extension of utilities and other urban infrastructure into productive agricultural areas. This premise is evidenced by the fact that property values, as measured by the County Assessor's office, are higher adjacent to the urban fringe.[62]

In Yuba County, an increase in the acreage of Unique Farmland and Farmland of Local Importance has occurred; this increase is explained by the redistribution of categories in 1994 and 1998, as well as the conversion of fallow land to irrigated cropland after a long drought. Nevertheless, the total amount of agricultural land within the County decreased by

[62] U.S. Census Data, 1990.

approximately 2 percent during the six-year period from 1992 to 1998. This decrease equates to an average loss of approximately 1,470 acres of Important Farmlands annually, which includes land both in and out of production. A portion of this farmland is being lost due to economic incentives to convert land to developed uses.

Williamson Act

The California Land Conservation Act, also known as the Williamson Act, was adopted in 1965 in order to encourage the preservation of the state's agricultural lands and to prevent their premature conversion to urban uses. Under the Williamson Act, a landowner enters into a contract with the city or county, guaranteeing that the property in question will remain under agricultural production for a ten-year period. In exchange, the landowner is taxed at a lower rate than would otherwise be the case. Yuba County does not participate in the Williamson Act program.

Agricultural Production

The *Yuba County Agricultural Crop Report for 2003* presents the most recent figures for estimated acreage, yield, and gross value of agricultural products in Yuba County.[63] The gross value of the County's agricultural production for 2003 was $154.6 million, an increase of $15.5 million over 2002. Rice continued to be the most valuable crop in the County, valued at $43.6 million. Rice was followed in value by peaches, prunes, walnuts, and cattle/calves. Within the unincorporated part of the Wheatland General Plan Update Study Area, agriculture is the primary existing land use, specifically orchards and row crops, along with some grazing and fallow lands. Estimated figures for acreage, yield, and gross value of agricultural products in the Study Area were not available at the time of writing.

REGULATORY SETTING

City of Wheatland General Plan (1980)

As described by the City of Wheatland General Plan, the gradual elimination of prime agricultural and recreational lands by expanding urban areas is a local, State, and national problem.[64] Urbanization displaces agricultural operations, forcing them to move to marginal lands. In addition to food production, agricultural lands also serve a valuable purpose in preserving aesthetic qualities and open space. Therefore, it is imperative that fragmented urban development not take place on prime agricultural lands.

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[63] Yuba County Department of Agriculture, 2004

[64] *City of Wheatland General Plan,* p. 33. 1980.

The General Plan Open-Space Element lists the following goals and policies:

Goal 1: To retain the highest quality agriculture lands for agricultural use.

Goal 2: To provide open-space through the preservation of prime agricultural lands and recreational areas.

Policy 1: Encourage the continued agricultural use of the prime lands in the planning area.

Policy 2: Future urban developments should be encouraged to locate within the existing city boundaries with further annexation discouraged.

Yuba County General Plan (1994)

The Yuba County General Plan states that agriculture is the most extensive land use in the County and the most significant component of the County's economy.[65] The Plan further states that the value of agricultural land is not limited to the provision of food, fiber, and jobs, but also includes open space, which provides psychological and aesthetic benefits as well as important wildlife habitat.

The County General Plan designates all unincorporated lands within the Wheatland Sphere of Influence as Wheatland Community Valley Agriculture. The Valley Agriculture classification is applied to areas of the County outside of community boundaries that are suitable for commercial agriculture and are desirable to retain in agricultural uses. The designation is intended to (a) protect the agricultural community from encroachment of unrelated agricultural uses that would diminish the viability of agricultural production, and to (b) encourage the preservation of agricultural land, both productive and potentially productive.

6.5 | MINERAL RESOURCES

EXISTING SETTING

According to the Yuba County General Plan,[66] raw or manufactured mineral products are used every day in developed nations. Unlike most natural resources, minerals are not renewable. A mineral resource is a concentration of elements in a particular location in such a form that a usable mineral commodity can be extracted from the deposit.

Mineral resources present in Yuba County include precious metals (gold, platinum, molybdenite), copper, zinc, Fullers earth, sand and gravel, and crushed stone. Most of Yuba County lies within the Sierra Nevada gold belt districts with sparse seam-type auriferous

[65] *Yuba County General Plan, Volume I: Environmental Setting and Background*, Section 8.2. May 1994
[66] *Yuba County General Plan, Volume I: Environmental Setting and Background*, Section 2.6. May 1994

deposits. Each of these unique resources should be carefully managed to meet the current and future requirements of the County.

The mineral resources under greatest urbanization pressure are the construction materials, especially sand and gravel, and crushed stone. Increasing urbanization in the San Francisco Bay and Sacramento areas has resulted in the depletion or obliteration of local aggregate resources. These areas are looking to more remote areas to meet their resource requirements. The *Yuba County General Plan* stresses that planning should be undertaken to ensure continued access to the mineral resources present in Yuba County.

Study Area

The California Geological Survey (formerly California Division of Mines and Geology [CDMG]) has not identified the potential for mineral resources within the proposed Wheatland General Plan Update Study Area.[67] Approximately three miles to the northwest, mineral resources have been evaluated, as described in CDMG Special Report 132 (1988) which delineated the Yuba City-Marysville production-consumption region for Portland Cement Concrete (PCC) grade aggregate. However, the information given in the report is not adequate to identify the potential for resources in close proximity to the Study Area. Borings from drill holes less than one mile outside the northwestern boundary of the Study Area indicate the potential for commercial grade aggregate deposits.

The Yuba County General Plan identifies one mineral resource extraction site within the Wheatland General Plan Update Study Area (Figure 6-6).[68] The Wheatland Clay Pit is located approximately 2.5 miles north of downtown Wheatland in the Nichols Ranch area and is operated by Gladding McBean. The disturbed area is approximately one acre.

6.6 | WATER RESOURCES

BACKGROUND

The Yuba County General Plan states that consideration of growth in the county must go hand-in-hand with consideration of watershed environmental quality, in order to protect the quantity and quality of water resources.[69] Natural waterways provide water for domestic, agricultural, and industrial uses are invaluable recreational resources and provide vital habitat for native plants and wildlife. Wetlands such as riparian forests, marshes, and swamps are crucial to maintaining surface water quality, due to their ability to absorb and filter pollutants that would otherwise migrate into rivers, lakes, and reservoirs. Wetlands also stabilize riverbanks, reduce the effects of flooding, and serve as buffers between waterways and other land uses.

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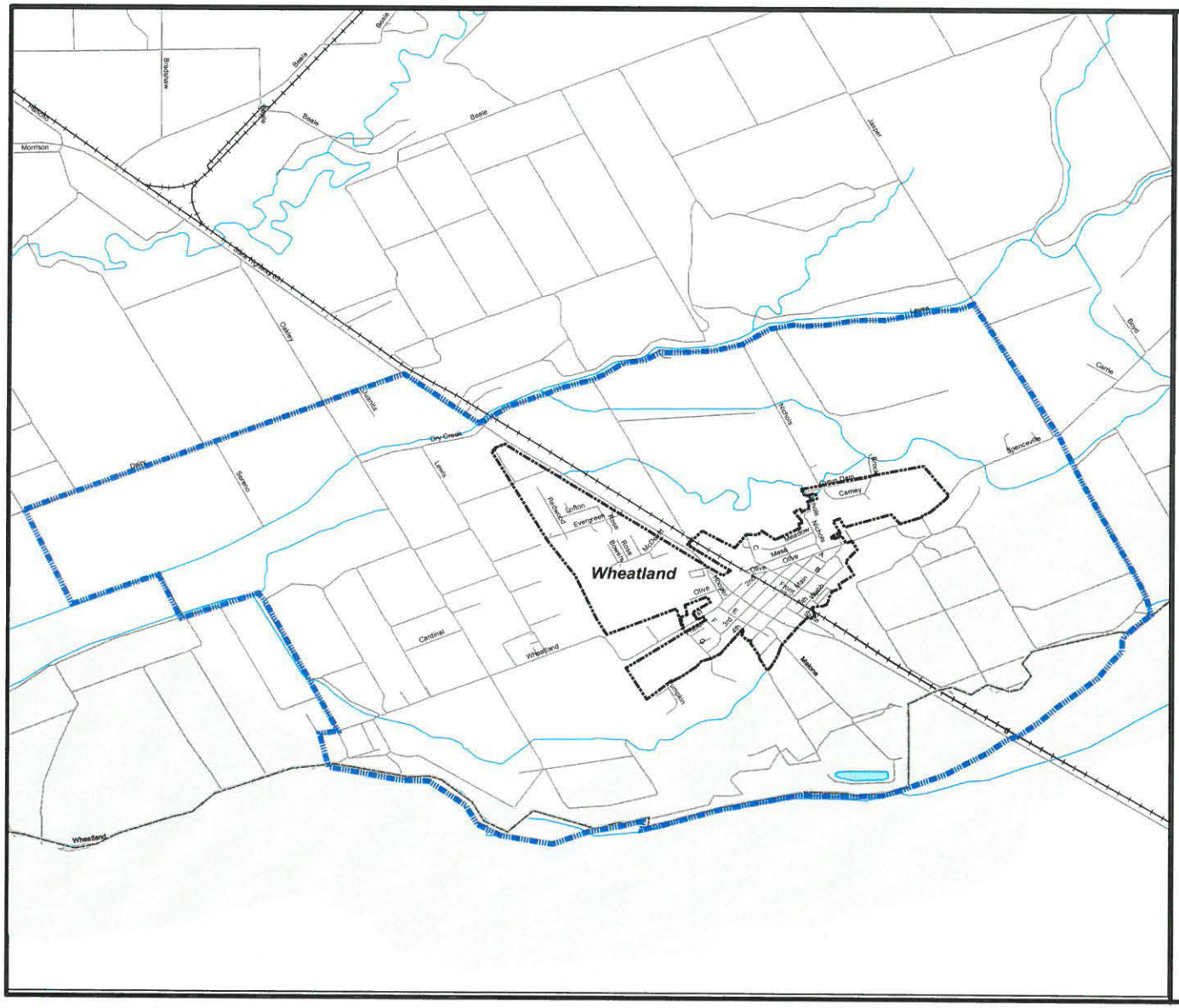
[67] City of Wheatland. *Environmental Setting for the City of Wheatland General Plan Update,* Section 4.1. April 1996

[68] *Yuba County General Plan, Volume I: Environmental Setting and Background,* Figure 2.11. May 1994

[69] *Yuba County General Plan, Volume I: Environmental Setting and Background,* Figure 2.11. May 1994



WHEATLAND
GENERAL PLAN

LEGEND

Groundwater Recharge Areas

Study Area

Waterways

Railroads

Roads

City Limits

Yuba County

Miles

0 0.25 0.5 0.75 1

Figure 6-6
Groundwater Recharge Areas

Source: EIP Associates and and Mintier & Associates; May 2004

SURFACE WATER

The Study Area is located in the Bear River watershed.[70] The Bear River is one of the primary drainages in Yuba County, with headwaters based near Emigrant Gap and Lake Spaulding in the Sierra Nevada. The river flows southwest to a point north of Auburn, where it turns toward the west and its eventual confluence with the Feather River. The Bear River forms the southern boundary of the Study Area and is located immediately south of the Yuba/Sutter County line.

Other watercourses in the immediate vicinity of the city of Wheatland include: Dry Creek, which flows westerly approximately one mile north of the city; Grasshopper Slough, which is between Dry Creek and the city, and roughly parallels Dry Creek until the two merge approximately four miles west of the city; and Grasshopper Slough South, which originates in the southern part of the city of Wheatland, and flows west to merge with Grasshopper Slough. Surface waters in the city generally drain into Grasshopper Slough or Grasshopper Slough South. Major surface water drainages identified in the Study Area are described in Section 5.4

During the Gold Rush era, siltation caused by hydraulic mining in the Sierra Nevada foothills extensively altered the original hydrological characteristics of the Sacramento Valley, resulting in significant damage. Streambeds rose by as much as 70 feet in the Wheatland vicinity, causing widespread flooding. The area's drainage patterns were altered further by the construction of levees and agricultural canals, as well as land leveling for farming operations. Some channels, including Grasshopper Slough, have been blocked.

Surface Water Quality

Water quality in the Study Area is primarily characterized by surrounding land uses. In the Study Area, the water quality of Grasshopper Slough, Dry Creek, and the Bear River could be influenced by both adjacent and upstream rural/agricultural land uses. Possible constituents associated with rural/agricultural land uses include fertilizers and pesticides, sediments, and to a lesser extent, heavy metals, petroleum hydrocarbons, and other pollutants attributed to the use of vehicles and agricultural equipment, as well as historic mining operations.

Agricultural Uses in the Study Area

The Study Area currently consists of agricultural, residential, commercial, and industrial land uses. The agricultural crops are usually treated with pesticides and/or herbicides. Although most chemicals used for agricultural purposes in the last ten years tend to have short residual life in the soil, there is the potential that chemicals could leach into detained water on the site.

According to the California DPR, the top five agricultural pesticides used in Yuba County in 2002 (the most recent year for which data is available) were petroleum oil, mineral oil, sulfur, copper sulfate (pentahydrate), and propanil.[71] Petroleum oil, mineral oil, and sulfur are used

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[70] *Yuba County General Plan, Volume I: Environmental Setting and Background*, Section 4.1.1. May 1994

[71] California Department of Pesticide Regulation 2004. *Top Five Pesticides Used by County, 2002.*

predominantly on orchards, while copper sulfate is used on rice, walnuts and for landscape maintenance and propanil is used on rice.

The Yuba County General Plan states that major importation of water to the Bear River watershed occurs near the headwaters.[72] Some irrigation spill and ditch seepage enters from the ridge between the South Yuba and Bear Rivers. Exports from the Bear River watershed are made through conveyance facilities owned by Pacific Gas and Electric (PG&E) and the Nevada Irrigation District (NID). The diversions include nearly all of the imported water and some of the natural flow. The diverted water is used for irrigation, power generation, and domestic uses in the Auburn area. The net effect of the upstream uses, exports, and imports in the Yuba and Bear River basins has been to deplete the streamflow at the base of the foothills. However, the average depletion of the Bear River above Wheatland is relatively minor due to the imports of water from the Yuba Basin, located farther upstream. The Camp Far West Reservoir, located approximately 12 miles east of the Study Area, is fed by the Bear River, Rock Creek, and other minor tributaries. The reservoir has a capacity of 103,000 acre-feet and is owned by the South Sutter Water District.

A major tributary to the Bear River is Dry Creek, which runs parallel to the Bear River and is located near the northern Study Area boundary. Dry Creek conveys approximately 11,200 acre-feet of water per year, imported via irrigation spill and flows from the Wolf Creek drainage north of Auburn.

GROUNDWATER

The city of Wheatland is located above the Sacramento Valley Groundwater Basin, a 5,000 square mile basin which encompasses Butte, Colusa, Glenn, Placer, Sacramento, Solano, Sutter, Tehama, Yolo, and Yuba Counties. Specifically, the city lies atop the South Yuba Subbasin, a 138 square mile aquifer system bounded on the north by the Yuba River, on the west by the Feather River, on the south by the Bear River, and on the east by the Sierra Nevada.[73] Elevations range from about 150 feet in the northwest corner of the subbasin to about 30 feet in the southwest corner near the confluence of the Feather and Bear Rivers.

The South Yuba Subbasin is comprised of water-bearing continental deposits of Quaternary (Recent) to Late Tertiary (Miocene) age. The cumulative thickness of these deposits increases from a few hundred feet near the Sierra Nevada foothills to over 1,400 feet along the western margin of the basin. The base of the aquifer system overlies Pre-Tertiary metamorphosed igneous and sedimentary rock of the Sierra Nevada block. The deposits include historic dredger tailings as well as alluvium, stream channel deposits, and floodplain deposits.

The Bear River channel has been identified as a significant groundwater recharge area for Yuba County.[74] Groundwater recharge areas identified in the Study Area are illustrated in Figure 6-6.

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[72] *Yuba County General Plan, Volume I: Environmental Setting and Background*, Section 4.1.1. May 1994

[73] DWR. *Sacramento Valley Groundwater Basin, South Yuba Subbasin*. 2003.

[74] *Yuba County General Plan, Volume I: Environmental Setting and Background*, Figure 4-5. May 1994

Groundwater Quality

Water quality is generally excellent in most portions of the South Yuba Subbasin, particularly at depths below 100 feet from the ground surface. The high quality of the groundwater is indicated by its low salinity. In general, total dissolved solids (TDS) concentrations are below 500 milligrams per liter (mg/L) throughout the Subbasin. State-monitored water quality wells in the Subbasin indicate a median TDS concentration of 224 mg/L. The groundwater chemistry is primarily calcium magnesium bicarbonate or magnesium calcium bicarbonate. The City of Wheatland currently (June 2004) draws its entire water supply from six (6) municipal well sites.

Groundwater quantity within the South Yuba Subbasin varies by location, but overall reliance upon groundwater for domestic and agricultural use in the Sacramento Valley has increased steadily over the past few decades. The number of domestic and irrigation wells in the region increased from 9,109 in 1970 to 37,046 in 2002.[75] The reasons for this increase include more demand, the need for reliable water supplies, the high costs of new surface water storage, and environmental concerns leading to the reduced diversion of surface water.

The California Department of Water Resources has estimated natural and applied inflows and outflows for the South Yuba Subbasin.[76] Basin inflows include natural recharge of 53,700 acre-feet per year (afy) and applied recharge of 26,000 afy. Basin outflows include urban extraction of 6,000 afy, agricultural extraction of 93,400 afy, and subsurface outflow of 24,900 afy. The figures indicate a net deficit of 44,600 afy. Estimated total groundwater storage capacity in the South Yuba Subbasin is approximately 1,090,000 acre-feet.

Between 1950 and 1982, the Subbasin became increasingly overdrafted.[77] Groundwater storage declined by 280,000 acre-feet, and a well-developed cone of depression formed. Within the cone of depression, groundwater levels dropped below adjacent river levels on the Bear, Feather, and Yuba Rivers, and fell below sea level as well. Beginning in 1982, an increase in surface water irrigation supplies, and corresponding reduction in groundwater pumping, allowed groundwater levels to return to an elevation above sea level. The depth to ground water in the Wheatland area is currently (June 2004) approximately 80 to 100 feet. The City of Wheatland's wells draw water from depths ranging from 200 feet to 400 feet below grade. Currently, groundwater quantity problems in the City's wells do not exist.

The Yuba County General Plan recognizes that surface water supply cannot be divorced from consideration of groundwater recharge.[78] The Plan states that some surface water must be reserved for groundwater recharge, as well as for protection of the aquatic environment.

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[75] Fulton, Allan, Toccoy Dudley, and Kelly Staton. *Incentives for Groundwater Management in the Northern Sacramento Valley*. 2002.
[76] DWR. *Sacramento Valley Groundwater Basin, South Yuba Subbasin*. 2003.
[77] Yuba County Water Agency. *Ground Water Resources and Management in Yuba County*. 1992.
[78] *Yuba County General Plan, Volume I: Environmental Setting and Background*, Section 4.1.4. May 1994.

Regulatory Setting

Water quality objectives for all waters in the state are established under applicable provisions of Section 303 of the federal Clean Water Act (CWA) and the California Porter-Cologne Water Quality Control Act.

Inland Surface Water Plan

In March 2000, the State Water Resources Control Board (SWRCB) adopted Inland Surface Water Plan/Enclosed Bays and Estuaries Program (ISWP/EBEP) Phase I water quality objectives for inland surface waters.[79] Included among the provisions of these objectives are: (a) that all point and nonpoint discharges must comply with identified water quality objectives; and (b) that effluent limits are to be imposed, either through National Pollutant Discharge Elimination System (NPDES) permits or Waste Discharge Requirements (WDRs), such that water quality objectives shall not be exceeded in the receiving water outside a designated mixing zone. The Central Valley Regional Water Quality Control Board (CVRWQCB) is responsible for ensuring that stormwater discharges meet the adopted numerical objectives within the Wheatland General Plan Update Study Area.

California General Construction Activity Stormwater Permit

The U.S. Environmental Protection Agency (U.S. EPA) and the SWRCB regulate point sources of pollution, such as construction sites, that have the potential to discharge pollutants into the waters of the United States. This is accomplished through the issuance of NPDES stormwater discharge permits. NPDES Phase II regulations took effect in March 2003, requiring that applicants proposing construction activities involving disturbance of from one to five acres, and associated stormwater discharge, must obtain a NPDES permit from the State.[80] Construction activities larger than five acres were already regulated, under NPDES Phase I (1990). (Phase II also required that small [population < 100,000] municipal separate storm sewer system [MS4] operators obtain a NPDES permit.) Landowners are responsible for applying for coverage under the permit and complying permit requirements, but may delegate specific duties to developers and contractors by mutual consent.

Permit applicants are required to prepare, and retain at the construction site, a Storm Water Pollution Prevention Plan (SWPPP), which describes the site, erosion and sediment controls, means of waste disposal, implementation of local plans, control of post-construction sediment and erosion control measures and maintenance responsibilities, and non-stormwater management control. Dischargers are also required to inspect construction sites before and after storms to identify stormwater discharge from construction activity, and to identify and implement controls where necessary.

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[79] SWRCB. *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.* 2000.

[80] U.S. Environmental Protection Agency. *Construction General Permit.* 2004.

According to the California Department of Water Resources (DWR),[81] basic information for many of the state's groundwater basins is lacking. To this end, the California Legislature mandated in the Budget Act of 1999 that the Department of Water Resources prepare:

> "... the statewide update of the inventory of groundwater basins contained in Bulletin 118-80, which includes, but is not limited to, the following: the review and summary of boundaries and hydrographic features, hydrogeologic units, yield data, water budgets, well production characteristics, and water quality and active monitoring data; development of a water budget for each groundwater basin; development of a format and procedures for publication of water budgets on the Internet; development of the model groundwater management ordinance; and development of guidelines for evaluating local groundwater management plans."

Groundwater use in the Sacramento Valley Groundwater Basin is largely unregulated, although some local agencies in the Sacramento Valley have chosen to write groundwater management plans based on AB 3030, the Groundwater Management Act of 1992 [*California Water Code Sections 10750-10756*].[82] The Groundwater Management Act provides a systematic procedure for an existing local agency to develop a groundwater management plan.

6.7 | CULTURAL RESOURCES

EXISTING SETTING

The Cultural Resources analysis evaluates known prehistoric and historic uses in the Study Area, and the potential for existence of currently unknown heritage sites. A discussion of regulatory context is also included. Information used in this section is derived from Lindstrom's *City of Wheatland General Plan Update Heritage Resource Inventory – Wheatland, California / Yuba, Sutter, and Placer Counties* (1996), as well as from Peak Associates (2004).

Environmental review policies, in compliance with California Environmental Quality Act (CEQA) guidelines and county procedures, require that heritage resources be considered as part of the environmental assessment process. In compliance with CEQA regulations, a heritage resource evaluation was conducted for the Wheatland General Plan Update Study Area in order to analyze the potential impacts to extant heritage resources which could be affected by the adoption of the proposed general plan, and to determine what type of further study will be required in any given area during project level review. In order to accomplish this, the scope of the heritage resource evaluation is threefold: (1) to provide a broad overview of the history and prehistory of the Wheatland General Plan Update Study Area; (2) to conduct a literature search to identify existing heritage resources and provide a compilation of known heritage sites and their current condition (if known); and (3) to develop a sensitivity assessment of the Study Area based upon the expected likelihood of various locales to contain heritage resources. The Cultural Resources section presents the findings of this evaluation.

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[81] DWR. *California's Groundwater: Bulletin 118*. 2004.
[82] DWR. *AB 3030 – Groundwater Management Act*. 2004.

Prior archaeological investigations indicate that the overall archaeological sensitivity of the general region ranges from low to high, depending upon the particular microenvironment. The potential exists for both historic and prehistoric heritage resources to be found virtually anywhere, even in areas thought to be of relatively low sensitivity. Areas of "non-sensitivity" for heritage resources do not exist within the Study Area. Overall, the Study Area is highly sensitive to contain historic resources and of low sensitivity to contain prehistoric resources. However, one prehistoric site is reported in the Study Area, consisting of a possible midden deposit reported to contain human remains. The site is the only known prehistoric site in the Study Area, and has been damaged by agricultural activities. The site was recorded in 1977 as CA-YUB-751.

Research entailed a general literature review of prehistoric and historic sources concerning the project area (see Works Cited section). Apart from a vehicular tour of the Wheatland Study Area, no archaeological field reconnaissance was conducted. Archaeological inventories on file with North Central Information Center at California State University, Sacramento (NCIC-CSUS) and the Northeast Information Center at California State University, Chico (NEIC-CSUC) were conducted in order to identify any recent properties listed on the National Register, state registers and other listings, including the files of the State Historic Preservation Office.

Prefield research was also initiated with representatives of the Wheatland Historical Society and the City of Wheatland. Detailed published and unpublished information on the history of Wheatland is almost exclusively maintained by the Wheatland Historical Society.[83] Wheatland City Hall maintains an incomplete file of city documents (original ordinances and resolutions since ca. 1876); no historical maps are included in this collection.[84] An 1874 map showing lot ownership in Wheatland has been prepared by Peggy Luyster of the Yuba County Recorder's Office (on file at Wheatland Historical Society).[85] Sanborn Map Company Fire Insurance Maps for the City of Wheatland, December 1909, are also maintained by the Wheatland Historical Society. Other regional historical organizations and museums contain general regional histories as well, but do not carry specific information on the history of Wheatland (Mary Aaron Museum, Marysville, Karen Burrow, Curator, personal communication 1996; Sutter County Historical Society, Yuba City, Julie Stark, Assistant Curator, personal communication 1996). Oral histories were collected from residents knowledgeable in local history. In addition to the official records and maps for archaeological sites and surveys in Placer, Sutter, and Yuba counties, the following historic references were also reviewed: the National Register of Historic Places Listed Properties and Determinations of Eligibility – (1990 plus updates), California Historical Landmarks (1990 plus updates), California Points of Historical Interest (1992 plus updates), and the Directory of Properties in the Historic Resources Inventory (HRI, June 1994). Other local histories and secondary sources consulted are listed in the Works Cited sections of this report. General county histories and general information on the regional history are on file with the Yuba County Library, California Room in Marysville (Robertson, personal communication, 1996).

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[83] Neyens, personal communication. 1996.
[84] Belden, personal communication. 1996
[85] Luyster, personal communication. 1996.

Everett Smith, Maidu resident of Marysville, was formally retained under contract to address potential Native American concerns within the Study Area. In addition, members of the Native American Heritage Commission were also contacted (see Correspondence).

Project Location and General Characteristics

Two distinct property types exist in the project area. The first includes developed land with maximum coverage located within the commercial/residential core area of the city of Wheatland. On these lots, the existing development style includes past excavation and substantial grading as well as nearly 100 percent land coverage. Development potential in these areas is limited to redevelopment of existing disturbed land. Some existing commercial and residential buildings date to Wheatland's early historic period. The second property type includes agricultural parcels. In most cases, these properties have also experienced surface and subsurface disturbance through land grading for agriculture/grazing purposes. However, these parcels for the most part retain original grades and native/introduced vegetation mixes. Cultivated fields, orchards, dirt trails and roads, and ranch facilities are the typical disturbances found. These areas extend outward from the City's commercial/residential core.

The Study Area falls roughly between the Bear River on the south and Dry Creek on the north. Grasshopper Slough meanders through the central part of the Study Area. Unnamed remnant slough channels, shown on the USGS quad, may have also drained the area in times past. As part of flood control activities, the U.S. Army Corps of Engineers improved levees along the Bear River and Dry Creek. Water was diverted out of Grasshopper Slough into Dry Creek. Residents remember that Grasshopper Slough was a major watercourse before this diversion.[86]

The land forms a level floodplain of the Dry Creek-Bear River valley. The city of Wheatland occupies an upland erosional remnant between the Bear River and Dry Creek. The general Study Area borders a rise along the old channel of the Bear River on the south. Hydraulic mining debris clogged the channel between the 1860s and 1880s, and the sediments pushed the main channel approximately ½ mile to the south, where it remains today. The old channel is currently under orchard cultivation. Large portions of the project area are within the 100-year flood zone of the Bear River and Dry Creek. Prior to hydraulic mining, the Bear River may have been able to carry peak flows. Even prior to levee reconstruction along the Bear River, the downtown core of Wheatland largely escaped historic flooding, which often inundated the immediate surroundings (Neyens, personal communication 1996).

Geologically, the area is covered by the Mehrten Formation, a late Miocene-early Pliocene volcanic mudflow. Soils within the Study Area are a somewhat poorly drained reddish-brown gravelly clay loam, known as Wyman loam (Herbert and Begg 1969). This soil series is part of the Redding and Corning association, which consists of gravelly and cobble material containing a high percentage of quartzite and chert gravels. The soil has poorer drainage than is typical for

[86] Neyens, Juanita, 1996. Personal communication. President, Wheatland Historical Society, Mayor, City of Wheatland. Wheatland.

the Wyman series, due to the adjacent streams and an intermittent high water table (Herbert and Begg 1969). These soils are rich and highly favorable for the cultivation of most crops.

The Study Area falls within the Great Central Valley or Lower Sonoran Zone (Storer and Usinger 1971). The dominant overstory species within the project area are valley oak (*Quercus lobata*) and willow (*Salix* spp.). Blackberry (*Rubus vitifolius*) and other riparian species occur along Bear and Dry Creeks, Grasshopper Slough, and other remnant slough channels. Grass cover consists of annual grasses such as wild oats (*Avena* spp.), brome grasses (*Bromus* spp.), and fescue (*Festuca* spp.). Other species such as common mullein (*Verbascus thapsus*), star thistle (*Centaura solstitialis*), and plantain (*Plantago lanceolata*) are common in the area. The grass cover is dense during the winter and early spring, but dries up rapidly after the wet season. The seeds, leaves, stems, roots, and fruit of many of these plants served a multitude of subsistence and utilitarian purposes to prehistoric occupants of this area.

Much of the rural Study Area is currently in agricultural (crop) production. Nearly half of the land within the Study Area boundary consists of walnut and almond orchards. The other half of the Study Area is mostly cultivated. A small percentage of the Study Area acreage lies fallow in grass and annual weed species. Undeveloped portions are used as a nesting and hunting area for several species of waterfowl, birds, and small mammals.

Prehistory

Wheatland falls between regions with established archaeological sequences. Accordingly, the principal cultural chronology for the lower Yuba County region is drawn from cultural chronologies developed for three neighboring localities; (1) Sacramento Valley/Delta, (2) Lake Tahoe, and (3) the western Sierra foothills, namely (a) Bullard's Bar[87], Park's Bar[88], Garden Bar[89], Lake Oroville[90], Beale Air Force Base[91], and Lincoln/Roseville[92]. Current chronologies and the cultural entities to which they relate still require considerable refinement and study.[93] Archaeological affinities of the lower Yuba County region to one or more of these

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[87] Humphreys, S.D. 1969. The Archaeology of New Bullards Bar. National Parks Service Contract 414-10-4-940-23, Central California Archaeological Foundation. Sacramento.

[88] Johnson, J.J. and D.J. Theodoratus. 1978 Cultural Resources of the Marysville Lake, California Project (Parks Bar Site), Yuban and Nevada Counties. Submitted to the U.S. Army Corp of Engineers, Sacramento District, Sacramento.

[89] Johnson, J.J. and D.J. Theodoratus. 1978. *Cultural Resources of the Marysville Lake, California Project (Parks Bar Site), Yuba and Nevada Counties*. Submitted to the U.S. Army Corp of Engineers, Sacramento District, Sacramento.

[90] Riddel, F.A. and W.H. Olsen. n.d. An Archaeological Reconnaissance of New Bullards Bar Reservoir. Yuba County.

--Ritter, E. 1968. Culture History of the *Tie Wiah* (4-But-S84). Oroville Locality. Manuscript on file University of California, Davis.

[91] Nilsson, Elena, Russell Bevill, Jerald J. Johnson, Amy Huberland, and Michael S. Kelly. 1995. *Cultural Resources Inventory and Evaluation of 14,700 Acres on Beale Air Force Base, Yuba County*. Prepared for Beale Air Force Base by Dames and Moore, Inc., Chico. Manuscripts on file NCIC-CSUS, Sacramento.

[92] Jackson, Thomas L. 1995. *Cultural Resources Inventory, Twelve Bridges Project, Lincoln, Placer County*. Pacific Legacy, Inc., Aptos. Manuscript on file NCIC-CSUS, Sacramento.

[93] Nilsson et al, 1995. Op cit.

archaeological sequences is presently unclear. To date, little progress has been made toward reconciling their regional archaeological records.[94]

Tahoe Sierra Archaeological Sequence

The archaeology of the north-central Sierra region was first outlined by Heizer and Elsasser (1953) in their study of sites located in Martis Valley in the Truckee-Tahoe Basin. Subsequent research within the Tahoe Sierra has produced a more detailed picture and revision of the region's culture history. A broad view divides the prehistory of the Sierra Nevada and adjoining regions into intervals marked by changes in adaptive strategies that represent major stages of cultural evolution. At the regional level, in the Tahoe Sierra for example, finer grained archaeological phases divide local prehistoric sequences.[95]

Lincoln/Roseville Area

Other investigations in the lower foothill/valley edge region have identified a similar assemblage of "Martis-Like" artifacts, namely along Dry Creek[96] and along Auburn Ravine[97] in the vicinity of Lincoln and Roseville, with sites dating back to 500 B.C. Recent test excavations within the Twelve Bridges Project near Lincoln[98] suggest use of the area as early as 2,500 years ago (Late Martis/Middle Horizon period) up until the time of historic contact and/or the malaria epidemic of 1833. There is no direct evidence of post-contact use or occupation at the investigated sites. Preliminary conclusions drawn from archaeological investigations in the Twelve Bridges Project suggest seasonal use and/or occupation by groups with closer affinities to foothill/mountain groups than Central Valley groups.[99]

Bear/Yuba River Area

Between 1984 and 1985 archaeological, ethnographic, and historical research was conducted in the area of the proposed Garden Bar Reservoir, along the lower Bear River in Nevada and Placer counties.[100] No specific chronology was established for this area but valuable archaeological data were collected.

In 1975, California State University, Sacramento, conducted extensive archaeological and ethnohistorical investigations within the area of the proposed Marysville Lake Project, situated in the Sierra Nevada foothills in the vicinity of Parks Bar on the Yuba River.[101] Numerous

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[94] Peak and Associates, 1995. Op cit.

[95] Elston, R.G., J.O. Davis, A. Leventahal and C. Covington. 1977. *The Archaeology of the Tahoe Reach of the Truckee River*. Manuscript on file Nevada Archaeological Survey. University of Nevada, Reno.
--Elston, R.G., K. Ataman and D.P. Dugas. 1995. *A Research Design for the Southern Truckee Meadows Prehistoric Archaeological District*. Manuscript on file Toiyabe National Forest. Sparks.

[96] Palumbo 1963. Op cit.

[97] Robinson 1967. Op cit.

[98] Peak 1995. Op cit.

[99] Peak 1995. Op cit. Pages 7 and 8.

[100] Johnson and Eddy, Op cit.

[101] Johnson and Theodoratus, 1978. Op cit..

prehistoric sites were recorded, and an ethnographic study of the northern Hill Nisenan was produced.

The finding of Windmiller type/Early Horizon artifacts at CA-Sut-23 on the Bear River southeast of Wheatland[102] represents the time period between 3,000 and 4,000 years ago in this portion of the Central Valley fringe. The presence of manos and pitted petroglyphs indicate that some Windmiller-related peoples visited the vicinity of what is now Beale Air Force Base during earlier times.[103]

Ethnography

The Study Area is within the territory once claimed by the Valley Nisenan, or Southern Maidu, a Penutian-speaking central California group. Their traditional homelands once included the lower drainages of the American, Yuba and Bear Rivers, and the lower reaches of the Feather River.[104] The Hill Nisenan had settlements higher up in these drainages. The Nisenan were the southernmost of the three Maiduan divisions,[105] inhabiting the northeastern half of the Sacramento Valley and the adjoining western slopes of the Sierra Nevada.

Nisenan groups in the valley tended to define themselves by stream systems, and native communication often followed these waterways. In the foothills and mountains, the major drainages became formal or informal boundaries, with the land in between forming the districts. The Placerville District is between the Cosumnes River and the Middle Fork of the American River, the Auburn District between the Middle Fork of the American River and the Bear River, and the Nevada City District between the Bear River and the Yuba River.[106] The Nisenan recognized several political divisions within their territory.[107] One such center was at the mouth of the Bear River, including the valley drainage of the Bear and a stretch of the Feather River. The Bear River may have been a potential boundary. In Overland Monthly, Powers wrote: "As you travel south from Chico the Indians call themselves Meidoo, until you reach the Bear River; but below that it is Neeshenam, or sometimes Mana or Maidee, all of which denote men or Indians.[108]"

Named ethnographic villages occur in the vicinity of Rocklin, Lincoln, Loomis, Horseshoe Bar, Newcastle, and near Auburn,[109] and along the upper and lower reaches of the Yuba River.

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[102] Olsen, Willam H. 1959. Archaeology of CA-Sut-23, the Watson Site. Manuscript on file California State Department of Parks and Recreation, Sacramento.
[103] Nilsson et al, 1995. Op cit.
[104] Wilson, N. and A. Towne. 1978. Nisenan. In *Handbook of North American Indians: California*, Volume 8.R.F. Heizer, Editor. Washington D.C., Smithsonian Institution.
[105] Maidu, Konkow, and Nisenan
[106] Wilson, Norman. 1994.. *Notes on the Occupation of Foothill Nisenan at Contact Times in the Auburn-Lincolns Area, Placer County*. Unpublished manuscript on file with the author. Auburn.
[107] Wilson and Towne, 1978. Op cit.
[108] Powers, S. 1877 Tribes of California. *Contributions to North American Ethnology* Volume III. U.S. Department of the Interior, Geographical and Geological Survey of the Rocky Mountain Region, Washington D.C. [Reprinted by University of California Press, Berkeley 1976; serials in Overland Monthly]
[109] Wilson, Norman. 1993. *A Cultural Resource Assessment of the Horseshoe Bar Project, Loomis, Placer County.* Manuscript on file NCIC-CSUS. Sacramento.

Kroeber[110] lists no villages along the lower reaches of the Bear River. None have been formally located for Wheatland and its environs. Wheatland residents[111] report an "old Indian burial ground" located at McCourtney Crossing, now covered most of the year by water from Camp Far West Reservoir.[112] Dorothy Boom,[113] granddaughter of early Wheatland pioneer Leona Scott Dam, occasionally fed biscuits to visiting groups of Indians in the 1800s. Grace Nightengayle[114] notes that her family once hired Indian sheepherders on their foothill ranch east of Wheatland. She recalls that most Indians during these early times lived along the Yuba River, nearer Marysville. Many died of smallpox; their bodies are now buried deep within the Yuba River gravels. Apart from these accounts, no other evidence of Native American use of the immediate project vicinity has been reported.

Major villages known as *Lelikian* and *Intanto* are recorded as being located upstream of Wheatland along the Bear River.[115] These people traded and visited with the Indians of the Forest Hill Ridge and used this ridge route to cross the Sierras to trade with the Washoe.[116] Named villages along the Yuba River were *Chiemwie*, *Onopoma*, and *Panpakan*. Adjacent to the confluence of the Yuba and Feather Rivers were the villages of *Yupu* and *Taisida*.[117] Other major Valley Nisenan settlements are recorded at *Pit chi ku* (Roseville), at *Ba ka cha* (Rocklin), and at *Ba mu ma*, a salt spring near the town of Lincoln.[118] (Littlejohn 1928:34; Wilson and Town 1978:388).

Hill and mountain Nisenan winter villages were located on ridges adjacent to streams or on flats along the rivers, often between the 1,000 and 2,000 foot level, out of the fog belt and with a southern exposure.[119] These villages were generally smaller than those of the valley people, and during certain periods of the year, many families lived away from their main villages while they engaged in subsistence activities. Every part of their territory was within one or two days' journey from the winter village; thus, it was possible to have some winter movement to the valley floor or up into the mountains by small groups of hunters, families, or those who wanted to visit or trade.[120]

Few villages occupied the valley plain between the Sacramento River and the foothills. Although both the valley and foothill people hunted and gathered there, the resource focus was along the edges of rich ecotones, either the rivers and the valley floor, or the valley floor and the

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[110] 1925: Pl. 37.
[111] Neyens, Juanita. 1996. Personal communication, archaeologist, Dames & Moore, Chico.
[112] Nelson, Earl D. and Associates. 1986. *Land Use Element and Environmental Impact Report, City of Wheatland General Plan*. Manuscript on file City of Wheatland, Wheatland. Page 10.
[113] Ibid.
[114] Ibid.
[115] Wilson and Towne, 1978. Op cit.
[116] Wilson, 1994. Op cit. Page 6.
[117] Wilson and Towne, 1978. Op cit. Figure 1.
[118] Littlejohn, Hugh W. 1928. *Nisenan Geography*. Manuscript on file, Bancroft Library, University of California, Berkeley.
--Wilson and Towne, 1978. Op cit.
[119] Wilson, 1994. Op cit.
[120] Wilson, 1994. Op cit.

foothills.[121] The plains surrounding Wheatland fall in between these two rich ecotones. Low site densities were found in similar open and exposed terrain west of Lincoln. The lands at what is now Beale Air Force Base did not support a resource base that was critical to the survival of prehistoric peoples. The open exposed terrain along the western edge of the Sierra Nevada foothill region is very hot in the summer and very damp in the winter, thus limiting the amount of time most Native Americans would undertake subsistence activities there. Thus, it is not likely that Native Americans would have spent an appreciable amount of time in the area, instead retreating to villages and camps along the lower Yuba River to the north, and back into the hills to the east where they would find abundant shade, water, and protection from the wind and potential enemies.[122] The availability of firewood may also have been a strategic factor in locating villages in the foothill oak woodland.[123]

Nisenan villages consisted of from four to 12 separate dwellings, housing a nuclear or polygamous family, with the main cooperative or corporate unit being an informal bilateral "family". Larger social organizations, called tribelets, were formed by several villages uniting under a single chief. Permanent semisubterranean dwellings (*hu*) and a dance house (*kum*) were constructed at these year-round village sites. Seasonal camps were located along creeks, and temporary lean-to structures with some mud covering at the base were built.

In addition to village sites, daily activities were carried on at seasonal camps, quarries, ceremonial grounds, trading locations, burial grounds, task-specific sites for fishing, hunting, and gathering vegetable foods, river crossings, and battlegrounds. These locales were accessed by a network of trails. Major north-south trails along the margin of the foothills that were usable year round, as were other east-west trails along the natural levees of the stream courses.[124]

As with most hunters and gatherers, vegetable food resources formed the subsistence baseline for the Nisenan. The Nisenan used a wide range of floral and faunal species, although they apparently made extensive use of only a small percentage of these. The least productive time of the year was late winter-early spring. The salmon run began in late spring. Roots were dug in the spring and were consumed raw, steamed, baked, or were dried for later use. Grass seeds were harvested in summer. Acorns became available in massive quantities in the autumn. An acorn diet was the hallmark of California Indians, and acorns were the primary staple for those groups who inhabited the foothills of the Sierra.

Nisenan population in pre-contact times is thought to have numbered around 9,000.[125] Euro-American expansion into the Sacramento Valley during the 19th century initiated a series of changes which proved devastating to native American populations. In 1833, a great malaria epidemic which swept through the Sacramento Valley killed an estimated 75% of the Valley Nisenan population. The malaria seems to have been introduced by the Hudson Bay trappers in

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[121]Ibid.
[122]Nilsson et al. 1995. Op cit. Page 126.
[123]Wilson, 1994. Op cit.
[124]Ibid.
[125]Kroeber, A.L. 1925 *Handbook of the Indians of California.* Bureau of American Ethnology Bulletin 78. Washington D.C.

1831-32.[126]. The 1833 epidemic that decimated the Indians in the central Valley played a major role in defining the post-Contact land use pattern of the Indians of the region, as well as impacting the Euro-American economic development.[127] By the end of the 1830s, over half of the original population was gone and the survivors were facing a time of great stress and the rapid destruction of their prehistoric way of life.[128]

The malaria remained endemic, with frequent sharp local outbreaks until 1880, afflicting both the remnant native populations and the early settlers, namely military personnel at Camp Far West and mining camps of the Sierran foothill region.[129] Wilson has suggested that the few Valley people surviving the epidemic joined the Hill bands with villages at higher elevations. As the known season in which the illness could be contracted is the late spring to early fall months, June to September,[130] Indians returning to the Wheatland area during this time would risk contracting the disease. With the discovery of gold and the subsequent influx of a large Euro-American mining population after 1849, Maidu numbers were further reduced by disease and genocide. Surviving individuals were ultimately forced to permanently vacate their ancestral homes.

Valley and Hill Nisenan groups were culturally, linguistically, and presumably ethnically related, but there seems to be a separation of the Valley Nisenan and the Foothill Nisenan near the edge of the valley where the foothills start. Social and religious ties in the valley were stronger to the north and west along the rivers than to the east. Territory disputes and resource competition prevailed between the valley peoples and the foothill peoples.[131] The valley peoples tended to interact socially and economically more with non-Nisenan valley peoples such as the Patwin, who lived on the western side of the Sacramento Valley, than with the Hill Nisenan. They were more oriented to the Sacramento, American, Yuba, Feather, and Bear Rivers on the valley floor. Their large villages with rich and complex cultural characteristics are usually found along these watercourses.[132] For example, Nisenan in the Roseville-Rocklin area seem to have been more influenced by the Valley Nisenan, while groups in the Loomis Basin fall into the Auburn-foothill sphere.[133] Similarly, Hill Nisenan peoples were more likely to have close relations with surrounding non-Nisenan hill and mountain peoples, including the Konkow, Mountain Maidu, Washoe, and Sierra Miwok. Valley flooding created tule forests, ponds and swampy areas, and helped insulate the edge of the foothills from the river peoples, at least until summer.[134]

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[126] Cook, Sherburne. 1943. *The Conflict Between the California Indian and White Civilization.* Ibero Americana: 21. Berkeley. University of California Press.
[127] Peak, 1994. Op cit. Pages 2-47.
[128] Wilson, Norman. 1995. A Chronology and notes on the European Discovery, Exploration and Settlement in the Sierra Nevada Region, 1542-1848. Unpublished manuscript on file with the author. Auburn
[129] Peak, 1995. Op cit. Pages 2-48.
[130] Peak, 1995. Op cit. Pages 2-48.
[131] Wilson, 1994. Op cit. Page 2.
[132] Ibid. Pages 1 and 2.
[133] Wilson, 1993. Op cit. Page 2.
[134] Wilson, 1993. Op cit. Page 2.

History

Early Explorations

In 1769, the Spanish government sent Father Junipero Serra into present-day California to establish missions among the Indians. The California Indian population plummeted during the mission period, and their lands came under Spanish ownership. Seeking more native souls to replace those in the coastal areas who had died, the Spanish began to explore the Central Valley. Expeditions led by Gabriel Moraga in 1808 and by Luis Arguello in 1821 crossed portions of present day Yuba County. While no Nisenan were removed to the missions, it is believed that they did harbor escaped missionized Indians.

Throughout the 1820s and 1830s, the Wheatland vicinity was visited by trappers from the Hudson's Bay Company and American Fur Company, exploiting beaver and other fur resources. These and other trappers set up temporary camps in Nisenan territory and relationships were friendly. John C. Fremont explored the area in 1846.

Early Settlement

California came under Mexican rule in 1822 when Mexico became independent of Spain. As British and Americans were allowed to become Mexican citizens, they acquired large tracts of land granted to them by Mexico and initially dominated the business and commercial affairs of the region. Land in California was first granted by Mexican governors. John Sutter initially established land holdings that included much of what is now Yuba County. Sutter owned more than Mexican law permitted; therefore, he sublet parts of his estate to other settlers. In 1844, a Mexican who had been in the employ of Sutter, Don Pablo Guttierez, obtained a grant of five leagues on the north side of Bear River, now known as the Johnson grant.[135] The land grant, dated December 22, 1844, was first known as Rancho de Pablo, for Pablo Guttierez, the grantee. Wheatland falls within the center of this land grant. During 1844 Guttierez built an adobe house at the place afterwards called Johnson's Crossing, located about three miles east of Wheatland. Guttierez was killed in 1844-45 in the Micheltorena campaign and his grant was sold at auction by Sutter, as magistrate of the region. The land was purchased for $150 by William Johnson and Sebastian Kyser, who settled there the same year. After the purchase, the grant was divided, with Johnson taking the east half and Kyser the west. In 1846 they built an adobe house a short distance below the crossing.

For several years after 1845 Johnson's Ranch was well known as the first settlement reached by the overland immigrants after crossing the Sierra[136] and is considered to be the end of the Emigrant Trail.[137] Here immigrants rested and obtained supplies. In 1847 it was the base from

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[135] Thompson and West. 1879. History of Yuba County, California. Oakland
--Delay, Peter J. 1924. History of Yuba and Sutter Counties. Los Angeles: Historic Record Company.
--State of California, Department of Parks and Recreation. 1976. *California Inventory of Historic Resources*. Sacramento. Page 139.
--1928: 159.

[136] Gudde, E.G. 1974. *California Place Names*. Berkeley: University of California Press. Page 158.

[137] State of California, 1976. Op cit.

which survivors of the Donner Party were rescued. Sebastian Kyser served as a member of one rescue party. Among those rescued was 16-year-old Mary Murphy, who met Johnson and married him that June. She divorced him that same year and married Charles Covillaud, another immigrant who visited the Rancho. Her name was given to the new town of Marysville that Covillaud laid out in 1849-50.

By 1849 there were a number of settlements along Bear River established by people engaging in mining, the livestock trade, trading post, sawmills, hotels, cutting hay, and raising cattle.[138] Johnson's Crossing provided a way station for teams engaging in hauling freight from Sacramento to the northern mines.[139] It also became a stopping place for trappers, explorers, and travelers. In the year 1846 the Rancho was visited by various explorers and immigrants. John C. Fremont and Kit Carson camped at Johnson's Rancho in 1846. General Stephan Watts Kearney and his troops stayed at the Rancho in 1847. Traffic at Johnson's Crossing appears to have decreased to a point where in 1854 it was reported that the crossing was rarely used (Horn 1988:5). A chain of title to the Johnson Rancho is provided in Thompson and West's (1979) and Delay's (1924) county histories.

The Donner Party in Wheatland

For several years after 1845 Johnson's Ranch was well known as the first settlement reached by the overland immigrants after crossing the Sierra (Gudde 1974:158) and is considered to be the end of the Emigrant Trail (State of California 1976:139; 1982:159; *Wheatland News* 3/16/1973). Here immigrants rested and obtained supplies

The Donner Party is the name given to a group of emigrants, including the families of George Donner and his brother Jacob, who became trapped in the Sierra Nevada Mountains during the winter of 1846-47. Nearly half of the party died, and the survivors were brought to the Johnson Ranch in Wheatland after being rescued in 1847. At the ranch they rested and restored their health before heading on to Sacramento. Among those rescued was 16-year-old Mary Murphy, who met Johnson and married him that June. She divorced him that same year and married Charles Covillaud, another immigrant who visited the Rancho. Her name was given to the new town of Marysville that Covillaud laid out in 1849-50. The Donner Party has become legendary as the most spectacular episode in the record of Western migration (Virginia Western, 2004).

Mining

Geologically, the Wheatland Study Area lies west of the Mother Lode, well away from the major gold mining region. In contrast to the richness of the Mother Lode region to the east and the placer deposits in the rivers to the north and south, mineral deposits within the region are limited to placer gold along the minor drainages and copper deposits in the foothills to the east.

--State of California, Department of Parks and Recreation. 1982. *California Historical Landmarks*. Sacramento.

--*Wheatland News*, 3/16/1973.

[138] Thompson and West, 1879. Op cit.

[139] Hoover et al. 1966. Op cit.

The Study Area falls within the Wheatland (or Bear River) placer gold mining district.[140] During the gold rush, placer gold was recovered from nearby creeks and streams.[141] John Marshall discovered gold at Sutter's Mill, near present-day Coloma, in 1848. Soon afterwards, the gold rush began and the region became quickly populated with prospectors, entrepreneurs, and others seeking easy fortunes. After June 1848, miners began working the ravines east of Wheatland.[142] By about 1851, a number of miners were working small bars on the Bear River, downstream from Camp Far West.[143] In 1876 there was some dry washing of gold at Camp Far West, but little production.[144]

Hydraulic gold mining began in California as early as 1853, and by 1857 it had become widely practiced in the Sierra Nevada. Sediments washed down from hydraulic mining sites in the Sierra Nevada altered the Bear River's pre-existing course near Wheatland for several miles, filling the river's original 25- to 30-foot deep channel and creating a new channel ½ mile south of the old bed. From 1866 to 1869, the Bear River almost ceased to run except on Sundays, the only day of the week on which water was not being used by the miners.[145] Hydraulic mining was finally curtailed by a court order in 1884 because of the massive environmental damage it caused. Meanwhile, many settlements and much agricultural land had already succumbed to the effects of the mining industry. Many farmers were forced to move to higher lands.[146] Along the Bear River, all the bottomland was destroyed except a small strip near Wheatland that had been protected by a levee constructed by A.W. VonSchmidt. This proved to be the protection that saved Wheatland and the adjoining lands.[147]

Beginning in 1862, a brief copper rush occurred in the vicinity of what is now Beale Air Force Base. Spenceville housed a smelter which processed ore from the San Francisco Copper Mine.[148] The Spenceville copper mines in Nevada County shipped their product, copper cement, out of Wheatland.[149] Copper was also extracted from mines at Dairy Farm and Valley View near the community of Sheridan.[150] Another copper mine operated near McCourtney Crossing, also in the Spenceville area.[151]

Bucketline and dragline dredging was carried on to a limited degree in the creek channels east of Wheatland. Soon after the turn of the century, Wendel Hammond operated an unprofitable and short-lived bucketline dredging enterprise along the Bear River.[152] During the 1930s, dragline

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[140]Gudde, E.G. 1975. *California Gold Camps*. Berkeley: University of California Press.
[141] Clark, W.B. 1970. *Gold Districts of California*. California Division of Mines and Geology Bulletin 193. San Francisco.
[142] Nilsson et al. 1995. Op cit.
[143]Thompson and West, 1879. Op cit. Page 77.
[144] Gudde, 1975. Op cit. Page 57.
[145] Thompson and West, 1879. Op cit. Page 137
[146]Ibid. Page 130.
[147]Ibid. Page 130. and 137
[148] Hoover, B., H.E. Rensch and E.G. Rensch. 1966. *Historic Spots in California*. Stanford: Stanford University Press.
[149] Neyens, Juanita. 1974. *Wheatland*: 1874-1974. Wheatland Historical Society. Wheatland.
[150] Wells, John. 1996. Personal communication. Consulting Mining Engineer. El Dorado Hills.
[151] Neyens, 1996. Op cit.
[152] Wells, 1996. Op cit.

dredges were operated in some of the ravines by outfits such as the Bear River Mining Company.[153, 154] Dredging also occurred from the late 1930s until 1942 on the Horst Ranch.[155] During 1936-37, Wells[156] sampled ground for its potential gold content in the vicinity of Wheatland; low yields did not warrant further mining.

Transportation

Roads

Travel along the Emigrant Trail during the 1840s and the discovery of gold in 1849 brought thousands of people through the Wheatland region. Some of these travel routes are depicted on early maps of Johnson's Rancho and early General Land Office (GLO) Survey Plats dating from the 1850s. Of special mention is the Sacramento and Nevada Road, shown on the 1856 GLO plat as trending northeast-southwest through the Study Area. The Spenceville Road (Wheatland-Smartville Road) accessed Johnson's Rancho and Camp Far West. The Wheatland Road accessed communities west of Wheatland. A number of other secondary and tertiary roads are shown on early USGS quad maps (1949 and 1953) as crossing through the Study Area, including Highway 65. Highway 65 was elevated during the 1930s. Neyens describes early routes to Marysville, Lincoln, and Nicolaus through the Study Area:

> "Roads to Marysville and to Lincoln or to Nicolaus were not in the same location they are today. To go to Marysville before 1915 you had three routes. You could go out Wheatland Road to Oakley Lane, down Oakley Lane to Bradshaw Road, up Ostrom Road to Ostrom Station and then on in to Marysville. Or you might go up Jasper Lane to Ostrom Road and on in. The other route took you out Oakley Lane to Dairy Road and up to Forty-mile Road from the Plumas School. To travel to Sheridan you would go out Malone Ave., cross the Bear River and head toward the old Brock Ranch in Sutter County, turn and go toward Sheridan; or you could continue on past the Brock Ranch to the old road into Lincoln.
>
> The main route between Wheatland and Sacramento was the old county road along Malone Street. In the 1930s the route was changed over to D Street."

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[153] Clark, 1970. Op cit. Page 130.
Gudde, 1975. Op cit. Page 368.
Wells, 1996. Op cit.
[154] *Appeal*. August 11, 1910.
[155] Neyens, 1996. Op cit.
[156] Ibid.

Railroads

The original line of the California Central Railroad (also known as the California and Oregon Railroad, Southern Pacific Railroad, and now Union Pacific [UPRR]), transects through the heart of the Study Area, bisecting the City of Wheatland with the main business district formed around the depot. The railroad commenced construction of a line from Folsom to Marysville in 1858, and by 1861, track was laid as far as Lincoln. The terminus was changed to Wheatland in 1866 and stage and teaming business was transferred there also.[157] Around that time, the railroad's name was changed to California and Oregon Railroad, and by 1879 it went under the title of the Oregon Division of the Central Pacific Railroad.

The building of the California Central Railroad northward from Folsom did away with staging and teaming up and down the Sacramento Valley. Millions of dollars of freight passed through the Wheatland depot before it was torn down in 1960. Freight was brought to Wheatland on the railroad and then transferred to wagons with huge teams of horses to be transported to Spenceville, Smartsville, Rough and Ready, Grass Valley, and other mountain towns. The merchants in the City of Wheatland brought large loads of supplies to Wheatland by railroad, as this was the shopping center for the Erle districts and the foothill area between the Yuba and the Bear Rivers. As an example of business done by the rail line, the freight hauled in 1878 was 11,984 pounds forwarded from Wheatland and 6,295,590 pounds received from Wheatland.[158] The line hauled more than freight. At the turn of the century seasonal hop workers arrived and departed by train, as special trains were scheduled to carry migrant workers.[159] When the agricultural industry switched to peaches, the Wheatland depot was a leader for produce shipment.[160] The depot closed in 1957 after 75 years of operation.

Settlement

Placer gravels along the lower reaches of the Bear River were not very productive and the Wheatland area was more suited to those industries supporting gold mining. Located adjacent to major routes to the gold fields and falling within a favorable climatic zone, the area quickly became a center for farming and ranching.

Claude Chana was one of the earliest farmers along the Bear River. Chana worked as a cooper for Sutter and then left for the gold fields. He discovered gold in Auburn's Ravine, the second major gold discovery. Chana returned to the Wheatland area and invested his mining profits into vineyards, orchards, and gardens along the Bear River. Chana erected the earliest grist mill in Yuba County, using the river for water power. His holdings were ruined by mining-induced floods along the river. Chana lived in the district until his death in 1882. He is buried in the Wheatland Cemetery. The Wheatland parlor of Native Daughters of the Golden West has marked his grave, and there are statues of Chana in Auburn and Colfax.

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[157] Hoover et al. 1966. Op cit. Page 268.
[158] Thompson and West, 1879. Op cit. Page 111.
[159] *Appeal*, September 20, 1947.
[160] Ibid.

Another unsuccessful attempt establish a community on Johnson's Rancho along the Bear River near Johnson's Crossing occurred in 1849 when lots were laid out for the town of Kearney. The town was never settled.[161]

Another settlement, Kempton's Crossing, was successfully established along the Bear River southeast of Wheatland in 1849. In that year, a miner named Robinson settled on the Bear River and established a river crossing. A crude bridge was constructed in 1850. In 1852, Nathan Kempton took a section of land on the river and raised and cut hay. The community developed into a prosperous town until it was plagued by flooding in the early 1860s caused by hydraulic mining upstream. The river widened and became shallower, completely flooding the town in 1874. The ending of Kempton's Crossing signaled the beginning of the City of Wheatland.[162] Residents abandoned Kempton's Crossing and relocated to nearby Wheatland.[163] The entire life span of Kempton's Crossing covered a period of not more than 30 years.

The town of Wheatland derived its name from the vast amount of wheat grown in the vicinity in its early history, which was shipped by rail from that point.[164] (Delay 1924:199; Gudde 1974:362). The town was often referred to as "Four Corners," due to its proximity to the junction of Yuba, Sutter, Placer, and Nevada counties. The Wheatland Post Office was established as Johnson's Ranch in Sutter County on November 21, 1853 and was moved to a Yuba County location in 1866.[165] In 1866 the Central Pacific Railroad was completed to Wheatland and a post office was established. That same year the town was surveyed and laid out by George Holland. The chain of title to the town lots is enumerated in Thompson and West's[166] and Delay's[167] county histories. Neyens[168] has produced a detailed history.

The first building in the town was a saloon. A store, blacksmith shop, hotel, and a few residences were constructed in the first year. Not until 1871-72 did the sale of lots boom. The town incorporated in 1874.

At the time of incorporation in 1874, the population was 900, 300 of which were Chinese. Most all Chinese came as workers on the railroad. They worked in support industries (laundries, restaurants) and later were employed as hop workers.[169] A thriving Chinatown existed from the 1860s through the early 20th century. Anti-Chinese sentiment forced its relocation several times.[170] The center of the Chinese burial rite was a ceremonial pyre near the Wheatland Cemetery, where final meals were cooked for the deceased. The Chinese were buried nearby until they could be shipped back to China for final internment.

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[161] Thompson and West, 1879. Op cit. Page 778.
[162] Neyens, 1974. Op cit.
[163] Ibid.
[164] Delay, 1924. Op cit. Page 199.
Gudde, 1974. Op cit. Page 362.
[165] Gudde, 1975. Op cit. Page 362.
Neyens, 1974. Op cit.
[166] Thompson and West, 1879. Op cit.
[167] Delay, 1924. Op cit.
[168] 1974
[169] *Appeal*, June 10, 1888.
[170] *Wheatland News*, March 30, 1973.

Thompson and West in 1879 described Wheatland as a "flourishing" town situated in East Bear River Township. By 1879 Wheatland supported a railroad depot, warehouses, a flour-mill, winery, lumber yard, numerous hotels, stores and ships, a bank, one newspaper, post office, Well Fargo & Co. express office, a city hall, Odd Fellows Hall, churches, a school, and about 80 dwellings. The Wheatland telephone exchange was one of the first in California, commencing service in 1893, 17 years after Alexander Graham Bell patented the telephone. Wheatland's telephone service boasted of being the "best in the state."[171] By 1900 the population of Wheatland had reached 1,000.[172] There were milling and grain warehouses, livery and feed stables, downtown stores and SPRR depot, bank, newspapers, churches, schools, hotels, and a theater. The town suffered three disastrous fires, one in 1880, another in 1898, and another in 1903.[173]

Wheatland's first subdivision was built in 1953 when Charles Nichols developed his property bordering the northeastern part of the city. Ten homes were built in the first project that led to the first housing development within the city of Wheatland. The city's rate of commercial and residential development has been slow relative to the growth rates of nearby areas such as Marysville/Yuba City and particularly south Placer County. Over 78 percent of the city's housing was built prior to 1960 and only 14 percent has been built since 1975. The rate of development is expected to increase significantly as a result of the 1995 Specific Plan, which was adopted in 1990. The 1995 Specific Plan, if fully built out, will provide an additional 850 housing units, the vast majority of which are single-family units. The plan also allocates approximately 15 acres of land for commercial development along Highway 65.

Historic landmarks in the city of Wheatland are shown in Figure 6-7.

Agriculture and Ranching

The Wheatland area was one of the first regions in Yuba County to be agriculturally developed, due to its rich land along rivers and creeks. Initially, the transient mining populations caused little interest in agriculture. Rather, all agricultural products were imported and fortunes were to be gained in the mines. However, after 1852, many failed miners turned to agriculture.[174] Lands surrounding the present day Wheatland proved to be fertile ground for early agricultural and ranching pursuits for vineyards, orchards, grain, and beef stock.[175] Early settlers cut timothy grass and red clover that grew in abundance along rich river bottoms. Eli A. Harper settled on the Johnson grant in 1852 and cut hay where Wheatland now stands. Hay was hauled up to the mines in exchange for lumber.[176] The chief crops were wheat, barley, potatoes, and hay. Grain (barley) was first harvested in 1852 below Camp Far West. Early on, Johnson and Kyser had a small field of wheat and Indians assisted in the harvest.[177] Before 1855 there was not much

[171] *Appeal*, June 10, 1888.
[172] *Appeal-Democrat*, January 23, 1960.
[173] Appeal, September 20, 1957.
[174] Thompson and West, 1879. Op cit. Page 130.
[175] Ibid. Pages 77 and 130.
[176] Ibid. Page 77.
[177] Thompson and West, 1879. Op cit. Page 130.

Figure 6-7
Wheatland Historic Sites

Source: EIP Associates; and Mintier & Associates

wheat raised.[178] However, when it was established that wheat could be shipped abroad without spoilage, the state focused on farming. The crops of wheat, potatoes, and barley grown between the early 1860s and the 1880s made Wheatland a trading center and a vital food supplier. Hops were the chief crop between the 1890s and 1920, when Wheatland was known for having the largest independently owned hop ranch in the world. During the 1930s and early 1940s, peaches overshadowed the hop industry. The peach industry has since given way to almonds, walnuts, and rice.

The bottomlands along the Bear River, Dry Creek, and Grasshopper Slough were especially fertile, as they were continually subject to flooding. Dry Creek and Grasshopper Slough were reported to be miles wide and the adjacent country was flooded to a depth of from one to four feet.[179] In extreme instances, the downtown area was flooded, but usually floodwaters did not inundate the town.

Hop raising on a small scale was carried on in Yuba county in 1859.[180] D.P. Durst planted the first hops in the Wheatland area in 1874. This ranch was the largest privately owned hops field in the world. Soon the hops industry caused Wheatland to be known as the "Hop Center."[181] Migrant workers throughout the region were drawn to Durst's ranch. Indians from Nevada were also procured as hop pickers.[182] The Durst hop ranch was the scene of one of the first labor disturbances in California. In 1913, violence erupted at a meeting organized by the Industrial Workers of the World (IWW) to protest low pay and intolerable living conditions of the hops pickers. The confrontation ended in four deaths (there is a marker that still stands near the Hop Kilns just south of the city (see Photo 6-1). The California state militia had to be called in to break up the riot,[183] in which the sheriff, the district attorney, and two workers were killed. The organizers of the strike were convicted of murder and sentenced to life imprisonment. In the wake of this tragedy, the governor created a commission to investigate the condition of migratory farm laborers, and some reform legislation was passed. However, no substantive improvements occurred and influence of the IWW in the Central Valley waned.[184] By 1925, Wheatland, then with a population of about 450, was listed as the second largest hops producer, employing 4,000 during harvest seasons.[185] Later in the 1920s, frequent slumps in the hops commodity caused the landowners and growers to turn to fruit and vegetables with marked success. Fruit and nut orchards soon replaced hops in importance. Four abandoned kilns at the E. Clemons Horst Ranch and the Damon Estate are reminders of a exciting period of Wheatland history.

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[178] Ibid. Page 77.
[179] Neyens, 1974. Op cit.
[180] Thompson and West, 1879. Op cit. Page 131.
[181] Delay, 1924. Op cit. Page 199.
[182] Neyens, 1974. Op cit.
[183] *Appeal*, September 20, 1957.
[184] Hoover et al. 1966. Op cit. Page 596.
[185] *Appeal-Democrat*. January 23, 1960.

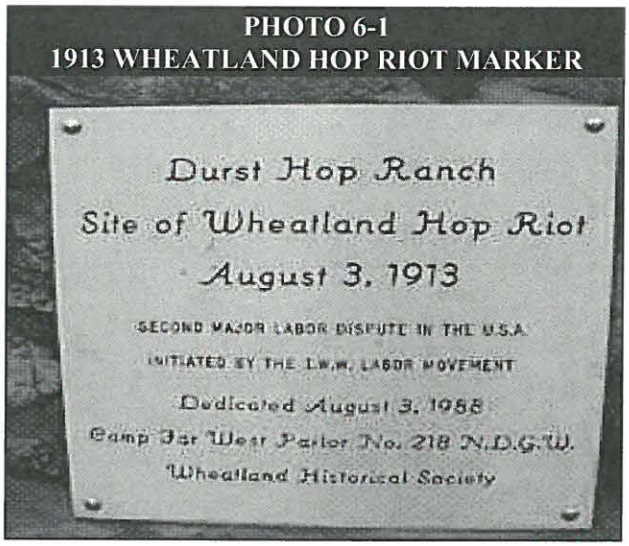

PHOTO 6-1
1913 WHEATLAND HOP RIOT MARKER

Source: Wheatland Union High School, 2004. Available at: www.wheatlandhigh.org

Military Activities

Camp Far West

Soon after the Donner tragedy, the U.S. government established Camp Far West, a military post located four miles east of Wheatland. The camp was established for the protection of American settlers in the Yuba region. Camp Far West was located on the Bear River and occupied one square mile on the north side of the river, in addition to a strip of 200 yards on the south side. The camp was located a few miles east of the Johnson Rancho house, and was in operation between 1849 and 1852.[186] Two companies of soldiers were stationed under the command of Captain Hannibal Day.[187] The army post had many problems – short supplies, deserters to the mines, etc.[188] Captain Hannibal Day lived out a miserable existence, being too much engrossed with fighting malaria and like ailments to give much aid in protecting settlers against hostile Indians, which was the designated purpose of the post.[189] "In common with the whole Sacramento Valley, this post is very sickly from June till October." No trace of the old log fort, barracks, and officers quarters remains today, but the site has been marked by the Native Sons of the Golden West.

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[186] Appeal, February 27, 1908.
Hoover et al. 1966. Op cti. Page 589.
State of California, 1976. Op cit. Page 139.
State of California, 1982. Op cit. Page 159.
Thompson and West, 1879. Op cit. Page 79

[187] Hoover et al. 1966. Op cit. Page 589.

[188] Van der Pas, Peter. 1989. Early Sawmills in Nevada County, Part One. *Nevada Historical Society Bulletin* 43(3). Nevada City.

[189] Neyens, 1974. Op cit.

Beale Air Force Base

In 1942, the U.S. government selected 86,000 acres of land in Yuba and Nevada Counties for the establishment of an Army base, Camp Beale, seven miles east of Wheatland. Today, families of personnel at Beale Air Force Base (Beale AFB) rely on support services in Wheatland.

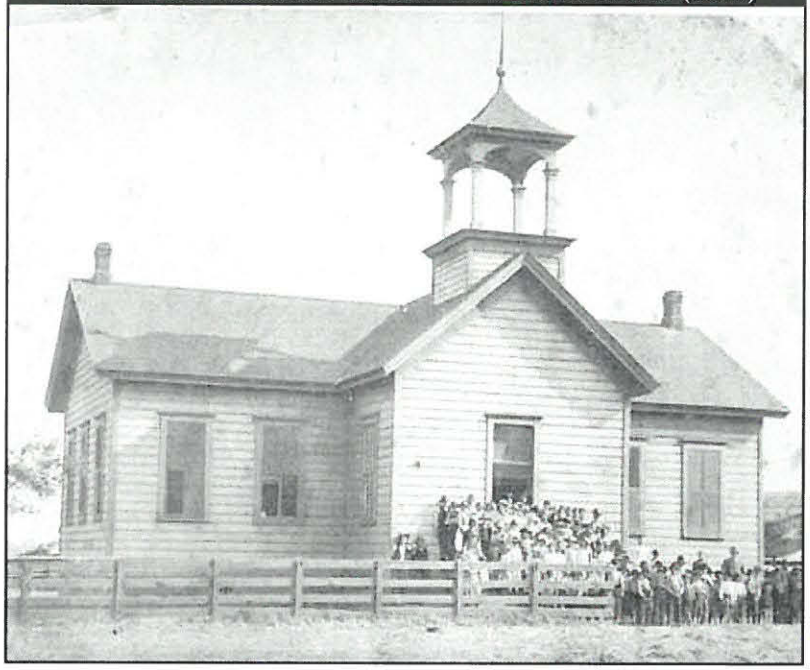
As part of the acquisitions to form Camp Beale, some 150 landowners relinquished their farms, houses, and ranch buildings to the War Department. These structures, spread out over the area between the communities of Linda, Smartville, Indian Springs, and Wheatland, were abandoned and many were dismantled by the government.[190] With the formation of Camp Beale, the small communities of Erle, Waldo, and Spenceville declined. Camp Beale was used as a training base for armored and infantry divisions, as a personnel replacement depot, and as a German prisoner of war camp. Following World War II, the camp was declared surplus, and 70% of the buildings were removed.[191] Remaining features constitute a potential National Register District.[192]

Schools

The very first public school near the town of Wheatland was established in the kitchen of the Roddan home in the late 1850's. Mr. Hollowman was the teacher and held school one term. The Hugh Roddan home at that time was located on Oakley Lane near Wheatland Road. The first official school house was constructed in 1879 (see Photo 6-2). Addition information on Wheatland's school system can be found in Chapter 5, Public Facilities and Services.

[190] Nilsson, 1995. Op cit. Page 51.
[191] Nilsson et al. 1995. Op cit. Page 18
[192] Nilsson et al. 1995. Op cit.

PHOTO 6-2
THE FIRST SCHOOL HOUSE IN WHEATLAND (1879)

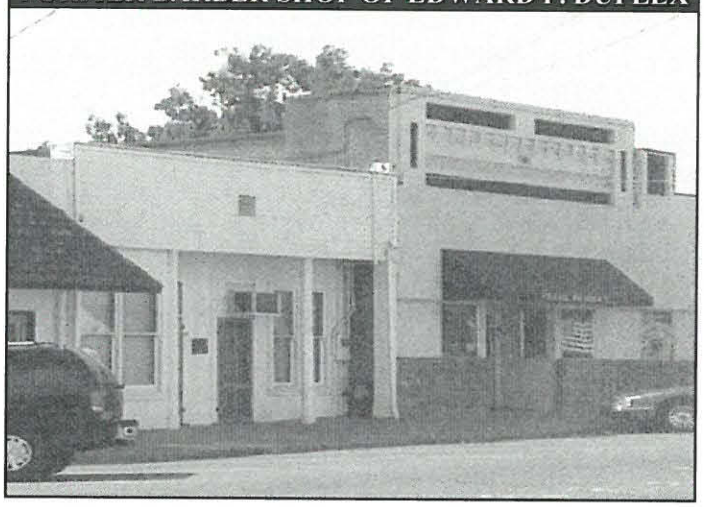


Source: Wheatland Union High School, 2004. Available at: www.wheatlandhigh.org

Edward P. Duplex

Another significant event is Wheatland's history was the inauguration of Mayor Edward P. Duplex in 1888. Mayor Duplex was the first African-American man to be elected mayor of a western United States city. His barbershop still stands today on Main Street in downtown (shown in Photo 6-3).

PHOTO 6-3
FORMER BARBER SHOP OF EDWARD P. DUPLEX



Source: Mintier & Associates, 2004.

REGULATORY CONTEXT

Federal, State and local governments have developed laws and regulations designed to protect significant cultural resources that could be affected by actions that they undertake or regulate. The National Environmental Policy Act (NEPA), National History Preservation Act (NHPA) and California Environmental Quality Act (CEQA) are the basic federal and State laws governing preservation of historic and archaeological resources of national, regional, State, and local significance.

Federal Regulations

Federal regulations for cultural resources are governed primarily by Section 106 of the NHPA of 1966. Section 106 of NHPA requires Federal agencies to take into account the effects of their undertaking on historic properties and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic Properties," are found in 36 Code of Federal Regulations (CFR) Part 800. The goal of the Section 106 review process is to offer a measure of protection to sites which are determined eligible for listing on the National Register of Historic Places. The criteria for determining National Register eligibility are found in 36 CFR Part 60. Amendments to the Act (1986 and 1992) and subsequent revisions to the implementing regulations have strengthened the provision for Native American consultation and participation in the Section 106 review process. While federal agencies must follow federal regulations, most projects by private developers and landowners do not require this level of compliance. Federal regulations only come into play in the private sector if a project requires a federal permit or if it uses federal money.

State Regulations

Historical resources are recognized as part of the environment under CEQA statutes and guidelines (Public Resources Code sections 21001(b), 21083.2 and 21084.1; and section 15064.5 of the CEQA Guidelines). CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources. Properties of local significance, including those identified in a local historical resource inventory, are presumed to be significant for the purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC sections 5024.1, 14 CCR section 4850).

Section 15064.5 of the CEQA Guidelines specifies criteria for evaluating the importance of cultural resources. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource (Public Resources Code section 5020.1). A resource may be considered to be "historically significant" if it meet the criteria for listing on the California Register, including:

1. The resource is associated with events that have made a contribution to the broad patterns of California history;

2. The resource is associated with the lives of important persons from our past;

3. The resource embodies the distinctive characteristics of a type, period, region or method construction, or represents the work of an important individual or possesses high artistic values; or

4. The resource has yielded, or may be likely to yield, important information in prehistory or history.

Integrity is the authenticity of the historical resource's physical identity as evidenced by the survival of characteristics that existed during the resource's period of significance. The property must meet at least one of the criteria as described above and retain enough of its historic character or appearance to be recognizable as an historical resource and also to convey the reasons for its significance. Integrity is evaluated with regard to the aspects of location, design, setting, materials, workmanship, feeling, and association.

CEQA also applies to effects on archaeological sites. When a project will impact an archaeological site, the lead agency shall determine if the site is an historical resource as defined above. Advice on procedures to identify such resources, evaluate their importance, and estimate potential effects is given in several agency publications, such as the series produced by the Governor's Office of Planning and Research (OPR).[193] The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested

[193] CEQA and Archaeological Resources, Governor's Office of Planning and Research, State of California © 1994.

persons and corporate entities, including, but not limited to, museums, historical commissions, associates and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains and associated grave goods regardless of the antiquity and provides for the sensitive treatment and disposition of those remains.[194]

California Historic Register

The State Historic Preservation Office (SHPO) also maintains the California State Register of Historic Resources (CRHR). The CRHR, or California Register, is an authoritative guide to the State's historical resources and to which properties are considered significant for purposes of CEQA. The California Register includes resources listed in, or formally determined eligible for listing in, the National Register of Historic Places, as well as some California landmarks and Points of Historical Interest. The California Register can also include properties designated under local ordinances or identified through local historical resource surveys.

Even if a resource is not listed in or determined eligible for listing in the California Register, is not included in a local register of historical resources, or is not identified in an historical resources survey, the resource can still be determined by a lead agency to be an historical resource. Any project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

Local Regulations

The City of Wheatland has not enacted formal heritage preservation policies. As such, ordinances adopted by Yuba and Placer Counties can serve as guidelines for the consideration of heritage resources in the planning process. As expressed in the *Yuba County General Plan*:[195]

> *"The legal protection of archaeological sites is necessary to preserve the scientific, historical, cultural, educational, recreational, and aesthetic values embodied in the heritage resources. The need for laws to preserve the scientific and other values of heritage resources is recognized by elected officials at the local, State, and national levels. These laws have been formulated with the understanding that our heritage is shared equally by all Americans."*

To accomplish this, Yuba County is committed to:

1. Preserve and restore cultural resources, including historic sties and buildings; and to the

2. Public awareness and appreciation of historic and cultural resources.

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[194] *California Health and Safety Code Section 7050.5, California Public Resources Code Sections 5097.94 et seq.*

[195] *Yuba County General Plan, Volume I: Environmental Setting and Background*, May 1994

Yuba County encourages property owners to treat heritage resources as assets and to support their preservation, and the Placer County General Plan maintains a similar commitment to the consideration of heritage resources.[196] County legislation is modeled after State and national heritage preservation mandates such as CEQA, NHPA, and NEPA.

Native American Consultation

Peak & Associates (2004) sent a letter to the Native American Heritage Commission (NAHC) requesting a check of the Sacred Lands files for the plan area. Their reply indicates that there are no sites or traditional cultural properties listed. The NAHC provided a list of contacts of Native American groups and individuals who may have knowledge or concerns within the plan area. Letters have been sent to several of these groups; no replies have been received to date.

Little of the Study Area has been subjected to systematic survey and the short list of inventoried heritage sites may not reflect the true archeological sensitivity of the area. All locales designated for future development within the Study Area should be subjected to a heritage resource study involving archival research, an archeological field reconnaissance, pertinent architectural evaluations, and consultations with appropriate federal, State, and local agencies and/or Maidu representatives. In this way, the unique and varied heritage resource to be found within the Study Area can be incorporated into community planning studies, just like any other natural resource. Benefits result, as tourism is encouraged and real estate values in and around the historic district appreciate. The integration of the unique presence of the past into new construction ultimately enhances the opportunity, security, and economy of a community. A contemporary development which reflects the rich local heritage will not only stand apart as a tribute to local and regional historical events, but it may also greatly enhance its own economic base and marketing appeal.

6.7 | GLOSSARY

BIOLOGICAL RESOURCES

Adjacent
Having a common endpoint or border. Immediately preceding or following

Alkali
A soluble salt or a mixture of soluble salts present in some soils of arid regions in quantity detrimental to agriculture.

Amphibian
Amphibious organism; especially any of a class (Amphibia) of cold-blooded vertebrates (as frogs, toads, or salamanders) intermediate in many characters between fishes and reptiles and having gilled aquatic larvae and air-breathing adults.

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[196] City of Wheatland. *Environmental Setting for the City of Wheatland General Plan Update*. April 1996.

Anadromous fish
Ascending rivers from the sea for breeding.

Annual
Occurring or happening every year or once a year, completing the life cycle in one growing season.

Arid
Excessively dry; specifically: having insufficient rainfall to support agriculture.

Avian
Of, relating to, or derived from birds.

Brambles
Any of a genus (Rubus) of usually prickly shrubs of the rose family including the raspberries and blackberries; broadly: a rough prickly shrub or vine.

Burrow
Hole or excavation in the ground made by an animal for shelter and habitation.

Chaparral
An ecological community composed of shrubby plants adapted to dry summers and moist winters.

Coniferous
Any of an order (Coniferales) of mostly evergreen trees and shrubs including forms (as pines) with true cones and others (as yews) with an arillate fruit.

Contiguous
Being in actual contact: touching along a boundary or at a point.

Crustacean
Any of a large class (Crustacea) of mostly aquatic arthropods that generally have a chitinous exoskeleton. The class includes the lobsters, shrimps, crabs, wood lice, water fleas, and barnacles.

Cultivate
To prepare or prepare and use for the raising of crops; also: to loosen or break up the soil about (growing plants).

Deciduous
Falling off or shed seasonally or at a certain stage of development in the life cycle.

Disc
To cultivate with an implement (as a harrow or plow) that turns and loosens the soil with a series of discs.

Ecosystem
The complex of a community of organisms and its environment functioning as an ecological unit.

Ecotones
A transition area between two adjacent ecological communities.

Emergent
A plant rooted in shallow water and having most of the vegetative growth above water.

Ephemeral
Lasting a very short time.

Estivate
To pass the summer in a state of torpor.

Evergreen
Having foliage that remains green and functional through more than one growing season.

Extinct
No longer existing.

Foliage
A cluster of leaves, flowers, and branches.

Foraging
To wander in search of forage or food.

Gabbroic
Granular igneous rock composed essentially of calcic plagioclase, a ferromagnesian mineral, and accessory minerals.

Gradient
The rate of regular or graded ascent or descent.

Grassland
Land on which the natural dominant plant forms are grasses and forbs; an ecological community in which the characteristic plants are grasses.

Habitat
The place or environment where a plant or animal naturally or normally lives and grows.

Herbaceous
Of, relating to, or having the characteristics of an herb b of a stem: having little or no woody tissue and persisting usually for a single growing season: having the texture, color, or appearance of a leaf.

Hibernacula
A shelter occupied during the winter by a dormant animal.

Hydric
Characterized by, relating to, or requiring an abundance of moisture.

Hydrophyte
Perennial vascular aquatic plant having its overwintering buds under water: a plant growing in water or in soil too waterlogged for most plants to survive.

Inundate
To cover with a flood.

Invertebrate
Lacking a spinal column; also: of or relating to invertebrate animals.

Legumes
Any of a large family (Leguminosae syn. Fabaceae) of dicotyledonous herbs, shrubs, and trees having fruits that are legumes (sense 3) or loments, bearing nodules on the roots that contain nitrogen-fixing bacteria, and including important food and forage plants (as peas, beans, or clovers).

Mammal
Any of a class (Mammalia) of warm-blooded higher vertebrates (as placentals, marsupials, or monotremes) that nourish their young with milk secreted by mammary glands, have the skin usually more or less covered with hair, and include humans.

Mesic
Characterized by, relating to, or requiring a moderate amount of moisture.

Migrate
To pass usually periodically from one region or climate to another for feeding or breeding.

Montane
Of, relating to, growing in, or being the biogeographic zone of relatively moist cool upland slopes below timberline dominated by large coniferous trees.

Perennial
Present at all seasons of the year: persisting for several years usually with new herbaceous growth.

Playa
The flat-floored bottom of an undrained desert basin that becomes at times a shallow lake.

Reconnaissance
A preliminary survey to gain information; especially : an exploratory military survey of enemy territory.

Reptile
Any of a class (Reptilia) of air-breathing vertebrates that include the alligators and crocodiles, lizards, snakes, turtles, and extinct related forms (as dinosaurs and pterosaurs) and are characterized by a completely ossified skeleton with a single occipital condyle, a distinct quadrate bone usually immovably articulated with the skull, ribs attached to the sternum, and a body usually covered with scales or bony plates.

Riparian
Relating to or living or located on the bank of a natural watercourse (as a river) or sometimes of a lake or a tidewater.

Ruderal
Growing where the natural vegetational cover has been disturbed by humans: ruderal weeds of old fields and roadsides.

Saline
Consisting of or containing salt.

Serpentine
A mineral or rock consisting essentially of a hydrous magnesium silicate usually having a dull green color and often a mottled appearance.

Snag
A standing dead tree.

Species
A class of individuals having common attributes and designated by a common name; specifically: a logical division of a genus or more comprehensive class.

Terrestrial
Of or relating to the earth or its inhabitants.

Upland
Ground elevated above the lowlands along rivers or between hills.

Vegetation
Plant life or total plant cover.

Vernal
Of, relating to, or occurring in the spring.

Wetland
Land or areas (as tidal flats or swamps) containing much soil moisture.

Woodland
Land covered with woody vegetation

AIR QUALITY

Air Basin
A land area with generally similar meteorological and geographic conditions throughout. To the extent possible, air basin boundaries are defined along political boundary lines and include both the source and receptor areas. California is currently divided into 15 air basins.

Air Quality Management District (AQMD)
A group of counties or portions of counties, or an individual county specified in law with authority to regulate stationary, indirect, and area sources of air pollution within the region and governed by a regional air pollution control board comprised mostly of elected officials from within the region.

California Ambient Air Quality Standard (CAAQS)
A legal limit that specifies the maximum level and time of exposure in the outdoor air for a given air pollutant and which is protective of human health and public welfare (Health and Safety Code section 39606b). CAAQSs are recommended by the California Office of Environmental Health Hazard Assessment and adopted into regulation by the CARB. CAAQSs are the standards which must be met per the requirements of the California Clean Air Act (CCAA).

California Clean Air Act (CCAA)
A California law passed in 1988 which provides the basis for air quality planning and regulation independent of federal regulations. A major element of the Act is the requirement that local air districts in violation of the CAAQS must prepare attainment plans which identify air quality problems, causes, trends, and actions to be taken to attain and maintain California's air quality standards by the earliest practicable date.

Criteria Air Pollutant
An air pollutant for which acceptable levels of exposure can be determined and for which an ambient air quality standard has been set. The term "criteria air pollutants" derives from the requirement that the U.S. EPA must describe the characteristics and potential health and welfare effects of these pollutants. The U.S. EPA and CARB periodically review new scientific data and may propose revisions to the standards as a result.

Entrained
Suspended, as in a current.

Exceedance
A measured level of an air pollutant higher than the national or state ambient air quality standards.

Federal Clean Air Act (FCAA)
A federal law passed in 1970 and amended in 1974, 1977 and 1990 which forms the basis for the national air pollution control effort. Basic elements of the act include national ambient air quality standards for major air pollutants, mobile and stationary control measures, air toxics standards, acid rain control measures, and enforcement provisions.

Indirect Source
Any facility, building, structure, or installation, or combination thereof, which generates or attracts mobile source activity that results in emissions of any pollutant (or precursor) for which there is a state ambient air quality standard. Examples of indirect sources include employment sites, shopping centers, sports facilities, housing developments, airports, commercial and industrial development, and parking lots and garages.

Inversion
A layer of warm air in the atmosphere that prevents the rise of cooling air and traps pollutants beneath it.

National Ambient Air Quality Standards (NAAQS)
Standards established by the United States EPA that apply for outdoor air throughout the country. There are two types of NAAQS. Primary standards set limits to protect public health and secondary standards set limits to protect public welfare.

Nonattainment Area
A geographic area identified by the U.S. EPA and/or CARB as not meeting either NAAQS or CAAQS standards for a given pollutant.

Photochemical Reaction
A term referring to chemical reactions brought about by the light energy of the sun. The reaction of nitrogen oxides with hydrocarbons in the presence of sunlight to form ozone is an example of a photochemical reaction.

Ozone Precursors
Chemicals such as non-methane hydrocarbons and oxides of nitrogen, occurring either naturally or as a result of human activities, which contribute to the formation of ozone, a major component of smog.

Smog
A combination of smoke and other particulates, ozone, hydrocarbons, nitrogen oxides, and other chemically reactive compounds which, under certain conditions of weather and sunlight, may result in a murky brown haze that causes adverse health effects. The primary source of smog in California is motor vehicles.

Toxic Air Contaminant (TAC)
An air pollutant, identified in regulation by the ARB, which may cause or contribute to an increase in deaths or in serious illness, or which may pose a present or potential hazard to human health. TACs are considered under a different regulatory process than pollutants subject to CAAQSs. Health effects to TACs may occur at extremely low levels, and it is typically difficult to identify levels of exposure which do not produce adverse health effects.

CULTURAL RESOURCES

Artifacts
Objects that represent a cultural period.

Character defining feature
A prominent or distinctive aspect, quality, or characteristic of a cultural landscape that contributes significantly to its physical character.

Collection
Material remains removed during a study of a historic resource and associated records prepared or assembled in connection with the study.

Component landscape
A discrete portion of the landscape that can be further subdivided into individual features.

Cultural landscape
A geographic area (including both cultural and natural resources and the wildlife or domestic animals therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values.

Cultural resources
Those parts of the physical environment, natural and built, that have cultural value to some kind of sociocultural group, and including non-material human social institutions. Cultural resources include historic sites, archeological sites and associated artifacts, sacred sites, traditional cultural properties, cultural items (human remains, funerary objects, sacred objects, and objects of cultural patrimony), and buildings and structures.

Cultural resources survey
A systematic set of field investigations that may range in scope from a reconnaissance survey to an intensive survey.

Ethnographic landscape
A landscape containing a variety of natural and cultural resources that associated people define as heritage resources. Examples are contemporary settlements, sacred religious sites, and massive geological structures.

Ethnology
The branch of anthropology that deals with the origin, distribution, and characteristics of human racial groups.

Feature
The smallest element(s) of a landscape that contributes to the significance and that can be the subject of a treatment intervention.

Habitation sites
Locations of human use or residence including, but not limited to house, village, quarry, hunting, fishing and other work sites.

Historic character
The sum of all visual aspects, features, materials, and spaces associated with a cultural landscape's history, i.e. the original configuration together with losses and later changes.

Historic designed landscape
A landscape that was consciously designed or laid out by a landscape architect, master gardener, architect, engineer, or horticulturist according to design principles, or an amateur gardener working in a recognized style or tradition.

Historic property
Any prehistoric or historic building, structure, object, site, or district included in, or eligible for inclusion in, the National Register of Historic Places.

Historic site
A landscape significant for its association with a historic event, activity or person.
Historic vernacular landscapeA landscape that evolved through use by the people whose activities or occupancy shaped it. Function plays a significant role in vernacular landscapes.

Integrity
The authenticity of a property's historic identity, evinced by the survival of physical characteristics that existed during the property's historic or prehistoric period.

Material culture
Artifacts; objects that represent a cultural period.

Material remains
Artifacts, objects, specimens, and other physical evidence removed in connection with efforts to locate, evaluate, document, study, preserve, or recover a historic resource.

Midden
A mound or deposit containing shells, animal bones, and other refuse that indicates the site of a human settlement.

National Historic Landmark
A historic property that meets the criteria of the National Register of Historic Places and has been designated by the Secretary of the Interior for its special national importance in the history of the United States.

National Register of Historic Places (NRHP)
The Nation's official list of districts, sites, buildings, structures, objects, and districts which meet the criteria and are worthy of preservation because of their importance in American history, prehistory, architecture, archeology, and culture. The NRHP is maintained by the Secretary of the Interior under the authority of Section 101 of the National Historic Preservation Act of 1966.

Records
Field notes, artifact inventories and oral histories, deeds, survey plats, historical maps and diaries, and items related to the identification, evaluation, documentation, study, preservation, or recovery of a resource.

Section 106 process
The series of actions (including continuous consultation, background studies, surveys, resource identifications, assessments and treatments) that implement the section of the National Historic Preservation Act that requires federal agencies to take into account the effects of their undertakings on any cultural resources or historic properties that meet the National Register of Historic Places criteria. Part of this process involves taking action to avoid or minimize harm to eligible resources.

Section 110 guidelines
Issued by the Secretary of the Interior under authority of Section 101(g) of the National Historic Preservation Act; provide guidance to Federal agencies in establishing, monitoring, reviewing, and evaluating their historic preservation program.

Significance
The meaning or value ascribed to a cultural landscape based on the National Register criteria for evaluation.

Site
The location of an event, a prehistoric or historic occupation or activity or a building or structure, whether standing, ruined, or removed, where the location itself maintains historical, cultural, or archeological value and integrity.

Traditional cultural values
Underlying beliefs and principles held in common by a cultural group that may be reflected in actions and behaviors that are sometimes associated with particular locations and settings.

Treatment
Work carried out to achieve a particular historic preservation goal.

AGRICULTURAL RESOURCES

Acre-foot
The amount of water required to fill one acre (43,560 square feet) to a depth of one foot.

Aesthetics
A conception of what is artistically valid or beautiful, or has a pleasing appearance.

Alluvium
Sediment deposited by flowing water, as in a riverbed, flood plain, or delta.

Barren land
A category used to classify lands with limited capacity to support life and having less than five percent vegetative cover.

Conservation practices
Methods which reduce soil erosion and retain soil moisture. Major conservation practices include conservation tillage, crop rotation, contour farming, strip cropping, terraces, diversions, and grassed waterways.

Cropland
A category that includes areas used for the production of adapted crops for harvest. Two subcategories of cropland are recognized: cultivated and noncultivated. Cultivated cropland comprises land in row crops or close grown crops and also other cultivated cropland. Noncultivated cropland includes permanent hayland and horticultural cropland.

Erosion
The wearing away of the land surface by running water, waves, or moving ice and wind, or by such processes as mass wasting and corrosion (solution and other chemical processes).

Fallow land
Land that has been plowed but left unseeded during a growing season.

Farmland of Local Importance
The fourth most productive type of farmland as designated by California's Farmland Mapping and Monitoring Program; it may have importance to the local economy due to its productivity.

Farmland of Statewide Importance
The second most productive type of farmland as designated by California's Farmland Mapping and Monitoring Program. Similar to prime farmland, but with minor shortcomings, such as greater slopes or with less ability to hold and store moisture.

Farmland Mapping and Monitoring Program
A California Department of Conservation program which maintains inventories of Important Farmland throughout the State.

Grazing Land
Land on which the existing vegetation, whether grown naturally or through management, is suited to the grazing of livestock.

Important Farmland
Land classified as significantly contributing to the production of agricultural commodities by the California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP). The four categories of Important Farmland, from most productive to least productive, are: Prime Farmland; Farmland of Statewide Importance; Unique Farmland; and Farmland of Local Importance.

Land capability classification (class and subclass)
Land capability classification is a system of grouping soils primarily on the basis of their capability to produce common cultivated crops and pasture plants without deteriorating over a long period. Land capability classification is subdivided into capability class and capability subclass nationally.

Land Inventory and Monitoring (LIM) criteria
A series of definitions originally developed by the USDA Soil Conservation Service which classifies the land's suitability for agricultural production; suitability includes both the physical and chemical characteristics of soils and the actual land use.

Natural Resources Conservation Service (NRCS)
A U.S. Department of Agriculture agency whose mission is to "provide leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment." Formerly known as the Soil Conservation Service.

Open space
Lands which are unimproved and devoted to the preservation of natural resources, managed production of resources, outdoor recreation, or public health and safety.

Pastureland
A category of land managed primarily for the production of introduced forage plants for livestock grazing.

Prime farmland
The most productive type of farmland as designated by California's Farmland Mapping and Monitoring Program; land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is also available for these uses.

Productivity
The rate at which agricultural activities produce goods or commodities, especially output per unit of labor.

Rangeland
A category on which the climax or potential plant cover is composed principally of native grasses, grasslike plants, forbs or shrubs suitable for grazing and browsing, and introduced forage species that are managed like rangeland.

Riverwash
Barren alluvial areas, usually coarse-textured, exposed along streams at low water and subject to shifting during normal high water.

Soil association
A grouping of soil types commonly found in juxtaposition to one another.

Soil Capability Classification System
One of two systems used by the NRCS to determine a soil's agricultural productivity. Soil capability classes range from Class I soils, which have few limitations for agriculture, to Class VIII soils, which are unsuitable for agriculture.

Soil capability subclass
Class codes e (erosion problems), w (wetness problems), s (root zone limitations), and c (climatic limitations) are used for land capability subclasses.

Soil erodibility factor (K factor - USLE)
An erodibility factor which quantifies the susceptibility of soil particles to detachment and movement by water. This factor is used in the Universal Soil Loss Equation (USLE) to calculate soil loss by water.

Soil expansiveness
The degree to which a soil containing certain clay minerals will expand or contract based on moisture content.

Soil limitations
Any factors which may limit the productivity of soil.

Soil permeability
The degree to which moisture is able to percolate through soil; linked to porosity.

Soil survey
The systematic examination, description, classification, and mapping of soils in an area.

Soil type
A number of soils considered as a group or class based on their commonly held general character or structure.

Storie Index Rating System
One of two systems used by the NRCS to determine a soil's agricultural productivity; ranks soil characteristics according to their suitability for agriculture from Grade 1 soils (80 to 100 rating),

which have few or no limitations for agricultural production to Grade 6 soils (less than 10), which are not suitable for agriculture.

Unique Farmland
The third most productive type of farmland as designated by California's Farmland Mapping and Monitoring Program; land of lesser quality soils used for the production of "high value economic crops" such as olives, avocados, or grapes. Usually irrigated.

Universal soil loss equation (USLE)
An erosion model designed to predict the long-term average soil losses in runoff from specific field areas in specified cropping and management systems.

Urban and Built-Up Land
Lands which have been improved and are no capable of agricultural production.

Williamson Act
The California Land Conservation Act of 1965 (Williamson Act) enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value.

Wind erosion
The process of detachment, transport, and deposition of soil by wind.

MINERAL RESOURCES

Aggregate
A general term referring to the mineral materials, such as sand or stone, used in making concrete.

Auriferous
A term describing gold-bearing rock.

Element
A substance composed of atoms having an identical number of protons in each nucleus. Elements cannot be reduced to simpler substances by normal chemical means.

Mineral
A substance, such as stone, sand, salt, or coal, that is composed of a combination of elements.

Mineral commodity
Any mineral that may be extracted or obtained from the ground or water and used in economic activities.

Placer
A glacial or alluvial deposit of sand or gravel containing eroded particles of valuable minerals or elements such as gold.

Portland Cement
A chemical combination of calcium, silicon, aluminum, iron and small amounts of other ingredients to which gypsum is added in the final grinding process to regulate the setting time of the concrete. Lime and silica make up about 85% of the mass.

Portland Cement Concrete (PCC)
A mixture of portland cement, water, and aggregate materials used in construction.

Precious metals
Uncommon and highly valuable metals, such as gold and silver.

WATER RESOURCES

Absorption
The process by which substances in gaseous, liquid, or solid form are assimilated or taken up by other substances.

Acre-foot (acre-ft.)
The volume of water needed to cover an acre of land to a depth of one foot; equivalent to 43,560 cubic feet or 325,851 gallons.

Aerobic
Pertaining to, taking place in, or caused by the presence of oxygen.

Alluvial aquifer
A water-bearing deposit of unconsolidated material (sand and gravel) left behind by a river or other flowing water.

Alluvium
General term for sediments of gravel, sand, silt, clay, or other particulate rock material deposited by flowing water.

Anaerobic
Pertaining to, taking place in, or caused by the absence of oxygen.

Aquifer
A geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to springs and wells.

Artificial recharge
Augmentation of natural replenishment of ground-water storage by some method of construction, spreading of water, or by pumping water directly into an aquifer.

Bank
The sloping ground that borders a stream and confines the water in the natural channel when the water level, or flow, is normal.

Bank storage
The change in the amount of water stored in an aquifer adjacent to a surface-water body resulting from a change in stage of the surface-water body.

Base flow
The sustained low flow of a stream, usually ground-water inflow to the stream channel.

Bed sediment
The material that temporarily is stationary in the bottom of a stream or other watercourse.

Best management practice (BMP)
An agricultural practice that has been determined to be an effective, practical means of preventing or reducing nonpoint-source pollution.

Channel scour
Erosion by flowing water and sediment on a stream channel.

Channelization
The straightening and deepening of a stream channel to permit the water to move faster or to drain a wet area for farming.

Concentration
The ratio of the quantity of any substance present in a sample of a given volume or a given weight compared to the volume or weight of the sample.

Cone of depression
The depression of heads around a pumping well caused by withdrawal of water.

Confined aquifer (artesian aquifer)
An aquifer that is completely filled with water under pressure and that is overlain by material that restricts the movement of water.

Confining layer
A body of impermeable or distinctly less permeable material stratigraphically adjacent to one or more aquifers that restricts the movement of water into and out of the aquifers.

Confluence
The flowing together of two or more streams; the place where a tributary joins the main stream.

Consumptive use
The quantity of water that is not available for immediate reuse because it has been evaporated, transpired, or incorporated into products, plant tissue, or animal tissue.

Contamination
Degradation of water quality compared to original or natural conditions due to human activity.

Contributing area
The area in a drainage basin that contributes water to streamflow or recharge to an aquifer.

Cubic foot per second (ft3/s, or cfs)
Rate of water discharge representing a volume of 1 cubic foot passing a given point during 1 second, equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute.

Degraded
Condition of the quality of water that has been made unfit for some specified purpose.

Direct runoff
The runoff entering stream channels promptly after rainfall or snowmelt.

Discharge
The volume of fluid passing a point per unit of time, commonly expressed in cubic feet per second, million gallons per day, gallons per minute, or seconds per minute per day.

Discharge area (ground water)
Area where subsurface water is discharged to the land surface, to surface water, or to the atmosphere.

Diversion
A turning aside or alteration of the natural course of a flow of water, normally considered physically to leave the natural channel.

Domestic withdrawals
Water used for normal household purposes, such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens.

Drainage area
The drainage area of a stream at a specified location is that area, measured in a horizontal plane, which is enclosed by a drainage divide.

Drainage basin
The land area drained by a river or stream.

Drainage divide
Boundary between adjoining drainage basins.

Drawdown
The difference between the water level in a well before pumping and the water level in the well during pumping.

Drinking-water standard or guideline
A threshold concentration for a constituent or compound in a public drinking-water supply, designed to protect human health.

Drip irrigation
An irrigation system in which water is applied directly to the root zone of plants by means of applicators (orifices, emitters, porous tubing, or perforated pipe) operated under low pressure.

Drought
A prolonged period of less-than-normal precipitation such that the lack of water causes a serious hydrologic imbalance.

Ecosystem
A community of organisms considered together with the nonliving factors of its environment.

Effluent
Outflow from a particular source, such as a stream that flows from a lake or liquid waste that flows from a factory or sewage-treatment plant.

Emergent plants
Erect, rooted, herbaceous plants that may be temporarily or permanently flooded at the base but do not tolerate prolonged inundation of the entire plant.

Ephemeral stream
A stream or part of a stream that flows only in direct response to precipitation; it receives little or no water from springs, melting snow, or other sources; its channel is at all times above the water table.

Erosion
The process whereby materials of the Earth's crust are loosened, dissolved, or worn away and simultaneously moved from one place to another.

Eutrophication
The process by which water becomes enriched with plant nutrients, most commonly phosphorus and nitrogen.

Evaporation
The process by which water is changed to gas or vapor; occurs directly from water surfaces and from the soil.

Evapotranspiration
The process by which water is discharged to the atmosphere as a result of evaporation from the soil and surface-water bodies, and transpiration by plants.

Fecal bacteria
icroscopic single-celled organisms (primarily fecal coliforms and fecal streptococci) found in the wastes of warm-blooded animals. Their presence indicates contamination by the wastes of warm-blooded animals and the possible presence of pathogenic (disease producing) organisms.

Flood
Any relatively high streamflow that overflows the natural or artificial banks of a stream.

Flood irrigation
The application of irrigation water whereby the entire surface of the soil is covered by ponded water.

Flood plain
A strip of relatively flat land bordering a stream channel that is inundated at times of high water.

Flowpath
An underground route for ground-water movement, extending from a recharge (intake) zone to a discharge (output) zone such as a shallow stream.

Fluvial
Pertaining to a river or stream.

Fluvial deposit
A sedimentary deposit consisting of material transported by suspension or laid down by a river or stream.

Freshwater
Water that contains less than 1,000 milligrams per liter of dissolved solids.

Gaging station
A particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Geomorphology
The science that treats the general configuration of the Earth's surface; the description of landforms.

Ground water
In the broadest sense, all subsurface water; more commonly that part of the subsurface water in the saturated zone.

Hardness
A property of water that causes the formation of an insoluble residue when the water is used with soap, due primarily to the presence of ions of calcium and magnesium.

Headwaters
The source and upper part of a stream.

Hydraulic conductivity
The capacity of a rock to transmit water.

Hydraulic head
The height of the free surface of a body of water above a given point beneath the surface.

Hydric soil
Soil that is wet long enough to periodically produce anaerobic conditions, thereby influencing the growth of plants.

Hydrograph
Graph showing variation of water elevation, velocity, streamflow, or other property of water with respect to time.

Hydrologic cycle
The circulation of water from the sea, through the atmosphere, to the land, and thence back to the sea by overland and subterranean routes.

Hydrologic unit
A geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the U. S. Geological Survey on State Hydrologic Unit Maps.

Hydrology
The science that deals with water as it occurs in the atmosphere, on the surface of the ground, and underground.

Hydrostatic pressure
The pressure exerted by the water at any given point in a body of water at rest.

Impermeability
The incapacity of a rock to transmit a fluid.

Impervious
Impermeable.

Impaired
Condition of the quality of water that has been adversely affected for a specific use by contamination or pollution.

Industrial withdrawals
Water withdrawn for or used for thermoelectric power (electric utility generation) and other industrial and manufacturing uses such as steel, chemical and allied products, paper and allied products, mining, and petroleum refining.

Infiltration
The downward movement of water from the atmosphere into soil or porous rock.

Inorganic
Containing no carbon; matter other than plant or animal.

Instream use
Water use taking place within the stream channel for such purposes as hydroelectric power generation, navigation, water-quality improvement, fish propagation, and recreation.

Intermittent stream
A stream that flows only when it receives water from rainfall runoff or springs, or from some surface source such as melting snow.

Irrigation
Controlled application of water to arable land to supply requirements of crops not satisfied by rainfall.

Irrigation district
In the United States, a cooperative, self-governing public corporation set up as a subdivision of the state, with definite geographic boundaries, organized to obtain and distribute water for irrigation of lands within the district; created under authority of the State legislature with the consent of a designated fraction of the land owners or citizens and the taxing power.

Irrigation return flow
The part of irrigation applied to the surface that is not consumed by evapotranspiration or uptake by plants and that migrates to an aquifer or surface-water body.

Irrigation withdrawals
Withdrawals of water for application on land to assist in the growing of crops and pastures or to maintain recreational lands.

Lacustrine
Pertaining to, produced by, or formed in a lake.

Leachate
A liquid that has percolated through soil containing soluble substances and that contains certain amounts of these substances in solution.

Limnetic
The deepwater zone (greater than 2 meters deep); a subsystem of the Lacustrine System of the U.S. Fish and Wildlife Service wetland classification system.

Littoral
The shallow-water zone (less than 2 meters deep); a subsystem of the Lacustrine System of the U.S. Fish and Wildlife Service wetland classification system.

Load
Material that is moved or carried by streams, reported as weight of material transported during a specified time period, such as tons per year.

Main stem
The principal trunk of a river or a stream.

Marsh
A water-saturated, poorly drained area, intermittently or permanently water covered, having aquatic and grasslike vegetation.

Mean discharge (MEAN)
The arithmetic mean of individual daily mean discharges of a stream during a specific period, usually daily, monthly, or annually.

Milligrams per liter (mg/L)
A unit expressing the concentration of chemical constituents in solution as weight (milligrams) of solute per unit volume (liter) of water; equivalent to one part per million in most streamwater and ground water.

Mitigation
Actions taken to avoid, reduce, or compensate for the effects of human-induced environmental damage.

Monitoring
Repeated observation, measurement, or sampling at a site, on a scheduled or event basis, for a particular purpose.

Monitoring well
A well designed for measuring water levels and testing ground-water quality.
National Water-Quality Assessment (NAWQA) Program The long term USGS program, begun in 1991, to assess the occurrence and distribution of water-quality conditions Nationwide.

Natural levee
A long, broad, low ridge built by a stream on its flood plain along one or both banks of its channel in time of flood.

Navigable water
In the context of the Clean Water Act, all surface water.

Nitrate
An ion consisting of nitrogen and oxygen (NO3-). Nitrate is a plant nutrient and is very mobile in soils.

Nonpoint-source contaminant
A substance that pollutes or degrades water that comes from lawn or cropland runoff, the atmosphere, roadways, and other diffuse sources.

Nutrient
Any inorganic or organic compound needed to sustain plant life.

Organic
Containing carbon, but possibly also containing hydrogen, oxygen, chlorine, nitrogen, and other elements.

Outwash
Soil material washed down a hillside by rainwater and deposited upon more gently sloping land.

Overland flow
The flow of rainwater or snowmelt over the land surface toward stream channels.

Oxbow
A bow-shaped lake formed in an abandoned meander of a river.

Part per million (ppm)
Unit of concentration equal to one milligram per kilogram or one milligram per liter.

Peak stage
Maximum height of a water surface above an established datum plane. Same as peak gage height.

Perched ground water
Unconfined ground water separated from an underlying main body of ground water by an unsaturated zone.

Percolation
The movement, under hydrostatic pressure, of water through interstices of a rock or soil (except the movement through large openings such as caves).

Perennial stream
A stream that normally has water in its channel at all times.

Permeability
The capacity of a rock for transmitting a fluid; a measure of the relative ease with which a porous medium can transmit a liquid.

pH
A measure of the acidity (less than 7) or alkalinity (greater than 7) of a solution; a pH of 7 is considered neutral.

Physiography
A description of the surface features of the Earth, with an emphasis on the origin of landforms.

Piping
Erosion by percolating water in a layer of subsoil, resulting in caving and in the formation of narrow conduits, tunnels, or "pipes" through which soluble or granular soil material is removed.

Point-source contaminant
Any substance that degrades water quality and originates from discrete locations such as discharge pipes, drainage ditches, wells, concentrated livestock operations, or floating craft.

Pollutant
Any substance that, when present in a hydrologic system at sufficient concentration, degrades water quality in ways that are or could become harmful to human and/or ecological health or that impair the use of water for recreation, agriculture, industry, commerce, or domestic purposes.

Pool
A small part of a stream reach with little velocity, commonly with water deeper than surrounding areas.

Porosity
The ratio of the volume of voids in a rock or soil to the total volume.

Potable water
Water that is safe and palatable for human consumption.

Precipitation
Any or all forms of water particles that fall from the atmosphere, such as rain, snow, hail, and sleet.

Reach
A continuous part of a stream between two specified points.

Recharge (ground water)
The process involved in the absorption and addition of water to the zone of saturation; also, the amount of water added.

Recharge area (ground water)
An area within which water infiltrates the ground and reaches the zone of saturation.

Riffle
A shallow part of the stream where water flows swiftly over completely or partially submerged obstructions to produce surface agitation.

Riparian
Pertaining to or situated on the bank of a natural body of flowing water.

Riverine wetlands
Wetlands within river and stream channels; ocean-derived salinity is less than 0.5 part per thousand.

Runoff
That part of precipitation or snowmelt that appears in streams or surface-water bodies.

Saturated zone
A subsurface zone in which all the interstices or voids are filled with water under pressure greater than that of the atmosphere. See also Water table.

Sea level
Long-term average position of the sea surface.

Sediment
Particles, derived from rocks or biological materials, that have been transported by a fluid or other natural process, suspended or settled in water.

Sedimentation
The act or process of forming or accumulating sediment in layers; the process of deposition of sediment.

Siltation
The deposition or accumulation of silt (or small-grained material) in a body of water.

Sinuosity
The ratio of the channel length between two points on a channel to the straight-line distance between the same two points; a measure of meandering.

Slough
A small marshy tract lying in a swale or other local shallow, undrained depression; a sluggish creek or channel in a wetland.

Soil moisture
Water occurring in the pore spaces between the soil particles in the unsaturated zone from which water is discharged by the transpiration of plants or by evaporation from the soil.

Sole-source aquifer
As defined by the U.S. Environmental Protection Agency, an aquifer that supplies 50 percent or more of the drinking water of an area.

Spoil
Overburden or other waste material removed in mining, quarrying, dredging, or excavating.

Spring
Place where a concentrated discharge of ground water flows at the ground surface.

Stage
Height of the water surface above an established datum plane, such as in a river above a predetermined point that may (or may not) be at the channel floor.

Stream-aquifer interactions
Relations of water flow and chemistry between streams and aquifers that are hydraulically connected.

Stream order
A ranking of the relative sizes of streams within a watershed based on the nature of their tributaries. The smallest unbranched tributary is called first order, the stream receiving the tributary is called second order, and so on.

Streamflow
The discharge of water in a natural channel.

Subsidence
The gradual downward settling or sinking of the Earth's surface with little or no horizontal motion.

Substrate
The surface beneath a wetland, lake, or stream in which organisms grow or to which organisms are attached.

Subsurface drain
A shallow drain installed in an irrigated field to intercept the rising ground-water level and maintain the water table at an acceptable depth below the land surface.

Surface runoff
Runoff that travels over the land surface to the nearest stream channel.

Surface water
An open body of water such as a lake, river, or stream.

Suspended sediment
Sediment that is transported in suspension by a stream.

Swale
A slight depression, sometimes filled with water, in the midst of generally level land.

Swamp
An area intermittently or permanently covered with water, and having trees and shrubs.

Tailings
Rock that remains after processing ore to remove the valuable minerals.

Topography
The general configuration of a land surface or any part of the Earth's surface, including its relief and the position of its natural and man-made features.

Transpiration
The process by which water passes through living organisms, primarily plants, into the atmosphere.

Tributary
A river or stream flowing into a larger river, stream or lake.

Turbidity
The state, condition, or quality of opaqueness or reduced clarity of a fluid due to the presence of suspended matter.

Unconfined aquifer
An aquifer whose upper surface is a water table free to fluctuate under atmospheric pressure.

Unsaturated zone
A subsurface zone above the water table in which the pore spaces may contain a combination of air and water.

Vernal pool
A small lake or pond that is filled with water for only a short time during the spring.

Water demand
Water requirements for a particular purpose, such as irrigation, power, municipal supply, plant transpiration, or storage.

Water exports/imports
Artificial transfer (by pipes or canals) of freshwater from one region or subregion to another.

Water-quality standards
State-adopted and U.S. Environmental Protection Agency-approved ambient standards for water bodies. Standards include the use of the water body and the water-quality criteria that must be met to protect the designated use or uses.

Watershed
See drainage basin.

Water table
The top water surface of an unconfined aquifer at atmospheric pressure.

Water year
A continuous 12-month period selected to present data relative to hydrologic or meteorological phenomena during which a complete annual hydrologic cycle normally occurs. The water year used by the U.S. Geological Survey runs from October 1 through September 30, and is designated by the year in which it ends.

Wetlands
Ecosystems whose soil is saturated for long periods seasonally or continuously, including marshes, swamps, and ephemeral ponds.

Withdrawal
Water removed from the ground or diverted from a surface-water source for use.

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Chapter 7

NOISE AND SAFETY

KEY FINDINGS

- Wheatland is located within a low-intensity earthquake zone.
- Wheatland is located within an area potentially susceptible to liquefaction.
- Soil in the Wheatland area is characterized by a moderate to high shrink-swell potential.
- Wheatland is within the lower grasslands area and is less susceptible to fire risk than other areas within Yuba County.
- The city of Wheatland is located within the Beale AFB Comprehensive Land Use Plan overflight zone, which indicates an area that is under the traffic pattern of the base. Certain land uses are restricted in this zone for safety reasons.
- The noise environment in and around the city of Wheatland results primarily from vehicular traffic on SR 65, Union Pacific railroad operations, and aircraft operations associated with Beale Air Force Base.
- New development within the city of Wheatland should consider using noise control techniques such as the use of setbacks, barriers, careful site design, building design, and use of vegetation.

Union Pacific Engine

7.1 | INTRODUCTION

The Safety and Noise chapter provides information on safety hazards within Wheatland, including environmental hazards associated with seismic, geological and soil-related conditions, fire, flood, hazardous waste disposal, noise, and airport safety. Background information on these safety hazards provides a basis for land use planning that would reduce unreasonable risks and protect public health and welfare. Information used in this chapter has been compiled from the 1980 General Plan, the 1996 Environmental Setting for the City of Wheatland General Plan Update, and various other local and regional policy and implementation documents. In addition, City Staff and project consultants have performed research and data collection on existing conditions within the Study Area. This chapter is a summary of those findings, and has been divided into five sections:

- Geological Hazards
- Wildland Fires
- Flooding
- Hazardous Materials
- Noise

7.2 | GEOLOGICAL HAZARDS

EXISTING SETTING

The City of Wheatland is located within the northeastern portion of the Sacramento Valley, which is within the Great Valley geomorphic province. The Great Valley, an elongated lowland, extends 500 miles north and south, separating the Sierra Nevada from the Coast Ranges. This elongated asymmetric structural basin or trough was formed by the westward tilting of the Sierra Nevada block against the eastern flank of the Coast Ranges. The basement rock complex of the Sierra extends westward, beneath the valley, on a gentle slope reaching points near the Coast Ranges. Elevation in the valley is generally several hundred feet above sea level, but ranges from a low point below sea level to approximately 1,000 feet above sea level.

The Great Valley is filled with thick sedimentary rock sequences or strata which began deposition approximately 200 million years ago. Large alluvial fans have developed on each side of the Valley. The larger and more gently sloping fans are located on the east side of the Valley and overlie metamorphic and igneous basement rocks. This basement rock is exposed in the Sierra Nevada Foothills and consists of metasediments, volcanics, and granites. The sediments that form the Valley floor were largely derived by erosion of the Sierra Nevada. The smaller and steeper slopes on the west side of the Valley overlie sedimentary rocks more closely related to the Coast Ranges.

Regional Seismicity

A fault is defined as a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side. A fault zone is a zone of related faults that commonly are braided and subparallel, but may be branching or divergent. Movement within a fault causes an earthquake. When movement occurs along a fault, the energy generated is released as waves which cause groundshaking. Groundshaking intensity varies with the magnitude of the earthquake, the distance from the epicenter, and the type of rock or sediment the seismic waves move through.

The Alquist-Priolo Special Studies Zone Act of December 1972 (AP Zone Act) regulates development near active faults so as to mitigate the hazard of surface fault rupture. The AP Zone Act requires that the State Geologist delineate "special study zones" along known active faults in California. Cities and counties affected by these zones must regulate certain development projects with these zones. The AP Zone Act prohibits the development of structures for human occupancy across the traces of active faults. According to the AP Zone Act, "active faults" have experienced surface displacement during the last 11,000 years. "Potentially" active faults are those that show evidence of surface displacement during the last 1.6 million years. A fault may be presumed to be inactive based on satisfactory geologic evidence; however, the evidence necessary to prove inactivity sometimes is difficult to obtain and locally may not exist.

The Great Valley is generally considered less seismically active than other areas of California. The majority of significant, historic faulting (and ground shaking) within the City of Wheatland has been generated along distant faults, within a 100-mile radius of the city. Minor seismicity has been noted along the Foothills Fault System east of the site that may align with that fault system to some degree. The nearest significant earthquake was the Oroville earthquake of 1975. The epicenter for this earthquake (Richter magnitude of 5.7) was located approximately 30 miles north of the site and is generally associated with the Cleveland Hill fault, a portion of the Foothills Fault System.

Local Seismicity

The city of Wheatland is not located within an Alquist-Priolo Special Study Zone (AP Zone) nor is any active fault near the city. The closest AP Zone is the Bangor Quadrangle, including the AP Zone for the Cleveland Hill Fault to which the 1975 Oroville earthquake is attributed. This zone is located 27 miles north of the city. The next nearest active fault is the Dunnigan Hills fault, located 35 miles southwest of the city.

The closest branches of the seismically active San Andreas Fault system are the Green Valley and Rodgers Creek faults located approximately 60 to 70 miles southwest of the site. The San Andreas Fault is located approximately 100 miles to the west. Faults typically considered inactive in the vicinity of the project area include the Willow fault zone, which traverses Yuba County from north to south and is located approximately 12 miles to the west of Wheatland, and the Spenceville fault in the Foothill Fault System (located in eastern Yuba County) approximately 10 miles east of Wheatland.

Groundshaking

Groundshaking is motion that occurs as a result of energy released during an earthquake. Much of southwest Yuba County (referred to as the Valley portion of the County), which includes the city of Wheatland, is located on alluvium. In areas characterized by loose, water-saturated materials, such as alluvium, energy waves are amplified, extending the intensity and duration of groundshaking beyond that which occurs on solid rock. Though documented faults do not exist within the city, the region has experienced instances of groundshaking originating from faults located to the west and east.

The city of Wheatland is located in an area rated as a low-intensity earthquake zone (Seismic Zone II). A low-intensity zone is defined by the United States Geological Survey (USGS) as an area that is likely to experience an earthquake measuring a maximum of 5.0-5.9 in magnitude on the Richter scale, and a maximum intensity of VII or VIII on the Modified Mercalli scale. The Richter scale measures the amplitude of seismic waves recorded by a seismograph. The Modified Mercalli scale measures the intensity of an earthquake by the way it is felt and responded to by humans, and by the amount of damage it does to buildings and structures. A VII reading on the Modified Mercalli scale represents general fright among the public, pictures thrown off walls, and books thrown off shelves. A VIII on the Modified Mercalli scale represents difficulty standing, waves on ponds, and slides or cave-ins on sand and gravel banks. The Modified Mercalli scale is shown in Table 7-1.

Liquefaction

Another response to severe groundshaking that can occur in loose soils is liquefaction. This transformation from solid state to liquid state ("quicksand"), as a response to seismically induced groundshaking, can cause structures supported on the soils to tilt or settle (sometimes very violently and rapidly) as the supporting capabilities of the soils diminish. Water-saturated, clay-free sediments in the most recent Holocene unit are generally expected to have a high susceptibility to liquefaction. Notably, soils having a high clay content may also be considered to have moderate-to-high liquefaction potential. As identified in the Yuba County General Plan Environmental Setting and Background Report,[1] the portion of the County that includes the Wheatland area is potentially susceptible to liquefaction because it is underlain by unconsolidated sands and finer grained materials.

[1] Yuba County General Plan, Volume 1: Environmental Setting and Background, Section 2.4. May 1994

TABLE 7-1 MODIFIED MERCALLI SCALE OF EARTHQUAKE INTENSITY	
Scale	**Effects**
I.	Earthquake shaking not felt.
II.	Shaking felt by those at rest.
III.	Felt by most people indoors; some can estimate the duration of shaking.
IV.	Felt by most people indoors. Having objects swing, windows and doors rattle, wooden walls and frames creak.
V.	Felt by everyone indoors; many estimate duration of shaking. Standing autos rock. Crockery clashes, dishes rattle, and glasses clink. Doors close, open, or swing.
VI.	Felt by everyone indoors and most people outdoors. Many now estimate not only the duration of the shaking, but also its direction and have no doubt as to its cause. Sleepers awaken. Liquids disturbed, some spilled. Small unstable objects displaced. Weak plaster and weak materials crack.
VII.	Many are frightened and run outdoors. People walk unsteadily. Pictures thrown off walls, books off shelves. Dishes or glasses broken. Weak chimneys break at roofline. Plaster, loose bricks, unbraced parapets fall. Concrete irrigation ditches damaged.
VIII.	Difficult to stand. Shaking noticed by auto drivers, waves on ponds. Small slides and cave-ins along sand or gravel banks. Stucco and some masonry walls fall. Chimneys, factory stacks, towers, elevated tanks twist or fall.
IX.	General fright. People thrown to the ground. Steering of autos affected. Branches broken from trees. General damage to foundations and frame structures. Reservoirs seriously damaged. Underground pipes broken.
X.	General panic. Conspicuous cracks in ground. Most masonry and frame structures destroyed along their foundations. Some well-built wooden structures and bridges are destroyed. Serious damage to dams, dikes, and embankments. Railroads bent slightly.
XI.	General panic. Large landslides. Water thrown out of banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flatland. General destruction of buildings. Underground pipelines completely out of service. Railroads bent greatly.
XII.	General panic. Damage nearly total, the ultimate catastrophe. Large rock masses displaced. Lines of sight and level distorted. Objects thrown into air.

Source: California Division of Mines and Geology, 1973.

Other Geologic Hazards

Primary hazards associated with seismicity include surface rupturing and groundshaking. The major secondary effect of groundshaking is landsliding; other potential effects include liquefaction, settlement, and lateral spreading.

Subsidence is downward settling of surface materials caused by natural or artificial removal of underlying support. Land subsidence would occur from one or more causes, including withdrawal of fluids (oil, gas, or water) or the application of water to moisture-deficient unconsolidated deposits. The potential for collapsible soils exists in areas underlain by silt and fine sand, particularly where these have been deposited solely, or in part, by wind. The valley portion of Yuba County, which includes the Wheatland area, has a low-to-moderate potential for ground surface subsidence due to the withdrawal and extraction of groundwater from the Wheatland area.

Soil Conditions

The U.S. Soil Conservation Service (SCS) has recently identified and mapped soils in Yuba County; however, detailed soil information was not available at the time of this analysis. The following information regarding site soils for the Wheatland area was summarized from the Yuba County General Plan Environmental Setting and Background Report.[2] Each identified soil complex has characteristics that affect soil behavior. Soil characteristics may or may not make the soils suitable for accommodating uses such as shallow excavations, levees, and berms, and local roads and streets. Soil limitations can include slow or very slow permeability, limited ability to support a load, high shrink-swell potential, moderate depth to hardpan, low depth to rock, and frequent flooding. Each soil has characteristics that affect soil behavior. Characteristics discussed include:

- *Shrink-swell potential:* the potential for volume change in a soil with a loss or gain in moisture. If the shrink-swell potential is rated moderate to high, damage to buildings, roads, and other structures can occur.

- *Erosion:* the susceptibility of soil to water or wind transport.

Soil complexes identified for the Wheatland area are described below:

- Columbia-Hollilipah-Shanghai association, 0-2% slopes: a very deep, poorly and somewhat excessively drained soil found on stream terraces. Characteristics include a slight erosion and a low-to-moderate shrink-swell potential.

- Conejo-Kilaga association, 0-2% slopes: very deep, well drained alluvial soils found on stream terraces. Characteristics include a slight erosion and moderate to high shrink-swell potential.

- San Joaquin soils, 0-2%: Moderately deep, well drained alluvial soils that have a dense clay subsoil on low fan terraces. Characteristics include a slight erosion and moderate to high shrink-swell potential.

- Redding-Corning-Pardee association, 0-2%: Moderately deep, well drained alluvial soils with a dense clay subsoil on low alluvial terraces. Characteristics include a slight erosion and moderate to high shrink-swell potential.

[2] Yuba County General Plan, Volume 1: Environmental Setting and Background, Section 2.5, May 1994.

7.3 | WILDLAND FIRES

EXISTING FIRE PROTECTION SERVICES

Wheatland Fire Department

The City of Wheatland Fire Department provides fire protection services to the city. The Department, which consists entirely of volunteers, maintains a roster that varies from 12 to 16 positions. The department operates four vehicles: a rescue unit; a Class A, 1000 GPM engine; a Class B, 500 GPM engine; and a brush truck for fighting fires. All vehicles are run out of a two-bay equipment house located beside city hall. The Department has a mutual response agreement with the Plumas-Brophy Fire District, which is described below. Hazardous materials emergencies are handled by the Marysville Fire Department under a mutual aid agreement. The Wheatland Fire Department maintains an Insurance Service Office (ISO) rating of Class VI. ISO's ratings range from I to X, with I being very close to perfect and X being no fire protection.

Plumas Brophy Fire Protection District

The Plumas Brophy Fire Protection District (PBFD) is classified a 'Special District' by the State of California. The PBFD serves an area west of the existing City of Wheatland (encircling the city limits), approximately 80 square miles. The PBFD consists of sixteen (16) volunteers. The station is at 4514 Dairy Road and includes four (4) Class A, 1,000 GPM engines, two (2) water tenders, three (3) Grass Units (CEF) Type 1, and two (2) light rescue units.

Marysville Fire Department

The Marysville Fire Department consists of:

- Three (3) personnel on duty 24 hours a day;
- One (1) fire station; and
- Reserve force of 15.

EXISTING WILDLAND FIRE CONDITIONS

Factors most affecting wildland fires are vegetation, climate, and topography. These factors are used by the California Department of Forestry and Fire Protection (CDF) to develop the Fire Hazard Severity Scale for California wildlands. The resulting classification system provides a practical, objective means for delineating areas of varying fire hazard severity.

Vegetation is a primary fuel source for wildland fires. Three (3) vegetation categories are recognized in terms of fuel capacity: grass, brush, and timberland. Grasslands, the lightest fuel group, provide from one to three tons of fuel per acre and are easily ignited when dry. Of the three fuel types, grasslands are the easiest in which to suppress fires. Heavy brush and timberlands represent the heaviest fuel loading. Agricultural areas on the Valley floor are the

least fire-prone areas of the county. The most serious problems in the valley relate to structural fires and grass fires.

While vegetation provides fuel for fires, the Mediterranean climate of Yuba County helps fires to start and spread rapidly. During the annual dry season, from about May to October, vegetation becomes very dry. Hot, dry conditions increase the combustibility of fuels. Although the valley has a hotter, drier climate than the foothills and mountains, the presence of croplands, orchards, and irrigation makes the wildland fire danger less critical in the valley.

The third component of the fire hazard rating system is topography. Steepness of terrain can contribute to the outbreak, spread, and severity of fires in several ways. The relatively flat terrain in the Wheatland area makes wildland fire danger less critical.

The city of Wheatland is within the lower grasslands and is therefore among the most fire secure areas in Yuba County.

7.4 | FLOODING

See discussion of flooding issues in Section 5.4.

7.5 | HAZARDOUS MATERIALS

HAZARDOUS MATERIALS SPILL RESPONSE

The Marysville Fire Department handles hazardous materials emergencies in Wheatland under a mutual aid agreement. In the event of a hazardous waste emergency in Wheatland, the Wheatland Fire Department and Plumas Brophy Fire District are the first responders to the scene.[3] Should the Wheatland Fire Department or PBFD determine that additional assistance is needed, the Yuba County OES would be contacted, which would then contact the Marysville Fire Department via dispatch. The protocol of the Marysville Fire Department is to send four (4) personnel to the scene where the hazardous spill has occurred.

EXISTING HAZARDOUS MATERIALS

According to the Yuba County General Plan, hazardous substances are used, stored, and transported throughout the county. Hazardous substances include but are not limited to, petroleum products, pesticides and herbicides, chemicals, and radiation. Title 22, *Section 66260.10* of the California Code of Regulations (CCR) defines hazardous material as follows:

> *"[...] a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or*

[3] Personal Communication with Mr. Scott Witt, Marysville Fire Department Engineer, May 24, 2004.

potential hazard to human health or environment when improperly treated, stored, transport or disposed of."

Hazardous wastes are a problem not confined to highly industrialized areas. Waste oils and other petroleum products are among the several hundred substances classified as hazardous wastes. Every gasoline service station and automobile repair facility in Wheatland is a hazardous waste generator. School chemistry laboratories and automotive shops use and store hazardous substances and/or generate hazardous waste.

The greatest risks of upset or accidental release of hazardous substances and wastes into the environment are during transport, during transfer from a mobile tank to a fixed storage tank, or from leaking storage tanks. Hazardous substances and hazardous wastes are transported through the city by truck and railroad. Until recent improvements in storage tank technology and installation, use, inspection, and disposal procedures, most storage tanks would eventually leak contents into soil and water.

Household hazardous wastes are a potential source of risk that should not be overlooked. Although they constitute only a small percentage (typically 5 percent or less) of all household wastes, household hazardous wastes are a particular danger to the environmental. Typically, they include waste oil, solvents (such as paint thinners and cleaning solutions), pesticides, dyes and paints, metal-containing liquids (such as the contents of batteries), and a variety of other liquids such as drain cleaners and bleaches.

Agricultural Uses

The city of Wheatland is surrounded by agricultural uses. With the exception of limited residential uses near the center of the Wheatland area, most of the land to the northeast, the southwest, west, and northwest of the city limits consists of agricultural uses. Agricultural uses include orchard and row crop cultivation as well as cattle grazing and pastureland uses.

Agricultural land in the Wheatland area is primarily used for orchards with limited areas of open grassland used for grazing. Agricultural use of this sort includes the use of fungicides, pesticides, and pre-emergent chemicals. The fungicides and pesticide/insecticides are applied to the trees, while the pre-emergents are applied to grasses and weeds prior to their spread. The chemicals typically used over the last 15 to 20 years break down shortly after application. However, long-term use of the Wheatland area for similar agricultural purposes could leave residual chemicals in the soil.

Toxicological studies indicate that persistent pesticides/herbicides have long half-lives in soil. However, the soil must be ingested to significantly expose an individual to the associated chemical hazards. Although the chemicals are considered persistent over long periods of time, their concentrations degrade over time, rendering them less hazardous

Industrial Uses

The large-scale use of hazardous materials for industrial purposes is common and can include the use and storage of large amounts of solvents and fuel oils. Over long periods of use spills and undetected leaks contaminate the surrounding soils and shallow groundwater.

The only industrial use in the city of Wheatland since 1996 is an HVAC storage and distribution operation at the old Rice Mill on Third Street. This facility does not use any hazardous materials

Beale Air Force Base

Beale Air Force Base is located in Yuba County approximately 13 miles east of Marysville, and 6 miles northeast of Wheatland. Created in 1942 as an army training base, the base today is under the authority of the Air Force's Strategic Air Command (SAC). The base is the only location for the nation's U-2 and TR-1 reconnaissance aircraft. In addition, the base operates Global Hawk reconnaissance aircrafts, NASA T-38 chase/trainer jets, and KC-135 jet tankers. Aside from reconnaissance aircrafts, the base is also the home to various missile warning and information/intelligence systems such as the DGS-2 and Pave Paws systems.

Furthermore, Beale Air Force Base (Beale AFB) maintains one (1) active runway, which is 12,000 feet long and 300 feet wide, with asphalt overrun areas to the north and south. Flight paths followed by aircraft arriving and departing from Beale AFB have been integrated to minimize conflict with civilian aircraft operations at Sacramento Metro Airport, the Yuba County Airport, the Sutter County Airport, the Lincoln Airport, and McClellan Air Force Base. Further, flight paths have been designed to minimize community disturbance and public reaction.

The Beale AFB Comprehensive Land Use Plan (CLUP) (1992) designates three safety areas: the clear zone, the approach-departure zone, and the overflight zone (see Figure 7-1). The clear zone is near the end of the runway and is the most restrictive. The approach-departure zone is located under the takeoff and landing slopes and is less restrictive. The overflight zone is the area under the traffic pattern and is even less restrictive.

Wheatland is located within the CLUP overflight zone. The overflight zone dimensions are determined by reviewing the flight patterns for Beale AFB and developing a zone that would include that land overflown by aircraft in a take-off or landing phase, aircraft using flight paths associated with training touch and go operations, and aircraft maneuvering near the airfield after take-off or before landing.

The Beale AFB Comprehensive Land Use Plan includes a table entitled "Beale Air Force Base Land Use Compatibility Guidelines for Safety." Although the overflight zone is the least restrictive of the zones, the table shows that certain land use is permitted in the overflight zone. Prohibited land use include: chemical and allied products manufacturing; petroleum refining; rubber and plastics manufacturing; regional shopping centers; colleges and universities; hospitals; jails and detention centers; motion picture theater complexes; professional sports developments; stadiums and arenas; auditoriums, concert halls and amphitheaters; fairgrounds and expositions; racetracks; and theme parks.

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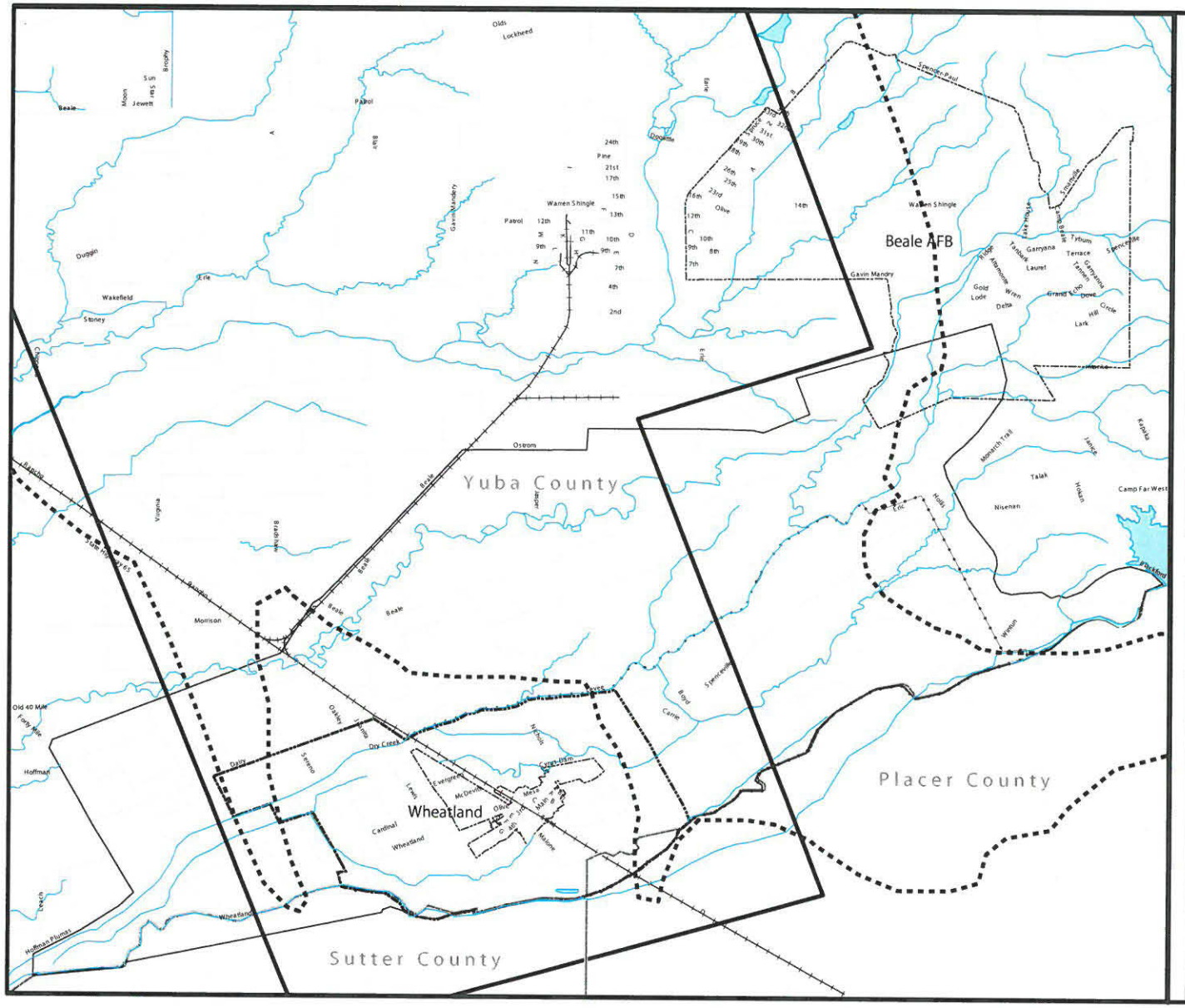

LEGEND

Figure 7-1
Beale AFB
Area of Influence

Source: Beale Air Force Base, Comprehensive Land Use Plan, May 1986; and Mintier & Associates; May 2004

The guidelines recommend that the following types of developments be allowed with restrictions: elementary and secondary schools are allowed only if Californian Education Code, *Sections 39005.7, 81036, and 81038* are fulfilled; manufacturing, communications and utilities development are allowed only if there is no use that would cause electrical interference which would be detrimental to aircraft operation or instrumentation; and agricultural, mining, open space and natural areas or natural water areas would be allowed as long as they do not result in water areas that could cause ground fog or result in a bird hazard.

OTHER HAZARDS

Additional potential hazards within the City of Wheatland include hazardous materials spills or other accidents on SR 65 or the Union Pacific Railroad. Both are major transportation corridors of national significance. Vehicles and rail cars may carry explosives, military ordnance, chemicals, and a variety of petroleum products. Cleanup where accidents occur involving these facilities would be the responsibility of Caltrans or the Union Pacific Railroad.

7.7 | NOISE

EXISTING NOISE SETTING

The ambient noise environment in Wheatland is defined primarily by traffic on SR 65 and local roadways, Union Pacific Railroad (UPRR) operations, and distant aircraft operations associated with Beale Air Force Base. The noise environment in Wheatland is also locally influenced by commercial uses (car wash, light auto repair, and HVAC warehouse), active recreation areas of parks and outdoor play areas of schools. There are no airports within Wheatland, but a portion of the Study Area is located within the noise impact contours for Beale AFB. No significant industrial noise sources were identified within the city of Wheatland. Subjectively, the ambient noise environment in Wheatland is considered to be fairly quiet at locations removed from SR 65 and the railroad tracks. The individual noise generations of the various representative noise sources identified within Wheatland are described below.

PURPOSE OF THE NOISE ELEMENT

The Noise Element provides a basis for comprehensive local policies to control and abate environmental noise and to protect the citizens of Wheatland from excessive noise exposure. The fundamental goals of the noise portion of this Element are as follows:

- To provide sufficient information concerning the community noise environment so that noise may be effectively considered in the land use planning process.

- To develop strategies for abating excessive noise exposure through cost-effective mitigation measures in combination with appropriate zoning to avoid incompatible land uses.

- To protect those existing regions of the Study Area whose noise environments are deemed acceptable and also those locations throughout the community deemed "noise sensitive."

- To protect existing noise-producing commercial and industrial uses in the city of Wheatland from encroachment by noise-sensitive land uses.

FUNDAMENTALS OF NOISE

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and hence are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called Hertz (Hz).

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in levels (dB) correspond closely to human perception of relative loudness. Table 7-2 shows examples of noise levels for several common noise sources and environments.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighing the frequency response of a sound level meter by means of the standardized A-weighing network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this document are in terms of A-weighted levels.

Community noise is commonly described in terms of the Aambient@ noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq), which corresponds to a steady-state A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptor, Ldn, and shows very good correlation with community response to noise.

The Day-Night Average Level (Ldn) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because Ldn represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

TABLE 7-2
TYPICAL A-WEIGHTED SOUND LEVELS OF COMMON NOISE SOURCES

Loudness Ratio Level	A-Weighted Sound Level (dBA)	
	130	Threshold of pain
64	120	Jet aircraft take-off at 100 feet
32	110	Riveting machine at operators position
16	100	Cut-off saw at operators position
8	90	Bulldozer at 50 feet
4	80	Diesel locomotive at 300 feet
2	70	Commercial jet aircraft interior during flight
1	60	Normal conversation speech at 5-10 feet
1/2	50	Open office background level
1/4	40	Background level within a residence
1/8	30	soft whisper at 2 feet
1/16	20	Interior of recording studio

Noise in the community has often been cited as being a health problem, not in terms of actual physiological damages such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities such as sleep, speech, recreation and tasks demanding concentration or coordination. When community noise interferes with human activities or contributes to stress, public annoyance with the noise source increases, and the acceptability of the environment for people decreases. This decrease in acceptability and the threat to public well-being are the bases for land use planning policies preventing exposures to excessive community noise levels.

To control noise from fixed sources which have developed from processes other than zoning or land use planning, many jurisdictions have adopted community noise control ordinances. Such ordinances are intended to abate noise nuisances and to control noise from existing sources.

They may also be used as performance standards to judge the creation of a potential nuisance, or potential encroachment of sensitive uses upon noise-producing facilities. Community noise control ordinances are generally designed to resolve noise problems on a short-term basis (usually by means of hourly noise level criteria), rather than on the basis of 24-hour or annual cumulative noise exposures.

In addition to the A-weighted noise level, other factors should be considered in establishing criteria for noise sensitive land uses. For example, sounds with noticeable tonal content such as whistles, horns, droning or high-pitched sounds may be more annoying than the A-weighted sound level alone suggests. Many noise standards apply a penalty, or correction, of 5 dBA to such sounds. The effects of unusual tonal content are generally more of a concern at nighttime, when residents may notice the sound in contrast to low levels of background noise.

Because many rural residential areas experience very low noise levels, residents may express concern about the loss of "peace and quiet" due to the introduction of a sound which was not audible previously. In very quiet environments, the introduction of virtually any change in local activities will cause an increase in noise levels. A change in noise level and the loss of "peace and quiet" is the inevitable result of land use or activity changes in such areas. Audibility of a new noise source and/or increases in noise levels within recognized acceptable limits are not usually considered to be significant noise impacts, but these concerns should be addressed and considered in the planning and environmental review processes.

EXISTING NOISE ENVIRONMENT

The major noise sources in Wheatland consist of SR 65 and local traffic on city streets, commercial uses, Beale Air Force Base operations, active recreation areas of parks, outdoor play areas of schools, and railroad operations on the Union Pacific Railroad. Each of these noise sources is discussed individually below.

Roadways

The Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA-RD-77-108) with the Calveno vehicle noise emission curves was used to predict traffic noise levels within the Wheatland General Plan Study Area. The FHWA Model is the traffic noise prediction model currently preferred by the Federal Highway Administration, the State of California Department of Transportation (Caltrans), and most city and county governments, for use in traffic noise assessment. Although the FHWA Model is in the process of being updated by a more sophisticated traffic noise prediction model, the use of RD-77-108 is considered acceptable for the development of General Plan traffic noise predictions.

SR 65 is the most heavily traveled roadway in the city of Wheatland. The FHWA Model was used with traffic data obtained from published Caltrans traffic counts and Bollard & Brennan, Inc. field surveys to develop Ldn contours for SR 65 within the city of Wheatland, as well as local roadways. The FHWA Model input data for those roadways is provided in Table 7-3. The distances from the centerlines of the major roadways to the 60 and 65 dB Ldn contours are also summarized in Table 7-3. Many roadways are not contained in Table 7-3 because these roadways are not major traffic arterials within the city of Wheatland.

TABLE 7-3
FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL DATA INPUTS AND DISTANCES TO 60 AND 65 DB LDN CONTOURS
CITY OF WHEATLAND NOISE ELEMENT - EXISTING (2004) CONDITIONS

		Segment Description					Truck Usage			Distance to Ldn Contours, feet	
Segment	Roadway Name	From	To	ADT	Day %	Night %	Med.	Hvy.	Speed	60 dB Ldn	65 dB
1	Hwy 65	North of Evergreen		17370	83	17	12	16	35	429	199
2		Evergreen Dr	Mc Devitt Dr	17710	83	17	12	16	35	435	202
3		Mc Devitt Dr	First St	18670	83	17	12	16	35	450	209
4		First St	Second St	19180	83	17	12	16	35	459	213
5		Second St	Third St	18660	83	17	12	16	35	450	209
6		Third St	Fourth St	19270	83	17	12	16	35	460	214
7		Fourth St	Main St	18030	83	17	12	16	35	440	204
8		South of Main St		16200	83	17	12	16	35	410	190
9	Evergreen St	West of Hwy 65		640	83	17	2	2	35	19	9
10	Mc Devitt Dr	West of Hwy 65		1770	83	17	2	2	35	38	18
11	First St	West of Hwy 65		1680	83	17	2	2	35	37	17
12		East of Hwy 65		400	83	17	2	2	35	14	7
13	Second St	West of Hwy 65		140	83	17	2	2	35	7	3
14		East of Hwy 65		980	83	17	2	2	35	26	12
15	Third St	West of Hwy 65		450	83	17	2	2	35	15	7
16		East of Hwy 65		340	83	17	2	2	35	13	6
17	Fourth St	West of Hwy 65		500	83	17	2	2	35	16	8
18		East of Hwy 65		1980	83	17	2	2	35	41	19
19	Main St	West of Hwy 65		3710	83	17	2	2	35	63	29
20		Hwy 65	Front St	4030	83	17	2	2	35	66	31
21		Front St	Olive St	4340	83	17	2	2	35	69	32
22		West of Olive St		1020	83	17	2	2	35	26	12

Source: *Annual Average Daily Truck Traffic on the California State Highway System*, Caltrans, 2002, Bollard & Brennan, Inc. and kdANDERSAON Transportation Consultants.

Railroads

The railroad tracks in Wheatland are operated by the Union Pacific Railroad. The tracks run from north to south and generally parallel SR 65. According to noise level measurements and field observations conducted by Bollard & Brennan, Inc., this line was observed to support approximately 30 train operations in a 24-hour period. Give this level of railroad activity, a measured average railroad Sound Exposure Level (SEL) of 98 dB at the measurement distance of 200 feet, and a random distribution of railroad activity throughout the day and nighttime periods, the Ldn computed for the railroad tracks in Wheatland was 70 dB at a distance of 200 feet from the tracks. Table 7-4 shows the distances from the railroad tracks to the 60 and 65 dB Ldn railroad noise contours based on 30 operations per day, and likely variations from that observed number of daily operations.

TABLE 7-4
RAILROAD NOISE EXPOSURE AS A FUNCTION OF THE NUMBER OF DAILY TRAINS
CITY OF WHEATLAND, CALIFORNIA

		Distance to Ldn Noise Contours	
Number of daily Trains	**Ldn at 100 feet, dB**	**60 dB**	**65 dB**
20	73	683	317
25	73	793	368
30	74	896	416
35	75	992	461
40	76	1085	504

Note: The predicted distances to the Ldn contours assume a mean railroad sound exposure level of 103 dB (with horn usage) at a reference distance of 100 feet from the tracks and that train operations are uniformly distributed across day and nighttime hours.

Aircraft Noise

According to the Comprehensive Land Use Plan (CLUP) for Beale Air Force Base (adopted 1987, amended 1992), the 65 dB CNEL noise exposure contours extend into a portion of the Wheatland General Plan Study Area. Due to changing operations at Beale since the CLUP Noise Contours were developed, the extent by which the noise contours shown on Figure 7-1 reflect the current aircraft noise environment in the Wheatland Study Area is unknown. Nonetheless, the CLUP noise contours are incorporated into this background document for reference.

Noise-Related Land Use Policies

Significant issues related to the noise produced by aircraft at Beale AFB exist. As a result of annoyances that occur due to air traffic noise, the base has adopted airport noise contours for various decibel (dB) ranges and appropriate measure to lessen the effects of noise. The main policy goal is to reduce the number of people exposed to noise from aircraft operating from the airport to the lowest level possible. The plan states that if development is proposed in areas

between the 60dB and 65dB Community Noise Equivalency Level[4] (CNEL) noise contours, affected cities and counties should evaluate the impact of aircraft noise on proposed development and consider requiring noise reduction measures, aviation noise easements, and buyer-renter notification. As a result, the plan provides a detailed analysis of compatible land uses within 60-65dB, 65-70dB, 70-75dB, 75-80dB, and 80-85dB ranges.

Non-Transportation Noise Sources

The production of noise is a result of many processes and activities, even when the best available noise control technology is applied. Noise exposures within industrial facilities are controlled by Federal and State employee health and safety regulations (OSHA), but exterior noise levels may exceed locally acceptable standards. Commercial, recreational and public service facility activities can also produce noise which affects adjacent sensitive land uses.

From a land use planning perspective, fixed-source noise control issues focus upon two goals: to prevent the introduction of new noise-producing uses in noise-sensitive areas, and to prevent encroachment of noise-sensitive uses upon existing noise-producing facilities. The first goal can be achieved by applying noise performance standards to proposed new noise-producing uses. The second goal can be met by requiring that new noise-sensitive uses in proximity to noise-producing facilities include mitigation measures to ensure compliance with those noise performance standards.

Descriptions of existing fixed noise sources in Wheatland are provided below. These uses are intended to be representative of the relative noise generation of such uses, and are intended to identify specific noise sources which should be considered in the review of development proposals. Site specific noise analyses should be performed where noise sensitive land uses are proposed in proximity to these (or similar) noise sources, or where similar sources are proposed to be located near noise-sensitive land uses.

The Jones Company

The Jones Company, the only existing industrial land use within the city. It is located between 2nd and 3rd Street, west of the UPRR Tracks. Operations at the Jones Company consist of warehousing and distribution of HVAC units. According to a Jones Company representative, their operations generate an average of two truck operations per day, and they have no current plans for expansion. Other than mechanical equipment associated with the office air conditioning systems, no appreciable sound was being generated by this facility during various site inspections. The site is located immediately adjacent to existing residential uses, but no noise complaints have reportedly been filed due to this operation. Although this facility was not observed to be a significant noise source, it is included within this section due to the industrial appearance of the Jones Company facilities.

[4] Community Noise Equivalency Level (CNEL) is a standard used to rate noise on and around airports in California.

General Service Commercial and Light Industrial Uses

Noise sources associated with service commercial uses such as automotive repair facilities, car washes, loading docks, retail stores, are found at various locations within Wheatland. The noise emissions of these types of uses are dependant on many factors, and are therefore, difficult to quantify precisely. Nonetheless, noise generated by the these uses contributes to the ambient noise environment in the immediate vicinity of these uses, and should be considered where either new noise-sensitive uses are proposed nearby or where similar uses are proposed in existing residential areas.

Parks and School Play Fields

There are several park and school uses within the Study Area. These uses are spread throughout the city. Noise generated by these uses depends on the age and number of people the respective facility at a given time, and the types of activities they are engaged in. School playing field activities tend to generate more noise than those of neighborhood parks, as the intensity of school playground usage tends to be much higher. At a distance of 100 feet from an elementary school playground being used by 100 students, average and maximum noise levels of 60 and 75 dB, respectively, can be expected. At organized events such as high-school football games with large crowds and public address systems, the noise generation is often significantly higher. As with service commercial uses, the noise generation of parks and school playing fields is variable.

Community Noise Survey

To quantify existing noise levels in the quieter parts of the city of Wheatland, a community noise survey was performed at 8 locations in this city which are removed from major noise sources. Two of the eight locations were monitored over a continuous 24-hour period, while the other six locations were each monitored for two short term periods during daytime hours and one during nighttime hours. The community noise survey measurement locations are shown on Figure 7-2. The results of the community noise survey are provided in Table 7-5.

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1. Wheatland Union High School
2. New Junior High School
3. Virginia School
4. Bear River School
5. Wheatland Elementary School

Figure 7-2
Noise Monitoring Sites

Source: Mintier & Associates, 2004

TABLE 7-5
COMMUNITY NOISE MEASUREMENT SURVEY RESULTS
WHEATLAND NOISE ELEMENT - MAY 4-11, 2002

Site	Location	Dates	Time Period	Leq	Lmax	Estimated Ldn	Sources
1	Most Southern End of Oakley St.	5-6-04	Morning	44	52	45-50	Local Traffic
		5-4-04	Afternoon	41	58		Faint Distant Train
		5-11-04	Nighttime	38	47		Natural sounds
2	Northwest corner of Study Area off Dairy Rd	5-6-04	Morning	43	54	45-50	Local Traffic
		5-4-04	Afternoon	44	63		Faint Distant Train
		5-11-04	Nighttime	40	46		Distant Traffic
3	Park at Sullivan Wy and Hudson Wy	5-6-04	Morning	43	55	45-50	Local Traffic
		5-4-04	Afternoon	45	57		Aircraft Flyovers
		5-11-04	Nighttime	39	49		Traffic
4	Nichols Park	5-6-04	Morning	54	64	55	Local Traffic
		5-4-04	Afternoon	54	61		
		5-11-04	Nighttime	48	59		
5	Just South of Malone Ave and Main St.	5-6-04	Morning	51	59	55	Local Traffic (Hwy 65)
		5-4-04	Afternoon	52	63		
		5-11-04	Nighttime	47	62		
6	Park at Wheatland Park Dr. and McDevit Dr.	5-6-04	Morning	50	65	55	Local Traffic
		5-4-04	Afternoon	52	63		
		5-11-04	Nighttime	44	59		
A	Carpenter Ct. Residence	5-4-04	Daytime	68	100	72	Local Traffic (Hwy 65)
			Nighttime	65	96		Train Passes
B	Fraser Ct. Residence	5-4-04	Daytime	56	64	64	Local Traffic
			Nighttime				
C	Nichols St. Residence	5-4/5-5	Daytime	52	77	55	Local Traffic
			Nighttime	48	76		Train Passes

Source: Bollard & Brennan, Inc., 2004.

NOISE MITIGATION OPTIONS

Any noise problem may be considered as being composed of three basic elements: the noise source, a transmission path, and a receiver. The appropriate acoustical treatment for a given project should consider the nature of the noise source and the sensitivity of the receiver. The problem should be defined in terms of appropriate criteria (Ldn, Leq, or Lmax), the location of the sensitive receiver (inside or outside), and when the problem occurs (daytime or nighttime). Noise control techniques should then be selected to provide an acceptable noise environment for the receiving property while remaining consistent with local aesthetic standards and practical structural and economic limits. Fundamental noise control techniques include the following:

Use of Setbacks

Noise exposure may be reduced by increasing the distance between the noise sources and receiving use. Setback areas can take the form of open space, frontage roads, recreational areas, storage yards, etc. The available noise attenuation from this technique is limited by the characteristics of the noise source, but is generally about 4 to 6 dB per doubling of distance from the source.

Use of Barriers

Shielding by barriers can be obtained by placing walls, berms or other structures, such as buildings, between the noise source and the receiver. The effectiveness of a barrier depends upon blocking line-of-sight between the source and receiver, and is improved with increasing the distance the sound must travel to pass over the barrier as compared to a straight line from source to receiver. The difference between the distance over a barrier and a straight line between source and receiver is called the "path length difference," and is the basis for calculating barrier noise reduction.

Barrier effectiveness depends upon the relative heights of the noise source, barrier and receiver. In general, barriers are most effective when placed close to either the receiver or the source. An intermediate barrier location yields a smaller path-length-difference for a given increase in barrier height than does a location closer to either source or receiver.

For maximum effectiveness, barriers must be continuous and relatively airtight along their length and height. To ensure that sound transmission through the barrier is insignificant, barrier mass should be about 4 lbs. per square foot, although a lesser mass may be acceptable if the barrier material provides sufficient transmission loss. Satisfaction of the above criteria requires substantial and well-fitted barrier materials, placed to intercept line of sight to all significant noise sources. Earth, in the form of berms or the face of a depressed area, is also an effective barrier material.

The attenuation provided by a barrier depends upon the frequency content of the source. Generally, higher frequencies are attenuated (reduced) more readily than lower frequencies. This results because a given barrier height is relatively large compared to the shorter wavelengths of high frequency sounds, while relatively small compared to the longer

wavelengths of the frequency sounds. The effective center frequency for traffic noise is usually considered to be 550 Hz. Railroad engines, cars and horns emit noise with differing frequency content, so the effectiveness of a barrier will vary for each of these sources. Frequency analyses are necessary to properly calculate barrier effectiveness for noise from sources other than highway traffic.

There are practical limits to the noise reduction provided by barriers. For highway traffic noise, a 5 to 10 dB noise reduction may often be reasonably attained. A 15 dB noise reduction is sometimes possible, but a 20 dB noise reduction is extremely difficult to achieve. Barriers usually are provided in the form of walls, berms, or berm/wall combinations. The use of an earth berm in lieu of a solid wall may provide up to 3 dB additional attenuation over that attained by a solid wall alone, due to the absorption provided by the earth. Berm/wall combinations offer slightly better acoustical performance than solid walls, and are often preferred for aesthetic reasons.

Site Design

Buildings can be placed on a project site to shield other structures or areas, to remove them from noise-impacted areas, and to prevent an increase in noise level caused by reflections. The use of one building to shield another can significantly reduce overall project noise control costs, particularly if the shielding structure is insensitive to noise. As an example, carports or garages can be used to form or complement a barrier shielding adjacent dwellings or an outdoor activity area. Similarly, one residential unit can be placed to shield another so that noise reduction measures are needed for only the building closest to the noise source. Placement of outdoor activity areas within the shielded portion of a building complex, such as a central courtyard, can be an effective method of providing a quiet retreat in an otherwise noisy environment. Patios or balconies should be placed on the side of a building opposite the noise source, and "wing walls" can be added to buildings or patios to help shield sensitive uses.

Another option in site design is the placement of relatively insensitive land uses, such as commercial or storage areas, between the noise source and a more sensitive portion of the project. Examples include development of a commercial strip along a busy arterial to block noise affecting a residential area, or providing recreational vehicle storage or travel trailer parking along the noise-impacted edge of a mobile home park. If existing topography or development adjacent to the project site provides some shielding, as in the case of an existing berm, knoll or building, sensitive structures or activity areas may be placed behind those features to reduce noise control costs.

Site design should also guard against the creation of reflecting surfaces which may increase onsite noise levels. For example, two buildings placed at an angle facing a noise source may cause noise levels within that angle to increase by up to 3 dB. The open end of "U"-shaped buildings should point away from noise sources for the same reason. Landscaping walls or noise barriers located within a development may inadvertently reflect noise back to a noise-sensitive area unless carefully located. Avoidance of these problems while attaining an aesthetic site design requires close coordination between local agencies, the project engineer and architect, and the noise consultant.

Building Design

When structures have been located to provide maximum noise reduction by barriers or site design, noise reduction measures may still be required to achieve an acceptable interior noise environment. The cost of such measures may be reduced by placement of interior dwelling unit features. For example, bedrooms, living rooms, family rooms and other noise-sensitive portions of a dwelling can be located on the side of the unit farthest from the noise source.

Bathrooms, closets, stairwells and food preparation areas are relatively insensitive to exterior noise sources, and can be placed on the noisy side of a unit. When such techniques are employed, noise reduction requirements for the building facade can be significantly reduced, although the architect must take care to isolate the noise impacted areas by the use of partitions or doors.

In some cases, external building facades can influence reflected noise levels affecting adjacent buildings. This is primarily a problem where high-rise buildings are proposed, and the effect is most evident in urban areas, where an "urban canyon" may be created. Bell-shaped or irregular building facades and attention to the orientation of the building can reduce this effect.

Noise Reduction by Building Facades

When interior noise levels are of concern in a noisy environment, noise reduction may be obtained through acoustical design of building facades. Standard residential construction practices provide 10-15 dB noise reduction for building facades with open windows, and approximately 25 dB noise reduction when windows are closed. Thus a 25 dB exterior-to-interior noise reduction can be obtained by the requirement that building design include adequate ventilation systems, allowing windows on a noise-impacted facade to remain closed under any weather condition.

Where greater noise reduction is required, acoustical treatment of the building facade is necessary. Reduction of relative window area is the most effective control technique, followed by providing acoustical glazing (thicker glass or increased air space between panes) in low air infiltration rate frames, use of fixed (non-movable) acoustical glazing or the elimination of windows. Noise transmitted through walls can be reduced by increasing wall mass (using stucco or brick in lieu of wood siding), isolating wall members by the use of double- or staggered- stud walls, or mounting interior walls on resilient channels. Noise control for exterior doorways is provided by reducing door area, using solid-core doors, and by acoustically sealing door perimeters with suitable gaskets. Roof treatments may include the use of plywood sheathing under roofing materials.

Which ever noise control techniques are employed, it is essential that attention be given to installation of weatherstripping and caulking of joints. Openings for attic or subfloor ventilation may also require acoustical treatment; tight-fitting fireplace dampers and glass doors may be needed in aircraft noise-impacted areas.

Design of acoustical treatment for building facades should be based upon analysis of the level and frequency content of the noise source. The transmission loss of each building component should be defined, and the composite noise reduction for the complete facade calculated, accounting for absorption in the receiving room. A one-third octave band analysis is a definitive method of calculating the A-weighted noise reduction of a facade.

A common measure of transmission loss is the Sound Transmission Class (STC). STC ratings are not directly comparable to A-weighted noise reduction, and must be corrected for the spectral content of the noise source. Requirements for transmission loss analyses are outlined by Title 24 of the California Code of Regulations.

Use of Vegetation

Trees and other vegetation are often thought to provide significant noise attenuation. However, approximately 100 feet of dense foliage (so that no visual path extends through the foliage) is required to achieve a 5 dB attenuation of traffic noise. Thus the use of vegetation as a noise barrier should not be considered a practical method of noise control unless large tracts of dense foliage are part of the existing landscape.

Vegetation can be used to acoustically "soften" intervening ground between a noise source and receiver, increasing ground absorption of sound and thus increasing the attenuation of sound with distance. Planting of trees and shrubs is also of aesthetic and psychological value, and may reduce adverse public reaction to a noise source by removing the source from view, even though noise levels will be largely unaffected. It should be noted, however, that trees planted on the top of a noise control berm can actually slightly degrade the acoustical performance of the barrier. This effect can occur when high frequency sounds are diffracted (bent) by foliage and directed downward over a barrier.

In summary, the effects of vegetation upon noise transmission are minor, and are primarily limited to increased absorption of high frequency sounds and to reducing adverse public reaction to the noise by providing aesthetic benefits.

7.8 | GLOSSARY

ACOUSTICAL TERMINOLOGY

Acoustics
The science of sound.

Ambient Noise
The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.

Attenuation
The reduction of noise.

A-Weighting
A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.

Decibel or dB
Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.

CNEL
Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.

Frequency
The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.

Ldn
Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.

Leq
Equivalent or energy-averaged sound level.

Lmax
The highest root-mean-square (RMS) sound level measured over a given period of time.

Loudness
A subjective term for the sensation of the magnitude of sound.

Noise
Unwanted sound.

7.9 | SOURCES

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