Chapter 3 INFRASTRUCTURE AND COMMUNITY SERVICES

Sutter County recognizes the importance of and commits to the provision of adequate infrastructure and services including water, wastewater, stormwater drainage, solid waste, energy, and telecommunications systems in supporting the needs of residents and businesses to ensure a high quality of life. Equally important are community services that sustain the health and safety of Sutter County's residents through the provision of law enforcement, fire protection and emergency services, schools, parks and recreation, and government, civic, and cultural facilities, which are vital to the well-being of those who live, work, and visit Sutter County.

The County also recognizes the importance of developing an efficient transportation network that minimizes impacts to the environment and to neighborhoods. This chapter describes the existing utility and transportation infrastructure in the county and discusses the public services available for the protection and well-being of residents in the county. Additionally, these facilities and services are essential for the continued economic development in the county.

The Infrastructure and Community Services chapter is divided into the following sections:

3.1 Infrastructure with subsections addressing Potable Water Systems and Supply (3.1.1), Agricultural Water Systems and Supply (3.1.2), Wastewater Systems (3.1.3), Stormwater Drainage (3.1.4), Levees and Flood Control (3.1.5), Solid Waste Management (3.1.6), Energy Resources (3.1.7), and Telecommunications (3.1.8).

3.2 Mobility with subsections addressing Streets and Highways (3.2.1), Transit and Rail (3.2.2), Bikeways (3.2.3), and Air Travel and Airports (3.2.4).

3.3 Community Services and Facilities with subsections addressing Law Enforcement (3.3.1); Fire Protection and Emergency Services (3.3.2); Schools (3.3.3); Parks and Recreation (3.3.4); and General Government, Civic, and Cultural Facilities (3.3.5).

3.1 INFRASTRUCTURE

Development in Sutter County is supported by a network of public facilities and services, each with a unique set of considerations and issues. This chapter describes the various infrastructure and services provided in the county, including identification of key service providers and boundaries, major facilities, and regulatory requirements.

3.1.1 Potable Water Systems and Supply

INTRODUCTION

This section describes the various potable water systems and water supplies throughout the county, including the incorporated cities within Sutter County. The issues associated with potable water and water supplies are also identified in this section. Information for this section was obtained from applicable reports and studies from Sutter County, Sutter County LAFCO, the California Department of Water Resources, and Yuba City, as well through communication with Public Works and Utilities staff from Sutter County and Yuba City.

Agricultural water systems and supply are addressed in Section 3.2.

SUMMARY OF KEY FINDINGS

- The source of potable water for most of Sutter County is groundwater. Throughout most of the county, potable water is provided by privately owned wells that serve individual properties. Adequate quality of potable water supply of existing and future growth is an issue.
- Groundwater in many areas of Sutter County has naturally occurring arsenic in concentrations above the MCL (Maximum Contaminant Level) of 10 µg/L.
- Groundwater in many areas of Sutter County has nitrates in concentrations above the MCL of 45 mg/L (as nitrate). The nitrates in the groundwater are from septic systems and agricultural practices.
- Yuba City currently utilizes surface water and groundwater supplies. The City intends to ultimately convert all their systems to surface water supplies, but the time frame for this conversion in not known. To accomplish this conversion and to provide surface water for future growth of the City, additional surface water supplies will be needed.
- Live Oak's water is supplied by five groundwater wells, all of which exceed the federal limits of arsenic concentrations for potable water. Greensand arsenic removal systems are being constructed at four of the wells. A decision about the fifth well will be made soon. The groundwater supply is expected to be sufficient to meet the demands of the City of Live Oak through buildout of their General Plan.

OVERVIEW

Potable water in Sutter County is provided by two sources: groundwater and surface water. Yuba City is the only user of surface water for potable water supplies, although Yuba City also utilizes groundwater for potable water supplies. The City of Live Oak uses only groundwater for potable water supplies. There are several other community water systems that also use groundwater, including the Community of Robbins, Community of Sutter, and the Rio Ramaza Subdivision. There are many other small systems in the unincorporated areas of the county that serve only a few homes. Many homes in the county obtain their water from their own individual wells.

Yuba City's surface water supplies are currently adequate, but the City will need to acquire additional surface water supplies to meet their buildout water demands. Yuba City has a water system master plan that provides an understanding of the City's current and future water needs and provides a plan for achieving those needs.

Groundwater supplies appear to provide adequate supply; however, the quality of the groundwater supplies is at risk. The contaminants of concern are naturally occurring arsenic, nitrate and other pollutants from septic systems, iron, manganese, and agricultural chemicals. Sutter County is currently preparing a groundwater management plan that will help protect the County's groundwater resources.

EXISTING CONDITIONS

Most of Sutter County uses groundwater for potable water supplies. In the rural areas, most of the groundwater is pumped by privately owned wells. There are also several municipal and community potable water systems within Sutter County. See Figure 3.1-1 for water service areas throughout the county. These systems rely on water supplies from either the Feather River or from groundwater. Yuba City utilizes both surface water and groundwater supplies.

Groundwater

Groundwater is water contained in the pore space of soils and rocks below the ground surface. Groundwater is generally classified as either confined or unconfined. Confined groundwater consists of deeper aquifers which are separated from the ground surface by an impermeable soil layer. Unconfined groundwater consists of the upper most layer of groundwater that is not separated (not confined) by an impermeable soil layer. The top of the unconfined groundwater layer is often called the water table. Groundwater is replenished through percolation of stream flow, rain, and agricultural irrigation (especially rice).

The groundwater resources in Sutter County consist of three subbasins of the Sacramento Valley Groundwater Basin, including the East Butte, North American, and Sutter Subbasins. Groundwater in the East Butte Subbasin varies greatly with each season. Depths fluctuate greatly depending on the type of aquifer (confined, composite or semi-confined) as well as if it is a wet year, a drought year or year with normal precipitation. Groundwater levels in the North American Subbasin in Sutter County have been relatively steady, with the exception in southern Sutter County which have shown a moderate decrease. In the southwestern portion of Placer County, the groundwater levels in the North American Subbasin have steadily decreased over the last forty years at an average rate of a foot to a foot and half a year. The Sutter Subbasin groundwater levels have remained on average approximately ten feet below the ground.[1]

See Figures 3.1-2 through 3.1-4 for historical water well data based upon the California Department of Water Resources historical well data. As shown, across the county, the water table levels exhibit significant variability over a yearly period, but over the long term (1950s to 2007) water table levels are mostly stable. However, water table levels in the northeast corner of the county were lower during the 1960s and 1970s, but have recovered in recent years.

The County's groundwater is at risk of contamination from nitrates and arsenic. Nitrates are entering the groundwater from agricultural practices and septic systems. The Environmental Protection Agency limits nitrates in potable water to 10 mg/L as nitrogen (44.3 mg/L as nitrate) and nitrites to 1 mg/L (as nitrogen). Additionally, there is naturally occurring arsenic in much of the groundwater that exceeds the recently adopted limit of 10 µg/L. Other contaminants known to occur in groundwater within the county include Bentazon (pesticides), DBCP, Chloride, Iron, and Manganese (Figures 3.1-5 through 3.1-9).[2]

Septic systems are an effective method of treating wastewater from individual or small groups of houses and businesses. However, if septic systems are overloaded or not maintained, they may contribute to the contamination of groundwater by introducing nitrates, salts, bacteria, viruses, household chemicals, and other contaminants into the groundwater. These contaminants can then enter potable water supplies through pumping of the contaminated water

1 California Department of Water Resources, *California's Groundwater Bulletin 118, Update 2003*.

2 Sutter County, *Sutter County General Plan 2015: Background Report*, November 1, 1996.

by water supply wells. Septic systems and groundwater wells are used throughout much of Sutter County (see Section 3.1.3, Wastewater Systems).

Sutter County is currently preparing a Groundwater Management Plan that will provide updated groundwater information; however, this plan will not be completed until 2009.[3] Typically groundwater management plans identify management goals and objectives to protect the groundwater resources. These plans also identify management actions that should be implemented to achieve the goals and objectives.

Some of the ways that groundwater and its use can be protected include:

- Restricting the use of septic systems. This could be accomplished by limiting future development in the county or by connecting ranchettes and houses near Yuba City and the City of Live Oak to the Cities' sewer systems. Similarly, these ranchettes and houses could be connected to the Cities' water systems to reduce the impact of contaminated groundwater.
- Ensuring proper siting, design, operation, and maintenance of septic systems.
- Constructing community wastewater treatment systems and eliminating septic systems.
- Providing proper operations and maintenance of sewer systems.
- Implementing best management practices for agricultural chemical usage.
- Ensuring proper design, construction, and maintenance of wells, including locating wells away from septic systems.

Sutter County

Throughout most of Sutter County, potable water is provided by privately owned groundwater wells that serve individual properties. There are also many small systems that serve more than one property.

Community of Robbins

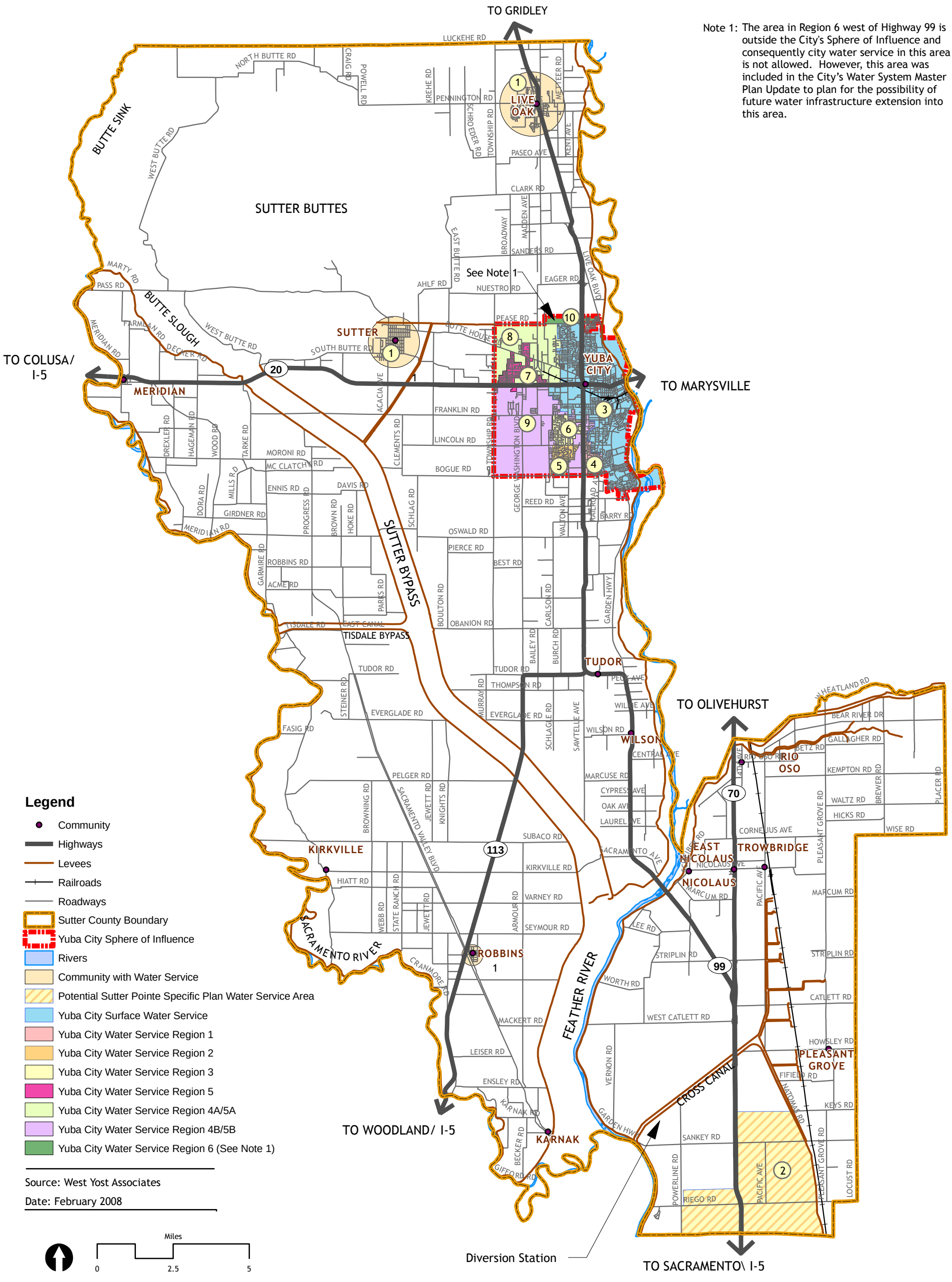
Sutter County runs the water district that serves the Community of Robbins. This water service district includes two groundwater wells. Pumping from Well 1 is restricted to 15 calendar days of use per year because the water from this well has higher than acceptable levels of arsenic, and other contaminants, as summarized below:[4]

- Arsenic is a primary contaminant of concern and has a maximum contaminant limit (MCL) of 10 µg/L. Well 1 has been measured at 61 µg/L.
- Manganese is a secondary contaminant concern with a MCL of 50 µg/L. Well 1 has been measured at 84 µg/L.
- Iron is a secondary contaminant concern with a MCL of 300 µg/L. Well 1 has been measured at 118 µg/L.

3 Sawyer, Al, Assistant Public Works Director, Sutter County, Personal Communication, October 3, 2007.

4 Sutter County, 2005.

SUTTER COUNTY
General Plan Update



Note 1: The area in Region 6 west of Highway 99 is outside the City's Sphere of Influence and consequently city water service in this area is not allowed. However, this area was included in the City's Water System Master Plan Update to plan for the possibility of future water infrastructure extension into this area.

WATER SERVICE AREAS
Figure 3.1-1

SUTTER COUNTY
General Plan Update

SUTTER COUNTY
GENERAL PLAN UPDATE

EAST CANAL

TO OLIVEHURST

RIO OSO

SUTTER BYPASS

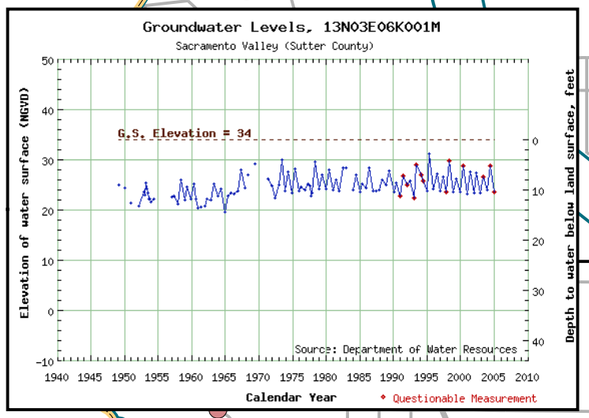
NICOLAUS

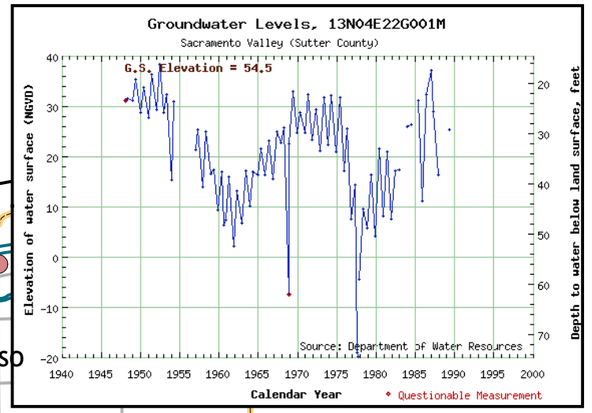
FEATHER RIVER

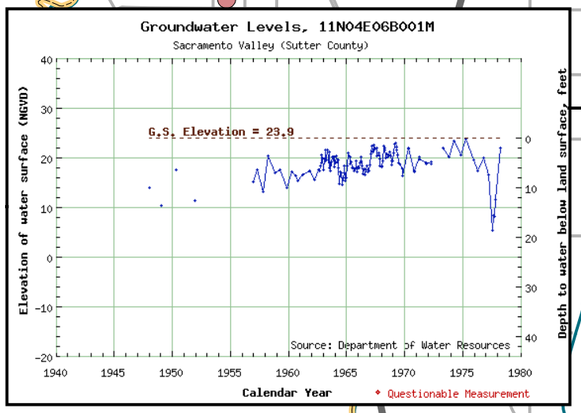
PLEASANT GROVE

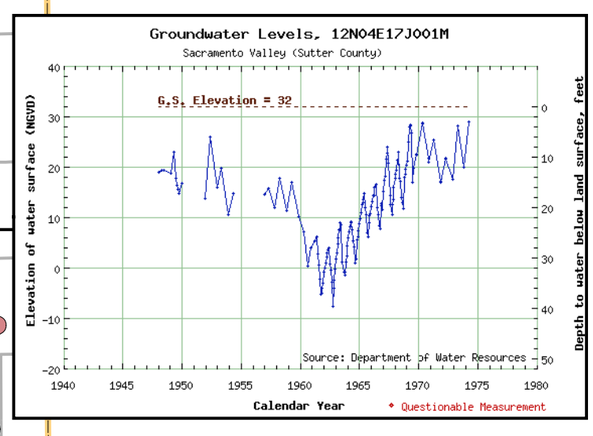
TO WOODLAND/I-5

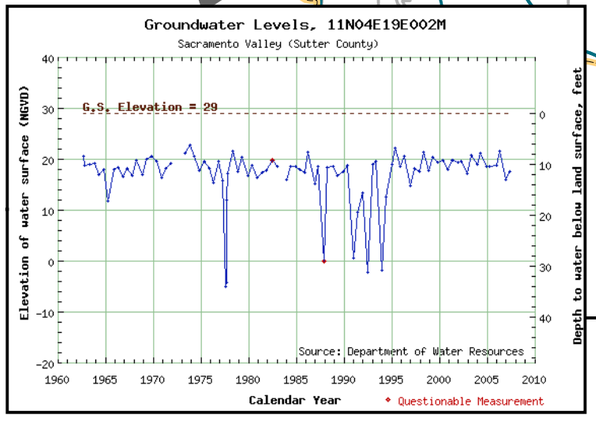
99 113 70

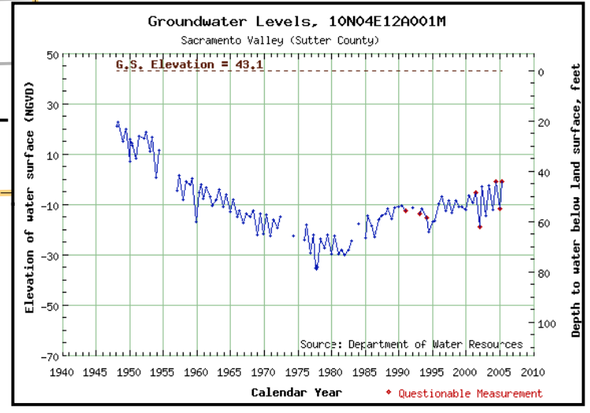




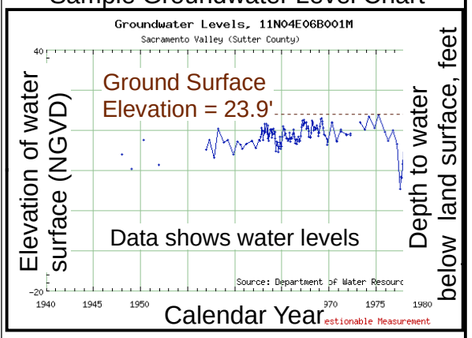








Sample Groundwater Level Chart



LEGEND

- Water Wells
- Highways
- Levees
- Roads
- Sutter County

Source: State Department of Water Resources

Date: February 2008

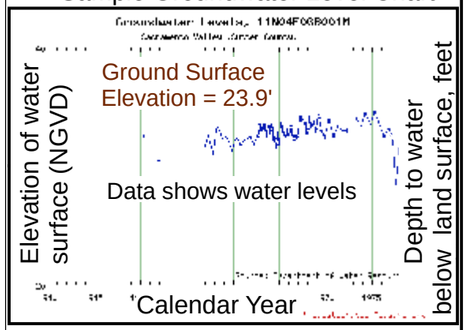
Miles
0 2.5 5

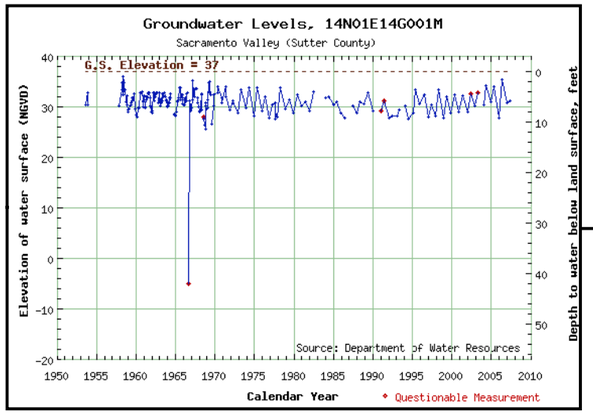
GROUNDWATER LEVELS IN SOUTHERN SUTTER COUNTY
Figure 3.1-2

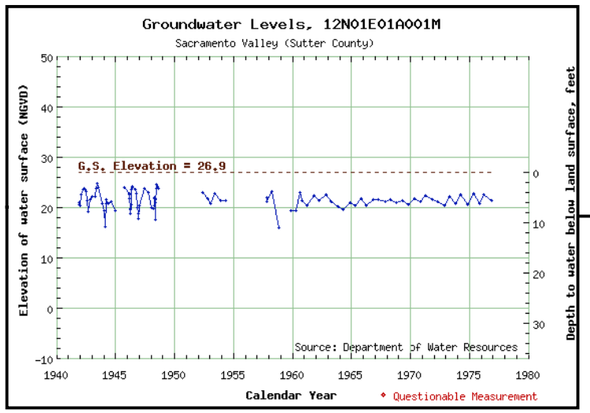
SUTTER COUNTY
General Plan Update

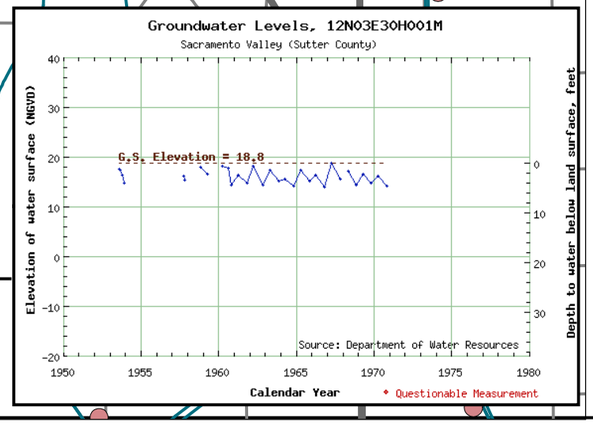
SUTTER COUNTY
GENERAL PLAN UPDATE

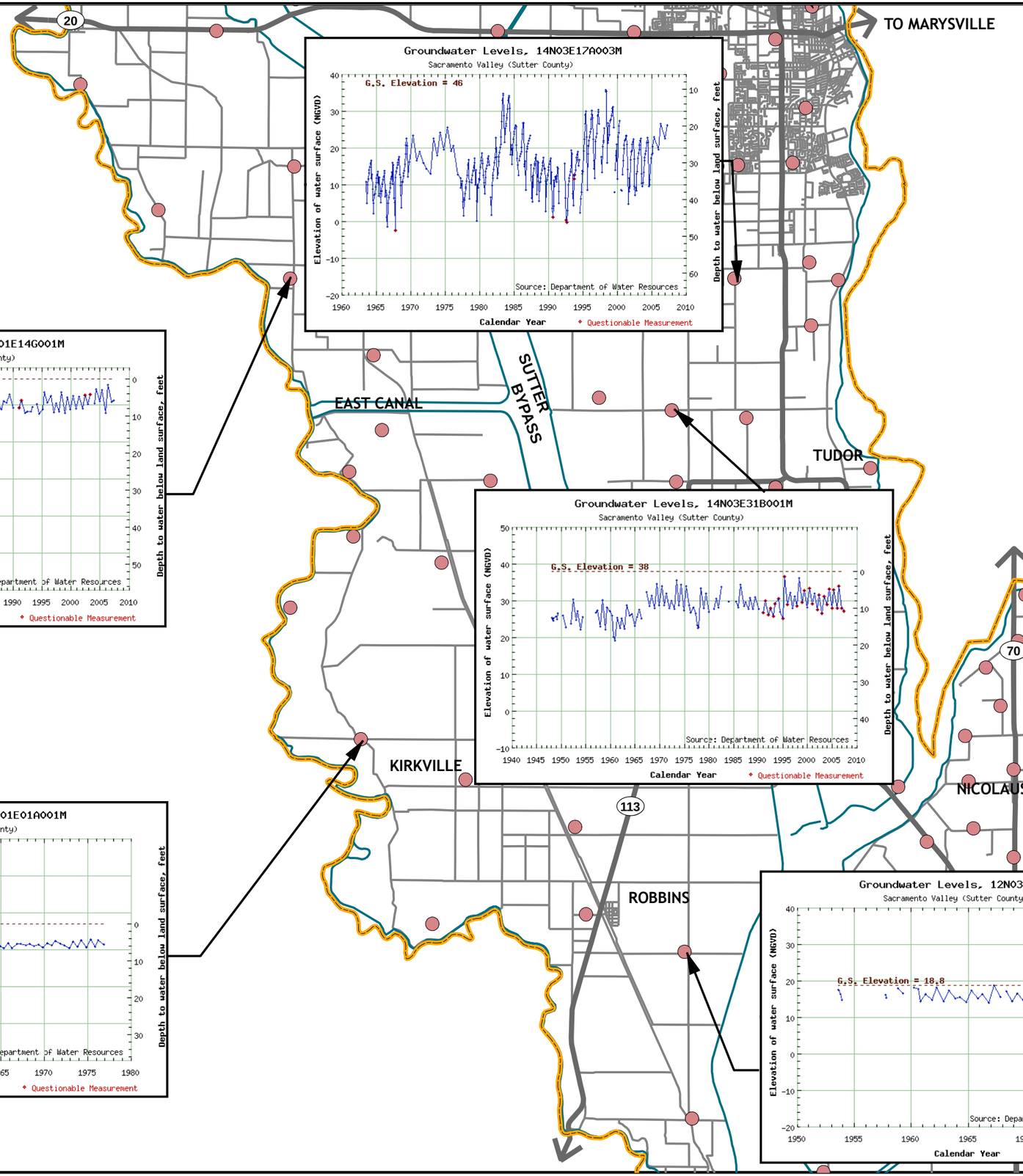
Sample Groundwater Level Chart











LEGEND:

- Water Wells
- Highways
- Levees
- Roads
- Sutter County

Source: State Department of Water Resources
Date: February 2008

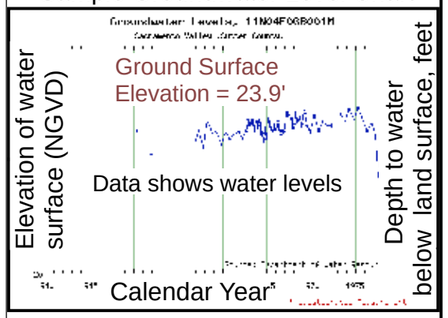
Miles
0 2.5 5

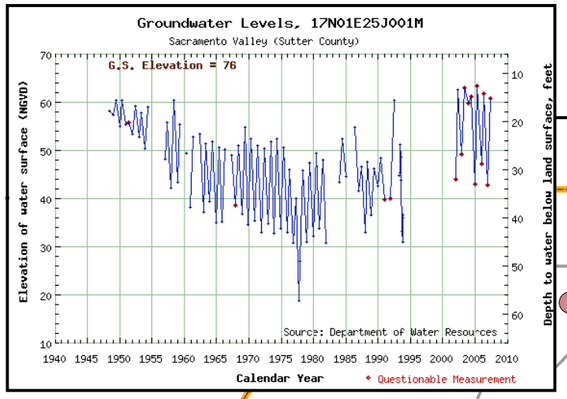
GROUNDWATER LEVELS IN CENTRAL SUTTER COUNTY
Figure 3.1-3

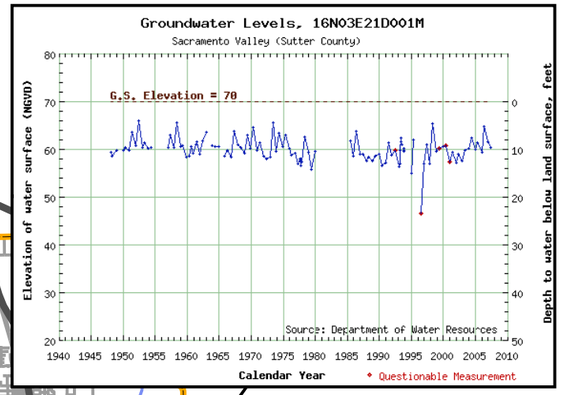
SUTTER COUNTY
General Plan Update

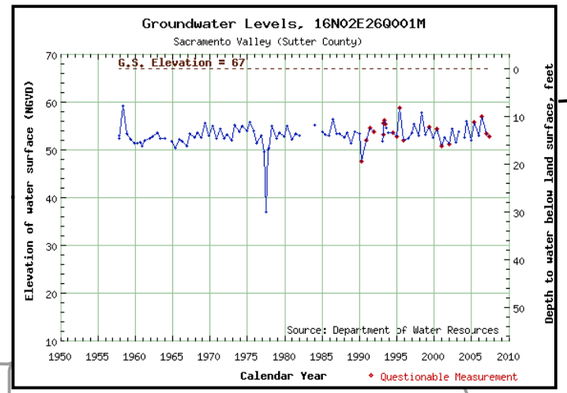
SUTTER COUNTY
GENERAL PLAN UPDATE

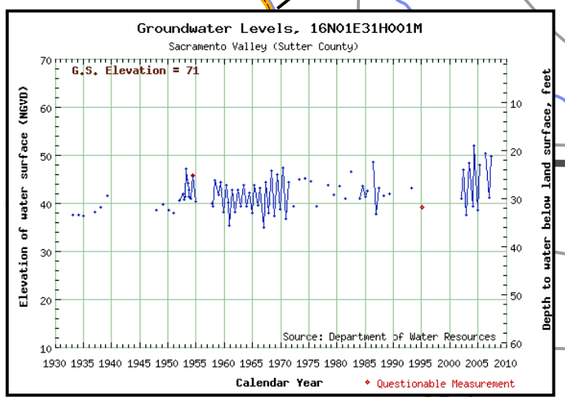
Sample Groundwater Level Chart

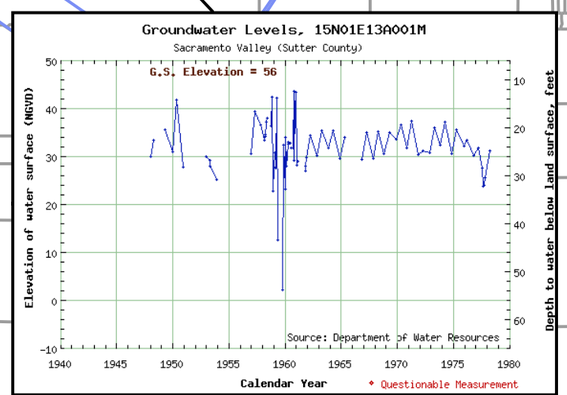












TO GRIDLEY

SUTTER BUTTES

SUTTER

20

99

LEGEND

- Water Wells
- Highways
- Levees
- Centerlines
- Sutter County

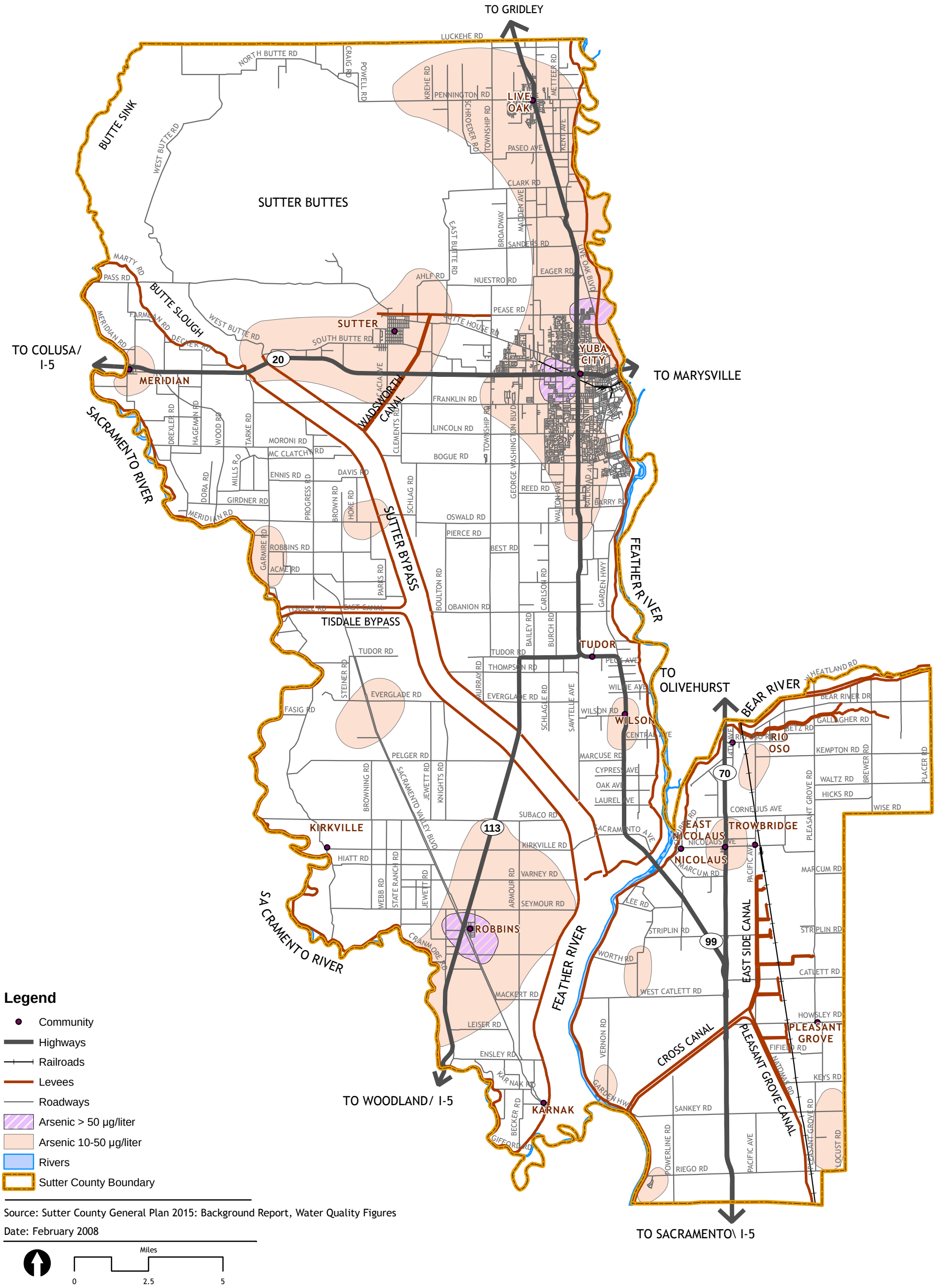
Source: State Department of Water Resources

Date: February 2008

Miles
0 2.5 5

GROUNDWATER LEVELS IN NORTHERN SUTTER COUNTY
Figure 3.1-4

SUTTER COUNTY
General Plan Update



Legend

- Community
- Highways
- Railroads
- Levees
- Roadways
- Arsenic > 50 µg/liter
- Arsenic 10-50 µg/liter
- Rivers
- Sutter County Boundary

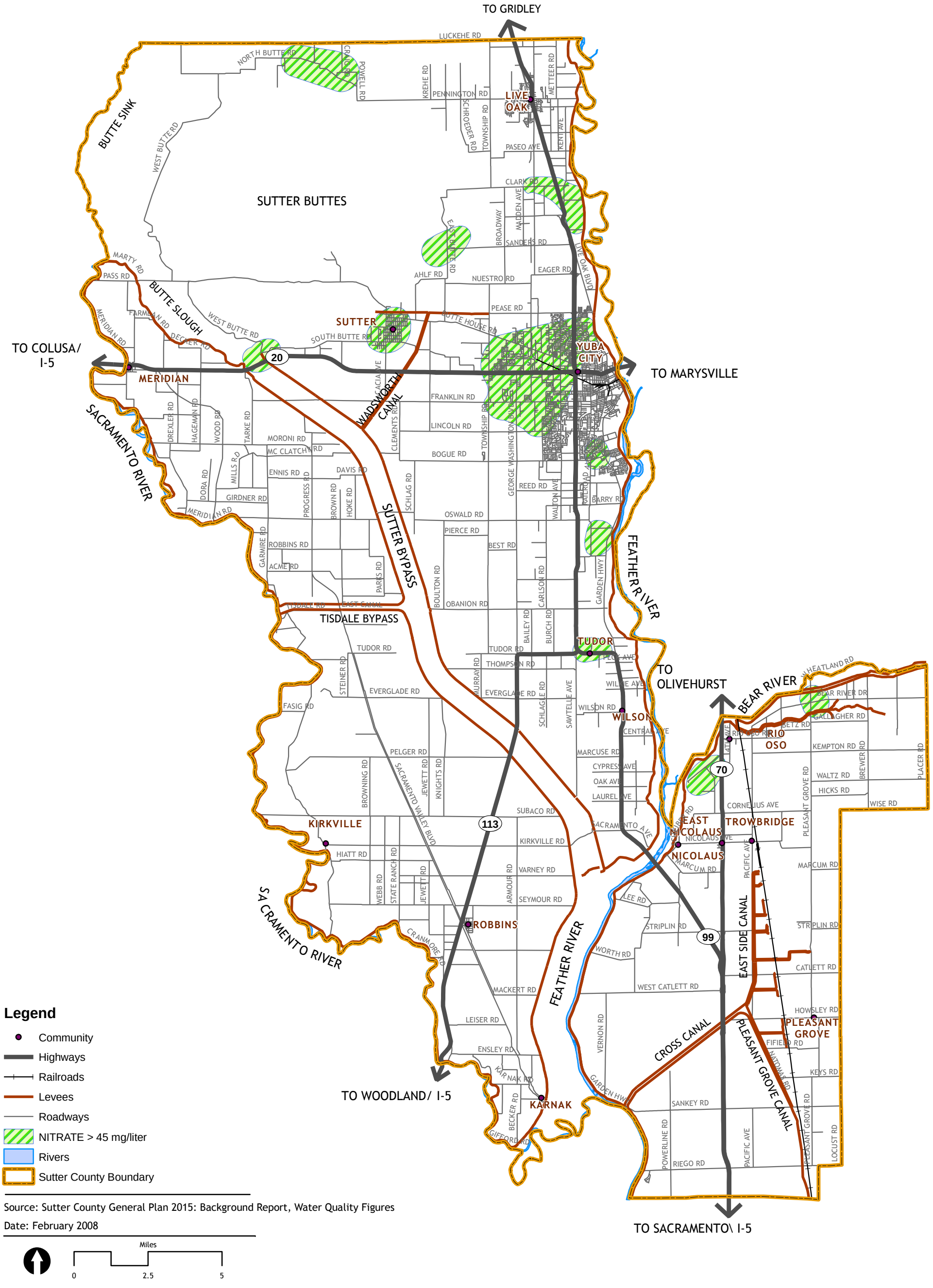
Source: Sutter County General Plan 2015: Background Report, Water Quality Figures

Date: February 2008

Miles

0 2.5 5

GROUNDWATER QUALITY-ARSENIC
Figure 3.1-5



Legend

- Community
- Highways
- Railroads
- Levees
- Roadways
- NITRATE > 45 mg/liter
- Rivers
- Sutter County Boundary

Source: Sutter County General Plan 2015: Background Report, Water Quality Figures

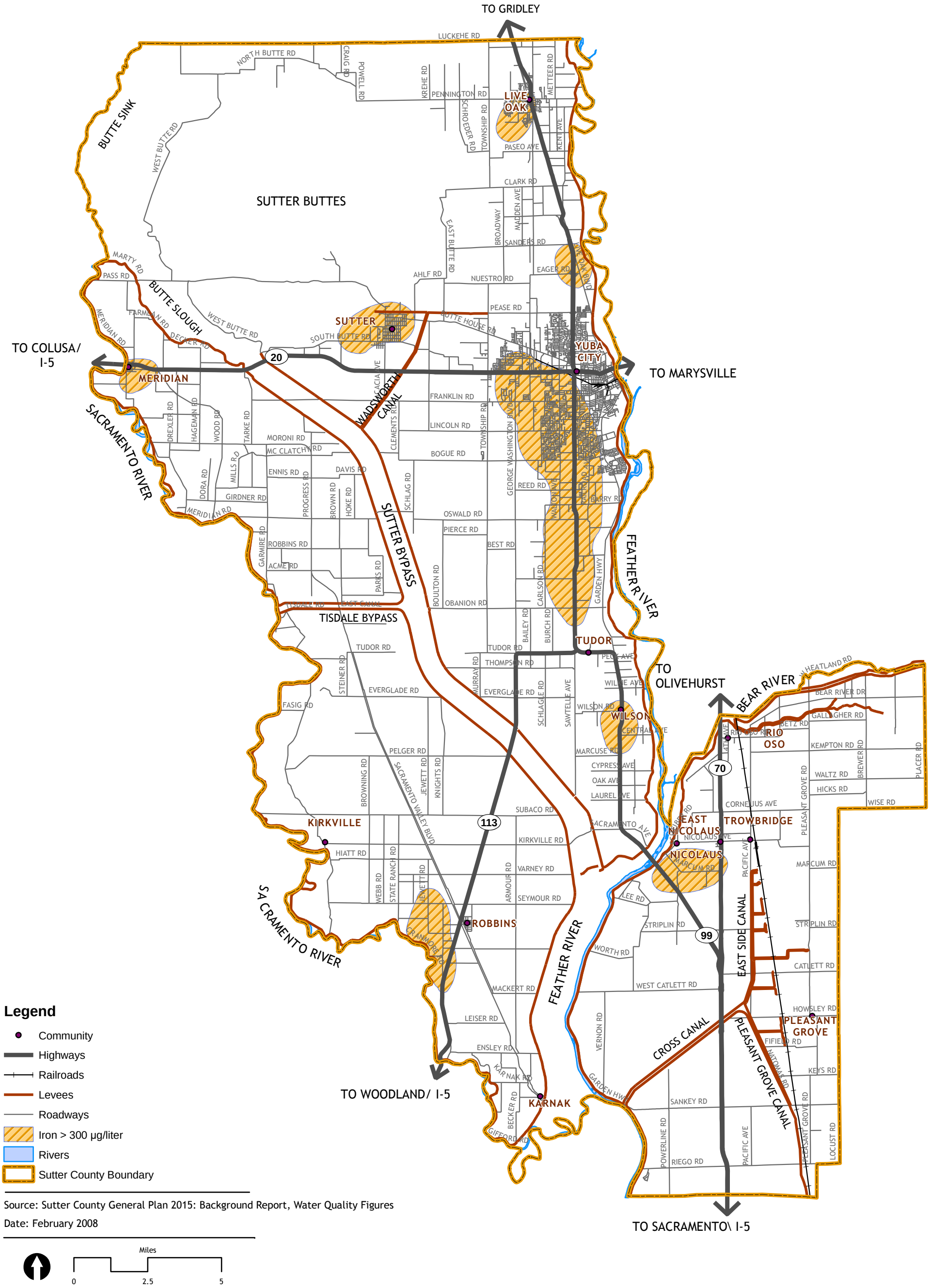
Date: February 2008

Miles
0 2.5 5

GROUNDWATER QUALITY-NITRATE
Figure 3.1-6

SUTTER COUNTY
General Plan Update

SUTTER COUNTY
GENERAL PLAN UPDATE



Legend

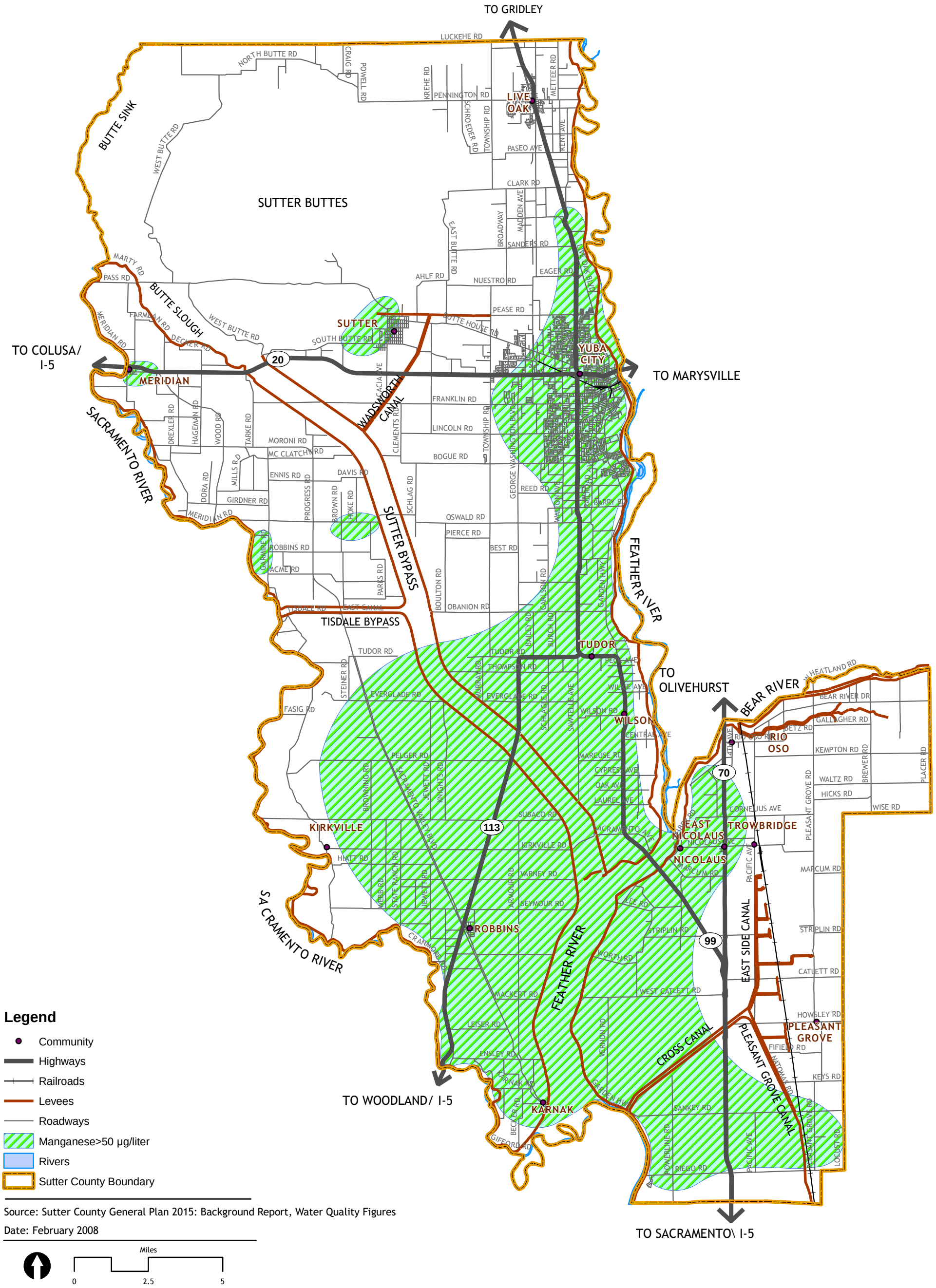
- Community
- Highways
- Railroads
- Levees
- Roadways
- Iron > 300 µg/liter
- Rivers
- Sutter County Boundary

Source: Sutter County General Plan 2015: Background Report, Water Quality Figures

Date: February 2008

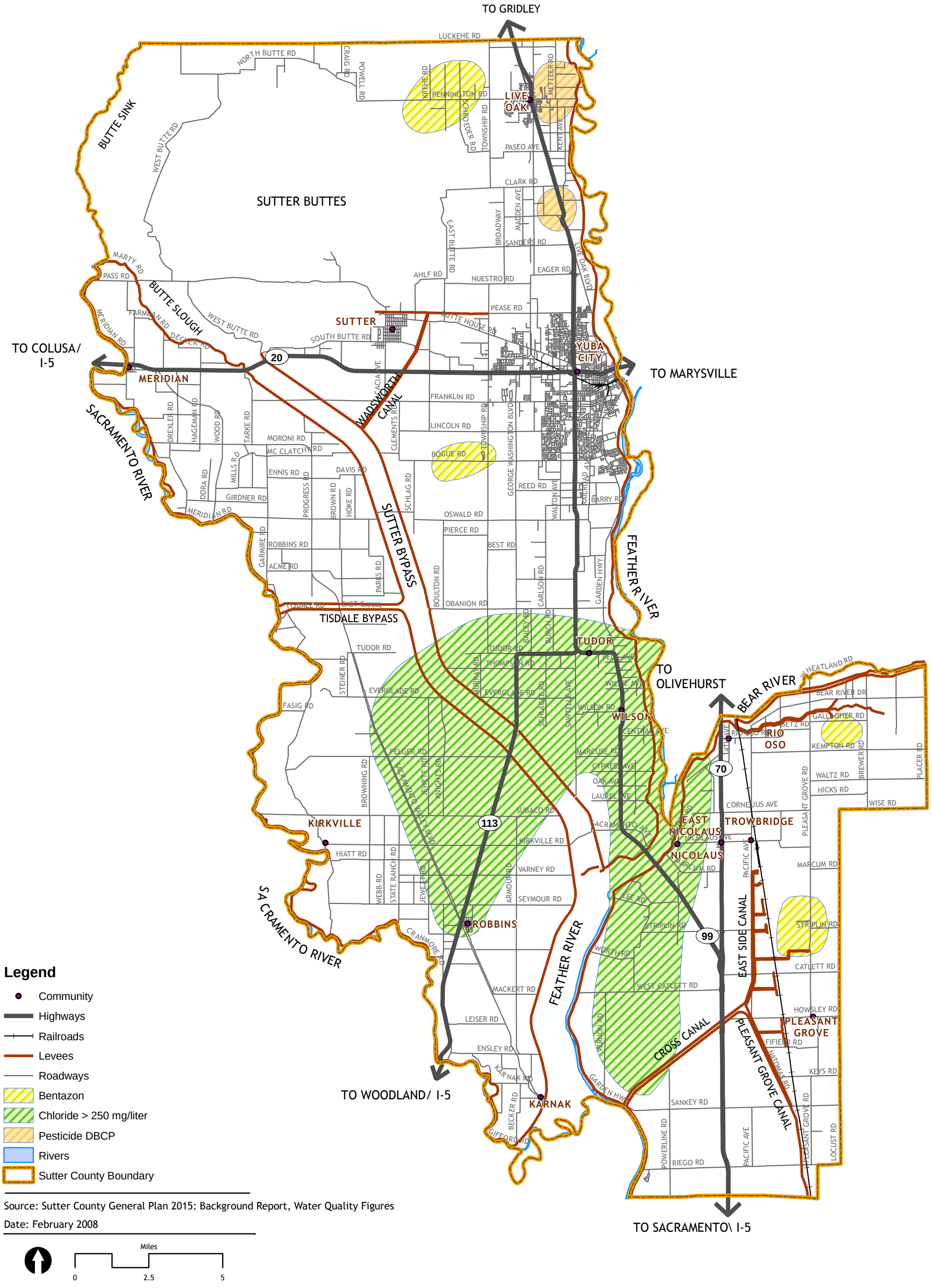
Miles
0 2.5 5

GROUNDWATER QUALITY-IRON
Figure 3.1-7



GROUNDWATER QUALITY-MANGANESE
Figure 3.1-8

SUTTER COUNTY
General Plan Update



Source: Sutter County General Plan 2015: Background Report, Water Quality Figures

Date: February 2008

GROUNDWATER QUALITY-BENTAZON, CHLORIDE, DBCP
Figure 3.1-9

Because the County limits use of Well 1 to only 15 days per year, no additional treatment of the water from Well 1 is required.

Water from Well 2 meets all State defining water standards and is within maximum contaminant levels for all contaminants detected (however, there was not information available for nitrates). The total storage available at the wells is approximately 64,000 gallons.

Community of Sutter

Water service for the Community of Sutter is provided by the Sutter Community Service District (CSD). Water is supplied within the community's sphere of influence via a looped distribution system. The three existing groundwater wells meet the daily and peak water demands, including fire flow. Water demand varies greatly throughout the year with January typically having the lowest demand for water and July having the highest. The average daily demand in January was approximately 0.337 million gallons per day (mgd) while in July the demand increased to 1.156 mgd. The peak daily demand in January was 0.487 mgd, while the peak daily demand in July was 1.391 mgd. The monthly demand varies from 9 million gallons (MG) to 36 MG throughout the year. There is one 750,000 gallon storage tank located in the Sutter Buttes that serves the community. During the summer months, the water in the tank is continually turning over due to the high water demands.

The water is disinfected at the wells with chlorine prior to entering the distribution system. Currently, the water does not require any additional treatment. The State Department of Health Services tests the water from each well quarterly. If the combined yearly concentrations for any State regulated contaminates are higher than allowable, Sutter CSD would be required to include appropriate treatment measures at the wells. One of the three wells has periodically tested high for arsenic; however, at this time it does not warrant filtration. Sutter CSD tests weekly for bacteria levels.

Rio Ramaza Subdivision

The Rio Ramaza subdivision (located in southern Sutter County within the Natomas Basin) currently has one county maintained well. The well is used solely to provide water for fire suppression and will be removed within the next year due to the new setback levee being constructed by the Sacramento Area Flood Control Agency (SAFCA). The subdivision is made up of 40 lots. There are eight existing residences in the subdivision. Each home has a privately owned and operated well on its property.[5] The remaining lots are held in fee title by the County of Sacramento for airport land use compatibility.

Sutter Pointe Specific Plan (SPSP) Area

Sutter Pointe is a proposed development in southern Sutter County within the Natomas Basin, and includes a total area of approximately 7,500 acres. Proposed land uses include residential (17,500 dwelling units) and approximately 50 million square feet of employment uses (commercial and industrial). The proposed development also includes parks, stormwater detention basins, and schools. Initial planning of the water supply, treatment, distribution and storage for this development has not yet been finalized. The proposed Sutter Pointe Specific

5 Pacific Municipal Consultants, Sutter County Local Agency Formation Commission Municipal Services Reviews and Sphere of Influence Update. Prepared for Sutter County, August 2007.

Plan is subject to the review, refinement and approval of the County. As a result, the following information should be considered preliminary and subject to change.[6]

The ultimate annual water demand for buildout of Sutter Pointe has been estimated at 24,444 acre-feet per year. Water for the first phase of development of the SPSP would be provided from groundwater wells. In Phase 2, the groundwater would be supplemented with surface water from the Sacramento River. The Sacramento River water would be supplied by the existing water right permits held by the Natomas Central Mutual Water Company (NCMWC).

Yuba City

Surface Water Supply

Potable water supply for much of Yuba City consists of surface water. The City diverts water from the Feather River throughout the year using four water right permits, as summarized below.[7] Presently these water rights meet the City's current surface water demands.

- State Water Resource Control Board Permit 14045 - This permit allows the City to divert water from the Feather River at a flow of up to 15.6 cubic feet per second (cfs) from January 1 to about July 1 and from September 1 to December 31 of each year, for a total of 6,500 acre-feet per year.
- State Water Resource Control Board Permit 18558 – This permit allows the City to divert water from the Feather River at a flow of up to 21.0 cfs except during July, August, and September, for a total of 9,000 acre-feet per year.
- Yuba County Water District Contract –This contract allows the City to divert up to 4,500 ac-ft of water from the Feather River in the months of April through October.
- Department of Water Resources, State Water Project Contract – This contract allows the City to divert up to 9,600 ac-ft of water from the Feather River any time of the year. The City has historically used approximately 975 ac-ft in July and August.

The City maintains one well, located at the water treatment plant, as a supplement to these water right permits. The City anticipates that by the year 2015, an additional surface water supply of 15,000 ac-ft per year will be needed for the City to fully develop within its current sphere of influence. This future water demand includes converting the groundwater districts described below to surface water.

The City's surface water treatment plant was originally constructed in 1969 to eliminate use of groundwater that had high levels of sulfides, iron, and manganese. The surface water treatment plant was recently expanded to a capacity of 30 mgd. The current peak day surface water demand for Yuba City is 23 mgd, and average day demand is 11 mgd.[8]

6 MacKay & Somps Civil Engineers Inc., Administrative Draft, *Sutter Pointe Specific Plan, Water Supply Master Plan*, September 19, 2007.

7 HDR, *City of Yuba City Water System Master Plan Update*. Prepared for City of Yuba City Utilities Department, May 2004.

8 Lewis, William P., Utilities Director, Yuba City, Personal Communication, September 17 and 19, 2007.

The City has three existing storage tanks located at the water treatment facility for a total of 8 MG of storage. Located throughout the water distribution system are 4 additional tanks with a total volume of 9 MG.

Groundwater Use within the Yuba City Sphere of Influence

Within Yuba City there are three municipal water districts (Figure 3.1-1). Within the City's sphere of influence there are several smaller water districts supplied by local groundwater wells. These districts include:[9]

- Regions 1, 2, 3 and 5, formerly Hillcrest Water District, are within the sphere of influence of Yuba City.
- Region 4A/5A is within the sphere of influence Yuba City.
- Region 4B/5B is within the sphere of influence of Yuba City.
- Regions 6 and 7 are unincorporated areas beyond the sphere of influence of Yuba City, nevertheless these areas were included in the City's Water System Master Plan Update.

The total average annual demand from these groundwater districts is approximately 9,600 ac-ft per year.

Arsenic levels in much of the groundwater around Yuba City exceed the Arsenic MCL of 10 µg/L, as shown on Figure 3.1-5.[10] Similarly, nitrate levels exceed the MCL of 45 mg/L (as nitrate) in some areas around the City (Figure 3.1-6). Consequently, the City is considering converting these existing groundwater districts to surface water supplies.[11]

Yuba City Water System Master Plan

Yuba City prepared the *City of Yuba City Water System Master Plan Update* in 2004. This document covers the City's surface water treatment plant, wells, water distribution system, and water storage requirements. This document provides an understanding of the City's current and future water needs and provides a plan for achieving those needs.

City of Live Oak

Potable Water

Live Oak's water is supplied by five groundwater wells located at various locations around the City. Currently, all five groundwater wells exceed the federal limits of arsenic concentrations for potable water. Greensand arsenic removal systems are being constructed at four of the wells. Greensand is an iron rich mineral that incorporates oxidation, ion exchange, and adsorption to remove arsenic from water. The fifth well has nitrate contamination in addition to high arsenic levels. At this time, a final decision about how to best treat the well water has not been made. Each well produces approximately 1,000 -1,200 gpm. Two of the wells together supply water for the City's one million gallon storage tank.

9 HDR, *City of Yuba City Water System Master Plan Update*. Prepared for City of Yuba City Utilities Department, May 2004.

10 Sutter County, *Sutter County General Plan 2015: Background Report*, November 1, 1996.

11 Lewis, William P., Utilities Director, Yuba City, Personal Communication, September 17 and 19, 2007.

A majority of Live Oak is served by a municipal water system; however, several private wells do remain throughout the City. The groundwater supply is expected to be sufficient to meet the demands of the City through build out of their General Plan.

REGULATORY CONTEXT

This section summarizes regulations that are relevant to potable water supply and systems.

Federal

In 2002, the Federal Environmental Protection Agency reduced the amount of arsenic allowable in potable drinking water from 50 µg/L to 10 µg/L. This new regulation became effective on January 23, 2006. Many of the private and public groundwater wells in the county are not currently able to meet this standard. For example, groundwater near Yuba City has an arsenic concentration of 14.4 µg/L, and groundwater from Well 1 in Robbins has arsenic concentrations of 60.6 µg/L. In the Robbins Well 2 the arsenic concentrations are in the range of 7-22 µg/L. Arsenic concentrations throughout the county are shown on Figure 3.1-5.

See Section 3.1.3, Wastewater Systems, for a summary of the Clean Water Act.

State

The State of California has passed several state bills pertinent to water supply and water management as summarized on their website,[12] including:

- AB 3030 Groundwater Management Act allows existing local agencies to develop a groundwater management plan. Sutter County is currently developing a groundwater management plan.
- SB 1938 Amendments to Local Groundwater Management Water Codes requires any agency requesting funds from the Department of Water Resources to develop a comprehensive plan outlining the agencies objectives for basin management, basin planning, and basin monitoring. The goal of the legislation is that agencies would be more involved in their basin management to ensure proper planning and prevent over utilization of the basin.
- AB 303 Local Groundwater Management Assistance Act of 2000 provides public agency grants to study and manage groundwater with the expectation the agency will become better suited to manage the water supply quality, delivery, and storage.
- SB 610 Water Supply Assessments and SB 221 Verification of Sufficient Water Supply were passed to prevent development from proceeding without adequate consideration for water supply to the developed area. Senate Bill 610 was passed in 2001, and it specifically requires that for a public water system to be eligible for flood relief funds from the Department of Water Resources, that entity must provide an urban water management plan. That plan should outline all water supplies available for that entity's use over the next five years. The plan should also include water supply for any anticipated growth. Reliability of the water supply should also be evaluated. SB 221 requires any development having

12 California Department of Water Resources, www.groundwater.water.ca.gov/water_laws/index.cfm#sb221, October 2007.

more than 500 parcels or units to have a complete water supply plan prior to approval for development. Review and approval of these documents would fall to the local governing board (rather than the State of California).

- AB 901 Water Supply Planning requires Urban Water Management Plans to include information relating to the quantity of existing sources of water available to an urban water supplier over given time periods and the manner in which water quantity affects water management strategies and supply. This information includes, but is not limited to, the historic, current, and future reliability of the supply source and quality of the water source. A plan for what actions would be taken if the quantity or quality of water deteriorates is also required. Additional and supplemental sources of water must also be included in the Urban Water Management Plan.
- Bulletin 74-90 and Bulletin 74-81 Water Well Standards for the State of California establish requirements for water well construction, use, maintenance, and other services associated with water wells. Published in June 1991, Bulletin 74-90 is an update of Bulletin 74-81. .
- California Laws for Wells was published March 2003 and relates directly to the construction, operation and maintenance of wells.

Local

Sutter County is in the process of preparing a Groundwater Management Plan. The goal of the plan is to determine the quantity and quality of available groundwater and how to best manage the existing groundwater basins.

The Sutter County Public Works Design Standards[13] govern the engineering design of all domestic water systems intended for operation and maintenance by Sutter County or other agencies, such as Community Service Districts, where the Board of Supervisors is the agency board. The County's design standards recommend compliance with Bulletin 74-81, "Water Well Standards: State of California" in the well design section.

Sutter County also has an ordinance for septic systems to help manage wastewater disposal and protect groundwater quality. This ordinance is available on their website (see Section 3.1.3, Wastewater Systems, for a summary).

3.1.2 Agricultural Water Systems and Supply

INTRODUCTION

This section describes the various agricultural water systems and water supplies throughout the county. The issues associated with agricultural water systems and supplies are also identified in this section. Information for this section was obtained through communications with staff from the water districts and companies described below.

13 Sutter County 2005.

SUMMARY OF KEY FINDINGS

- Several irrigation water companies and districts provide irrigation water within Sutter County, the main source of this water being diversion from the Feather and Sacramento Rivers.

EXISTING CONDITIONS

Irrigation water for use within Sutter County is maintained and operated by several irrigation water companies and districts. These entities range in size from as small as 600 acres to over 50,000 acres as shown on Figure 3.1-10. The main source of irrigation water is diversion from the Feather and Sacramento Rivers. Groundwater is also used during the summer when surface water supplies are reduced or not available. When agricultural water supply is located within a reclamation district or stormwater management district, it is common practice for pumps to be placed in the drainage channels to reuse the tailwater from these channels.

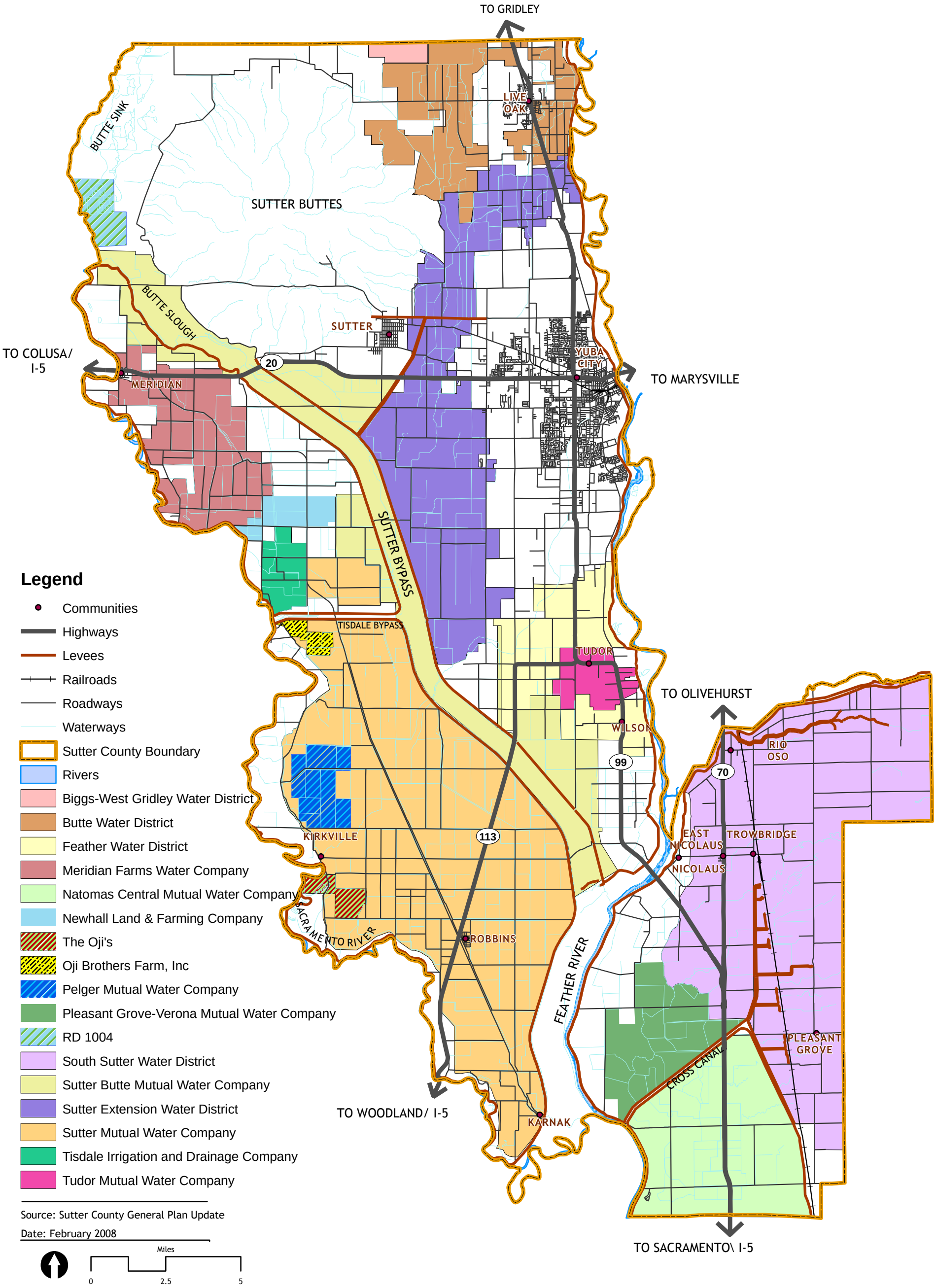
The existing agricultural irrigation entities in Sutter County include: The Garden Highway Mutual Water Company; Meridian Farms Water Company; Natomas Central Mutual Water Company; Pleasant Grove/Verona Mutual Water Company; Sutter Bypass Butte Slough Water User Association; Sutter Extension Water District; Sutter Mutual Water Company; Tisdale Irrigation and Drainage Company; and Tudor Mutual Water Company, Butte Water District, Biggs-West Gridley Water District, Feather Water District, Oswald Water District, Pelger Water District, Tisdale Water District, and Swinford Tract Irrigation District . The water supply, water rights, and operations of several of these entities are summarized below. No information was available for the other districts/companies.

Meridian Farms Water Company

The Meridian Farms Water Company is a 10,000 acre agricultural water service company. Water is obtained from the following two sources, each supplying approximately fifty percent of the irrigation demand:

- Meridian Farms maintains a permit for direct diversion from the Sacramento River. Two years ago, they renegotiated their water rights with the Bureau of Reclamation. The new permit has a 25 year life span and allows 9,000 acre-feet of water to be diverted each year. Historically, they have diverted approximately 9,000 acre-feet of water each year.
- The second source of water is surface water from Reclamation District 70 (RD 70). RD 70 is a stormwater drainage district located on the western boarder of the county. Meridian Farms is located within the boundary of RD 70. Water is pumped from the RD 70 drainage channels using several pumps located throughout the drainage system.

When the Sacramento River is low, Meridian Farms pumps are not able to lift sufficient water from the river to fully utilize their water rights and meet the agricultural water demands.



IRRIGATION WATER
Figure 3.1-10

Meridian Farms intends to equip all pumps with screens and realign portions of the system to provide greater efficiency. Construction on installing fish screens is expected to begin sometime in 2008. To supplement surface water supply during construction of the fish screens, and in the case of curtailed river supplies, Meridian Farms has submitted an application to the County for permits to drill two groundwater wells. Assuming the well permits are approved, Meridian Farms should have sufficient water for the future.[14]

Sutter Extension Water District

Sutter Extension Water District is a member of the Joint Water District. The predecessor of the Sutter Extension Water District was the Sutter Butte Canal Company. Prior to the construction of the Oroville Dam, Sutter Butte Canal Company maintained a majority of the water rights along this portion of the Feather River. In the 1950's the Joint Water District bought Sutter Butte Canal Company along with all existing water rights the Canal Company held. The Joint Water District is currently comprised of Sutter Extension Water District, Butte Water District, Biggs-West Gridley Water District and Richville Water District.

The Sutter Extension Water District provides water for agricultural use in Sutter County. The water is supplied by two pre-1914 water rights permits that allows for a combined total of 11,000 acre-feet of water per year and a third permit allowing 6,500 acre-feet of water per year. Sutter Extension has sufficient water supply to meet current demands and has never been short of water in the past. Sutter Extension procures their water through the Joint Water District. Since the early 1900's the amount of water allotted to the district has only been reduced three times, reducing the overall water intake by 50 percent.[15]

Butte Water District

Butte Water District is a member of the Joint Water District. Under a pre-1914 water right, Butte Water District is allowed to divert 133,200 acre-feet of water per year from the Feather River/Oroville Dam; although the water right is actually held by the Joint Water District. Butte Water District accounts for 24 percent of the total allotment held by the Joint Water District.

Butte Water District includes an area of 27,000 acres within Butte County and Sutter County. Irrigation water is used mainly for permanent crops such as orchard trees. Historically, Butte Water District's surface water supplies have been sufficient to supply the entire district from April through October. When Biggs-West Gridley and Richville Water Districts have been low on water, Butte Water District has diverted some of their excess water to these other members of the Joint Water District. Up to this point, the district has not had any groundwater wells; however, two groundwater wells are currently being constructed.[16]

Biggs-West Gridley Water District

The Biggs-West Gridley Water District provides agricultural water from Oroville Dam. A majority of the irrigation water is obtained from water permits held by the Joint Water District. In the past Biggs-West Gridley has supplemented their water supply with unused supplies from other members of the Joint Water District. Also, there are a few customers who supplement their

14 Ruiz, Daniel, Meridian Farms Water Company, personal communication October 4, 2007.

15 Phillips, Lynn, Sutter Extension Water District, personal communication, October 1, 2007 and January 21, 2008.

16 Orme, Mark, General Manager Butte Water District, personal communication, January 23, 2008.

supplies with groundwater, however the groundwater is not metered so there is no record of the quantity used.[17]

Biggs-West Gridley has recently hired a private engineering consultant firm to help address long term water supply issues through more efficient water use.

Sutter Mutual Water Company

The Sutter Mutual Water Company is a private mutual irrigation district serving approximately 50,000 acres within the 70,000 acre Reclamation District 1500 (RD 1500). The water company has access to 226,500 acre-feet of water per year from water rights and a permit from the Bureau of Reclamation. The permit with the Bureau of Reclamation allows for 56,500 acre-feet of water from Shasta Dam per year. The remainder of the water is supplied by at least twelve water rights permits that allow for different quantities of water to be taken at various locations and during various time periods throughout the year. These water supplies can also be supplemented with water from RD 1500 drainage channels. Sutter Mutual Water Company has no groundwater wells.

The adequacy of Sutter Mutual's water supply is dependant on the type of crops being grown during that year and the availability of water from the Sacramento River. When rice has been widely planted, the water demand exceeds the available water supply. In these situations Sutter Mutual has purchased water from other sources. When crops such as tomatoes, carrots and beans are widely planted, the available water supply is adequate. During drought years, Sutter Mutual is always very short of water because its supplies are reduced.[18,19]

Pelger Mutual Water Company

Pelger Mutual Water Company supplies irrigation water to a 2,850 acre area. Water is supplied from the Sacramento River, private wells and through recycling. A permit with the Bureau of Reclamation allows 8,860 acre-feet of water per year to be diverted from the Sacramento River. Pelger Mutual Water Company renewed the permit with the Bureau of Reclamation in 2004 for an additional 40 years of service. Water is recycled by using drains to channel excess flow back into irrigation ditches.

During drought years supplemental ground water is supplied by private landowners' water wells.[20]

Oswald Water District

The Oswald Water District serves an agricultural area over 600 acres of tree crops. Water rights date back to the 1930s and allow for 1,200-1,500 acre-feet per year of water to be diverted from the Feather River. In the past, Oswald has not exceeded their limits of water usage. The Feather River is the soul source of water to the district because ground water in the area is too salty to be used for irrigation of the trees.[21]

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17 Peters, Karen, Office Administrator Biggs-West Gridley Water District, personal communication, January 21, 2008.

18 Sakato, Max, Manager Sutter Mutual Water Company, personal communication, October 5, 2007.

19 Peterson, Dennis, Sutter Mutual Water Company, personal communication, October 5, 2007.

20 Tucker, Scott, Manager/President Pelger Mutual Water Company, personal communication, January 22, 2008.

21 Banes, Surjit Director Oswald Water District, personal communication, January 21, 2008.

Tisdale Irrigation District

Tisdale Irrigation District serves an area encompassing approximately 2,100 acres of land. Tisdale has one permit to divert 9,900 acre-feet per year of water from the Sacramento River. Tisdale has one district owned well that is used periodically each year to supplement the Sacramento River supply. There are also 3 to 4 private wells that may be put into service in dry years; however, this is not a common a practice.[22]

Within the District, land is relatively steep and confined making water reuse difficult. Due to the topography and water usage restrictions, rice accounts for just 25 percent of the total crops grown within the District.

Natomas Central Mutual Water Company

The Natomas Central Mutual Water Company (NCMWC) is a private, nonprofit irrigation district consisting of 33,223 acres. Water is supplied primarily by surface water diverted from the Sacramento River; however, they also have one ground well that serves one property adjacent to Garden Highway.

NCMWC has six permits from the Bureau of Reclamation that allow 120,200 acre-ft per year of water to be diverted from the Sacramento River. There is an additional permit for municipal and industrial water that is used for the Sacramento International Airport area, outside of Sutter County. This permit was converted from irrigation use to municipal and industrial in March 2004. During critical, dry years the available water can be reduced by 25 percent, but even during critical dry years, NCMWC staff has stated that they have an adequate water supply.

NCMWC has been able to maintain a low rate of water usage because it uses a closed system design. Water is diverted from the Sacramento River and then transported via pipelines and irrigation ditches to fields. Tailwater from the field irrigation then flows into the drainage ditches managed by Reclamation District 1000. Urban runoff from the area also drains into these ditches. Water in the drainage ditches is reused for irrigation. Together, the tailwater and runoff water increase the supply of available water.

NCMWC is in the process of installing fish screens at all of its Sacramento River diversion pumps. NCMWC also has under taken measures to create habitat and protect species like the giant garter snake and the Swainson's hawk.

Pleasant Grove/Verona Mutual Water Company

The Pleasant Grove/Verona Mutual Water Company provides irrigation water for 7,330 acres of farmland.[23] The company has two contracts with the Bureau of Reclamation for surface water diverted from the Sacramento River. The primary contract allows for 23,790 acre-feet per year

22 Chesini, Larry, President of the Board of Tisdale Irrigation and Drainage Company, personal communication, January 23, 2008.

23 Nicolas, Nicoli, Pleasant Grove/Verona Mutual Water Company, Personal communication, November 29, 2007.

of base supply water. A second contract allows for 2,500 acre-feet per year of project water. These contracts are limited to April-October, and are unique in that the actual water rights used to create these contracts are not owned by Pleasant Grove\Verona Mutual Water Company, but rather by the share holders themselves. The contracts with the Bureau of Reclamation are established by compiling water rights of the individual shareholders into service agreements.

The remainder of the water is supplied by individually owned wells located throughout the service area. The number of wells utilized and the quantity of well water used is unknown. This is due to the fact that the wells are privately owned and operated. Water supplied by the wells is fed into the distribution system used to serve the shareholders.

Pleasant Grove/Verona Mutual Water Company has been very successful at recycling and reusing water within their service area. This has allowed them to maintain a manageable demand throughout the year. However, there is concern regarding adequate water supply during critical years when surface water supply is reduced by the Bureau of Reclamation. An additional concern is that future environmental regulations will restrict surface water supply contracts.

South Sutter Water District

South Sutter Water District is a public agency that provides irrigation water to the surrounding 52,000 acres of land.[24] It is located on the eastern side of Sutter County and extends into portions of Placer County.

South Sutter Water District has no contracts with the Bureau of Reclamation. The surface water they provide is taken only from the Camp Far West Reservoir. The reservoir is located within their service area and maintained by the South Sutter Water District. The District maintains the water rights for this Bear River water supply. In the past South Sutter has also purchased surplus water from the Nevada Irrigation District.

During the summer months South Sutter provides water to some of the smaller creeks to maintain the flow and serve farms downstream of the reservoir. Coon Creek, Marcum Ravine, Pleasant Grove Creek and Bunkham Ravine are the major recipients of this water.

REGULATORY CONTEXT

This section summarizes regulations that are relevant to agricultural water supply and systems.

Federal

The United States Bureau of Reclamation manages the Central Valley Project, which controls flows in the Sacramento River through discharge from Shasta Dam/Reservoir. A number of entities in Sutter County have settlement agreements/contracts with the Bureau of Reclamation for water supplies from the Sacramento River.

State

The State manages surface water diversion rights. As described in Section 3.1.1, the State has also enacted several laws covering use of groundwater.

24 Arnold, Brad, General Manager of South Sutter Water District, Personal communication, November 29, 2007.

Local

Many of the irrigation districts have their own Governing boards, and design, operations, and maintenance criteria.

3.1.3 Wastewater Systems

INTRODUCTION

This section describes the various wastewater systems throughout the county, including the incorporated cities within Sutter County. Figure 3.1-11 presents the areas served by sewer systems and wastewater treatment plants. Also shown on Figure 3.1-11 are the Ranchette parcels within the county that are served by individual septic systems. The issues associated with wastewater are also identified in this section. Information for this section was obtained from applicable reports and studies from Sutter County and Yuba City, as well as communications with Public Works and Utilities staff from their jurisdictions.

SUMMARY OF KEY FINDINGS

- Privately owned septic systems provide for the treatment and disposal of wastewater throughout much of Sutter County. Yuba City, Live Oak, and the Community of Robbins are the only areas in the county with sanitary sewer collection systems and wastewater treatment facilities.
- Use of septic tanks and disposal systems may be contributing to contamination of groundwater within Sutter County. The County is preparing a countywide Groundwater Management Plan. This plan will help the County determine how to protect the County's groundwater resources.
- The Community of Robbins wastewater system is a septic tank effluent pumping system operated by Sutter County Water Works District #1. The Robbins wastewater treatment plant needs repairs and renovations, and the Water Works District #1 is preparing a study to identify the needed improvements. The Robbins sewer fees do not cover the cost to operate and maintain the Robbins Wastewater Facilities.
- Yuba City operates a sanitary sewer collection system and wastewater treatment plant. Yuba City has a wastewater master plan that identifies the facilities required for the City to collect and treat its wastewater through the year 2030. Future growth within the City's Sphere of Influence will be limited until the sanitary sewer system can be expanded to accommodate new growth.
- A majority of Live Oak residents are connected to the City's sewer system and treatment plant. This plant has had past issues due to high contamination levels in the effluent. The design of a new plant has been completed; however, the City of Live Oak does not have adequate funding to construct the required WWTP improvements.

OVERVIEW

Wastewater in Sutter County is either treated at individual parcels with septic systems (on-site treatment facilities) or at community or City wastewater treatment plants, as summarized below:

- Yuba City has a sewer collection system and wastewater treatment plant. The City's Wastewater System Master Plan Update[25] covers the sewer collection system and the wastewater treatment plant. This report estimates future flows to the plant through buildout in the year 2030 and identifies the sewer collection system and treatment facilities that will be required to treat the buildout flow rate.
- The City of Live Oak has a sewer collection system and wastewater treatment plant. The current treatment plant includes an oxidation pond system. The City has prepared a design for a new activated sludge tertiary treatment plant; however, the City does not have funding for the construction.
- The Community of Robbins wastewater system is a Septic Tank Effluent Pumping (STEP) system. Wastewater flows to septic tanks owned by Water Works District #1 but located at each home, where solids settle out and the liquid waste (grey water) is pumped from the septic tank into a six or eight inch sewer force main. The sewers convey the grey water to the 15 acre treatment plant north of the Community. The effluent is pumped into sand filters providing secondary treatment. After being treated, the effluent is released into four unlined evaporation ponds. This system is currently at capacity and is in need of repairs and renovation. The County is preparing a plan to provide these repairs.
- The Rio Ramaza subdivision has 8 homes that are connected to a small wastewater treatment system.
- In the rest of the county, wastewater from individual homes or businesses (or small groups of homes/businesses) is treated and disposed of through on-site treatment systems (septic systems). These septic systems can lead to contamination of groundwater resources if they are not properly sited, designed, constructed, operated and maintained.

EXISTING CONDITIONS

Privately owned septic systems provide for the treatment and disposal of wastewater throughout much of Sutter County. Yuba City, Live Oak, the Community of Robbins, and Rio Ramaza are the only areas with sanitary sewer collection systems and wastewater treatment facilities within the county. These sewer collection systems convey the wastewater from the homes and business to a wastewater treatment plant (WWTP).

Yuba City discharges its treated effluent to the Feather River. The City of Live Oak discharges its effluent to a Reclamation District 777 drainage canal, which flows to the Sutter Bypass and the Sacramento River. The Community of Robbins effluent is disposed of through evaporation ponds.

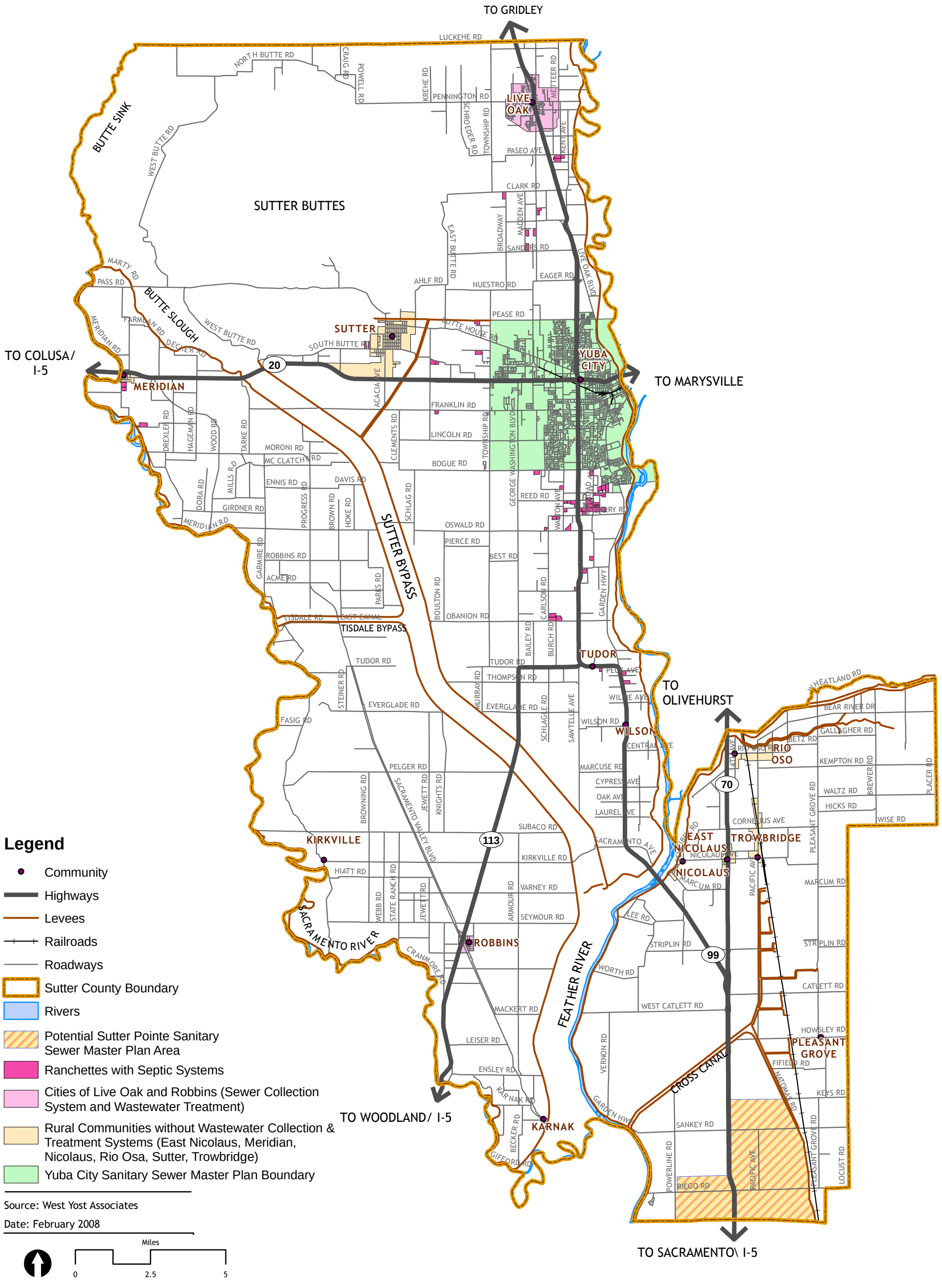
Sutter County

Throughout most of rural Sutter County (except Yuba City, Live Oak, and Robbins) wastewater is treated and disposed of through septic systems. Septic systems include a septic tank and a drain field as described below.[26]

25 Kennedy/Jenks Consultants Engineers & Scientists, *Wastewater System Master Plan Update*, prepared for Yuba City, revised March 2006.

26 Ag/Extension Communications for Montana State University web site, August 2005, (http://www.montana.edu/wwwpb/pubs/mt9401.htm).

SUTTER COUNTY
General Plan Update



SEWER SERVICES
Figure 3.1-11

The septic tank is a large, underground, watertight container that is connected to the residence's or business' sewer line. While typically designed with a 1,000-gallon liquid capacity, the size of the tank is determined by the number of bedrooms in the home. Septic tanks may be rectangular or cylindrical and may be made of concrete, fiberglass or polyethylene. Raw waste water from the home flows into the tank where the solids separate from the liquid. Light solids, such as soap suds and fat, float to the top and form a scum layer. This layer remains on top and gradually thickens until the tank is cleaned. The heavier solids settle to the bottom of the tank where they are gradually decomposed by bacteria. But some non-decomposed solids remain, forming a sludge layer that eventually must be pumped out. The liquid waste flows into the drain field. Septic tanks may have one or two compartments. Two-compartment tanks do a better job of settling solids and are required in some areas for new installations. Tees or baffles at the tank's inlet pipe slow the incoming wastes and reduce disturbance of the settled sludge. A tee or baffle at the outlet keeps the solids or scum in the tank. All tanks should have accessible covers for checking the condition of the baffles and for pumping the scum and sludge out of both compartments.

Further treatment of wastewater occurs in the soil beneath the drain field. The drain field consists of long underground perforated pipes or tiles connected to the septic tank. The network of pipes is laid in gravel-filled trenches (2-3 feet wide), or beds (over 3 feet wide) in the soil. Liquid waste or effluent flows out of the tank and is evenly distributed into the soil through the piping system. The soil below the drain-field provides the final treatment and disposal of the septic tank effluent. After the effluent has passed into the soil, most of it percolates downward and outward, eventually entering the groundwater. A small percentage is taken up by plants through their roots, or evaporates from the soil. The soil filters the effluent as it passes through the pore spaces. Chemical and biological processes treat the effluent before it reaches groundwater, or a restrictive layer, such as hardpan, bedrock, or clay soils. These processes work best where the soil is somewhat dry and permeable, and contains plenty of oxygen for several feet below the drain field. The size and type of drain field depends on the estimated daily wastewater flow and soil conditions.

Septic systems are an effective method of treating wastewater from individual or small groups of houses and businesses. However, if septic systems are installed at inappropriate locations, overloaded, or not maintained, they can contribute to the contamination of groundwater by introducing nitrates, salts, bacteria, viruses, household chemicals, and other contaminants into the groundwater. These contaminants can then enter potable water supplies through pumping of the contaminated water by water supply wells. Septic systems and groundwater wells are used throughout much of Sutter County for treatment and disposal of wastewater and for potable water supply, respectively.

To function successfully, septic systems must only be installed at locations with appropriate soil conditions. These appropriate conditions include permeable soils with adequate depth to groundwater. Much of the flat Sacramento Valley floor in Sutter County has soils with high clay content and very shallow groundwater. Some of these areas also have hardpan soil layers, which completely prevent percolation of septic tank effluent. In areas with clay or hardpan soils failure of septic systems often leads to untreated or partially treated tank effluent rising to the ground surface. In areas with high groundwater, failure of septic systems often results in contamination of the groundwater with untreated or partially treated tank effluent. Both of these failure types do occur periodically in Sutter County. Septic systems are also used on farm home site parcels and Ranchettes with parcels that range from less than 2 acres to 10 acres in size. Installation of septic systems on many of these small parcels, particularly when they are close together, can lead to contamination of groundwater.

For septic systems to operate successfully, they must be designed correctly, be installed in appropriate locations, and be operated and maintained appropriately. Sutter County ensures that septic systems are designed and installed appropriately by requiring that the system be permitted by the Community Services Department (Environmental Health Division). The permitting process includes testing of the soils to determine their suitability for use with septic systems. If the soils are found to be good, then a standard system can be installed by the home owner. If the soils are less suitable (most often the case in Sutter County), then an engineered septic system is required. A registered engineer must prepare the plans for the system, and the plans must be reviewed and approved by Environmental Health Division. Environmental Health also inspects the construction to ensure that the system is installed correctly.

The septic system tanks must also be serviced periodically. This includes pumping out the solids and scum (septage). Almost all of the septage from Sutter County is disposed of and treated at Yuba City's wastewater treatment plant[27].

Community of Robbins

The existing wastewater collection and treatment system for the Community of Robbins is operated by the County and has an average dry weather flow (ADWF) capacity of 30,000 gallons per day (gpd). The current ADWF to the plant is approximately 25,400 gpd. Consequently, the County is unable to approve requests for additional connections to the Robbins wastewater system.

The Robbins wastewater system is a Septic Tank Effluent Pumping (STEP) system. Wastewater flows to Water Works District #1 owned septic tanks located at each home, where solids settle out and the liquid waste (grey water) is pumped from the septic tank into a six or eight inch sewer force main. The sewers convey the grey water to the 15 acre treatment plant located north of the Community. The effluent is pumped into sand filters providing secondary treatment. After being treated, the effluent is released into four unlined evaporation ponds. The County maintains four monitoring wells at the corners of the evaporation ponds. The monitoring wells have not shown any signs of contamination of the underlying groundwater.

The system is paid for by the citizens of Robbins though sewer fees. The current sanitary service fees have not been increased in 10 years and are approximately fifty percent lower than the actual cost to operate and maintain the wastewater system. The existing system is in need of minor repairs and renovation, and the County is preparing a study to better define the required improvements and determine the best approach to provide the needed repairs and renovation.[28]

Sutter Pointe Specific Plan Area

Sutter Pointe is a proposed development in the southern most area of Sutter County that includes a total area of approximately 7,500 acres. Proposed land uses include residential (17,500 dwelling units) and approximately 50 million square feet of employment (commercial and industrial). The proposed development also includes parks, stormwater detention basins, and schools. The proposed Sutter Pointe Specific Plan is subject to the review, refinement, and approval of the County. Wastewater planning for this development is ongoing and has not yet been finalized. The proposed wastewater system is described below should be considered preliminary and subject to change.[29]

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27 Hill, Jan, Environmental Health Division Specialist III, Sutter County, Personal Communication, January 25, 2008.

28 Sawyer, Al, Assistant Public Works Director, Sutter County, Personal Communication, October 3, 2007.

29 MacKay and Somps Civil Engineers Inc., 2007, *Draft Sutter Pointe Specific Plan, Sewer Master Plan*,

It is anticipated that the sewer collection system will use a combination of gravity flow sewers and pump stations to convey flow to a central pump station. It is proposed that the central pump station will pump the wastewater to the Sacramento Regional County Sanitation District's (SRCSD) Upper Northwest Interceptor (UNI) sewer. The SRCSD interceptor system will convey flows to the Sacramento Regional WWTP, where it will be treated and discharged to the Sacramento River.

Rio Ramaza Subdivision

Currently, the 8 homes in the Rio Ramaza Subdivision are served by 1.5 miles of sewer line, a sewer lift station and two wastewater ponds. Treatment capacity is 10,000 gpd, but the existing ADWF is only 1,400 gpd.[30] The wastewater system is owned and operated by Sutter County.

Yuba City

Yuba City operates a sanitary sewer collection system and a wastewater treatment plant. Future growth within the City's sphere of influence will be limited until the sanitary sewer system can be expanded to accommodate new growth. The required sewer lines have been evaluated in the City's Wastewater System Master Plan Update.[31] Currently, there are no existing sanitary sewer facilities extending beyond the City's sphere of influence, nor are any sewers planned to extend beyond the City's sphere of influence.

The City's wastewater treatment plant was expanded in 2005 to provide an ADWF capacity of 10.5 mgd. For the summer of 2007, the ADWF was approximately 5.5 mgd, and the current peak day wet weather flow rate is approximately 8.5 mgd. The plant is currently discharging secondary, disinfected effluent to the Feather River.[32]

The City's Wastewater System Master Plan Update[33] also covers Yuba City's wastewater treatment plant. This report estimates future flows to the plant through the year 2030 and identifies the treatment facilities that will be required to treat the buildout flow rate.

The Regional Water Quality Control Board (RWQCB) issues permits for wastewater treatment plants. The Yuba City WWTP is currently permitted for an ADWF capacity of 7.0 mgd. However, on October 25, 2007 the RWQCB issued a new permit for an ADWF capacity of 10.5 mgd.[34] This new permit went into effect on December 14, 2007.

The newer developments in the Tierra Buena area of the City's sphere of influence are connected to the City's sewer collection system. However, many older houses in the area utilize septic systems. Often when the septic systems fail or need significant repairs, the home owners connect to the city's sewer system and pay the applicable connection fees. It is likely that most of the Tierra Buena area will ultimately be connected to the City's sewer collection system.

October 5, 2007.

30 [PMC, 2006].

31 Kennedy/Jenks Consultants Engineers & Scientists, *Wastewater System Master Plan Update*, prepared for Yuba City, revised March 2006.

32 Lewis, William P., Utilities Director, Yuba City, Personal Communication, September 17 and 19, 2007.

33 Kennedy/Jenks Consultants Engineers & Scientists, *Wastewater System Master Plan Update*, prepared for Yuba City, revised March 2006.

34 Lewis, William P., Utilities Director, Yuba City, Personal Communication, September 17 and 19, 2007.

City of Live Oak

A majority of the City is currently connected to the municipal sewer system; however there remain individual septic systems throughout town. Typically, when a private system is in need of replacement or major maintenance, it is found to be cheaper to connect to the City's sewer system than to make the necessary upgrades or repairs.

The City of Live Oak maintains its own wastewater treatment plant. The current system is an oxidation pond plant, and the plant consists of several ponds that aerate the wastewater to provide a satisfactory level of treatment. The effluent is disinfected with chlorine. The plant has been issued a cease and assist order by the Regional Water Quality Control Board due to high contaminate levels in the effluent. The design for a new activated sludge tertiary treatment plant is complete; however, the City does not have funding for the construction. Both the existing plant and the proposed plant are designed for an ADWF flow of 1.4 mgd. The peak daily flow at the existing plant is 0.8 mgd. The treated effluent flows through a Reclamation District 777 drainage ditch, the East Intercepting Canal, and the Wadsworth Canal to the Sutter Bypass and then to the Sacramento River.

REGULATORY CONTEXT

This section summarizes regulations that are relevant to wastewater systems.

Federal

Clean Water Act

The Federal Clean Water Act (CWA), established by Congress in 1972, is the cornerstone of surface-water-quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct discharges of pollutants into waterways, finance municipal wastewater-treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water" (U.S. EPA, 2003). Section 303 of the CWA requires states to adopt water-quality standards for all surface waters of the United States. Section 304(a) requires EPA to publish water-quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. The CWA prohibits the discharge of pollutants to navigable waters from a point source unless authorized by a National Pollutant Discharge Elimination System (NPDES) permit, as described below.

National Polluant Discharge Elimination System (NPDES) Permits

The NPDES permit system was established in the federal CWA to regulate municipal and industrial discharges to surface waters of the United States. Each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. Section 307 of the CWA describes the factors that EPA must consider in setting effluent limits for priority pollutants. The quality of the effluent that can be discharged to waterways within the Sacramento area is established by the Central Valley Regional Water Quality Central Board (RWQCB) through Waste Discharge Requirements (WDRs) that implement the NPDES permit. WDRs are updated at least every five years. A new permit must be issued in the event of a major change or expansion of a wastewater treatment facility.

State

Assembly Bill 885. California Onsite Wastewater Treatment System (OWTS) Regulations (AB 885)

This bill has not yet been enacted by the State of California. Nevertheless, it is summarized below.[35]

State Assembly Bill 885 intends to regulate all new and existing onsite wastewater treatment systems including its design, operation, and maintenance. The objective of this bill is to prevent contamination of the surrounding groundwater resources from these onsite wastewater treatment systems. Local governing bodies may pass more stringent rules in addition to the ones listed by AB 885. AB 885 aims to prevent further pollution from onsite wastewater treatment systems by minimizing the concentrations of contaminants like nitrates, total coliforms, iron, manganese, total suspended solids (TSS), and biochemical oxygen demands (BOD) in the effluent. Some of the requirements of this bill include:

- All treatment systems must be inspected at least every five years.
- If an onsite wastewater treatment system (OWTS) exists on a property also containing a domestic well, groundwater monitoring is needed. Two samples are required; one from a monitoring well 100 feet down gradient of the system and the other from the existing domestic well. The first sample must be taken within 30 days of the OWTS installation. Both wells must be monitored at least once every five years thereafter.
- All new OWTS must be designed to maximize the zone of unsaturated treatment and increase the aerobic decomposition of the effluent.
- All new OWTS must be designed by a licensed professional.
- New tanks must reduce solids to one-eight (1/8) an inch prior to passing into the dispersal system.
- Cesspools are not allowed anywhere within the state.
- Additional treatment will be required for systems with insufficient soil depth, high BOD or high TSS levels, and systems requiring nitrogen reduction or disinfection.
- At least a three foot separation will be required between the dispersal system and any bedrock, high groundwater levels or impermeable strata. The three feet must be a continuous soil that has been undisturbed and is unsaturated. The soil may not contain more than thirty percent of rock. (AB 885).
- If the effluent has undergone additional treatment prior to entering the dispersal system, a reduced separation of two feet may be allowed.
- For systems unable to meet the minimum separation requirement engineered fill is recommended to elevate the system. A foot and a half of engineered fill is the equivalent of one foot of natural soil.

35 SWRCB, OWTS Regulations http://www.swrcb.ca.gov/ab885/index.html, 2007.

Sacramento and San Joaquin River Basin Plan

The Water Quality Plan for the Sacramento and San Joaquin River Basins (Basin Plan) includes the entire Sacramento and San Joaquin River basins (including all the tributary rivers such as the Feather River). The Sacramento River basin covers 27,210 square miles and drains to the Sacramento River. For planning purposes, this includes all watersheds tributary to the Sacramento River that are north of the Cosumnes River watershed. Because the County is located within the Central Valley RWQCB's jurisdiction, discharges to surface water or groundwater are subject to Basin Plan requirements. Beneficial uses for specific water bodies are developed in the Basin Plan.

Collection System Regulations

Sanitary Sewer Overflow (SSO) Waste Discharge Requirements (WDRs) were issued by the State Water Resources Control Board (SWRCB) on May 2, 2006. The WDRs apply to collection systems within the state. As part of these regulations, collection system owners and operators are required to develop a Sewer System Management Plan (SSMP).

The beneficial uses of surface waters that can be impaired by SSOs include, but are not limited to the following: aquatic life, drinking water supply, recreation, and aesthetics.

The beneficial uses of groundwater that can be impaired by SSOs include, but are not limited to, drinking water and agricultural supply. Surface and groundwater throughout the state support these uses to varying degrees.

To facilitate proper funding and management of sanitary sewer systems to avoid SSOs, each sanitary sewer system owner or operator is required to develop and implement a system specific SSMP. To be effective, SSMPs must include provisions to provide proper and cost-effective management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management and cost benefit analysis. Additionally, an SSMP must contain a spill response plan that establishes standard procedures for immediate response to an SSO in a manner designed to minimize water quality impacts and potential nuisance conditions. The SSMP would need to be developed over a three or four year period, depending on the size of the service area.

Local

Sutter County has become increasingly concerned about nitrates from septic systems leaching into groundwater. This is especially a concern in the community of Sutter and the City of Live Oak that maintain public groundwater wells and have septic systems operating in town. Sutter County has adopted an on-site sewage ordinance, Ordinance No. 700, which is based upon the California Health and Safety Code, Porter-Cologne Water Quality Control Act, Water Code Section 1300 and the Central Valley Regional Water Quality Control Board Water Quality Control Plan. The goals of the Ordinance are to protect the public from on-site sewage hazards, regulate the design, installation, maintenance and removal of on-site sewage systems and minimize the effect of on-site sewage systems on groundwater supplies and waters of the State.

The County Environmental Health Division issues permits for septic systems to serve residential, industrial and commercial projects in Sutter County. However, depending on the flows and composition of the waste, additional permitting from the State and Federal government may be required.

Sutter County's sanitary sewer design criteria are published on the County's website (http://www.co.sutter.ca.us/doc/government/depts/pw/design_standards). The criteria identify the requirements for planning and designing sewer systems within the county with a Peak Wet Weather Flow (PWWF) of up to 10 mgd.

3.1.4 Stormwater Drainage

INTRODUCTION

This section describes the various stormwater drainage systems throughout the county, including the incorporated cities within Sutter County. This stormwater drainage section covers the storm drains, detention basins, channels, and pump stations within the interior of the levees that protect and surround much of Sutter County. The levee systems are evaluated in Section 3.1.5 of this report. Information for this section was obtained from applicable reports and studies from Sutter County, as well as communication with staff from the County, Live Oak, the Gilsizer Slough County Drainage District, the California Department of Water Resources, and Reclamation District 70, 1001, and 1500.

SUMMARY OF KEY FINDINGS

- Stormwater drainage throughout much of Sutter County is provided by piped storm drain conveyance systems (in the cities) and open channel systems. Stormwater flowing in these systems is either pumped or gravity drains the water into the Sacramento River, the Sutter Bypass, or the Feather River.
- Within the county and cities, there are several areas where minor field, road, and street flooding occur from the relatively large storms that have occurred over the last 10 years. However, flood damage from local runoff to homes and other structures occurs very rarely within Sutter County.
- There are a few areas that are at risk of flooding even without a levee failure, including the Butte Sink area, an area between Bear River and the Yankee slough, the area east of the RD 1001 watershed, and small areas within Yuba City and the City of Live Oak.
- Additional growth in or around the cities of Yuba City and Live Oak could contribute to increased flooding in the county upstream or downstream of these cities. However, Yuba City has developed a flood control project to address this potential for increased flooding. Similarly, RD 777 is developing a Master Drainage Study to address the potential for increased flooding from growth in the City of Live Oak.

OVERVIEW

There are 11 major watersheds within Sutter County, as shown on Figure 3.1-12. These watersheds generally drain from the northeast to the southwest, consistent with the general ground slope across the county. Most of Sutter County is protected from flooding from the Feather River and the Sutter Bypass by levees; consequently, most of the rainfall and resulting runoff must be pumped into the Feather River. This is done with the pump stations shown as red dots on Figure 3.1-12.

However, one exception to this is the Wadsworth Basin (shown in green on Figure 3.1-12) which flows by gravity into the Wadsworth Canal and then into the Sutter Bypass. Another

exception is the west half of the Sutter Buttes and the Butte Sink Area, which is located west of the Sutter Buttes (the unshaded area on Figure 3.1-12). These areas simply drain into the Sutter Bypass.

As long as the levees function properly, Sutter County is relatively free of flooding problems and resulting flood damage. However, the areas where flooding does occur periodically (a few times over the last 10 years) are shown with red stars on Figure 3.1-12.

Flooding from levee and dam failure is discussed in Section 3.1.5, Levees and Flood Control.

EXISTING CONDITIONS

Adequate stormwater drainage is important because it contributes to the safety of the citizens in Sutter County and the cities within the county. Adequate drainage also eliminates property damage caused by flooding.

Stormwater drainage throughout much of Sutter County is provided by piped storm drain conveyance systems (in the cities) and open channel systems. Stormwater flowing in these systems is either pumped or gravity drains into the Sacramento River, the Sutter Bypasss, or the Feather River. These stormwater systems are owned and operated by a variety of agencies including reclamation districts, cities, Sutter County, and the State of California.

The mean annual precipitation for Sutter County ranges from 21 inches on the eastern boundary to approximately 16 inches along the western boundary, with a county wide average of approximately 18 inches. Historically, there have been several large storms that have resulted in flooding within the county, the largest of which include:[36]

- December 1955 – In this storm 8 to 11 inches of rain fell in an 8 day period.
- October 1962 – In this storm 6 to 9 inches of rain fell in a 3 day period.
- February 1986 – In this storm 6 to 9 inches of rain fell in a 10 day period.
- January 1995 – In this storm over 3 inches of rain fell in a 1 day period.
- January 1995 – In this storm over 7 to 8 inches of rain fell in a 6 day period.

Stormwater drainage facilities are typically sized to address design storms with return frequencies of 2-years to 100-years. A storm with a 2-year rainfall or a larger event is statistically expected to return once every 2 years over a long term average. Alternatively, a storm with a 2-year rainfall or a larger event has a 50 percent probability of occurring in any single year. A storm with a 100-year rainfall or a larger event is statistically expected to return once every 100 years over a long term average. Alternatively, a storm with a 100-year rainfall or a larger event has a 1 percent probability of occurring in any single year.

Design storm rainfall depths have been determined for Sutter County, as summarized in Table 3.1-1.

36 Goodridge, James D., *Design Rainfall Study for Sutter County*, prepared for Sutter County, June 11, 1998.

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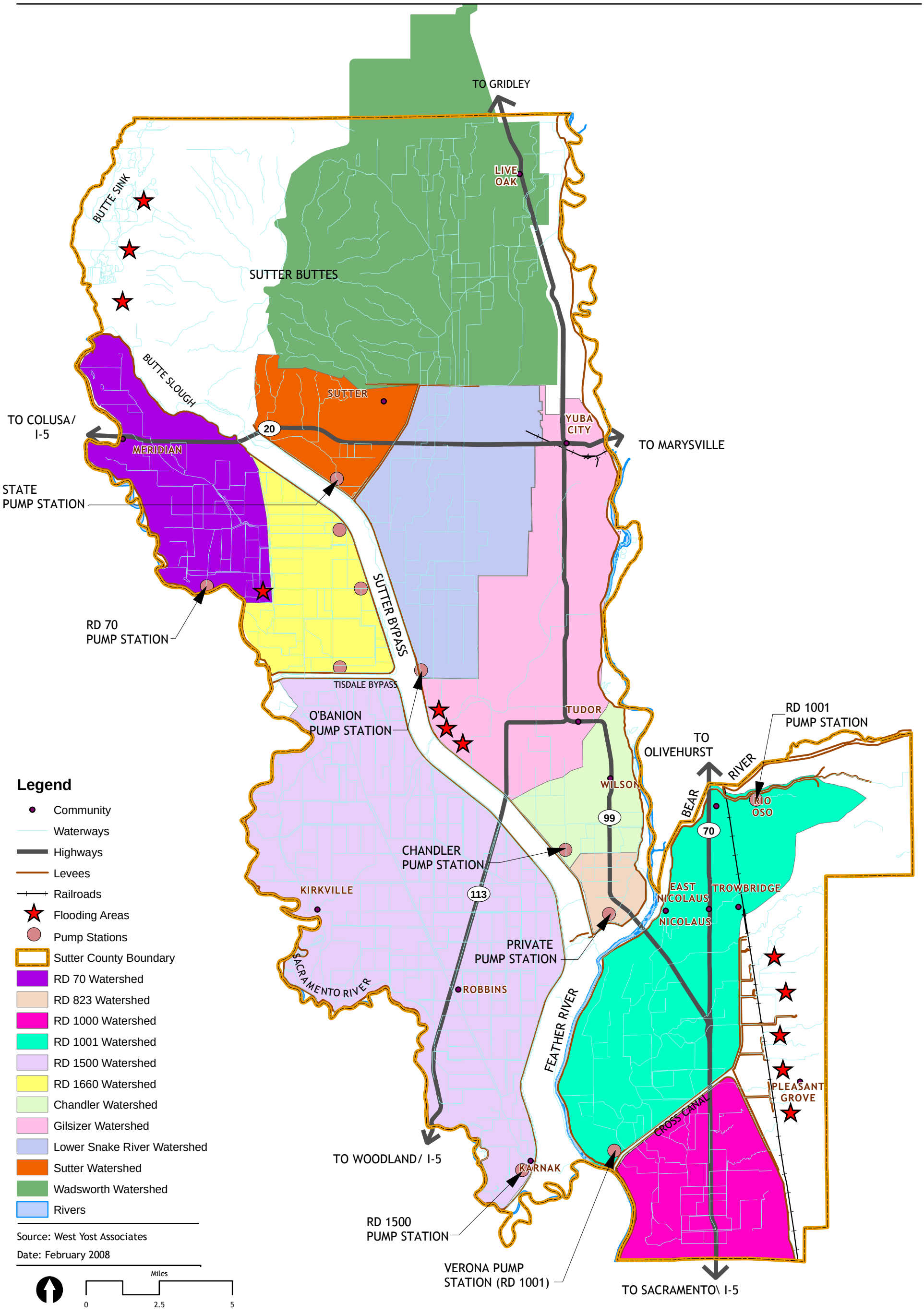


WATERSHEDS WITHIN SUTTER COUNTY
Figure 3.1-12

Table 3.1-1. Average Design Storm Rainfall Depths for Sutter County

Design Storm Return Frequency	Rainfall Depth for 1-Day Duration (inches)	Rainfall Depth for 4-Day Duration (inches)
2-Year	1.91	2.90
10-Year	2.98	4.86
100-year	4.23	7.16

Source: Goodridge, James D., *Design Rainfall Study for Sutter County*, prepared for Sutter County, June 11, 1998.

There are 11 major watersheds within Sutter County, and each watershed is discussed below:[37]

Wadsworth Watershed

This watershed is located in the northeast corner of the county, and includes a total area of approximately 91 square miles. This watershed includes the eastern portion of the Sutter Buttes and a small area within Butte County. The City of Live Oak is fully contained within this watershed. This watershed drains from the north to the south through a series of channels, including:

- Live Oak Slough (also called the RD777 Main Canal), which is owned, operated and maintained by RD 777. This channel drains portions of the City of Live Oak.
- RD 777 Laterals 1, 2, and the RD777 West Intercepting Canal (RD 777 WIC), which are owned, operated and maintained by RD 777. This channel drains portions of the City of Live Oak.
- Morrison Slough is within the RD 2056 service area; however, the majority of Morrison Slough is located on private property, and does not receive routine maintenance by a public agency, except at public roadway crossings.
- Snake River is within the RD 2054 service area; however, the majority of the Snake River is located on private property, and does not receive routine maintenance by a public agency, except at public roadway crossings.
- Sand Creek and the Sutter City Lateral are not within a public district service area. These channels are mostly located on private property, and do not receive routine maintenance unless provided by the property owners.

These channels all drain into the East Intercepting Canal or the West Intercepting Canal, which drain into the Wadsworth Canal (see Figure 3.1-13 for a picture of the Wadsworth canal at Franklin Road). The Wadsworth Canal is a leveed channel that flows into the Sutter Bypass channel. The West and East Intercepting Canals and the Wadsworth Canal are owned, operated, and maintained by the California Department of Water Resources.

The City of Live Oak is currently updating their General Plan, and will prepare a Master Drainage Study for RD 777 to address the increase in flows resulting from the future growth of Live Oak. This Master Drainage Study is expected to be completed in early 2008, and will identify a flood control system that will eliminate increased flooding from the City's growth.[38]

37 [Psomas 1998] Psomas and Associates, *Sutter County Master Drainage Plan*, prepared for Sutter County, March 2002.

38 West Yost Associates, in work draft *Reclamation District 777 Master Drainage Study* prepared for RD 777,

Gilsizer Slough Watershed

The Gilsizer Slough watershed is located in eastern Sutter County and includes approximately 49 square miles. This watershed includes the eastern half of Yuba City. The Gilsizer Slough was originally a natural channel, and it flows generally to the southwest until it reaches the Sutter Bypass Levee. At the levee, the slough enters a constructed channel (the State Drain) that flows to the northwest, against the ground slope to the O'Banion Pump Station. Because this channel must flow against the ground slope, overtopping of the channel banks has occurred, although very infrequently. Most recently, it occurred during the large storm in December 2005 when two of the O'Banion Pump Station pumps were not operational.[39] The Gilsizer Slough is owned and maintained by the Gilsizer County Drainage District or by private property owners.

The O'Banion Pump Station is owned by the State of California and includes 6 pumps, each with a capacity of 120 cfs. It lifts water from the Gilsizer Slough (and the lower Snake River, see below) into the Sutter Bypass. This pump station does not currently have back up power nor does it have automatic/remote monitoring and controls to turn the pumps on/off as water levels rise/fall at the pump station. In 1995 and in 1997 lightning strikes caused power failures at this pump station during storm events.[40] This pump station is shown on Figure 3.1-14. The State is currently in the process of installing a back-up generator adequate to power at least 2 of the pumps and providing automatic/remote monitoring and controls to operate the pumps.[41]

Lower Snake River Watershed

The Lower Snake River watershed is located in central Sutter County, includes the western half of Yuba City, and is approximately 40 square miles. This watershed was disconnected from the Wadsworth Watershed by the construction of the East and West Intercepting Canals. The Lower Snake River watershed drains from the north to the southwest through a series of channels, including:

- Live Oak Canal, which is owned, operated and maintained by Sutter County. Because this facility drains the West Yuba City area, in which significant development is planned, this channel was studied in detail in the West Yuba City Master Drainage Study.[42] With full buildout development, the 10-year peak flow leaving the City would increase from 223 to 1081 cfs, and the 100-year flow would increase from 229 to 1625 cfs. Several flood control alternatives were evaluated to address these increased flows, and one alternative was recommended. The capital cost of the recommended project was estimated at $64 million.
- Lower Snake River – Much of the Lower Snake River is located on private property, and receives maintenance only if provided by the property owners.

currently in work 2007.

39 Kimerer, Dave, Operations Supervisor, Gilsizer Slough County Drainage District, personal communication, October 10, 2007.

40 Dickerson, Ken, Utility Craftsworker Supervisor, California Department of Water Resources, personal communication, August 31, 2005.

41 Dickerson, Ken, Utility Craftsworker Supervisor, California Department of Water Resources, personal communication, October 10, 2007.

42 West Yost Associates, In work draft *Reclamation District 777 Master Drainage Study* prepared for RD 777, currently in work 2007.

Figure 3.1-13

Sutter County General Plan Update
Technical Background Report

WADSWORTH CANAL AT FRANKLIN ROAD

WEST YOST ASSOCIATES
Consulting Engineers

Figure 3.1-14

Sutter County General Plan Update
Technical Background Report

O'BANION PUMP STATION

WEST YOST ASSOCIATES
Consulting Engineers

- Little Blue Creek – Little Blue Creek is mostly located on private property and receives little maintenance.
- State Drain – This channel is owned, operated, and maintained by California Department Water Resources.

These channels all drain to the O'Banion Pump Station, which was described above.

Sutter Watershed

The Sutter Watershed is located in northwest Sutter County and includes an area of approximately 16 square miles. This watershed includes the unincorporated Community of Sutter and drains to the south through several ditches, all of which lead to the State of California DWR Pump Station 3.

Pump Station 3 is owned by the State of California, Department of Water Resources and includes 4 pumps, each with a capacity of 45.5 cfs, for a total capacity of 182 cfs.[43] It lifts water from the Sutter Basin into the Sutter Bypass. This pump station does not currently have back up power nor does it have automatic/remote monitoring and controls to turn the pumps on/off as water levels rise/fall at the pump station. The State is currently in the process of installing a back-up generator adequate to power at least 2 of the pumps and is providing automatic/remote monitoring and control of the pumps.

Chandler Watershed

The Chandler Watershed is located in southeast Sutter County and includes an area of approximately 14 square miles. This watershed drains to the south through several ditches, all of which lead to the Chandler Pump Station.

The Chandler Pump station (also called the State Pump Station 1) is owned by the State of California and includes four pumps, each with a capacity of 70 cfs, for a total capacity of 280 cfs.[44] It lifts water from the Sutter Basin into the Sutter Bypass. This pump station does not currently have back up power nor does it have automatic/remote monitoring and controls to turn the pumps on/off as water levels rise/fall at the pump station. The State is currently in the process of installing a back-up generator adequate to power at least 2 of the pumps and is providing automatic/remote monitoring and controls of the pumps.

RD 823 Watershed

The RD 823 watershed is located in southeast Sutter County and includes an area of approximately 5 square miles. This watershed drains to the south through several ditches, all of which lead to a privately owned pump station that discharges to the Feather River.

RD 70 Watershed

The RD 70 watershed is located in northwest Sutter County and includes an area of approximately 30 square miles. The RD 70 area drains to the southwest through several

43 Dickerson, Ken, Utility Craftsworker Supervisor, California Department of Water Resources, personal communication, October 10, 2007.

44 Dickerson, Ken, Utility Craftsworker Supervisor, California Department of Water Resources, personal communication, October 10, 2007.

ditches, all of which lead to the RD 70 pump station that discharges to the Sacramento River. This pump station has 6 pumps with capacities ranging from 29 to 67 cfs, with a total capacity of 255 cfs.[45] Shallow field flooding in the southeast corner of this district occurs during relatively large storm events, but this flooding has not caused damage to homes or other structures.

RD 1660 Watershed

The RD 1660 watershed is located in northwest Sutter County and includes an area of approximately 20 square miles. Most of this watershed drains to the southwest through one primary ditch to the RD 1660 main pumping station, which has six pumps, each with a capacity of approximately 33 cfs.[46] The RD 1660 Main pumping plant lifts water into the Tisdale Bypass. RD 1660 also has a pumping plant along the Sutter Bypass at Oswald Road with a capacity of 56 cfs, and a pumping plant along the Sutter Bypass at McClatchy Road with a capacity of 49 cfs. During large storms when the Sacramento River and the Tisdale and Sutter Bypasses are full, minor flooding of fields occurs. Twice in the last 35 years this minor flooding caused damage to some low garages within the watershed.[47]

RD 1500 Watershed

The RD 1500 watershed is located in southwest Sutter County and includes an area of approximately 90 square miles. This district includes a total area of 67,851 acres.[48] RD 1500 provides agricultural drainage, levee maintenance (54.35 mile of levees), and flood control services. This watershed drains to the southeast through the Main Drain that runs from near the Tisdale Bypass to the southeast to the District's Pumping Plants 1, 2, and 3, located at the Sutter Bypass. Pumping Plant No. 1 includes six pumps, each with a capacity of 197 cfs. Pumping Plant 2 has no operable pumps. Pumping Plant 3 has four pumps, each with a capacity of 178 cfs.

RD 1001 Watershed

The RD 1001 watershed is located in southeast Sutter County and includes an area of approximately 54 square miles. The communities of Nicolaus, East Nicolaus, Trowbridge, and Rio Oso are located within this watershed. This watershed drains to the south through several ditches and channels to the Verona Pump Station which lifts the water into the Cross Canal. This pump station has 5 pumps, with a total capacity of 577 cfs. This pump station does not have an on-site back up power generator; however, RD 1000 is able to bring in portable generators if needed. RD 1001 also has three small pump stations that lift stormwater from the northern portion of this watershed into the Yankee Slough.[49]

Minor flooding of agricultural fields has occurred, although infrequently, in this watershed during the larger storm events over the last 10 years; however, flooding of homes and other structures has not occurred.[50]

45 Long, Ron, Manager of Reclamation District 70, personal communication October 10, 2007.
46 Long, Ron, Manager of Reclamation District 70, personal communication October 10, 2007.
47 Long, Ron, Manager of Reclamation District 70, personal communication October 10, 2007.
48 Sakato, Max, Manager of RD 1500, personal communication, October 14, 2007.
49 Fales, Diane, Manager of Reclamation District 1001, personal communication, October 10, 2007.
50 Fales, Diane, Manager of Reclamation District 1001, personal communication, 2007.

Butte Sink

The northwest most corner of Sutter County is a low area called the Butte Sink that experiences routine flooding. Floodwater from this area flows into the Sutter Bypass. The FEMA 100-year flood plain extends from the county boundary east to near West Butte Road.

City of Live Oak

Minor street flooding occurs, although infrequently, in the City of Live Oak. Some of these locations include De Ree Road, Luther School, L Street (between Date Street and Pennington Road), and at several Highway 99 cross culverts that do not have connections to the City's storm drain systems.[51] A small downtown area within the City of Live Oak is within the FEMA 100-year flood plain. Many of the road and streets within the City of Live Oak were constructed without curbs and gutters, which contributes to minor nuisance ponding of storm water.

City of Yuba City

The western half of Yuba City is drained by the Live Oak Canal. Within this watershed, minor street flooding has occurred during the larger storm events over the last 10 years. In a 100-year storm event many areas would experience shallow street flooding.[52]

The eastern half of Yuba City is drained by the Gilsizer Slough. In recent years, the Gilsizer Slough County Drainage District has constructed several culvert improvements from the George Washington Boulevard crossing upstream into Yuba City. Since those improvements were constructed, there has not been flooding problems along the Gilsizer Slough.[53]

Within Yuba City only a small area adjacent to the Feather River Levee north of Von Geldern Way is currently within the FEMA 100-year flood plain.

Most of Sutter County is protected from major flooding by the levees along the Sacramento River, Feather River, Sutter Bypass, Tisdale Bypass, and Cross Canal. Because of these levees, runoff from much of the county must be pumped into these rivers and bypasses. During large storm events this sometimes results in minor field flooding, but has very rarely caused damage to homes or other structures. The ditches, channels, and pump stations are owned and operated by a variety of different agencies.

The cities of Yuba City and Live Oak have storm drain collection and conveyance systems that drain into open channels that flow through the county. Within these cities minor street flooding occurs at a few locations in large storm events, although damage to houses or other structures is very rare.

Most of Sutter County is not currently mapped in the FEMA 100-year flood plain. The areas that are within the 100-year FEMA flood plain are listed below:

- The Sacramento and Feather Rivers

51 Bolander, Mike, Public Works Director, City of Live Oak, personal communication with June 19, 2007 and October 17, 2007.

52 West Yost Associates, In work draft *Reclamation District 777 Master Drainage Study* prepared for RD 777, currently in work 2007.

53 Kimerer, Dave, Operations Supervisor, Gilsizer Slough County Drainage District, personal communication, October 10, 2007.

- The Sutter and Tisdale Bypasses
- The Cross Canal and East Side Canal
- Butte Sink area
- An area between Bear River and Yankee Slough
- The area east of the RD 1001 watershed (Figure 3.1-12)
- An area in downtown Live Oak
- A small area in Yuba City near Von Geldern Way

These areas, as shown on Figure 3.1-15, are mapped with the most recent FEMA Q3 data, which is digitized FEMA Flood Insurance Rate Map information used for GIS mapping, and have significant risk of flooding even without a levee failure (see Section 3.1.5, Levees and Flood Control, for a discussion of the levees in the county).

REGULATORY CONTEXT

This section summarizes regulations that are relevant to stormwater drainage.

Federal

Federal FEMA Regulations are described below in Section 3.1.5, Levees and Flood Control.

State

In October 2007, the State of California enacted several relevant bills, including Senate Bills 5 and 17, and Assembly Bills 70, 156, and 162. These bills are described in Section 3.1.5, Levees and Flood Control.

Local

Local drainage regulations are described in the Local Governments drainage design criteria. The drainage Criteria for Sutter County, Yuba City, and Live Oak are summarized below.

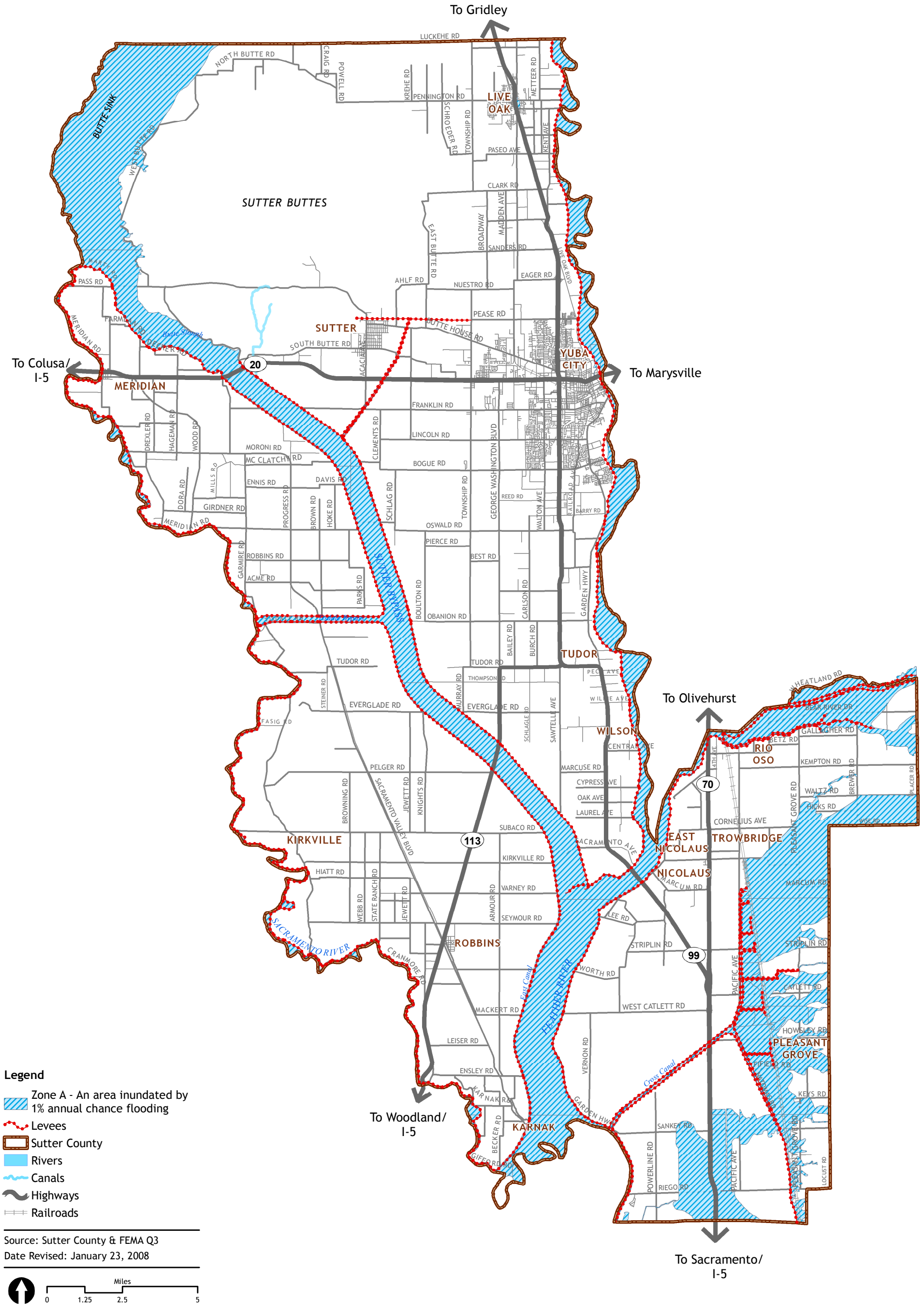
Sutter County Drainage Design Criteria

Sutter County's storm drainage design criteria are published on the County's website (http://www.co.sutter.ca.us/doc/government/depts/pw/design_standards); however, these criteria are currently being revised.

- Habitable structures shall be protected from the 100-year flood. For arterial roads, two travel lanes in each direction shall be protected from the 100-year flood. For other roads, one travel lane in each direction shall be protected from the 10-year flood.
- Drainage systems shall be designed to accommodate the ultimate development of the entire upstream watershed.
- The grading plan shall ensure that the flow from a 100-year design storm can flow through the development without flooding structures even in the event of a failure of the storm drain collection system.

SUTTER COUNTY
General Plan Update

SUTTER COUNTY
GENERAL PLAN UPDATE



Legend

- Zone A - An area inundated by 1% annual chance flooding
- Levees
- Sutter County
- Rivers
- Canals
- Highways
- Railroads

Source: Sutter County & FEMA Q3
Date Revised: January 23, 2008

Miles
0 1.25 2.5 5

PBS&J

FLOOD ZONES AND FLOOD CONTROL LEVEES
Figure 3.1-15

- Runoff rates shall be calculated using the rational method for areas less than 100 acres. For areas greater than 100 acres, or watersheds of any size using runoff detention storage, a unit hydrograph method (using a rainfall-runoff computer model like HEC-1) shall be used with a storm duration of 24 hours.
- Storm drains (closed conduits) shall be designed for the peak 10-year runoff with the maximum hydraulic grade line at least 0.5 foot below the inlet grate/maintenance hole covers. The minimum pipe size shall be 12 inches. The minimum velocity shall be 2 fps. The pipe slope shall equal the hydraulic gradient and the pipe shall be sized with full flow.
- Open channels shall be designed for the peak 100-year flood event. The minimum velocity shall be 2 fps for the 100-year flow rate. The maximum velocity shall be 6 fps for earthen channels, 8 fps for bottom-lined channels and 10 fps for fully lined channels. No channel freeboard requirements are provided.

No detention basin criteria are provided.

City of Live Oak Drainage Design Criteria

City of Live Oak drainage design criteria were published in the June 2003 *City of Live Oak Public Works Improvement Standards*. The criteria are summarized below:

- Placement of fills of any magnitude across an existing drainage course shall incorporate a means by which excess flows not handled by the design drainage system can flow overland via essentially the same course as prior to placing the fill across the drainage course without inundating or damaging any structure.
- The rational formula shall be used for calculating hydrologic and pipe and/or channel design characteristics, i.e., size, type, slope, velocities and entrance, and outlet structures, etc.
- When the flow of water in gutters, caused by a 10-year storm, extends more than eight feet from the face of the curb or overtops the curb underground storm drains are required. Inlet spacing shall not exceed 500 feet. Valley gutters, flow across sidewalks (except on streets abutting single family residential development), concentrated discharges of drainage onto the street shall be eliminated.
- Building pads shall not be inundated during a 100-year frequency (1 percent probability) storm. Traffic lanes shall not be inundated during a design frequency storm. All existing streets shall be assumed to be constructed to ultimate standards. All major drainage channels and natural streams shall be assumed to be constructed to ultimate standards.
- Culverts shall be analyzed using a ponded (i.e., zero velocity) condition upstream unless a definite channel exists or is proposed upstream. Inlet and outlet transition structures shall be provided to minimize entrance and exit losses.
- Minimum size of proposed culverts shall be 12-inches in diameter. The minimum size of pipes shall also be 12-inches in diameter if the City is to maintain the pipes.
- Areas less than forty acres, and where the proposed drainage structure will not be placed in a natural or constructed sump, shall be protected from a 10-year

frequency storm. Culverts under moderate fills are to pass a ten-year storm without static head, and under high fills are to pass a 25-year storm with head; however, no damage due to ponding is to occur.

- Areas larger than 40 acres and less than 160 acres shall be protected from a 25-year frequency storm. Culverts under moderate fills on collector and local streets are to pass a 25-year storm without static head, and under high fills are to pass a 100-year storm with head; however, no damage due to ponding is to occur.
- Areas larger than 160 acres, or where culverts are to be placed under high fills, or where a sump condition exists and damage would result due to ponding and where major streets or a freeway are to be crossed, shall be protected from a 100-year frequency storm. Culverts are to pass a 100-year storm with head; however, no damage due to ponding is to occur.
- The minimum time of concentration shall be 10 minutes.
- Storm drain pipelines shall be accurately constructed to the design lines and grades. The extremely flat grades necessary in the City of Live Oak require particularly careful construction to maintain invert grades within ±0.05 feet vertically. All storm drains should be designed for a minimum velocity of 2 feet per second, flowing full. Precast pipes 24" or larger in diameter may be laid on a horizontal curve. The radius of curve shall not be less than 300' unless special pipe joints with longer lips are used. D-Load criteria shall be used to design all pipes. Precast RCP drains are required in all roadway areas unless top of pipe is more than 36" below subgrade. For non-traffic areas non-reinforced concrete pipe may be allowed.
- Existing drainage ditches and channels belonging to RD 777 adjoining the City shall be piped, improved, or graded and/or enlarged as necessary to carry the design flows listed in the City of Live Oak Master Drainage Plan at the design grade of the channels. Headwalls and wingwalls shall be provided at each end of pipes or box culverts and cleanout access structures shall be provided at intervals of 1,000 feet maximum. Roadway crossings of existing ditches shall be a reinforced concrete pipe, box culvert, or slab bridge with headwalls and wingwalls, sized to carry the design flow of the ditch, at the design grade of the ditch.

No detention basin or pump station criteria are provided.

Yuba City Drainage Design Criteria

The Yuba City drainage design criteria are summarized below. These criteria are not provided in a specific document, but nevertheless represent the general design approach used by the City for storm drain facilities.[54]

- Habitable structures shall be protected from the 100-year flood. All roads shall be protected from the 10-year flood, with the water level at least 1 foot below the gutter elevation. All flow greater than the capacity of the pipe system shall be conveyed or detained in the street section while maintaining a water surface below the adjacent building pad elevation.

54 Musallam, George, Yuba City Public Works Director, January 22, 2008.

- Drainage systems shall be designed to accommodate the ultimate development of the entire upstream watershed.
- The grading plan shall ensure that the flow from a 100-year design storm can flow through the development without flooding structures even in the event of a failure of the storm drain collection system.
- Runoff rates shall be calculated using the rational method for areas less than 100 acres. For areas greater than 100 acres, or watersheds of any size using runoff detention storage, a unit hydrograph method (using a rainfall-runoff computer model like HEC-1) shall be used with a storm duration of 24 hours, 48 hours, or whichever time period is the most critical.
- The minimum storm drain pipe size shall be 18 inches. The minimum velocity shall be 2 feet per second (fps). The pipe slope shall equal the hydraulic gradient and the pipe shall be sized with full flow.
- Detention basins shall be sized to hold a 24-hour, 100-year storm event without pumping, maintaining a water elevation one foot below the lowest drain inlet.

3.1.5 Levees and Flood Control

INTRODUCTION

This section describes the levees and the flood control infrastructure that surrounds much of Sutter County, which provides flood protection from the major waterways in the county. Information for this section was obtained from applicable reports and studies prepared by Sutter County, the Federal Emergency Management Agency, and the U.S. Army Corps of Engineers. See Section 5.5, Flood Hazards, for additional information.

SUMMARY OF KEY FINDINGS

- The primary method of flood control in Sutter County is a system of levees along the Sacramento and Feather Rivers. There are approximately 280 miles of levees within the county.
- Recent and on-going studies have found that some levees within the county do not meet, or have not been certified as meeting, the current levee design criteria. As a result, much of the county is considered vulnerable to flooding due to levee failure.
- SAFCA has a levee improvement project underway that is designed to provide 100-year flood protection to the Natomas Basin by 2010 and 200-year flood protection by 2012.
- It is anticipated that the Sutter County Feasibility Study being performed by the Army Corps of Engineers will produce a plan to provide 100-year flood protection to the major urban areas within the county. It will be several years before this study is complete; however, the non-federal sponsor's planning objective is to achieve 200-year flood protection and to obtain FEMA levee certification.[55]

55 Sutter County California Feasibility Study, October 2004, Feasibility Scoping Meeting (F3 Milestone) Report.

OVERVIEW

The primary method of flood protection provided in the County is via a system of levees or earthen embankments along the Sacramento and Feather Rivers that contain high river flows within these constructed channels.[56] When the capacity of the river levee system is exceeded, the bypass system accommodates the additional flows. A bypass is an auxiliary channel used to pass floodwater. Bypass systems are used in flood protection projects when the potential high flow is larger than the primary river channel capacity. The bypass is usually leveed creating the additional capacity. This type of system can take the load off the primary levee system during critical peak flow periods.

As the Sacramento River flows southward from Shasta Dam, natural overflow areas and two fixed weirs, Moulton and Colusa, permit floodwater to escape from the river into the Butte Sink Basin (Figure 3.1-15). This basin is a natural flowage area that has not been drained and developed as have similar basins to the west and south, and water from the Butte Sink Basin moves into the upstream end of the Sutter Bypass. At the Tisdale Weir, additional water can be diverted from the Sacramento River directly into the Sutter Bypass. The Feather River system, which drains the east side of the Sacramento Valley, enters the Bypass directly. The Sutter Bypass and the Sacramento River join just above the Fremont Weir. This weir divides the joint flow of the river-bypass system, limiting flow into the Sacramento River channel to its capacity and permitting the excess flow to cross the river and enter the Yolo Bypass. Near Sacramento, the Sacramento Weir provides the final escape route from the Sacramento River to the Yolo Bypass.

Failure of any one of these levees could cause major flooding of areas within Sutter County. Similarly, failure of a dam on the Feather River, Sacramento River, or their tributary rivers could lead to flows that exceed the capacity of the river/bypass/levee system and thereby cause major flooding of Sutter County.

Sutter County is actively working with several other agencies to ensure that the levee system that protects the County has adequate capacity, that the structural integrity of the levees is thoroughly evaluated, and that required repairs and maintenance are performed.

EXISTING CONDITIONS

There are approximately 280 miles of levees protecting Sutter County lands from flooding (Figure 3.1-15). A large majority of these levees are part of the Sacramento River Flood Control Project that was constructed by the U.S. Army Corps of Engineers and are now owned and maintained by the State of California. The state has delegated most of the operation and maintenance responsibility to local levee and reclamation districts. The levees provide the County with protection against flooding from the Sacramento River, Feather River, Sutter Bypass, Tisdale Bypass, Wadsworth Canal, Bear River, Yankee Slough, Natomas Cross Canal, East Side Canal, and the Pleasant Grove Canal.

Current flood maps published by the Federal Emergency Management Agency (FEMA) show that the levee systems, with some exceptions, protect the county from flooding during a 100-year storm event; however, most of these flood maps were published in 1988 with a few in 1998 and they do not necessarily reflect the most recent flood studies. When FEMA first produced flood maps for the county, most of the levees were assumed to provide adequate protection based on studies prepared by the U.S. Army Corps of Engineers in the 1960's. However, these

56 Sutter County, *Sutter County General Plan 2015: Background Report*, November 1, 1996.

levees have not been certified as meeting current levee protection criteria. This is a significant issue because FEMA, as a part of its Map Modernization Program, now requires that all levees be certified before the protection they provide will be recognized and reflected on new or updated flood maps. This is true for all levees, even those that were recognized as providing protection on previous maps. To obtain certification, a levee owner must provide FEMA with engineering data that demonstrates compliance with all of the appropriate levee criteria. These requirements include evaluations of freeboard, closure structures, embankment protection, embankment and foundation stability, settlement potential, interior drainage, operations and maintenance, and as-built conditions.

Currently there are draft FEMA floodplain maps that show much of Sutter County within the 100-year floodplain. These maps are expected to be adopted by FEMA around December 2008.

Areas that are currently mapped by FEMA within the 100-year flood zones are shown on Figure 3.1-15 and are based on Q3 data, which is digitized FEMA Flood Insurance Rate Map information used for GIS mapping. A number of studies have been completed or are in progress that will affect the flood protection and FEMA flood mapping within the county (see Section 5.5, Flood Hazards, for additional information).

REGULATORY CONTEXT

This section summarizes regulations that are relevant to levees and flood control systems.

Federal

The National Flood Insurance Act of 1968 made federally subsidized flood insurance available to property owners in communities that participate in the National Flood Insurance Program (NFIP). Sutter County participates in the NFIP and is subject to its regulations. The NFIP is administered by FEMA.

State

California Code of Regulations Title 23 establishes regulations related to the State Plan of Flood Control and State adopted floodways. These regulations are applicable to the levee systems included in the Sacramento River Flood Control Project.

In October 2007, the State of California enacted several relevant bills, as summarized below:

Senate Bill 5 - This bill requires:

- The State must develop 100-year and 200-year flood maps for the Central Valley by July 1, 2008.
- The State must establish a Central Valley flood protection plan by 2012.
- Within 2 years after the adoption of a flood protection plan by the Central Valley Flood Protection Board (formerly the Reclamation Board), communities within the Sacramento-San Joaquin Valley must amend their general plans to include the data and analysis contained in the plan, goals and policies for the protection of lives and property from flooding, and related feasible implementation measures. Within 1 year of the general plan adoption, zoning ordinance amendments must be enacted to maintain consistency with the general plan.

- By 2015, for areas with a population of 10,000 or greater, local governments cannot approve new developments unless the land under review has 200-year flood protection or efforts are in place to provide that level of protection. For areas with a population of less than 10,000, new developments cannot be approved unless the area has 100-year flood protection.
- Requires counties to collaborate with cities within its jurisdiction to develop flood emergency plans.

Senate Bill 17 - Renames the Reclamation Board to the Central Valley Flood Protection Board, sets new criteria for members of the Board, and establishes Senate confirmation for Board members nominated by the Governor.

Assembly Bill 70 - Beginning in 2008, local governments could be held financially liable if they unreasonably approve new developments that are susceptible to flood damage.

Assembly Bill 162 - Requires local governments to consider flood risks in their general plans (after January 1, 2009), including:

- Annually review areas covered by the general plan that are subject to flooding as identified by FEMA or the State Department of Water Resources.
- The Safety Element of the general plan must include flood hazards and set goals, policies and objectives for the protection of the community.
- For communities/counties within the Central Valley, the Safety Element must be submitted to and reviewed by the State Central Valley Flood Protection Board (Formerly the Reclamation Board).
- Allows flood risk to be considered in evaluating the available land suitable for urban development if the flood protection infrastructure required for development would be impractical due to cost or other considerations.
- There is no reimbursement from the State to the local communities for implementing the requirements of this bill.

Assembly Bill 156 - Requires the state to prepare flood maps for areas in the Central Valley that are protected by state levees and to annually notify owners of property behind those levees of their flood risks, starting in 2010.

Local

As a participant in the NFIP, Sutter County is required to adopt and enforce a floodplain management ordinance that minimizes future flood risks to new or existing construction. The County adopted a flood damage prevention ordinance in 1993 and updated it in 2000. It is anticipated that the ordinance will be updated again in 2008. Sutter County's flood damage prevention ordinance is intended to promote public health and safety and minimize losses due to flooding. The ordinance seeks to accomplish these goals by:

- Restricting land-use in flood prone areas;
- Requiring flood protection measures at the time of initial construction for uses that are vulnerable to floods;
- Controls the alteration of natural floodplains;

- Controls activities that may increase flood damage; and
- Prevents or regulates unnatural diversions of floodwaters that could increase flood hazards in other areas.

3.1.6 Solid Waste Management

INTRODUCTION

This subsection discusses the solid waste service providers within the county, solid waste facilities, and solid waste generation rates and diversion. Information for this section was obtained from the California Integrated Waste Management Board (CIWMB) website and communication with staff from the Yuba-Sutter Regional Waste Management Authority and Yuba-Sutter Disposal Inc.

The collection and disposal of solid waste plays an important role in planning for and accommodating both existing and potential future growth in Sutter County. Given stricter standards for the operation and development of landfills, continued advancements in collection and disposal technologies, and additional requirements to divert materials from the waste stream, solid waste management continues to be an evolving and increasingly critical issue for communities. Because solid waste management in Sutter County is addressed through a joint effort with Yuba County and the local cities, the information on solid waste is presented in a bi-county context.

SUMMARY OF KEY FINDINGS

- The Yuba-Sutter Regional Waste Management Authority provides solid waste services to Sutter and Yuba Counties by way of a Joint Powers Agreement between Sutter and Yuba Counties and the Cities of Live Oak, Marysville, Wheatland and Yuba City.
- Yuba Sutter Disposal Inc. provides collection, recycling, and disposal services to all of the incorporated and unincorporated areas of Sutter County via an exclusive franchise agreement with the Yuba-Sutter Regional Waste Management Authority.
- Within the Yuba Sutter Disposal Inc. service area there are more than 30,000 residential customers and 5,000 commercial customers that produce approximately 147,000 tons of waste a year.
- The Ostrom Landfill is the primary disposal site for waste collected by Yuba Sutter Disposal Inc. The Ostrom Landfill can accept a maximum of 3,000 tons of waste a day and is estimated to have enough capacity to remain open until the year 2066.
- The Yuba-Sutter Waste Management Authority and Yuba Sutter Disposal provide a number of recycling facilities and programs available to Sutter County residents and businesses.
- In 2006 Yuba Sutter Disposal Inc. had a 63 percent diversion rate or approximately 150,000 tons of waste diverted from the landfill.

EXISTING CONDITIONS

The Yuba County Environmental Health Program serves as the local enforcement agency (LEA). The LEA oversees solid waste facilities in both counties along with associated reviews permits and regulations under this program for compliance with State and local regulations. Together with the LEA, the Yuba-Sutter Regional Waste Management Authority oversees regional solid waste management, monitoring and evaluation of programs, waste removal services, and solid waste planning

Yuba-Sutter Regional Waste Management Authority was formed in 1990 to provide solid waste services to Sutter and Yuba Counties. The Authority operates by way of a Joint Powers Agreement between Sutter and Yuba counties and the cities of Live Oak, Marysville, Wheatland and Yuba City. The Regional Waste Management Authority office is located in Marysville and is overseen by a Board of Directors made up of a Supervisor from both counties and a City Council member from each of the four cities. All board members are appointed by the associated Boards of Supervisors and City Councils. The Sutter and Yuba Counties' Public Works Department acts as the liaison between city officials and the Yuba-Sutter Regional Waste Management Authority.

The Yuba-Sutter Regional Waste Management Authority is the only multi-county solid waste planning agency in the State of California and was formed for the purpose of providing reliable, economical, integrated and environmentally sound waste management services to the residents, businesses and organizations of the bi-county area. The Regional Waste Management Authority is responsible for municipal solid waste management planning and compliance efforts required by the California Integrated Waste Management Board, California Department of Toxic Substances Control and the California Water Quality Control Board.

Solid Waste Collection

The Regional Waste Management Authority works in conjunction with Yuba-Sutter Disposal, Inc. (YSDI) to provide for the collection, recycling and disposal of municipal solid waste from each member jurisdiction under an exclusive franchise agreement. The YSDI serves more than 30,000 residential customers and 5,000 commercial customers.[57] YSDI provides weekly refuse collection of: commercial and residential solid waste, garden waste, curb-side recycling, and oversized items. They also provide refuse and recycling bins for construction sites. YSDI's main offices are located in Marysville.

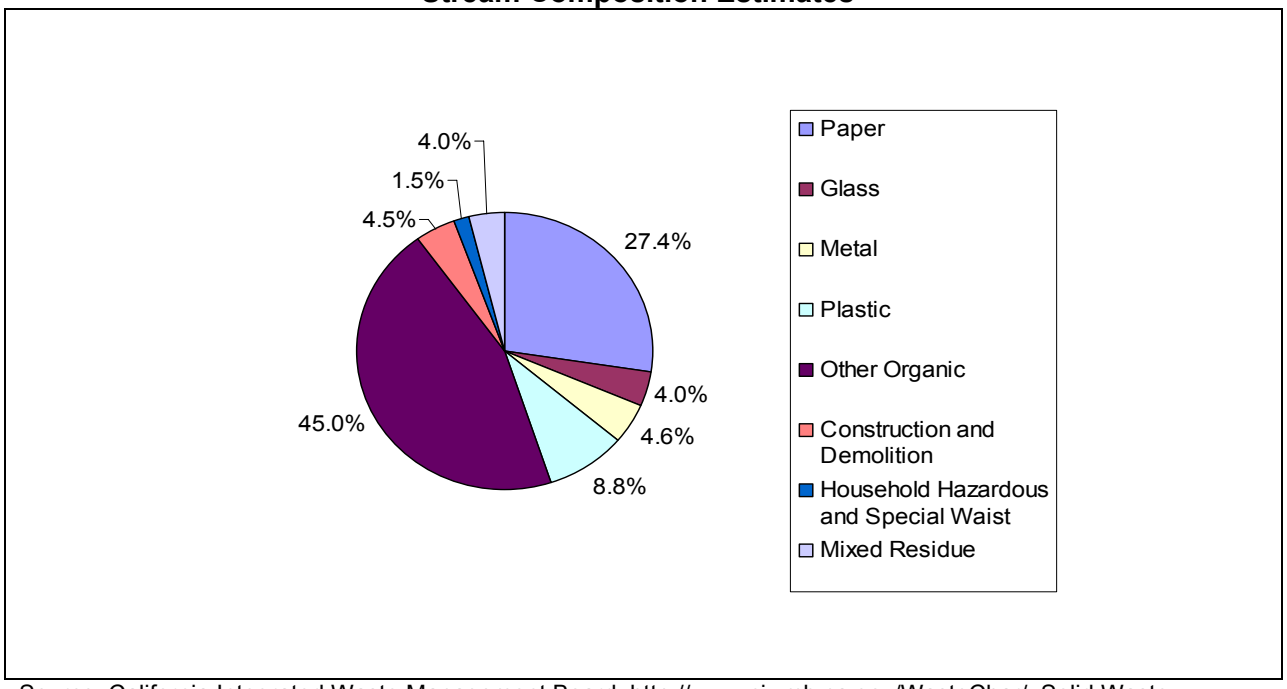
The 2005 California Integrated Waste Management Board data shows that the YSDI collected approximately 146,772 tons of waste within the Yuba-Sutter Regional Waste Management Authority service area. Of the waste collected, approximately 31,000 tons (21 percent) of refuse was from residential sources, and 116,000 tons (79 percent) of refuse was from commercial sources. Almost 80 percent of the yearly refuse was non-residential with medical and health service sectors contributing the highest business percentage of waste disposal at fifteen percent.[58]

As illustrated on Figure 3.1-16, almost half of the Yuba Sutter household waste stream is composed of organic material with paper being the second highest material discarded.

57 California Integrated Waste Management Board, http://www.ciwmb.ca.gov/WasteChar/rescomp.asp Solid Waste Characterization, Retrieved on 8/29/07.

58 California Integrated Waste Management Board, http://www.ciwmb.ca.gov/Profiles/Juris/JurProfile2.asp Jurisdiction Profile, Retrieved on 8/29/07.

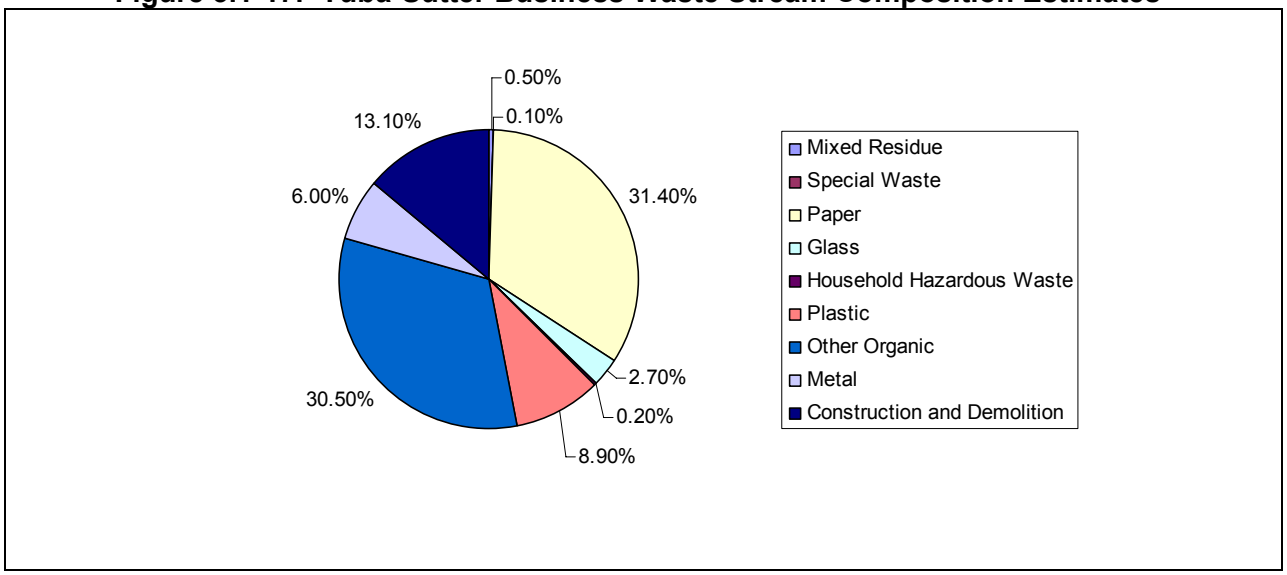
Figure 3.1-16. Yuba-Sutter Household Waste Stream Composition Estimates[1]



Source: California Integrated Waste Management Board, http://www.ciwmb.ca.gov/WasteChar/, Solid Waste Characterization, accessed August 29, 2007.
[1]Based on 2000 Statewide Estimates.

Yuba-Sutter Business waste stream composition estimates are illustrated on Figure 3.1-17 and show that both paper and other organic materials combined account for over 61 percent of the waste stream.

Figure 3.1-17. Yuba-Sutter Business Waste Stream Composition Estimates[1]



Source: California Integrated Waste Management Board, http://www.ciwmb.ca.gov/WasteChar/, Solid Waste Characterization, accessed August 29, 2007.
[1]Based on 1999 Statewide Estimates.

Table 3.1-2 shows the amount of solid waste disposal amounts for each RWMA jurisdiction including direct self waste haulers.

Table 3.1-2. 2006 Ostrom Road Landfill Disposal Amounts for Each RWMA Jurisdiction[1]

	Via Marysville Transfer Station	Via Ponderosa Transfer Station	Via Direct Hauler	Total Disposal At Ostrom Road Landfill
Marysville	17,293	N/A	1,011	18,304
Yuba City	54,130	N/A	576	54,706
Wheatland	1,383	N/A	1,245	2628
Yuba County	35,195	N/A	3,859	39,054
Sutter County	17,235	N/A	368	17,603
Live Oak	5,262	N/A	0	5,262
Total	130,497	433	7,059	137,989

Source: Correspondence, Aurora Environmental, Alyson Burleigh January 18, 2008.
[1]The disposal amounts in this table represent most of the disposal reported for 2006. Additional disposal amounts were reported at landfills outside of Yuba and Sutter Counties, but are usually reported for the region, rather than by jurisdiction.

Solid Waste Facilities

Table 3.1-3 outlines area solid waste facilities and their operational status, with the location of each facility.

Table 3.1-3. Sutter-Yuba Solid Waste Facilities

	Land Owner	Operator	2007 Status
Ponderosa Transfer Station	US Bureau of Land Management	YSDI	Open
Yuba-Sutter Disposal, Inc. M.R.F.	YSDI	YSDI	Open
Household Hazardous Waste Facility	Waste Management Authority	YSDI	Open
Yuba-Sutter Disposal Inc. Recycling Buy-Back Center	YSDI	YSDI	Open
Ostrom Landfill	Norcal Waste Systems Ostrom Road LF Inc	Norcal Waste Systems Ostrom Road LF Inc	Open
Yuba-Sutter Disposal Area (YSDA)	D. Barbieri	D. Barbieri	Abandoned
YSDI Sanitary Landfill – Marysville	YSDI	YSDI	Closed

Source: Yuba Sutter Disposal Incorporated. http://www.ysdi.com/, accessed August 29, 2007.
California Integrated Waste Management Board. http://www.ciwmb.ca.gov/swis/SiteListing.asp, accessed August 29, 2007.

As noted in Table 3.1-3, the North Levee Road Marysville Landfill operated by the YSDI is closed to the acceptance of all waste. This facility closed in 1997. The refuse previously disposed of at this facility is now transported to the Ponderosa Transfer Station located in Brownsville and the YSDI Transfer Station located in Marysville where the refuse is processed for the Ostrom Road Landfill in Wheatland.

Each of the open solid waste facilities is briefly described below:

Ponderosa Transfer Station

Yuba-Sutter Disposal, Inc. operates the Ponderosa Transfer Station leased from the United States Bureau of Land Management. The facility is located on Ponderosa Way in Brownsville California. The facility is the processing location for municipal solid waste that is unloaded from collection vehicles and briefly held while it is reloaded onto larger long-distance transport vehicles for shipment to the Ostrom landfill.

Yuba-Sutter Disposal, Inc Materials Recovery Facility (MRF)

Yuba-Sutter Disposal, Inc. owns and operates the MRF, located on North Levee Road in Marysville. The facility includes a refuse transfer station, material recovery (recycling) facility, composting facility, buy-back recycling center and certified used oil collection center. The seven acre facilities permitted capacity is 1,615 tons per day.[59]

Yuba-Sutter Disposal Inc. Recycling Buy-Back Center

The Yuba-Sutter Recycling Buy-Back Center is housed at the Yuba-Sutter Disposal, Inc. MRF located at North Levee Road in Marysville. The facility provides payment to customers for containers that have an associated California Redemption Value.

Household Hazardous Waste Collection Facility

The Yuba-Sutter Household Hazardous Waste Facility located on Burns Drive in Yuba City is operated by Yuba-Sutter Disposal, Inc. under an agreement with the Regional Waste Management Authority. The facility recycles common household products such as cleaning supplies, oils, batteries, and paint.

Ostrom Landfill

The Ostrom Road Landfill is located in Wheatland (Yuba County) and is owned and operated by Norcal Waste Systems Ostrom Road LF Inc., a sister company to YSDI, and is the primary location for the disposal of waste by the YSDI. The 225 acre Class II Landfill is permitted to accept the following types of waste: solid waste; waste water treatment sludge; construction debris; food and green waste; some types of contaminated soils; and non-friable asbestos.[60] The landfill can accept a maximum of 3,000 tons of waste a day; and is estimated to have enough capacity to remain open until the year 2066 with only about three percent in use as of 2006.[61]

Leachate Control

Leachate is the moisture that comes from the decomposition of material in a landfill. If left uncontrolled, landfill leachate can seep into area groundwater contaminating potential water sources. Federal regulations adopted in 1993 require municipal landfills to incorporate liners with a leachate collection, removal and monitoring system.

59 California Integrated Waste Management Board. http://www.ciwmb.ca.gov/swis/SiteListing.asp, Retrieved 8/29/07.

60 California Integrated Waste Management Board, http://www.ciwmb.ca.gov/Profiles/Facility/LandFill/LFProfile1.asp.

61 Ostrom Landfill, http://www.ostromroadlandfill.com/. Retrieved on 8/29/07.

Ostrom Road Landfill began operation in 1995 as the first landfill facility in California to receive approval to operate under the new Subtitle D regulations requiring liner systems, leachate collection and recovery systems, water quality monitoring systems, and other environmental protection measures.

Solid Waste Diversion

The Integrated Waste Management Act (Assembly Bill (AB) 939) requires that all California jurisdictions must prepare a Source Reduction and Recycling Element (SRRE) that outlines programs to achieve the mandated 50 percent diversion rate by the year 2000[62]. The Yuba-Sutter Waste Management Authority has met the requirements set forth by AB 939. In 1992 a joint Yuba-Sutter SRRE was prepared outlining graduated steps to achieve the waste stream reduction requirements. The existing (1992) SRRE is still being utilized by the Yuba-Sutter Waste Management Authority, however it is not required to have diversion rate reduction plan past the 50 percent mandated mark for 2000. In 2006 YSDI had a 63 percent diversion rate or approximately 150,000 tons of waste diverted from the landfill.[63] Diversion rates are calculated under the joint powers agreement that includes both Sutter and Yuba counties. The joint diversion rates are used to meet the standards set forth by AB 939.

Tons of waste diverted from the Sutter-Yuba joint service area has continued to increase over the last seven years to meet the diversion requirements of AB 939. The Yuba-Sutter Regional Waste Management Authority continues to implement programs to reduce waste streams and have maintained a diversion rate higher than the mandated 50 percent since 2000. Table 3.1-4 gives an overview of Yuba-Sutter diversion rates with associated waste generation numbers. It is noted that the sharp increase in diversion rates between 2003 and 2004 is due to the recalculation of the Yuba-Sutter base waste stream numbers from the 1990 figures previously used by CIWMB as base rates for estimated waste stream and diversion numbers.

Table 3.1-4. Sutter-Yuba Solid Waste Disposal and Diversion Estimations

Year	Tons Disposed	Tons Diverted	Tons Generated	Diversion Rate
1999	132,294	53,900	185,863	29%
2000	134,134	69,029	203,026	34%
2001	137,442	51,103	189,272	27%
2002	125,467	64,961	191,063	34%
2003	124,351	62,649	174,026	36%
2004[1]	126,818	258,525	385,343	69%
2005	146,772	252,575	399,347	63%

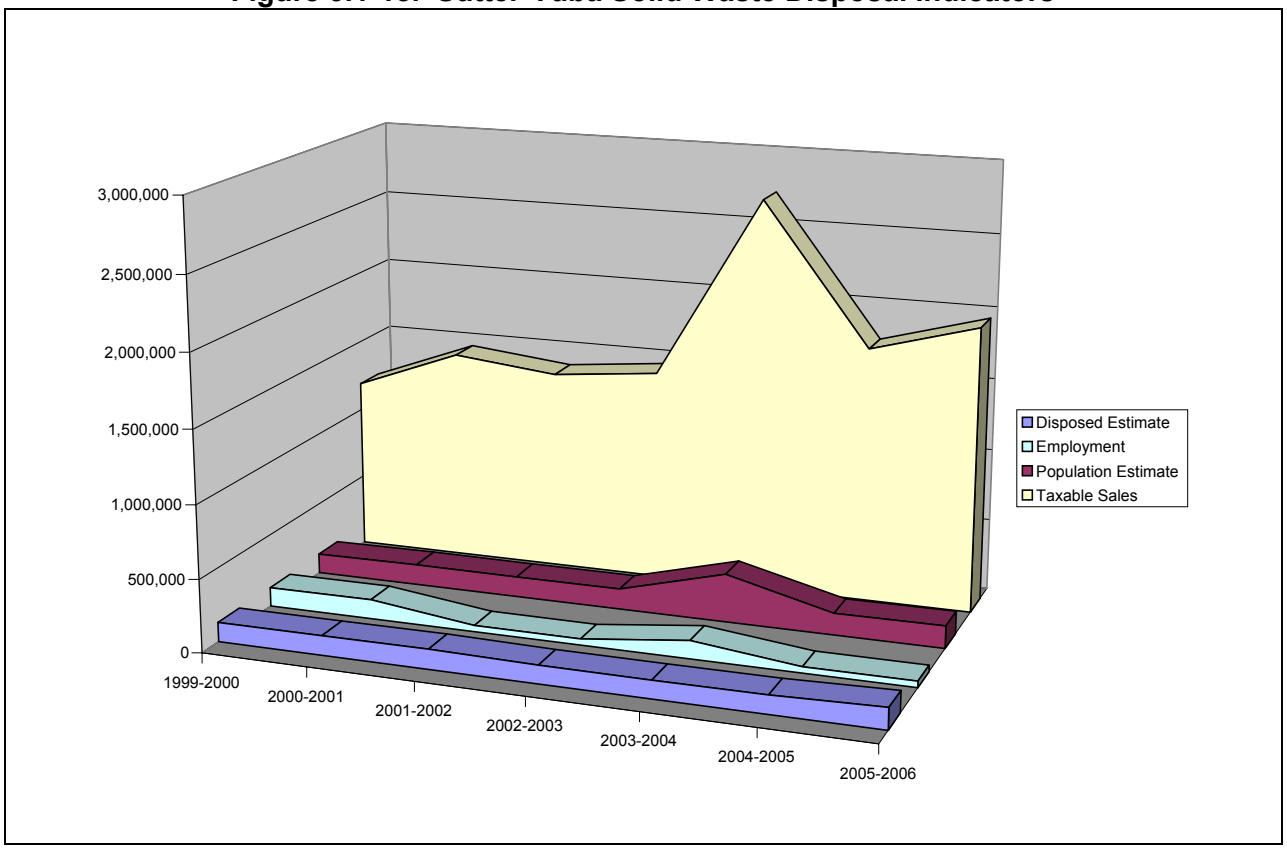
Source: California Integrated Waste Management Board, http://www.ciwmb.ca.gov/Profiles/Juris/JurProfile2.asp Jurisdiction Profile, accessed August 29, 2007.
[1]2004 diversion rate reflects the increased biomass diversion in both the counties.
Note: preliminary diversion rates subject to change with board approval.

Population, employment and taxable sales are used as area indicators for solid waste disposal rates. The Sutter-Yuba region showed positive growth in all indicators with relatively flat growth in solid waste disposal rates. With the onset of AB 939 diversion rates have steadily increased

62 California Integrated Waste Management Board, http://www.ciwmb.ca.gov/Statutes/Legislation/CalHist/1985to1989.htm, Legislation, Retrieved on 8/29/07.
63 Correspondence Waste Resource Management, 11/26/07.

over the last seven years resulting in less waste disposed in area landfills as illustrated on Figure 3.1-18.

Figure 3.1-18. Sutter-Yuba Solid Waste Disposal Indicators



Source: California Integrated Waste Management Board, http://www.ciwmb.ca.gov/Profiles/Juris/JurProfile2.asp Jurisdiction Profile, accessed August 29, 2007.
Note: preliminary diversion rates subject to change with board approval.

Solid Waste Recycling and Disposal Programs

The YSDI has several recycling and solid waste disposal programs in place within Sutter County. YSDI currently operates a materials recovery facility that extracts recyclables from the waste stream, two transfer stations, one Household Hazardous Waste Collection facility, a buy-back center and a green waste composting facility.

In conjunction with the services provided by the YSDI, the Regional Waste Management Authority provides recycling programs in the member jurisdictions that include: free tire disposal vouchers; reuse opportunities; alternative nontoxic household chemicals; waste reduction programs; school and business recycling programs as outlined in Table 3.1-5.

Recycling

Curbside recycling is available to county residents for plastic, glass, paper, cardboard, green waste, aluminum, tin, and other ferrous and non-ferrous metals. Glass and aluminum containers with a California redemption value can be recycles at the Yuba-Sutter Disposal Inc. Recycling Buy-Back Center or alternative private recycling locations as outlined in Table 3.1-6.

Table 3.1-5. Sutter County Waste Stream Diversion Programs

Type of Program	Program Implementation
Source Reduction	Backyard and On-Site Composting/Mulching
	Business Waste Reduction Program
	Procurement
	Material Exchange, Thrift Shops
Recycling	Residential Curbside
	Residential Drop-Off
	Residential Buy-Back
	Commercial On-Site Pickup
	School Recycling Programs
	Special Collection Seasonal (regular)
	Special Collection Events
Composting	Residential Curbside Green Waste Collection
	Residential Self-haul Green Waste
	Commercial Self-Haul Green Waste
Special Waste Materials	Tires
	Scrap Metal
	Wood Waste
	Concrete/Asphalt/Rubble
	Rendering
Public Education	Electronic (radio ,TV, web, hotlines)
	Print (brochures, flyers, guides, news articles)
	Outreach (tech assistance, presentations, awards, fairs, field trips)
	Schools (education and curriculum)
Policy Incentives	Economic Incentives
Facility Recovery	MRF
	Transfer Station
	Composting Facility
	Alternative Daily Cover
Transformation	Biomass

Source: Yuba-Sutter Regional Waste Management Authority, http://www.yubasutterrecycles.com, accessed November 26, 2007.

Table 3.1-6. Private Recycling Facilities

Name	Location	Materials Accepted
EH Recycling	593 Bridge St Yuba City	California Redemption Value (CRV) beverage containers.
Empire Steel	3094 N. Township Rd, Yuba City	California Redemption Value (CRV) beverage containers and scrap aluminum, copper, brass, steel and tin.
NexCycle/Bel Air Market	1286 Stabler Lane, Yuba City	California Redemption Value (CRV) beverage containers.
NexCycle/Raley's	007 W. Onstott Rd, Yuba City	California Redemption Value (CRV) beverage containers.
Recycling Industries	389 Wilbur Ave, Yuba City	California Redemption Value (CRV) beverage containers; other aluminum, plastic and glass beverage containers; cardboard, newspaper, office paper, colored paper and magazines.
Yuba City Scrap & Steel, Inc.	1312 Garden Hwy, Yuba City	California Redemption Value (CRV) beverage containers and scrap aluminum, copper, brass, stainless steel and lead.

Source: Yuba-Sutter Regional Waste Management Authority, http://www.yubasutterrecycles.com, accessed November 26, 2007.

Additional recycling opportunities are available through the Household Hazardous Waste Collection facility that recycles used motor oil, antifreeze and other vehicle fluids, batteries, paints, and varnishes. The Household Hazardous Waste Facility also maintains a Reuse Center with products such as recycled paint, gardening supplies, automotive fluids and cleaning products that are free to the public.

Electronic Waste Program

The Regional Waste Management Authority and Yuba-Sutter Disposal, Inc. have implemented an Electronic Waste Recycling Program for Yuba and Sutter County residents and businesses. The YSDI electronic waste (e-waste) program takes in about 20,000 pounds of e-waste per week. In 2005 the e-waste facility processed approximately 330 tons of material.[64] Electronic waste items can be recycled at Yuba-Sutter Disposal, Inc Transfer Station in Marysville or the Household Hazardous Waste Facility in Yuba City.

Infectious Waste

Infectious waste includes hypodermic needles, syringes and lancets, from area residents, medical and veterinary facilities. Infectious waste stored in puncture resistant containers can be dropped-off at the Yuba-Sutter Household Hazardous Waste Facility.

Construction and Demolition Debris

YSDI in conjunction with the Ostrom landfill offer designated construction and demolition debris bins that separate materials from the general landfill waste stream for further processing and recycling. Constriction and demolition debris is composed of a variety of waste materials including steel, asphalt, concrete, brick, plaster, wallboard and piping. Some materials may need additional handling due to hazardous materials such as asbestos and lead paint.

Tire Disposal Program

Proper disposal of old tires is important due to the danger to public health and safety with tires being a potential fire hazard and a potential breeding ground for rodents or insects. Through the tire disposal program Sutter County residents can request a voucher for the free drop-off of up to 19 passenger car and light truck tires at either the Yuba-Sutter Disposal, Inc. MRF or the Ponderosa Transfer Station. Tires received at these facilities are sent to a recycling facility. State law limits the number of used and waste tires that can be hauled at one time without a valid and current waste and used tire hauler registration. Waste tire bin service is also available to county businesses through YSDI.

Waste Audit Programs

The YSDI offers free waste audits available to local businesses to determine what part of their waste stream is recyclable along with the financial advantage to reducing waste flows. Through the program larger exterior recycling carts are typically provided along with smaller interior collection containers to maximize the recycling by employees. The program is free to participating businesses and is partially funded by the Regional Waste Management Authority with grants from the California Department of Conservation.

64 Hightower, Eve. Yuba-Sutter Joining Battle Against E-Waste. Appeal-Democrat, February 3, 2006.

Public Education Programs

Public education programs are provided by the YSDI and the Yuba-Sutter Regional Waste Management Authority to outline the benefits of waste reduction. Educational programs include business waste reduction education and assistance, instructional and promotional programs, award programs, and educational materials.

YSDI offers classroom presentations to area schools on waste management, recycling, and composting topics. School tours of the Marysville Material Recovery Facility, Buy-Back Center and Transfer Station are also available to promote environmental awareness. Additionally educational information links can be found on the Yuba-Sutter Regional Waste Management Authority web site including, educational games, videos, as well as information on recycling and waste management.

Financing and Revenue

Regulatory fees are collected to service the bi-county region curb side pickup, education programs and local enforcement agency such as the Regional Waste Management Authority.

REGULATORY CONTEXT

Federal and State

Solid waste management is conducted under Federal and State regulatory policies as implemented and enforced by the California Integrated Waste Management Board (CIWMB) and the Regional Water Quality Control Board (RWQCB).

Title 40 of the CFR

Title 40 of the Code of Federal Regulations (CFR), Part 258 (Resource Conservation and Recovery Act RCRA, Subtitle D) contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs incorporating the federal landfill criteria. The federal regulations address the location, operation, design, groundwater monitoring, and closure of landfills

Assembly Bill 939

Requirements set forth in federal regulations are enacted by the California Public Resources Code Sections 40000 et seq. (California Integrated Waste Management Act). The state agency charged with the permitting of solid waste facilities is the California Integrated Waste Management Board. Assembly Bill 939 (AB 939) (Public Resources Code 41780) is designed to increase landfill life and conserve other resources through increased source reduction and recycling. AB 939 requires cities and counties to prepare Solid Waste Management Plans to implement AB 939's goals, particularly to divert approximately 50 percent of solid waste from landfills. AB 939 also requires cities and counties to prepare Source Reduction and Recycling Elements. These elements are designed to develop programs to achieve diversion goals, stimulate local recycling in manufacturing and stimulate the purchase of recycled products.

State Water Quality Control Board

The State Water Resources Control Boards (SWRCB) resolution number 93-62 (Policy for Regulation of Discharges of Municipal Solid Waste) regulates the discharge of municipal solid waste that can adversely affect area water quality. The policy was adopted in 1993 to bring

discharges into compliance with the SWRCB's Title 27 regulations and with the federal MSW regulations. The policy directs each Regional Water Quality Control Board (RWQCB) to revise the waste discharge requirements for each discharger in its region who owns or operates a municipal solid waste landfill (MSW landfill) that received waste after October 9, 1991.

Local

The Yuba County Environmental Health Program serves as the local enforcement agency (LEA) designated by the County Board of Supervisors, upon certification by the Integrated Waste Management Board, and is empowered to implement local and Waste Management Board programs. LEAs have the main responsibility for ensuring the proper operation and closure of solid waste facilities in their jurisdiction. They also have responsibilities for assuring the proper containment and transportation of solid wastes.

The County Department of Environmental Health regulates hazardous material use and disposal.

The Sutter County Subdivision Ordinance section 1400-825 requires multi-family development projects to incorporate measures which address recycling and solid waste disposal for new development.

3.1.7 Energy Resources

INTRODUCTION

This chapter provides an overview of the energy trends and forecasts in Sutter County as well as the existing and potential types of energy production for the county. Information for this section was obtained from the California Energy Commission, the California Division of Oil Gas and Geothermal Resources, the State Division of Mines and Geology, and communications with staff from Pacific Gas & Electric (PG&E).

In general, consideration of energy resources in land use decision-making is absent from the planning process. Although some exceptions exist, most energy considerations of current land use planning practices relate exclusively to transportation issues: reducing the number of vehicle miles traveled (VMT), thus reducing fuel consumption, air pollution, and roadway congestion. There is also a focus on increasing density, changing zoning to allow for mixed use development, and building near transit stations to achieve these aims. An additional consideration in making planning decisions should include the host of related energy support services and infrastructure—fueling stations, transmission lines, power plants and pipelines—and the potential for distributed renewable generation and energy efficient design.

SUMMARY OF KEY FINDINGS

- PG&E provides electrical and gas service to customers within Sutter County.
- Natural gas service is provided only to the urbanized areas of Yuba City and Live Oak, and to the community of Nicolaus.
- In 2005, Sutter County consumed 568 million kilowatts of energy.
- Sutter County contains extensive natural gas deposits at the base of the Sutter Buttes and in the Meridian and Robbins Basins.

- Sutter County has a total of 922 gas wells, 293 of those in productive status.
- In 2006, the county produced roughly 25 million cubic feet (mcf) of natural gas. This represents nearly 3 percent of the total natural gas production in the state.
- Natural gas well production and permitting has become a concern to the Board of Supervisors.
- There are four existing cogeneration facilities in Sutter County. The facilities are fueled by natural gas, supporting industrial or commercial uses, while generating surplus electricity.
- Solar energy is an alternative energy opportunity in the county.
- PG&E sponsors several energy conservation programs that include education, solar energy incentives, florescent lighting business program and a weatherization program.

EXISTING CONDITIONS

Electricity Provider

Electricity purchased from PG&E by local customers is generated and transmitted to the County by a large network of power plants and transmission lines located throughout California. Most of the electrical service in the County is carried through above-ground lines. However, new urban development is now typically served by underground service. In addition, PG&E maintains a program to underground existing service lines. PG&E currently has sufficient energy supplies and distribution facilities to meet anticipated demands and growth in the county. PG&E also has two public utilities yards located in Sutter County to aid with service calls, maintenance and area outages. One maintenance yard is located on Central Street in the community of Meridian and the other yard is located on North Live Oak in Yuba City. Sutter County has five energy generation facilities composed of two peaker facilities (the Yuba City Energy Center and the Feather River Energy Center) and three cogeneration facilities that sell excess power to PG&E and the open market. There has continued to be a steady increase in electric energy use in the county with additional growth and energy needs. Natural gas has a more demand driven market and fluctuates during the years with the fluctuation of weather and temperature. As the population of the county increases, the demand for these energy sources will also increase. Table 3.1-7 shows energy consumption and number of accounts for Sutter County.

Table 3.1-7. Sutter County Energy Consumption

	Residential		Nonresidential		Totals	
	# of Accounts	Kwh Million	# of Accounts	Kwh million	# of Accounts	Kwh million
1996	27,308	221	7,550	278	34,858	498
2000	27,591	244	6,945	337	34,536	581
2005	32,035	258	7,770	310	39,805	568

Source: California Energy Commission, Quarterly Fuel and Energy Report Database.

Yuba City Energy Center

The Yuba City Energy Center is owned and operated by the Calpine company and is contracted by the State of California as a “peaker facility”, to provide additional power during periods of

high power demand in the state. The Yuba City Energy Center is located on North Walton Avenue. The facility began operation in 2002 and consists of a single combustion turbine with a base load capacity with peaking at 47,000 kilowatts (kW) of energy.[65] The electricity from the Yuba City Energy Center is dedicated for 10 years to the Department of Water Resources.

Feather River Energy Center

The Feather River Energy Center is also a peaker facility located on Burns Drive. The facility began operation in 2002 and consists of a single combustion turbine with a baselaod capacity at 47,000 kW of energy. The facility was opened in 2002 and is owned and operated by Calpine Corporation and provides electricity during times of peak demand. The electricity from the Yuba City Energy Center is dedicated for 10 years to the Department of Water Resources.

Transmission Lines and Substations

Electricity purchased from PG&E by local customers is generated and transmitted to the county by a large network of power plants and transmission lines located throughout California. Sutter County is presently crossed and served by two general types of transmission lines, comprised of local and regional lines.

The first type is the 500 kV regional transmission lines that are part of the Pacific Intertie. Which is comprised of three separate lines named the Pacific AC Intertie (PACI) that represents two of those lines, and the California Oregon Transmission Project (COTP) that represents the third line. Together, these three lines form part of the backbone of California's high voltage grid which is interconnected with other states around the west. The purpose of this line is to enhance service reliability throughout the western states with power being imported to California from the Pacific Northwest.

The second type is the 60 kV-220 kV local transmission lines that serve the specific energy needs in the county. These lines serve to move power form the larger regional transmission lines through area transformers down into the smaller local lines that ultimately serve the businesses and residents of Sutter County.

The siting of new transmission lines is regulated by the Public Utilities Commission. Currently, there are no designated transmission line corridors in the county. Any new transmission facilities would need to be evaluated on a case by case basis.

According to PG&E, there is no immediate need for new transmission lines or substations in the county. Future development of these facilities will continue to be demand driven, based on the location, type and number of new electricity users in the county.

Natural Gas Resources

Sutter County has extensive natural gas resources located throughout the western portion of the county, with the majority of the operational gas wells located in the Meridian Basin, Robbins Basin and the area around the Sutter Buttes as seen on Figure 3.1-19. One of the largest natural gas pockets is centered around the community of Grimes (Colusa County) in the Meridian Basin, just west of the western boundary of Sutter County. Transmission lines across the county transport gas from local wells in the western portion of the county as well as gas that

65 Calpine Corporation, http://www.calpine.com/power/plants.asp, accessed November 28, 2007.

is imported from Texas and Canada through a series of pipelines in the northern half of the county.

Even though Sutter County is rural in nature, much of the housing has access to county or city utilities with almost 65 percent of county households being heated by natural gas utilities as outlined in Table 3.1-8.

Table 3.1-8. Sutter County Housing Units and Type of Housing Heating Fuel, 2000

House Heating Fuel	Number of households	Percent of households
Utility gas	17,497	64.7
Bottled, tank, or LP gas	1,400	5.2
Electricity	7,024	26.0
Fuel oil, kerosene, etc	49	0.2
Coal or coke	3	0.0
Wood	899	3.3
Solar energy	7	0.0
Other fuel	61	0.2
No fuel used	93	0.3
Total Occupied housing units	27,033	100.0

Source: Bureau of Census, 2000. Census of Housing Detailed Housing Characteristics, http://factfinder.census.gov, accessed 11/30/07. QT-H8. Rooms, Bedrooms, and House Heating Fuel: 2000. Data Set: Census 2000 Summary File 3 (SF 3) - Sample Data.

As of 2007, according to the California Geological Survey, Sutter County has 922 gas wells; however, many of them have been abandoned with only approximately 293 complete wells in a productive status.[66] Figure 3.1-19 shows the approximately 922 well heads in the county, with many of them no longer operational.

Table 3.1-9 gives a breakdown of the different well types currently in the county, with approximately 49 wells in the process of being drilled. Approximately 577 wells have been plugged and abandoned with 181 of those wells still containing some natural gas resources no longer at a level for extraction.

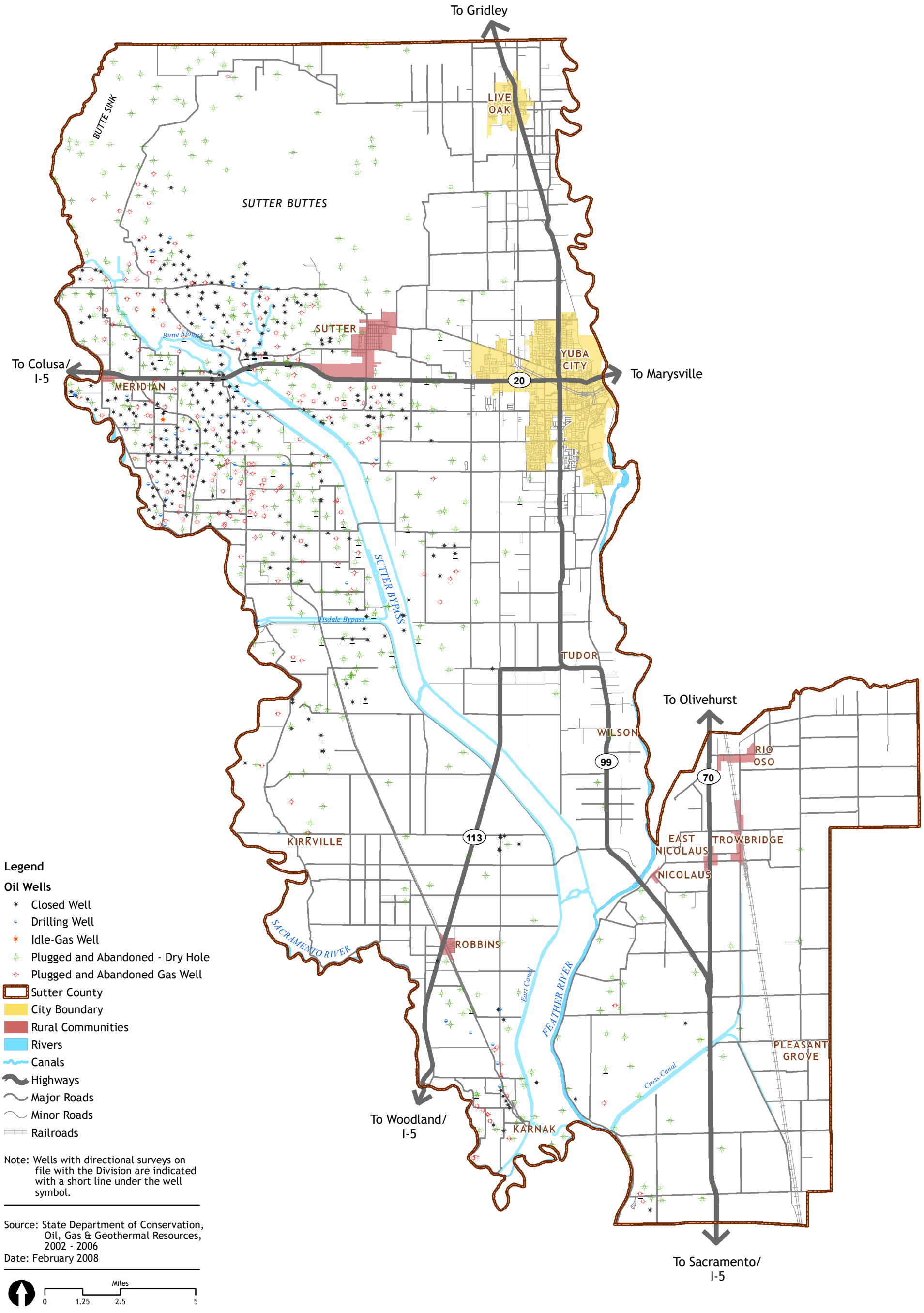
The reserve figures estimated by the California Division of Oil, Gas, and Geothermal Resources are forecasts of the proven developed and producing portion of natural gas wells and represent the most conservative estimate of the total natural gas resource that could potentially be recovered from a field or pool (Figure 3.1-19).

Table 3.1-9. County Gas Wells by Type

Gas Well Type	Amount
Complete – gas	293
Drilling	49
Idle-gas	3
Plugged and abandoned - dry hole	396
Plugged and abandoned gas	181
Total	**922**

Source: California Department of Conservation, http://www.conservation.ca.gov/dog/Pages/Index.aspx, accessed 9/19/07.

66 State Division of Mines and Geology, http://www.consrv.ca.gov/cgs/information/publications/online_maps_data.htm, accessed 10/3/07.



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OIL, GAS and GEOTHERMAL RESOURCES
Figure 3.1-19

Sutter County has permitted 286 natural gas wells over the past eight years as seen in Table 3.1-10. Current County zoning regulations allow gas wells to be permitted on land zoned Upland Agricultural (UA), Exclusive Agricultural (A-2), and General Agricultural (AG). Based on historical activity, it is likely that additional wells will be established at similar rates. Recent concern, however, has been expressed by the public and the Board of Supervisors over the existing permitting process. Changes to the regulatory environment are anticipated in the future.

Table 3.1-10. Natural Gas and Oil Well Permits Issued

Year issued	Number of permits
2000	3
2001	75
2002	27
2003	15
2004	28
2005	31
2006	52
2007	55

Source: Board of Supervisors Staff Report, September 11, 2007.

Future potential of natural gas resources in Sutter County is anticipated to be good.[67] Historically, Sutter County has produced approximately 12-16 mcf of natural gas on an annual basis. In 2006 the county produced roughly 25 mcf of natural gas as outlined in Table 3.1-11. This represents nearly 3 percent of the total natural gas production in the State of California. The Grimes Natural Gas Field, which straddles the Colusa/Sutter County border is rated as the largest gas field in Sutter County and contains the nineteenth single largest natural gas well in California.[68]

Alternative Energy Sources

Distributed generation (DG) and cogeneration are seen as potentially attractive energy resource options, both in the near-term and long-term. They can provide added capacity to meet peak demand, provide additional energy supply, and can be integrated into the current electrical infrastructure to reduce congestion. However, DG and cogeneration are, in many regards, major departures from how energy is procured, generated, and delivered to end-use customers. Therefore, policy issues need to be considered in a comprehensive, integrated approach.

In this context, DG is defined as electricity production that is on-site or close to a load center and is interconnected to the utility distribution system. In practical terms, this limits the definition of DG to less than 20 megawatts (MW) since systems larger than this would be interconnected at sub-transmission or transmission system voltages. This definition includes such technologies as photovoltaics; small wind; small biomass; small combined heat and power (CHP) or small cogeneration; small combined cooling, heat and power (CCHP); and small non-CHP systems.

67 California Division of Oil Gas and Geothermal Resources. www.conservation.ca.gov/dog/geothermal/pubs_stats/Pages/general_info.aspx., accessed November 28, 2007.

68 California Division of Oil Gas and Geothermal Resources. www.conservation.ca.gov/dog/geothermal/pubs_stats/Pages/general_info.aspx., accessed November 28, 2007.

Table 3.1-11. Sutter County Active Gas Well Production and Reserve Estimates

Field Name	Number Producing of Wells	Gas			Water
		Gross Gas (Mcf)	Cumulative Gas (MMcf)	Estimated Gas Reserves (MMcf)	water (bbl)
Butte Slough Gas	3	55,294	9,583	161	1,111
Everglade Gas	6	820,556	13,726	4,239	1,937
Grimes Gas	98	8,202,826			29,915
Grimes Gas	158	10,955,831	669,451	55,979	62,642
Karnak Gas	1	5,601	3,547	1,223	n/a
Karnak Gas	1	5,601	3,493	1,220	n/a
Kirk Gas (Forbes)	14	352,801	19,329	5,863	10,612
Pierce Road Gas	1	23,868	10,810	1,337	138
Pierce Road Gas (Forbes)		23,868	9,709	1,337	138
Robbins Gas	3	4,588	30,675		
Sacramento Airport Gas (Mokelumne River)	4	43,066	11,857		3,562
Sacramento Airport Gas (Starkey)	1	14,826	3,390	461	108
Sutter Buttes Gas	55	1,286,674	203,470	15,724	20,926
Sutter City Gas	25	1,078,604	120,002	4,612	3,899
Sutter City Gas Main Area)	25	46,708	23,224	3,135	493
Sutter City Gas (South Area)	25	610,896	96,778	1,477	3,406
Sycamore Gas	2	211,977			2,754
Tisdale Gas	16	49,4624	61,218	2,989	8,009
Tisdale Gas (Main Area)	8	249,030	48,383	1,417	4,535
Tisdale Gas	8	245,594	12,845	1,572	3,474
Tisdale Gas	7	180,302	8,625	990	3,066
Tisdale Gas	1	65,292	4,220	582	408
Verona Gas		3,284	105	163	1,043
West Butte Gas	2	44,858	3,024	426	190
Totals	**464**	**25,026,569**	**1,367,464**	**104,907**	**162,366**

Source: California Division of Oil Gas and Geothermal Resources. www.conservation.ca.gov/dog/geothermal/pubs_stats/Pages/general_info.aspx., accessed November 28, 2007.
Note: Gross gas produced is the total amount of natural gas produced from a well, without deducting for gas used on lease, shrinkage, flaring, or injection.

Cogeneration is defined as electricity and heat production that is on-site or close to the load center that could be interconnected at distribution, sub-transmission, or transmission system voltages. Cogeneration in many instances can be systems from several kW to hundreds of MW in size.[69] Sutter County currently has four cogeneration facilities as discussed below.

Cogeneration

There are four existing cogeneration facilities in Sutter County that include Greenleaf 1 and 2 owned by LFC Systems, a plant owned by Yuba City Cogeneration, and a plant owned by the Yuba City Racquet Club. All four facilities are fueled by natural gas, supporting industrial or commercial uses, and generate surplus electricity.

69 California Energy Commission, Distributed Generation and Cogeneration Policy Roadmap for California, March 2007, page 1.

Cogeneration has been used to in recent years in the county as an alternative power source that conserves energy, while making industries more self sufficient. Electricity can be produced through cogeneration of waste heat in business, industry, and governmental facilities, thus saving money and conserving energy.

There are many types of cogeneration systems, including dual-purpose power plants, some waste heat use systems, certain types of district heating systems, space heating and cooling in municipal and commercial applications, and total energy systems. By recapturing and using some of the thermal energy that is normally discharged in the industrial process, cogeneration can reduce system fuel requirements by one to 30 percent (CEC 1982).

Industrial uses offer the greatest potential fuel savings through cogeneration with its improved efficiency, greater control and increased service reliability. Industry often uses process steam in applications requiring low temperature heat (less than 400 degrees Fahrenheit), but generates steam through direct combustion of fossil fuels with resulting temperatures of over 3,000 degrees Fahrenheit. By using this high-temperature combustion heat to generate electricity, and then using the normally wasted exhaust heat for the industrial process, substantial fuel savings can be made.

Greenleaf 1 Power Plant

The Greenleaf 1 Power Plant is a gas-fired cogeneration facility owned and operated by Calpine. The facility went online in 1989 and is located on South Township Road near Yuba City. The facility is composed of a single combustion turbine that is routed to a heat recovery steam generator, which provides steam to the steam turbine. The plant's baseload and peaking capacity generates 49,500 kW, and in addition to steam generation, the plant also generates heat which is used to dry wood products.[70] Electricity generated at Greenleaf 1 is sold as thermal energy, in the form of hot exhaust, to a thermal host that is owned and operated by Calpine.

Greenleaf 2 Power Plant

The Greenleaf 2 Poser Plant, like Greenleaf 1, is a gas-fired cogeneration facility. Greenleaf 2 is located on Walton Avenue in Yuba City. The facility consists of two combustion turbine generators (CTGs), two heat recovery steam generators (HRSGs) with duct burners and a steam turbine generator (STG). The CTG's exhaust gases will be used to generate steam in the HRSGs. In turn, the steam from the HRSGs will be admitted in to a condensing steam turbine for additional electrical power generation. The plants baseload and peaking capacity generates 49,000 kW.[71] Electricity generated by the Greenleaf 2 Power plant is sold to PG&E under a power sales agreement until the year 2019, which includes payment provision for capacity and energy. In addition to the sale of electricity to PG&E, the Greenleaf 2 faculty sells thermal energy to Sunsweet Growers, Inc. pursuant to a 30-year contract.

Racquet Club Cogeneration Plant

The Yuba City Racquet Club, located on Jones Road, has a small cogeneration facility that generates 60 kW of power.

70 Calpine Corporation, http://www.calpine.com/power/plants.asp, accessed November 28, 2007.

71 Calpine Corporation, http://www.calpine.com/power/plants.asp, accessed November 28, 2007.

Potential Energy Sources

Several potential energy sources have been identified as viable energy production systems for Sutter County these include several forms of waste to energy and solar energy. Other energy production systems were looked at for the county and found to be not viable for large scale energy production; these include hydroelectric, geothermal and wind energy.

WASTE TO ENERGY

There are currently no waste to energy (WTE) facilities in Sutter County; however, future development of energy using a form of waste to energy process could potentially be utilized. There are several types of WTE conversion processes including: biomass, digester gas, municipal solid waste, and landfill gas. The Biomass process uses steam boilers to burn green waste and other organic matter, to produce energy. The Digester Gasification process can be used in oil fired boiler conversions to produce energy from a cleaner source, by burning chemically treated human and animal waste and other organic byproducts to produce energy. This process involves the collection and processing of locally collected garbage which is then burned to produce energy and electricity. The gas is collected and burned to produce energy and electricity. WTE facilities are typically located near their primary fuel source to minimize the transportation of fuel to the conversion site. Another essential siting requirement is proximity to electrical transmission facilities with available capacity.

SOLAR

Sutter County has been identified as having a reasonable potential for solar energy development. The most common solar development is small scale residential use. Although there are presently no solar producing facilities or "solar farms" in the county, the following discussion addresses the potential for solar production in Sutter County.

1. Solar-thermal processes, in which sunlight is collected and transformed into heat energy.
2. Photovoltaic processes, in which sunlight is directly converted into electrical energy.

Each of these processes can be used in a variety of applications. For example, solar-thermal and photovoltaic processes can be used for heating buildings or, under proper conditions, can generate steam to operate electrical generating boilers. Additionally, a solar energy production facility could be developed in a large open area to mass produce energy. Produced electricity could be tied into the local transmission lines to aid in serving the overall energy needs of Sutter County.

Given Sutter County's climatic conditions, the technical potential for solar development is almost unlimited. New solar projects proposed in Sutter County are regulated by the California Energy Commission (CEC). Typically, the CEC reviews only projects over 50 MW.

REGULATORY CONTEXT

The California Energy Commission (CEC) maintains jurisdiction over WTE facilities with generated capacity of 50 MW or greater. For projects less than 50 MW, the California Waste Management Board (CWMB) acts as an advisory agency and reviews all applications. The permit process for these smaller projects is handled by local agencies, such as the Sutter County Community Services Department and the Feather River Air Pollution Control District.

The Solar Shade Control Act prohibits the planting of any tree or shrub on property adjacent to a previously installed solar collector which would block the collector during 10:00 a.m. and 2:00 p.m. The Solar Rights Act specifically recognizes the legality of easements for solar access between property owners; prohibits ordinances or covenants restricting the use of solar systems; and requires tentative subdivision maps to provide for solar access.

Energy Conservation

PG&E sponsors several energy conservation programs that include education, solar energy incentives, florescent lighting business program and a weatherization program for low income families. These services are intended to reduce energy consumption in homes through the replacement of inefficient appliances and minor housing repairs, making the home more energy efficient. Consumers will also receive valuable educational materials that provide useful energy saving tips and information.

Additional conservation measures can be encouraged through programs and policies that address areas within the county that are can potentially reduce energy consumption by reducing wasteful energy consumption practices and habits.

Home Construction

Implementation of energy conservation measures during construction of new homes is easier and more cost effective than improving the energy efficiency of existing homes. However, since today's existing building stock is responsible for the major bulk of energy consumption, it is imperative to encourage energy conservation measures in existing structures. Options for reducing local energy use in old and new buildings are discussed below in terms of the energy uses of space heating, water heating, lighting systems, appliances, industrial processes, plumbing, and transportation and land use.

Environmental and cost concerns tend to provide greater incentives to save energy. Title 24 of the California Administrative Code contains provisions for energy conservation in new residences. These provisions are currently enforced by the Building Inspection Program, and create energy savings of approximately 50 percent over residential construction practices used prior to their enactment. It should be noted that failures to build certain efficiencies into the design of long-lived buildings are often irreversible for the lifetime of the building.

Space Heating

The efficiency with which a structure can be heated and cooled depends on a number of factors, including the type of energy used, orientation and construction of the building, amount of insulation in the building, type of heating and cooling equipment used, and habits of the building's occupants.

Electrical heating appliances are more efficient at the point of use than are natural gas appliances. However, the considerable amount of primary energy required to generate and distribute electricity results in a very inefficient use of this energy form. There are substantial energy losses in the conversion process, particularly in a fossil fuel power plant and in the transmission of electricity to the buildings where it is used. Small energy losses occur in the transport of natural gas from its source to the final place of consumption and, overall, natural gas presents a much higher efficiency than electricity. On the whole, gas space heating is 60-75 percent efficient, compared to electric space heating efficiencies of 30-40 percent. Title 24 contains provisions discouraging the use of electric space heating in new buildings.

Whether equipped with gas or electricity, there are many opportunities for increasing the efficiency of space heating and cooling. The type of unit built and its orientation, size, and volume contribute to the resulting energy requirement of the building. Generally, buildings which share common walls, such as multi-family and some commercial units, use significantly less energy than detached structures. Common walls reduce the outside surface-to-volume ratio of each unit, so there is less surface area through which heat can pass. Building orientation is also an important factor in determining the amount of energy required for space heating and cooling. Buildings oriented in a north-south direction can take maximum advantage of solar radiation and therefore reduce heating energy needs. In addition, adequate landscaping, providing shading in summer and solar access in winter, can maximize the use of solar designs in space heating and cooling.

The resistance of a wall, ceiling, or floor to heat flow, known as the "R-value", is directly related to the extent of insulation. The greater the "R" value of an insulating material, the greater resistance it has to heat flow. A well-insulated house will have a minimum of R-11 insulation in the walls and R-19 in the ceiling. Under-insulated homes have ceiling insulation rated at less than R-19, typically R-7 or R-11. Improvement of the insulation level of existing houses or apartments, an operation known as retrofitting, can substantially reduce the energy required for space heating. It is estimated that adding R-19 ceiling insulation to an uninsulated residence can save between 20 to 30 percent of the energy necessary for heating.

Windows and exterior doors are major sources of heat losses in a building. Adequate weather-stripping for doors and windows can help reduce air leaks and consequently reduce the heating requirements of a structure. The use of thermopane windows can also contribute to a reduction in energy consumption and can prove to be cost effective.

In addition to the above mentioned energy conservation measures requiring physical changes in a structure or its site, energy savings are achievable if the building occupants are willing to make some behavioral changes. Setting back the thermostat at night can reduce furnace energy use. Shutting off the pilot light on a residential furnace during the warm seasons can reduce annual furnace energy use. Lowering the winter thermostat temperature setting and raising the summer setting reduces the rate at which heat flows in and out of a structure.

Even though most of the energy conservation options discussed above are directed primarily at reducing heating loads, these same measures will often reduce cooling loads as well.

Title 24 establishes required levels of thermal performance for new residential and non-residential buildings. The standards include insulation requirements for ceilings, walls, and floors and weather-stripping requirements for all exterior doors and windows.

Water Heating

Inefficient energy use for water heating results from the use of electric resistance water heaters, little or no insulation around the water heater tank, maintenance of water at a higher temperature than needed, and wasteful use of hot water.

As with space heating, electricity is much less efficient than gas for heating water. Another major source of inefficient thermal performance is the lack of adequate insulation around the hot water tank. Installation of a tank insulation jacket (a layer of R-6 insulation) around the tank's exterior can substantially reduce annual energy requirements for heating water. Reducing the thermostat setting on a typical heater by 10°F and adding shower and faucet flow restrictors can cause additional energy savings. Flow restrictors save energy by reducing the amount of hot water used and the amount of energy required for water pumping.

Title 24 standards for new residential and non-residential buildings set a number of requirements for water heating. The use of electric resistance water heating is discouraged due to its inefficient use of energy. Performance standards are set for all plumbing fixtures to limit water flow, and insulation is required for water pipes that traverse unheated spaces.

Lighting Systems

Typically, the largest single commercial use of energy is for lighting. Lighting is also an important use of energy in the residential sector. Lighting systems, particularly in commercial buildings, tend to uniformly light the interior space. Often the activities occurring do not require the same level of lighting throughout the building; therefore, considerable energy is wasted by unnecessary light fixtures. Additional energy is wasted because lighting adds heat to the building interior, requiring air conditioning equipment to operate longer.

In existing buildings, these inefficient lighting systems can be replaced with more efficient task-oriented lighting which selectively illuminates activity areas. Other options for reducing the energy requirements of lighting include: disconnecting unnecessary light fixtures (delamping) and replacing incandescent lights with more energy efficient fluorescent or sodium-vapor lighting (relamping). It is estimated that lighting energy savings of 25-50 percent are possible by employing these conservation options.

Title 24 Building Codes include illumination efficiency standards for new non-residential building interiors. The standards are based upon the type of activities carried out within a structure.

Appliances

There are a number of voluntary options for reducing energy use by existing appliances. Most of these are aimed at reducing the duration and frequency of appliance use. The more significant options for space and heating appliances have already been described (i.e., setting back thermostats). Utility companies also recommend the following measures to residential customers:

- Check the seals around the door edges of refrigerators and freezers and make sure they are in good condition. Keep the condenser clean so that it can operate most efficiently. Keep manual units as frost-free as possible.
- Skip the drying cycle and prop dishwasher doors open to air dry dishes. Wash only full loads. Use short-wash cycles as much as possible.
- Use cold water in clothes washers whenever possible. Wash full loads only. Use a clothesline instead of a dryer.
- Clean filters regularly in furnaces and heaters. Maintain heater outlets and air intakes in a clean condition.
- Avoid preheating oven. Do not use small pans on large cooking elements. Cover pots and pans as much as possible.

Like buildings, appliances were designed to reduce manufacturing costs and be fairly durable. Now that energy costs have made operation of appliances more expensive, there is sufficient reason to design and use equipment which is more energy efficient.

In order to prevent the continued manufacturing of energy inefficient appliances, California has adopted energy efficiency standards for new appliances (known as Title 20) which require significant energy consumption. At present, standards have been adopted for the following

appliances: electric refrigerators, freezers and combined units, gas space heaters, water heaters, plumbing fittings, gas clothes dryers, gas cooking appliances, and air conditioners.

These standards apply to new appliances retailed in California, regardless of where they are manufactured. Typically, the standard for each appliance is stated as a required measure of operation efficiency. Most of the standards include two or more implementing phases, so that manufacturers will have sufficient time to make the necessary design and production changes and to clear present stock inventories. Following each phase deadline, an appliance cannot be sold in California unless it has been tested and certified as complying with the standards.

Industrial Processes

A large potential exists for improving the energy efficiency of industrial operations. However, as with non-residential buildings, the diversity among industries means that no single conservation measure is broadly applicable. Conservation measures must be identified on a plant-by-plant basis. Some of the general options for achieving industrial energy conservation are summarized below. Monitoring of industrial processes can lead to improvements in energy efficiency. Changes in the timing of processing operations or in the monitoring practices themselves can result in substantial energy savings. Maintaining optimal boiler efficiencies by monitoring flue gases and adjusting boiler equipment is one example. The use of automatic timing devices on equipment which is used only intermittently is another option.

Modifying industrial equipment to improve its energy efficiency generally requires substantial investment, but the energy and dollar savings can be significant. Installing equipment to recover and use waste heat given off by process hot water, steam, and other heat sources to generate electricity (cogeneration) is already successfully in use in the county.

New processes coming into use for a number of industries will significantly decrease the energy requirements of new plants and equipment. In the design of new plants and processes, there are often capital or labor-intensive alternatives available which will save energy compared to the more economic options. With today's increasing energy prices, these energy conserving alternatives are becoming more economic as the energy cost savings potential begins to offset the added capital costs.

Pumping

Water pumping is conducted mainly through the use of electricity. Most of this end use is attributable to pumping water to irrigate crops. State programs are available for the peak load of electrical energy used for agricultural water pumping. Further study of using time-of-way pricing to promote crop irrigation during off peak, night time hours could be appropriate. The energy efficiency of all pumping can be improved with adjustments to, and maintenance of, pumping equipment.

Transportation and Land Use Planning

The increased energy consumption associated with development patterns contribute to increased air pollution and other environmental problems. Suburban residential development located far from employment, commercial, and transit routes require greater dependence on the automobile; development of outlying areas makes the provision of transit and other public services more costly and less efficient; and low density land use plans that provide low density, detached development requires more energy for use in space heating and cooling compared to higher density units with common walls. The relationships between energy consumption, land use planning, and air quality have been determined in the past years, and are reflected in documents such as Air Quality Attainment Plans.

Utility Assistance Programs

A number of programs are offered to county residents that need assistance with utilities. The Community Resource Project, Inc. (CRP) is a nonprofit organization that helps potential low income families' access resources to help with heating, cooling and other energy costs.

The CRP office is located on Burns Drive in Yuba City offering application assistance for programs addressing Utility Payment Assistance, Energy Crisis Intervention, and home Weatherization. A specialist will assist customers with completion of a simple one-page application.

PG&E's sponsors the California Alternate Rate for Energy (CARE) program that assists low income families with energy costs by offsetting the monthly PG&E bill. The CARE program is based on household size and annual income. Eligible households will receive a 20 percent discount on their energy bills.

The Home Energy Assistance Program (HEAP) is a federally funded program that provides financial assistance to eligible, low-income families to offset the costs of heating and/or cooling. Assistance is in the form of a direct payment to a utility company on behalf of an eligible applicant. Eligibility is based on the household's total monthly income, which cannot exceed the HEAP income guidelines.

REGULATORY CONTEXT

Federal and State

The California Energy Commission (CEC) is responsible for establishing statewide energy policies which guide energy development, distribution and conservation. In carrying out this function, the CEC determines the probable demand for various energy sources and develops programs to assure the efficient delivery of energy resources to the consumer, at a reasonable price. The CEC is authorized by the Warren-Alquist Act of 1975 to regulate the siting of all thermal power plants larger than 50,000 kW, including cogeneration plants.

Supplies of natural gas transported to and from Sutter County are subject to California Public Utilities Commission (CPUC) and Department of Energy (DOE) regulation.

The energy consumption of new buildings in California is regulated by State Building Energy Efficiency Standards, Title 24. These are contained in the California Code of Regulations, Title 24, Part 2, Chapter 2-53. Enforcement of the regulations is addressed in the California Code of Regulations, Title 20, Chapter 2, Subchapter 4, Article 1. Title 24 applies to all new construction of both residential and non-residential buildings, and regulates energy consumed for heating, cooling, ventilation, water heating, and lighting. Title 24 is the minimum requirement for energy efficiency. All cost effective efficiency is not necessarily installed in projects.

There are numerous other federal and state regulations which establish cogeneration requirements regarding fuel use (Federal Fuel Use Act - FUA, and Natural Gas Policy Act - NGPA), power exchanges (Public Utility Regulatory Polices Act - PURPA), environmental quality, financing and ownership.

The State Division of Mines and Geology are the oversight agency for all Natural Gas in the state of California

Local

Natural gas wells within the county are subject to Sutter County siting and operational requirements under section 1500-8018 of the County Zoning Code. Sutter County has regulatory power over power generation facilities to ensure compliance with local general plan and zoning provisions. For projects under 50,000 kW, the County would be the lead agency and would conduct the environmental review required under CEQA.

3.1.8 Telecommunications

INTRODUCTION

This section discusses the telecommunication services provided within Sutter County, including, telephone, internet, and cable services. Information for this section was obtained from the California Utilities Commission, the 2000 housing census, and local service providers.

Telecommunications link people with information and with each other. In a dynamic world market businesses rely on telecommunication services to build their market base and increase their competitiveness regionally, nationally and internationally. Technology in the last several years has transformed the telecommunications business with faster high speed DSL, fiber optics, and digital voice services. Telecommunications companies are diversifying services providing customers multiple services as bundle packages to meet customers growing needs.

SUMMARY OF KEY FINDINGS

- SBC/AT&T California provides telephone service for the entire County. The main office is located in Sacramento. Currently, most of the SBC/AT&T service lines within the County are above ground.
- Although telephone service is available throughout the County over 500 residents do not have phone service as of the 2000 census.
- High speed DSL is limited to customers no further than 18,000 feet away from a serving central office or remote terminal.

EXISTING CONDITIONS

Recent mergers have streamlined the carriers currently offering telecommunication services in Sutter County. Many of the companies have bundled services to offer residents and businesses telephone, internet and television broadcast services as one package. Telephone land line service is also changing with more companies offering digital voice messaging through cable services and wireless networks taking the place of traditional land line service.

Landline and cellular telephone service is available in all areas of Sutter County. High-speed internet capabilities are available to those areas located within or in close proximity to the city limits. Although telephone service is available throughout the county, over 500 residents do not have phone service as of the 2000 census as outlined in Table 3.1-12. With the increase in cellular telephone use and expanded service coverage, home landline phone service may decrease in the coming years.

Table 3.1-12. Tenure by Telephone Service Available, 2000		
Owner-occupied housing units		
With telephone service	16,495	99.3%
No telephone service	120	0.7%
Renter-occupied housing units		
With telephone service	10,022	96.2%
No telephone service	396	3.8%
Source: 2000. Census of Housing Detailed Housing Characteristics, http://factfinder.census.gov, accessed 11/30/07.		

Telecommunication Service Providers

SBC/AT&T California

SBC/AT&T California, formerly Pacific Bell, is the primary service provider in Sutter County for local and long distance telephone service, digital satellite television, data communications and high speed internet. SBC has laid fiber optic lines in all new developments and continues to convert older copper coaxial cable to fiber optic lines. Fiber optic lines are replacing traditional copper lines in most new construction because of the lower overall price and controls by the service provider on line access.

Telephone Service

AT&T Local Services supplies data communications, 911 service, high-speed local and long distance telephone service to Sutter County.

SBC/AT&T provides short haul and local toll call telephone service for the entire County with long distance provided through contract with outside affiliates. The main office is located in Sacramento. Currently, most of the SBC/AT&T service lines within the County are above ground. Underground service has become more common for new projects, in or adjacent to, developed areas of the County. SBC/AT&T participates in a joint undergrounding program with PG&E and has been incrementally undergrounding service in the urban areas of the County.

Internet Service

AT&T Broadband for DSL internet service is offered throughout Sutter County; however, high speed DSL is only limited to customers located within 18,000 feet from a serving central office or remote terminal.

Television Service

AT&T provides digital DISH network throughout the Sutter County area accessed via satellite. TV service from AT&T | DISH Network was launched in 2004, offering consumers a choice for their entertainment service.

Comcast

Comcast provides cable television service in Sutter County. In addition to its own facilities, it leases certain fiber optic cable capacity from AT&T Local Services. Comcast serves Sutter County with a combination of underground and overhead fiber optic cable and copper coaxial cable. Additional improvements or relocations of hub sites are generally made as the need arises to meet customer demand.

Basic Broadcast Service

Broadcast media is also available in the county from out-of-the-area access via microwave relay, and at local radio stations. Most of the television stations broadcast out of Sacramento.

Cellular Phone Service

Several cellular phone companies offer wireless phone services in the county such as, Sprint, Cingular/AT&T, T-Mobil, Verizon, Metro PCS, Virgin Mobil and Net 10. Cellular tower locations along with some underground facilities connect customers to wireless and long distance telephone service in most of Sutter County. Additional cellular towers are planned for the Sutter County area to provide better wireless service.

Electric Lightwave, Inc.

Electric Lightwave, Inc. (ELI) provides data communications, point to point internet feed, T1 internet access, and long distance voice communication in the Sutter County area. ELI serves the Sutter County area with a combination of underground and overhead fiber optic cable and copper cable. The company has fiber optic connections to most SBC switching sites. Some customer sites may be connected to ELI facilities using SBC's T-1 connections. Additional improvements or relocations are generally made as the need arises to meet customer demand.

REGULATORY CONTEXT

State & Federal

The State of California Utilities Commission oversees all emergency telecommunication services, consumer protection, service reform, area code and regulation of service rates.

There are no federal regulations that directly affect telecommunications systems within Sutter County.

Local

Sutter County Zoning Code Division 95 regulates wireless communication facilities and siting to encourage the appropriate location and development of wireless communication facilities.

3.2 MOBILITY

This section describes the existing transportation system within Sutter County and provides details on the various modes of transportation available within the county. This section also summarizes information on existing transportation deficiencies, proposed transportation projects, and planned operational improvements.

Key components of the mobility system include:

- Streets and Highways (Section 3.2.1)
- Transit and Rail (Section 3.2.2)
- Bikeways (Section 3.2.3)
- Air Travel and Airports (Section 3.2.4)

The mobility system is critical in ensuring the efficient movement of goods and people through Sutter County and is an essential component in the economic development of the county. The importance of alternative modes of transportation continues to increase as air pollution, fuel costs, and traffic congestion increases.

3.2.1 Streets and Highways

INTRODUCTION

This section describes the street and highway network in Sutter County, presents the existing operating conditions on major roadways, and identifies future planned roadway improvements. This section also discusses truck routes and accident rates in the county. Information for this section was obtained from applicable reports and studies prepared by Sutter County and Caltrans and through communications with staff from the Sutter County Public Works Department.[1]

SUMMARY OF KEY FINDINGS

- Sutter County is served by a system of primarily rural roadways. Automobile travel is the primary mode of transportation throughout the county.
- State Route (SR) 20, 70, 99, and SR 113 are the primary regional transportation corridors within the county. SR 20 serves east-west regional travel and, SR 70, 99, and 113 serve north-south regional travel.
- SR 99 is of particular importance to Sutter County as it accommodates large volumes of truck traffic and also connects Sutter County to Butte County and to the Sacramento Metropolitan Area.
- Several natural and manmade barriers to the circulation system exist in Sutter County including the major rivers, the Sutter Bypass, and railroad lines.

1 James Walton, Public Works Engineer 2.

- Sutter County has adopted LOS "D" as the minimum acceptable standard for county roadways. All county roadways are operating at LOS "C" or better and therefore currently meet the adopted standard.
- Caltrans has adopted LOS "D" as the minimum acceptable standard for SR 20 west of Humphrey Road and LOS "E" as the minimum acceptable standard for SR 20 east of Humphrey Road. SR 20 is operating at LOS "C" or better and therefore currently meets the adopted standard.
- Caltrans has adopted LOS "D" as the minimum acceptable standard for SR 70. SR 70 is operating at LOS "E" and therefore currently does not meet the adopted standard.
- Caltrans has adopted LOS "E" as the minimum acceptable standard for SR 99. SR 99 is operating at LOS "E" or better and therefore currently meets the adopted standards.
- Caltrans has adopted LOS "D" as the minimum acceptable standard for SR 113. SR 113 is operating at LOS "C" or better and therefore currently meet the adopted standard.
- Local truck traffic along rural roadways is a significant safety and maintenance concern for Sutter County.
- A total of 840 traffic accidents were reported on unincorporated roadways within Sutter County between 2003 and 2007. A high proportion of the accidents occur at or near the State highway access points (i.e., the junctions of the State highways and Sutter County roadways).
- There are a number regional highway and roadway improvements identified in various Caltrans corridor studies and route concept reports, as well as in the draft 2035 Regional Metropolitan Transportation Plan prepared by SACOG. Included are improvements to SR 99, SR 70 and SR 20.
- The South Placer Regional Transportation Authority and the Federal Highway Administration, in cooperation with Caltrans, are working to select a route and ultimately construct Placer Parkway—a new east-west roadway linking SR 65 to SR 70/99 through southern Sutter County.

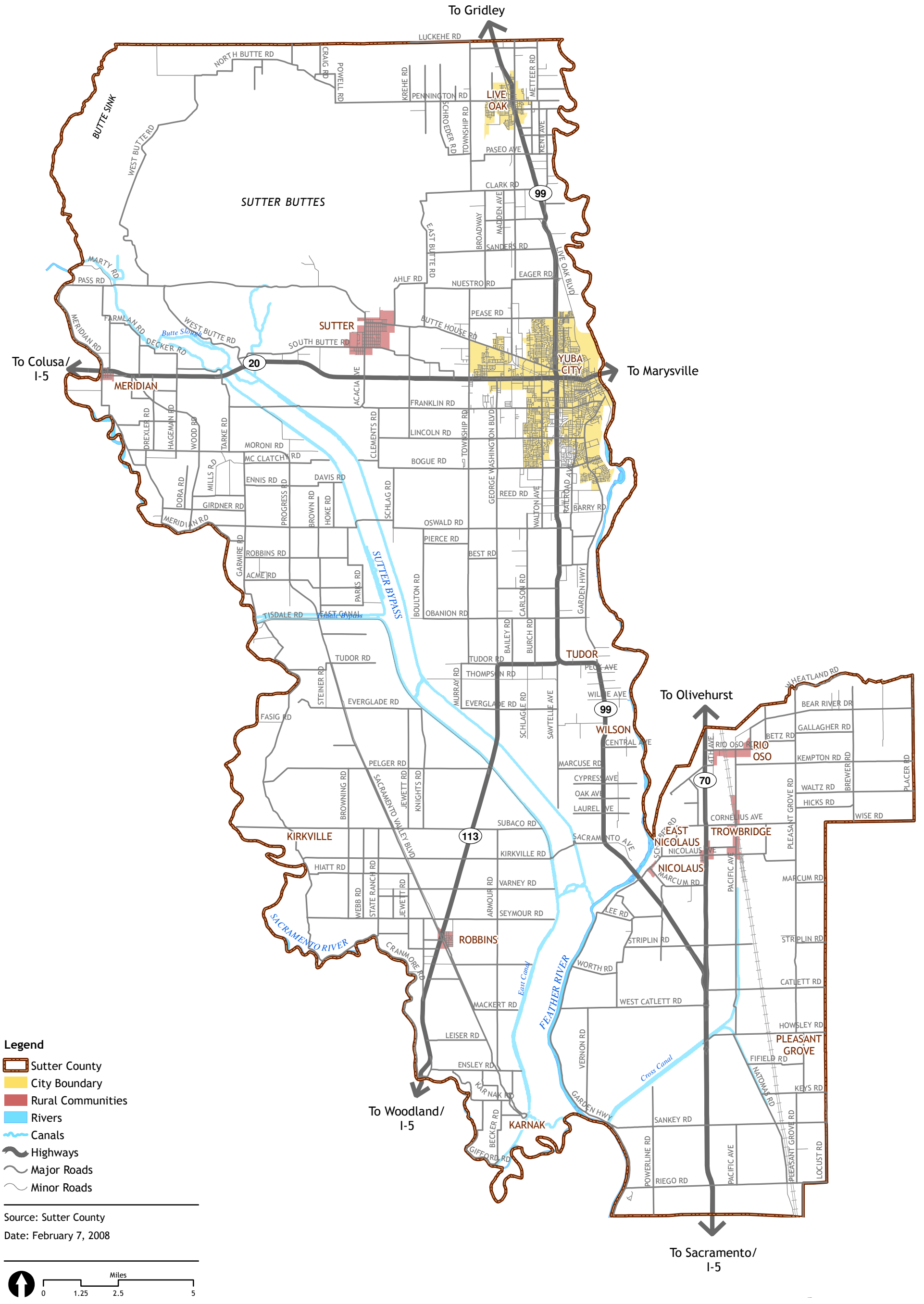
EXISTING CONDITIONS

Existing Street and Highway System

Sutter County has approximately 1,107 miles of public roadways including the roadways within the incorporated cities. These roadways carry an estimated 663 million vehicle miles of travel demand annually.[2] Table 3.2-1 shows road miles by jurisdiction in Sutter County and Figure 3.2-1 shows the roadway network system in the county.

The roadways in Sutter County lie predominantly in north-south and east-west directions. SR 20 and SR 99 are the primary regional transportation corridors within the county. SR 20 serves east-west regional travel providing connection to Yuba County and beyond to the east, and Colusa County and beyond to the west. SR 99 serves as the north-south regional travel corridor providing connection to Butte County and beyond to the north, and Sacramento County

2 Daily traffic volumes from the SACOG (2005) SACMET model were summarized to estimate 2005 VMT.



Roadway Network
Figure 3.2-1

Table 3.2-1. Roadway Miles in Sutter County by Jurisdiction

Jurisdiction	Miles
Sutter County	788
State of California	84
City of Yuba City	215
City of Live Oak	20
Total	**1,107**

Source: 2006 California Public Road Data, Statistical Information Derived from the Highway Performance Monitoring System. Caltrans, (July, 2007).

and beyond to the south. SR 70 and SR 113 are two other State highways that support north-south regional travel. This regional system of State highways is interconnected by a system of major (arterial / collector) and minor (local) county roads; the combination of regional and local roadway systems compliment each other to support the basic movement of goods and people.

Physical Constraints

Physical constraints to the County's circulation system include both natural and man-made barriers that limit roadway connections and alignments. The main natural barriers to travel are the three rivers (Sacramento, Feather and Bear Rivers) that border Sutter County. The Sacramento River flows along the majority of both the Colusa and Yolo County lines. The Feather and Bear Rivers flow along the Yuba County line from the north and east, respectively. Downstream of the Bear River's confluence with the Feather River, the Feather River flows diagonally through the southern part of the county before entering the Sacramento River. The major man-made barrier to travel in Sutter County is the Sutter Bypass, bisecting the county from the Sutter Buttes in the northwest to the Sacramento River in the south.

Functional Classification and Roadway Design Standards

Sutter County's streets and highways are organized in a hierarchy according to their functional classification. This hierarchy recognizes the distinct stages which are involved in making a trip; primary movement on highways and arterials, collection / distribution on collectors, and access with termination on local streets. In addition, the streets are also classified as rural and urban to reflect the areas and the type of traffic the streets serve. It is necessary to understand that the service provided by the rural and urban roadways is different in character. Often rural roadways serve dual functions, i.e., distribution as well as termination / access.

The following is a brief discussion of different types of roadways classified by the function they serve. The first two classifications serve both rural and urban areas by providing travel on important, usually high volume, corridors.

State Roadways (Freeways and Expressways)

Freeways and expressways serve both inter-regional and intra-regional circulation needs. These facilities are typically accessed by collector or arterial roadways and have few or no at-grade crossings. These facilities have the highest carrying capacity.

Regional Highways

Regional Highways are classified as Rural Arterials and are used as primary connections between major traffic generators or as primary links to State and interstate highway networks. Such routes often have long sections through rural environments without traffic control interruptions.

Urban Roadways

- **Urban Arterials** provide intra-city circulation and connections to regional roadways. They are fed by both local and collector streets. Even though the principal function of these roadways is movement, occasionally they provide access to adjacent properties, especially in commercial areas.
- **Urban Collectors** accumulate traffic from local roadways and distribute that traffic to roadways that are higher in the classification hierarchy. Collectors also provide access to adjacent properties. These roads carry light to moderate traffic volumes.
- **Urban Local** roads provide direct access to adjacent properties and are typically designed to discourage through-traffic. Urban local roads also provide access to collector roadways carrying very low traffic volumes.

Rural Roadways

- **Rural Arterials** provide primary connections between rural areas and also distribute traffic between rural and urban areas. In addition, rural arterials provide considerable statewide and interstate circulation.
- **Rural Collectors** typically serve intra-county rather than regional or statewide circulation needs. Their primary function is to provide access to adjacent properties and connections between rural local roads and other roadways that are higher in the classification hierarchy.
- **Rural Local** roads provide access to adjacent properties and distribute traffic to rural collectors. They differ from their urban counterparts in their design cross section and location. Major Roadways in Sutter County.

Following is a brief description of important roadways that serve Sutter County.

Freeways

- **State Route 99** between Highway 20 and to a point north of Eager Road is the only freeway segment in the county. The SR 99 freeway segment starts from north of SR 20 in Yuba City as a four-lane facility with interchanges at Queens Avenue, Pease and Eager Road. Just south of Encinal Road, the freeway segment transitions to a two-lane roadway.

Regional Highways

- **State Route 20** is a two, four and six lane roadway which extends through Sutter County from Colusa County to Yuba County. This roadway is one of the two roadways that cross the Sacramento River in Sutter County.
- **State Route 70** is a two-lane roadway which extends from the Yuba County line in the north, south to a junction with SR 99. At the junction with SR 99, SR 70 continues south as SR 70 / 99 to the Sacramento County line. The roadway provides regional access to the cities of Sacramento and Marysville.
- **State Route 99** extends from the Sacramento County line north through Sutter County to the Butte County line. The roadway has two and four lanes over its length and provides regional access to the Sacramento metropolitan area in the south and the cities of Gridley and Chico in the north and beyond.

- **State Route 113** within the county extends from the Yolo County line over the Sacramento River to SR 99 near the community of Tudor. This two-lane roadway is one of the two roadways that cross the Sacramento River in Sutter County.

Major Urban and Rural Roadways

- **Acacia Avenue** is a two-lane north / south roadway that extends from Pass Road in the north to Franklin Road in the south. This roadway provides access to SR 20 for the community of Sutter.
- **Bear River Drive** is an east / west two-lane roadway extending from the Placer County line in the east to slightly beyond Swanson Road in the west.
- **Bogue Road** is an east / west two-lane roadway extending from Rapid Water Way in the east to Clements Road in the west. This roadway provides access to SR 99.
- **Broadway** is a north / south two-lane roadway extending from Clark Road in the north to Nuestro Road in the south.
- **Butte House Road** is an east / west two-lane roadway that extends from Acacia Avenue in the west to Yuba City in the east and provides access between the communities of Yuba City, Tierra Buena and Sutter.
- **Cranmore Road** is a north / south two-lane roadway aligned along the Sacramento River from Tisdale Bypass in the north to SR 113 in the south. This roadway provides regional access to the communities of Knight's Landing, Cranmore and Kirkville. Cranmore Road along with Garmire Road and Meridian Road is part of the roadway system that fronts the Sacramento River in Sutter County.
- **East Butte Road** is a north / south two-lane roadway extending from Clark Road in the north to Butte House Road in the south. This roadway is part of a circulation system that encircles the Sutter Buttes.
- **El Margarita Road** is a north / south two-lane roadway that extends from Jefferson Avenue in the north to the Colusa Highway frontage road in the south and continues from SR 20 to Franklin Road.
- **Encinal Road** is an east / west two-lane roadway that extends from SR 99 in the east to Broadway in the west.
- **Franklin Road** is an east / west two-lane roadway between Tarke Road and Garden Highway. This roadway is located to the south of and provides an alternate route parallel to SR 20 through a major part of the county.
- **Garden Highway** is a north / south two-lane roadway that extends from Second Street in Yuba City and continues south joining SR 99 near Tudor. Garden Highway diverges from SR 99 near Nicolaus and extends south along the Feather River and then along the Sacramento River towards the City of Sacramento. Garden Highway serves as an alternative north / south route to SR 99 south of Yuba City.
- **Garmire Road** is a north / south two-lane roadway that extends from Moroni Road in the north to Cranmore Road in the south. A segment of this roadway

forms part of the road system that fronts the Sacramento River through the county.

- **George Washington Boulevard** is a north / south two-lane roadway that extends from SR 20 in the north joining SR 113 at Tudor Road and continuing to just north of Cranmore. George Washington Boulevard provides an alternate route parallel to and west of SR 99.
- **Harter Road** is a north / south two-lane roadway extending from Butte House Road in the north to SR 20 in the south and continues from north of High School Boulevard to just south of Redhaven Avenue.
- **Hooper Road** is a north / south two-lane roadway extending from True Road in the north to the Colusa Highway's frontage road in the south.
- **Howsley Road** is an east / west two-lane roadway that extends from Powerline Road in the west across SR 99 through the community of Pleasant Grove and to the Placer County line in the east.
- **Kirkville Road** is an east / west two-lane roadway that extends from Cranmore Road in Kirkville to Reclamation Road in the east and continues from Sacramento Valley Boulevard to Sacramento Road, east of SR 113.
- **Larkin Road** is a north / south two-lane roadway located west of SR 99 that extends from Eager Road in the south to Broadway in the north in the City of Live Oak. The roadway continues from Archer Avenue, east of SR 99 and extends north to Butte County.
- **Lincoln Road** is an east / west two-lane roadway that extends from Clements Road in the west and, after intersecting with SR 99, ends at Garden Highway in the east.
- **Live Oak Boulevard** is a north / south two-lane roadway extending from the Butte County line as a joint road with SR 99 in the north to Yuba City in the south, where the roadway terminates at SR 20. The roadway diverges from SR 99 at a point just south of Encinal Road.
- **Nicolaus Avenue** is an east / west two-lane roadway that serves the communities of Nicolaus, East Nicolaus and Trowbridge and provides regional access by connecting to SR 70 and SR 99. Nicolaus Avenue extends from Pleasant Grove Road in the east to Garden Highway in the west.
- **O'Banion Road** is an east / west two-lane roadway that extends from east of Garden Highway in the east and, after intersecting with SR 99, ends just west of Boulton Road.
- **Oswald Road** is an east / west two-lane roadway that extends from Garden Highway in the east to Schlag Road in the west and continues from west of the Sutter Bypass at Hughes Road to Meridian Road.
- **Pacific Avenue** is a north / south two-lane roadway that extends from north of Rio Oso Road in the community of Rio Oso to Howsley Road. Pacific Avenue provides direct access between the communities of Trowbridge and Rio Oso. It continues south from Sankey Road to Riego Road paralleling SR 99 and SR 70.
- **Pease Road** is an east / west two-lane roadway that extends from Live Oak Boulevard in the east to Township Road in the west.

- **Pelger Road** is an east / west two-lane roadway that provides access to the community of Cranmore from SR 113. Pelger Road extends from SR 113 in the east to Cranmore Road in the west.

- **Pennington Road** is an east / west two-lane roadway that extends from east of the City of Live Oak in the east to Powell Road in the west. This roadway is part of the circulation system that surrounds the Sutter Buttes and, in addition, provides regional access to the community of Pennington.

- **Pleasant Grove Road** is a north / south two-lane roadway that is parallel to and east of SR 70 and SR 99 and extends from the Sacramento County Line in the south to the Yuba County line in the north. Pleasant Grove Road serves as a local alternative north / south route to the State highways. From the County line, Pleasant Grove Road continues north as Forty Mile Road in Yuba County.

- **Railroad Avenue** is a north / south two-lane roadway that extends from Messick Road in the south to Winship Road in Yuba City and continues south from an agricultural facility northeast of Tudor to SR 99.

- **Reclamation Road** is a two-lane rural roadway that extends from Karnak Road in a northwestern direction through the community of Robbins, crossing SR 113 before terminating at Progress Road near Tisdale. This roadway along with Progress, McGrath and Tarke Roads serves as a direct route between SR 113 / Robbins and SR 20 / Meridian bypassing the urbanized Yuba City section of the county.

- **Richland Road** is an east / west two-lane roadway that extends from Main Street in the east to Walton Avenue in the west. This road crosses SR 99 providing access to the greater Yuba City area.

- **Riego Road** is an east / west two-lane roadway that is a continuation of Base Line Road in Placer County and extends west intersecting SR 99 before terminating at Garden Highway. Riego Road (Baseline Road) provides local access to the City of Roseville urban area in Placer County.

- **Rio Oso Road** is an east / west two-lane roadway extending from west of SR 70 east through the community of Rio Oso to Warren Road.

- **South Butte Road** is an east / west two-lane roadway extending from SR 20 west of Township Road through the community of Sutter to West Butte Road. There is also a section connecting Tarke Road to Hageman Road through Tarke north of SR 20.

- **Stewart Road** is an east / west two-lane roadway that extends from Garden Highway across SR 99 to Walton Avenue.

- **Tierra Buena Road** is a north / south two-lane roadway that extends from Hooper Road in Tierra Buena to Eager Road.

- **Township Road** is a three part, north / south two-lane roadway. South Township Road extends from Tudor Road in the south to Franklin Road in the north. North Township Road extends from Franklin Road north to Nuestro Road. Township Road then continues north from Clark Road to the Butte County line.

- **Walton Avenue** is a north / south two-lane roadway that extends from Oswald Road in the south to SR 20 in the north.

- **West Butte Road** is a north / south two-lane roadway that extends from North Butte Road in the north to SR 20 in the south. This roadway is part of the circulation system that surrounds the Sutter Buttes.
- **West Catlett Road** is an east / west two-lane roadway that extends from the Placer County Line in the east and across SR 99 and SR 70 to Garden Highway in the west.

Roadway Analysis Methodology

To quantitatively evaluate traffic operating conditions and to provide a basis for comparison of operating conditions, roadway LOS were determined. LOS as defined in the 2000 Highway Capacity Manual is "a quantitative measure describing operational conditions within a traffic stream". LOS definitions generally describe these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions and comfort and convenience. Six levels of service are defined and given letter designations, from "A" to "F", with LOS "A" representing the best operating conditions and LOS "F" the worst. Tables 3.2-2 through 3.2-5 present the characteristics associated with each LOS grade for urban street segments, rural highways, expressways, and freeways.

Table 3.2-2. Levels of Service Definitions – Urban Street Segments

Service Levels	Description
A	Primarily free-flow operations at average travel speeds, usually 90 percent of the free-flow speed for the given street class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.
B	Reasonably free-flow operations at average travel speeds, usually 70 percent of the free-flow speed for the given street class. The ability to maneuver within the traffic stream is only slightly restricted and control delay at signalized intersections are not significant.
C	Stable operations: however, ability to maneuver and change lanes in midblock locations may be more restricted than at LOS B and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50 percent of the free-flow speed for the street class.
D	Borders on a range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40 percent of the free-flow speed.
E	Characterized by significant delays and average travel speeds of 33 percent or less of the free-flow speed. Such operations are caused by a combination of adverse progression, high signal delay, high volumes, extensive delays at critical intersections and inappropriate signal timing.
F	Characterized by urban street flow at extremely low speeds, typically one-third to one-fourth of the free-flow speed. Intersection congestion is likely at critical signalized locations, with high delays, high volumes and extensive queuing.

Source: 2000 Highway Capacity Manual, Transportation Research Board (TRB) Special Report 209.

Table 3.2-3. Levels of Service Definitions – Expressways

Service Levels	Description
A	Completely free-flow conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles and operations are constrained only by geometric features of the highway and by driver preference. Maneuverability within the traffic stream is good. Minor disruptions to flow are easily absorbed without a change in travel speed.
B	Indicates free-flow, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver, minor disruptions are still easily absorbed, although local deterioration in LOS will be more obvious.
C	The influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. On multilane highways with a free-flow speed above 50 mph, the travel speeds reduce somewhat. Minor disruptions can cause serious local deterioration in service and queues will form behind any significant traffic disruption.
D	The ability to maneuver is severely restricted due to traffic congestion. Travel speed is reduced by the increasing volume. Only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.
E	Operations at or near capacity, an unstable level. The densities vary, depending on the free-flow speed. Vehicles are operating with the minimum spacing for maintaining uniform flow. Disruptions cannot be dissipated readily, often causing queues to form and service to deteriorate to LOS F. For the majority of multilane highways with free-flow speeds between 45 and 60 mph, passenger-car mean speeds at capacity range from 42 to 55 mph but are highly variable and unpredictable.
F	Forced or breakdown flow. It occurs either when vehicles arrive at a rate greater than the rate at which they are discharged or when the forecast demand exceeds the computed capacity of a planned facility. Although operations at these points-and on sections immediately downstream-appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages.

Source: 2000 Highway Capacity Manual, Transportation Research Board (TRB) Special Report 209.

Table 3.2-4. Levels of Service Definitions – Rural Highways

Service Levels	Description
A	Motorists are able to travel at their desired speed. Would result in average speeds of 55 mi/h on Class I highways. The passing frequency required to reach these speeds has not reached a demanding level, so that passing demand is well below passing capacity, and platoons of three or more cars are rare. Drivers are delayed by no more than 35 percent of their travel time by slower moving vehicles.
B	Traffic flow of 50 mi/h or slightly higher on level terrain Class I highways. The demand for passing to maintain the desired speed becomes significant and approximates the passing capacity at the lower level of LOS B. Drivers are delayed by platoons up to 50 percent of the time.
C	Further increases in flow, resulting in noticeable increases in platoon formation, platoon size, and frequency of passing impediments. The average speed still exceeds 45 mi/h on level terrain Class I highways, even though unrestricted passing demand exceeds passing capacity. At higher volumes the chaining of platoons and significant reductions in passing capacity occur. Although traffic flow is stable, it is susceptible to congestion due to turning traffic and slow moving vehicles. Percent time spent following may reach 65 percent.
D	Unstable traffic flow. Two opposing traffic streams begin to act separately at higher volume levels, as passing becomes extremely difficult. Passing demand is high, but passing capacity approaches zero. Mean platoon sizes of 5 to 10 vehicles are common, although speeds of 40mi/h still can be maintained under base conditions on Class I highways. Turning vehicles and roadside distractions cause major shock waves in the traffic stream. Motorists are delayed in platoons nearly 80 percent of the time.
E	Traffic flow conditions have a percent time-spent-following greater than 80 percent on Class 1 highways. Speeds may drop below 40 mi/h. Passing is virtually imposable, and platooning becomes intense, as slower vehicles or other interruptions are encountered. The highest volume attainable defines the capacity of the highway.
F	Represent heavily congested flow with traffic demand exceeding capacity. Volumes are lower than capacity and speeds are highly variable.

Source: 2000 Highway Capacity Manual, Transportation Research Board (TRB) Special Report 209.

Table 3.2-5. Levels of Service Definitions – Freeways

Service Levels	Description
A	Free-flow operations. Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The effects of incidents or point breakdowns are easily absorbed at this level.
B	Represents reasonably free-flow operations and free-flow speeds are maintained. The ability to maneuver within the traffic stream is only slightly restricted and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents and point breakdowns are still easily absorbed.
C	Flow with speeds at or near the free-flow speed of the freeway. Freedom to maneuver within the traffic stream is noticeably restricted and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service will substantial. Queues may be expected to form behind any significant blockage.
D	Speeds begin to decline slightly with increasing flows and density begins to increase somewhat more quickly. Freedom to maneuver within the traffic stream is more noticeably limited and the driver experiences reduced physical and psychological comfort levels. Even minor incidents can be expected to create queuing, because the traffic stream has little space to absorb disruptions.
E	Operation at capacity. Operations at this level are volatile, because there are virtually no usable gaps in the traffic stream. Vehicles are closely spaced, leaving little room to maneuver within the traffic stream at speeds that still exceed 49 mph. Any disruption of the traffic stream, such as vehicles entering from a ramp or a vehicle changing lanes, can establish a disruption wave that propagates throughout the upstream traffic flow. At capacity, the traffic stream has no ability to dissipate even the most minor disruption and any incident can be expected to produce a serious breakdown with extensive queuing. Maneuverability within the traffic stream is extremely limited and the level of physical and psychological comfort afforded the driver is poor.
F	Breakdowns in vehicular flow. Such conditions generally exist within queues forming behind breakdown points.

Source: 2000 Highway Capacity Manual, Transportation Research Board (TRB) Special Report 209.

Traffic operations on Urban Street segments are primarily controlled by traffic signals (Table 3.2-2). Intersection spacing is typically less than two miles apart and traffic along the entire roadway is influenced by signals due to traffic platooning. Regular access to roadside commercial and residential development is common. These elements increase the potential for traffic conflicts.

Traffic operations on Expressways are less controlled by traffic signals and more controlled by traffic density (Table 3.2-3). Intersection spacing is typically more than two miles apart and traffic between signals is less influenced by platoons because platoons break up between intersections. There is normally very limited access provided to roadside commercial and residential development. This reduces the potential for traffic conflicts.

Traffic operations on two lane Rural Highways is controlled by the limited ability to pass slower vehicles (Table 3.2-4). The ability to pass is limited by the volume of vehicles traveling in the opposite direction. Speed is decreased as the percent of time following slower vehicles increases. Platoons develop behind slower moving vehicles.

Traffic operations on Freeways are only controlled by the ability to maneuver (Table 3.2-5). There are no traffic signals or stop signs. Access is fully controlled and only provided at interchanges.

LOS is commonly dictated by a facility's "volume to capacity" (V/C) ratio. V/C ratios are a measure of the proportion of the roadways capacity that is being used by traffic, and are simply the traffic volumes on the roadway divided by the roadway's capacity. As an example, a V/C ratio of 1.00 represents complete utilization of the roadway's capacity. LOS represents the roadway's service rating, corresponding to a range of V/C ratios.

Roadway Capacity

The capacity of a roadway segment is the maximum rate at which vehicles can be expected to traverse a point or section of a facility during a given period of time. The 2000 Highway Capacity Manual (HCM) contains standard procedures for highway capacity analysis and level of service determination for most types of roadway facilities.

The HCM defines levels of service for freeways and rural expressways (multi-lane highways) as functions of the density of vehicles on the road; density is usually expressed in units of vehicles per miles per lane. Vehicular density correlates to quality of service as a vehicle's freedom to maneuver and proximity to other vehicles is captured by vehicular density.

For **four-lane freeways**, the HCM presents an estimated maximum average daily traffic (ADT) of 67,400 for level terrain and a threshold of 48,400 ADT for LOS "D". This is based on a K factor (design hour factor, i.e., the proportion of ADT expected to occur in the design hour, usually the PM peak hour) of 10 percent and other standard assumptions for directionality of flow (60-40 percent), heavy vehicle percentage (9 percent), passing opportunity, and roadway geometrics.

For **four-lane expressways** (multi-lane highways), the HCM prescribes an estimated maximum ADT of 59,500 for level terrain and a threshold of 41,800 ADT for LOS "D". This is based on a K factor of 10 percent and other standard assumptions for directionality of flow (60-40 percent), heavy vehicle percentage (9 percent), passing opportunity, and roadway geometrics.

For **rural two-lane roadways**, the HCM defines percent-time delayed as the primary measure for determining the levels of service. Percent-time delayed is the average percent of the time that vehicles are delayed while traveling in platoons because of the inability to pass. Passing demand increases rapidly as traffic volumes increase, while passing capacity in the opposing lane declines as volumes increase. Thus, unlike other types of uninterrupted flow facilities, normal traffic flow in one direction influences flow in the other direction on two-lane facilities. Motorists are forced to adjust their individual travel speed as volumes increase, and as the ability to pass declines. In conjunction with this, terrain, shoulder width, percent of heavy vehicles and available access points are relevant factors.

For **rural two-lane roads**, the HCM presents an estimated maximum ADT of 25,200 for level terrains and a threshold of 10,600 ADT for LOS "D". This is based on a K factor of 10 percent and other standard assumptions for directionality of flow (60-40 percent), heavy vehicle percentage (9 percent), passing opportunity, and roadway geometrics.

A typical daily volume assumed to correspond with peak hour capacity (i.e., LOS "E" to LOS "F" threshold) of an urban roadway would be calculated as follows:

- 1,800 vehicles per hour per lane (an average urban saturation flow rate)
- x 0.50 fraction of time right-of-way is given (g / c) in the case of major cross streets
- x 100 / 60 total volume / greater direction volume (@ 60:40 directionality)
- x 1 / 0.10 daily volume / peak hour volume

- = 15,000 vehicles per day per two lanes (theoretical capacity)

The 15,000 vpd capacity threshold is based on ideal conditions and may vary depending on various conditions. To reflect traffic operating conditions in the urbanized areas of Sutter County and the City of Yuba City, the Levels of Service thresholds were calibrated in the Traffic Impact Fee Study for Sutter County / Yuba City, 1993.

Table 3.2-6 shows the Levels of Service thresholds and capacities for various roadway facilities.

Table 3.2-6. Roadway Levels of Service Thresholds

Roadway	LOS C	LOS D	LOS E
Rural - Two Lane	7,000 - 10,600	10,600 - 16,400	16,400 - 25,200
Urban - Three Lane	15,330 - 17,520	17,520 - 19,700	19,700 - 21,900
Urban - Five Lane	30,660 - 35,040	35,040 - 39,420	39,420 - 43,800
Expressway - Four Lane	29,100 - 41,800	41,801 - 53,500	53,501 - 59,500
Freeway - Four Lane	33,700 - 48,400	48,401 - 60,000	60,001 - 67,400
Freeway - Six Lane	51,800 - 73,900	73,901 - 90,900	90,901 - 101,800

Source: DKS Associates, 2007.

Local governments adopt LOS standards for roadways under their jurisdiction. Generally, LOS "C" or "D" is considered adequate, although some communities adopt higher or lower standards depending on the circumstances and the needs of the community. Sutter County utilizes LOS "D" as the minimum acceptable standard for its roadways. Sutter County intends to utilize LOS "C" as the minimum acceptable standard for its roadways in the General Plan update.

Caltrans has adopted LOS standards for its highway and freeway facilities. These are described in the route concept reports.[3] SR 99 has a Route Concept of LOS "E". SR 20 has a Route Concept of LOS "D" on the rural western two-lane portion and a Route Concept of LOS "E" on the urban eastern four lane portion. Both of these route concept reports are subject to being updated before the General Plan is complete. The route concept report for SR 70 and 113 is currently unavailable.

Existing Roadway Operating Conditions

To assess the traffic operating conditions of the street and highway system in Sutter County, existing daily traffic count data was collected from both the State and the County. Levels of Service for primary roadways in Sutter County were evaluated using the existing ADT's. Table 3.2-7 and Table 3.2-8 show the existing Levels of Service on the State Highways and County roadways, respectively.

As indicated by Table 3.2-7, all SR 20 and SR 113 segments currently operate at LOS "C" or better, while SR 70 and SR 99 segments currently operate at LOS "E" or better. A review of available Caltrans Route Concept and Development Reports (RCDR) for State highway segments indicates all segments are within their respective concept LOS standard except for SR 70.

As shown in Table 3.2-8, all Sutter County roadways are currently operating at the County minimum LOS "D" standard, or better.

3 The SR 99 and SR 20 Route Concept Reports are currently being updated by Caltrans. Updated information will be used in the Sutter County General Plan Update process as it becomes available for all subsequent traffic analysis and reporting.

Table 3.2-7. Existing Operating Conditions on State Highway Segments

Roadway Name	From	To	Classification	Lane	Count	LOS
SR 20	Colusa County Line	Sutter Bypass	Rural Arterial	2	7,200	C
	Sutter Bypass	Acacia Avenue	Rural Arterial	2	7,200	C
	Acacia Avenue	Humphrey Road	Rural Arterial	2	9,500	C
	Humphrey Road	Township Road	Expressway	4	9,500	A
	Township Road	George Washington Blvd	Expressway	4	12,200	A
	George Washington	Yuba City Limits	Expressway	4	17,500	A
SR 70	Junction 99	Nicolaus Avenue	Rural Arterial	2	18,700	E
	Nicolaus Avenue	Yuba County Line	Rural Arterial	2	19,200	E
SR 99	Sacramento County	Riego Road	Expressway	4	39,500	C
	Riego Road	Sankey Road	Expressway	4	33,500	C
	Sankey Road	Howsley Road	Expressway	4	33,500	C
	Howsley Road	SR 70	Expressway	4	33,500	C
	Junction 70	Garden Highway	Rural Arterial	2	16,200	D
	Garden Highway	Sacramento Avenue	Rural Arterial	2	17,400	E
	Sacramento Avenue	Tudor Road	Rural Arterial	2	17,600	E
	Tudor Road	Junction Route 113	Rural Arterial	2	14,400	D
	Junction Route 113	O'Banion Road	Rural Arterial	2	17,300	E
	O'Banion Road	Oswald Road	Expressway	4	17,300	A
	Oswald Road	Barry Road	Expressway	4	19,600	B
	Barry Road	Bougue Road	Expressway	4	21,100	B
	Bougue Road	Lincoln Road	Expressway	4	26,500	B
	Lincoln Road	Franklin Road	Expressway	4	26,500	B
	Franklin Road	Bridge Street	Expressway	4	36,000	C
	Bridge Street	Junction Route 20	Expressway	4	21,800	B
	Junction Route 20	Queens Avenue	Freeway	4	20,300	A
	Queens Avenue	Pease Avenue	Freeway	4	20,300	A
	Pease Avenue	Eager Road	Freeway	4	20,300	A
	Eager Road	End Freeway	Freeway	4	17,800	A
	End Freeway	Encinal Road	Rural Arterial	2	17,800	E
	Encinal Road	Live Oak Blvd	Rural Arterial	2	19,900	E
	Live Oak Blvd	Paseo Avenue	Rural Arterial	2	15,600	D
	Paseo Avenue	Live Oak City Limits	Rural Arterial	2	15,600	D
	Live Oak City Limits	Pennington Road	Urban Arterial	3	15,600	C
	Pennington Road	Live Oak City Limits	Urban Arterial	3	15,600	C
	Live Oak City Limits	Butte County Line	Rural Arterial	2	15,600	D
SR 113	Yolo County Line	Knights Road	Rural Arterial	2	7,400	C
	Knights Road	Del Monte Avenue	Rural Arterial	2	7,400	C
	Del Monte Avenue	Sutter Bypass	Rural Arterial	2	5,500	B
	Sutter Bypass	George Washington Blvd	Rural Arterial	2	5,800	B
	George Washington	Junction Route 99	Rural Arterial	2	3,850	B

State Route Traffic Count Source: Caltrans Traffic and Vehicle Data Systems Unit web page (2006 counts).
Level of Service Source: DKS Associates, 2007.

Table 3.2-8. Existing Operating Conditions on Sutter County Roadways

Roadway Name	From	To	Classification	Lane	Count	LOS
Acacia Ave	Butte House Road	SR 20	Rural Collector	2	4,660	B
	SR 20	Franklin Road	Rural Collector	2	1,070	A
Bear River Road	Swanson Road	Pleasant Grove Road	Rural Collector	2	990	A
	Pleasant Grove Road	Brewer Road	Rural Collector	2	1,040	A
Bogue Road	Township Road	George Washington Blvd	Rural Collector	2	934	A
	George Washington Blvd.	Walton Avenue	Rural Collector	2	2,410	A
	Walton Avenue	SR 99	Urban Arterial	3	5,070	A
Broadway	Clark Road	Encinal Road	Rural Collector	2	850	A
	Encinal Road	Nuestro Road	Rural Collector	2	1,610	A
Butte House Road	Acacia Avenue	East Butte Road	Urban Arterial	3	2,450	A
	East Butte Road	Township Road	Urban Collector	3	4,370	A
	Township Road	Madison Road	Urban Collector	3	4,120	A
Catlett Road	Garden Highway	SR 70 / SR 99	Rural Collector	2	90	A
	SR 70 / SR 99	Pleasant Grove Road	Rural Collector	2	620	A
	Pleasant Grove Road	Brewer Road	Rural Collector	2	200	A
El Margarita Road	SR 20	Franklin Road	Rural Collector	2	2,320	A
Franklin Road	Acacia Avenue	Township Road	Rural Collector	2	1,070	A
	Township Road	George Washington Blvd	Rural Collector	2	2,620	A
	George Washington Blvd	El Margarita Road	Rural Collector	2	5,140	B
	El Margarita Road	Walton Avenue	Urban Collector	3	8,110	B
Garden Highway	Stewart Road	Messick Road	Rural Collector	2	5,230	B
	Messick Road	O'Banion Road	Rural Collector	2	4,290	B
	O'Banion Road	Tudor Road - SR 99	Rural Collector	2	4,280	B
	SR 99	Catlett Road	Rural Collector	2	520	A
	Catlett Road	Reigo Road	Rural Collector	2	150	A
	Reigo Road	Sacramento County limit	Rural Collector	2	200	A
George Washington	SR 20	Franklin Road	Rural Arterial	2	7,420	C
	Franklin Road	Lincoln Road	Rural Collector	2	4,280	B
	Lincoln Road	Bougue Road	Rural Collector	2	3,390	B
	Bougue Road	Oswald Road	Rural Collector	2	3,940	B
	Oswald Road	Tudor Road - SR 113	Rural Collector	2	3,040	A
Howsley Road	SR 70 – SR 99	Pleasant Grove Road	Rural Collector	2	2,270	A
	Pleasant Grove Road	Brewer Road	Rural Collector	2	1,380	A
Humphrey Road	Butte House Road	South Butte Road	Rural Collector	2	680	A
	South Butte Road	SR 20	Rural Collector	2	1,910	A
	SR 20	Franklin Road	Rural Collector	2	830	A
Larkin Road	Butte County Line	Live Oak City Limits	Rural Collector	2	2,990	A
	Live Oak City Limits	Paseo Avenue	Rural Collector	2	1,500	A
	Paseo Avenue	Clark Road	Rural Collector	2	1,500	A
	Clark Road	Encinal Road	Rural Collector	2	1,450	A
	Encinal Road	Eager Road	Rural Collector	2	1,390	A
Lincoln Road	Clements Road	Township Road	Rural Collector	2	560	A
	Township Road	George Washington Blvd	Rural Collector	2	1,040	A
	George Washington Blvd	Sanborn Rd	Rural Collector	2	3,670	B
Live Oak Blvd	SR 99	Yuba City Limits	Rural Collector	2	6,620	B

Table 3.2-8. Existing Operating Conditions on Sutter County Roadways

Roadway Name	From	To	Classification	Lane	Count	LOS
Marcum	Pleasant Grove Road	Brewer Road	Rural Collector	2	2,200	A
Morehead Rd	South Butte Road	SR 20	Rural Collector	2	1,350	A
Moroni-McGarth	Tarke Road	Progress Road	Rural Collector	2	1,270	A
Nicolaus Road	SR 99	SR 70	Rural Collector	2	1,470	A
	SR 70	Pleasant Grove Road	Rural Collector	2	1,220	A
Oswald Road	Township Road	George Washington Blvd	Rural Collector	2	590	A
	George Washington Blvd	Walton Avenue	Rural Collector	2	1,360	A
	Walton Avenue	SR 99	Urban Collector	3	2,150	A
	SR 99	Railroad Avenue	Rural Collector	2	200	A
Pease Road	Township Road	Tierra Buena Road	Urban Collector	3	810	A
	Tierra Buena Road	Live Oak Blvd	Urban Collector	3	1,670	A
Pennington Road	North Butte Road	Township Road	Rural Collector	2	1,660	A
	Township Road	Live Oak City Limits	Rural Collector	2	1,790	A
Pleasant Grove Road	Yuba County Line	Nicolaus Avenue	Rural Collector	2	3,140	A
	Nicolaus Avenue	Catlett Road	Rural Collector	2	3,000	A
	Catlett Road	Howsley Road	Rural Collector	2	2,330	A
	Howsley Road	Sankey Road	Rural Collector	2	1,210	A
	Sankey Road	Riego Road	Rural Collector	2	1,750	A
	Riego Road	Sacramento County limit	Rural Collector	2	1,180	A
Power Line	Riego Road	Sacramento County limit	Rural Collector	2	220	A
Progress Road	McClatchy Road	Acme Road	Rural Collector	2	1,010	A
	Acme Road	Reclamation Road	Rural Collector	2	1,250	A
Railroad Avenue	Bogue Road	Stewart Road	Urban Collector	3	2,250	A
	Stewart Road	Barry Road	Urban Collector	3	1,320	A
	Barry Road	Oswald Road	Rural Collector	2	1,050	A
Reclamation Road	Progress Road	Pelger Road	Rural Collector	2	1,060	A
	Pelger Road	SR 113	Rural Collector	2	1,890	A
Riego Road	Garden Highway	Powerline Road	Rural Collector	2	650	A
	Powerline Road	SR 70-99	Rural Collector	2	650	A
	SR 70 – SR 99	Pacific Avenue	Rural Collector	2	9,900	C
	Pacific Avenue	Pleasant Grove Road	Rural Collector	2	9,900	C
Rio Oso	SR 70	Swanson Road	Rural Collector	2	1,060	A
Rivera Road	Township Road	SR 99	Rural Collector	2	450	A
	SR 99	Larkin Road	Rural Collector	2	460	A
Sankey Road	SR 70-99	Pacific Avenue	Rural Arterial	2	1,180	A
	Pacific Avenue	Pleasant Grove Road	Rural Arterial	2	1,080	A
	Pleasant Grove Road	Locust Road	Rural Arterial	2	670	A
South Butte Road	Morehead Road	Acacia Avenue	Rural Collector	2	3,620	B
	Acacia Avenue	Humphrey	Rural Collector	2	1,480	A
	Humphrey	SR 20	Rural Collector	2	290	A
Stewart Road	Walton Avenue	SR 99	Rural Collector	2	400	A
	SR 99	Railroad Avenue	Rural Collector	2	890	A
	Railroad Avenue	Garden Highway	Rural Collector	2	720	A
Swanson Road	Rio Oso Road	Bear River Road	Rural Collector	2	980	A
Tarke Road	SR 20	Moroni Road	Rural Collector	2	890	A
Tierra Buena Road	Eager Road	Pease Avenue	Rural Collector	2	2,180	A
	Pease Avenue	Butte House Road	Urban Collector	3	2,360	A

Table 3.2-8. Existing Operating Conditions on Sutter County Roadways

Roadway Name	From	To	Classification	Lane	Count	LOS
Township Road	Butte County Line	Pennington Road	Rural Arterial	2	1,730	A
	Pennington Road	Paseo Avenue	Rural Arterial	2	1,920	A
	Paseo Avenue	Clark Road	Rural Arterial	2	1,960	A
	Nuestro Road	Pease Avenue	Rural Arterial	2	1,540	A
	Pease Avenue	Butte House Road	Urban Collector	3	2,350	A
	Butte House Road	SR 20	Urban Collector	3	2,470	A
	SR 20	Franklin Road	Urban Collector	3	3,330	A
	Franklin Road	Lincoln Road	Rural Arterial	2	1,530	A
	Lincoln Road	Bogue Road	Rural Arterial	2	1,140	A
	Bogue Road	Oswald Road	Rural Arterial	2	750	A
	Oswald Road	O'Banion Road	Rural Arterial	2	380	A
	O'Banion Road	Tudor Road	Rural Arterial	2	170	A
Walton Avenue	Bogue Road	Reed Road	Rural Arterial	2	2,690	A
	Reed Road	Oswald Road	Rural Arterial	2	1,540	A
W. Catlett	Garden Highway	SR 70-99	Rural Collector	2	300	A

Source: DKS Associates, 2007.
Note: Traffic counts are ongoing (as of December 5, 2007). Missing count data and LOS estimates will be provided as additional count data becomes available.

Truck Routes and Traffic

There are a number of designated truck routes within Sutter County. These include both County and State designated routes. Rural roads in Sutter County are not officially designated as truck routes. Trucks using these roads are subject to load limits of bridges, and county transport permitting requirements.

County Truck Routes

In 1990, Sutter County adopted a truck route ordinance, restricting 14,000+ gross weight vehicles to specific routes. County designated truck routes within the urbanized area of Yuba City are displayed on Figure 3.2-2.

State Truck Routes

The California Department of Transportation (Caltrans) has designated SR 20, SR 70, SR 99 and SR 113 as truck routes. Table 3.2-9 lists the State designated truck routes within Sutter County with their beginning and end points and regulatory designations.

Traffic Accident Rates

Recent accident history in Sutter County was researched to identify primary accident factors and high accident locations. The purpose of this investigation was to identify any problems that may be addressed within the scope of the transportation planning for the General Plan, such as the identification of general goals for safety improvements on County roads. This is not a detailed traffic engineering study of County road accidents.

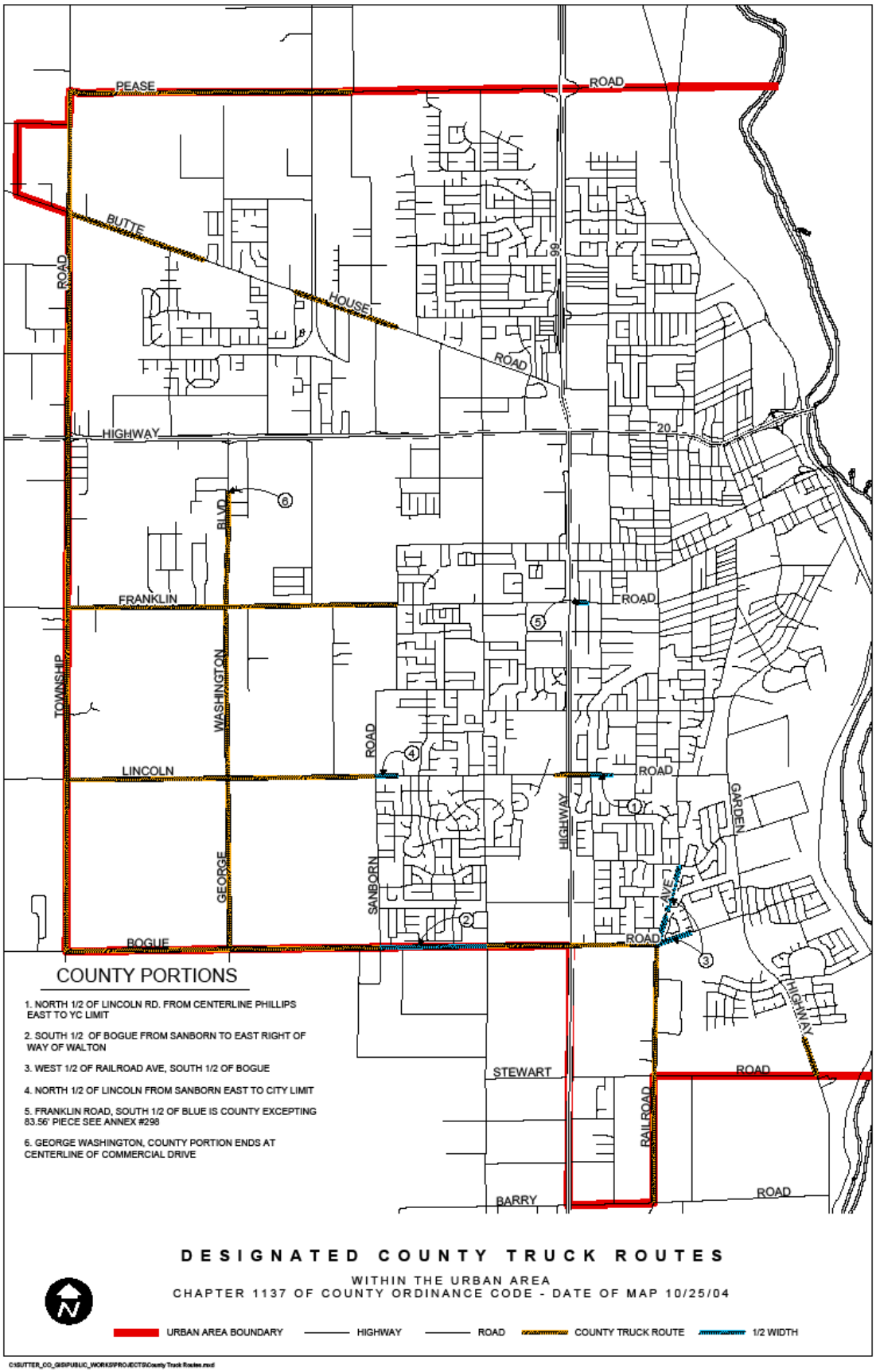


Figure 3.2-2 County Designated Truck Routes in Yuba City Urban Area

Table 3.2-9 Truck Route Designations on State Highways

Route	Beginning PM	Ending PM	Segment Miles	Segment Type	Begin	End
20	R0.00	E15.573	15.46	TA	Colusa / Sutter County Line	Jct Rte 99
20	15.57	17.06	1.48	CL40	Jct Rte 99	Sutter / Yuba County Line
70	R0.051	8.30	8.25	TA	Jct Rte 99	Sutter / Yuba County Line
99	0.00	E42.389	41.99	TA	Sacramento / Sutter County Line	Sutter / Butte County Line
113	0.00	E16.38	16.37	TA	Yolo / Sutter County Line	Jct Rte 99
Walton Ave			0.3	TA	State Route 20	Sunsweet
Pacific Ave			1.4	TA	Sysco	Riego Rd
Riego Rd			0.8	TA	State Route 99	Pacific Ave
Railroad Ave			*2.0*	*TA*	*Bouge Road*	*Oswald Rd*
Oswald Rd			*0.4*	*TA*	*State Route 99*	*Railroad Ave*

Sources: http://www.dot.ca.gov/hq/traffops/trucks/truckmap/index.htm December 5, 2007 and Sutter County DOT, January 2008.
Notes:
Segment Type
TA Terminal Access Route
CL40 40-foot KPRA, 65-foot overall length (KPRA = Kingpin-to-Rear Axle
Postmile Prefix
R First realignment
E Post Mile Equation
Italics = proposed

The accident history for roadway intersections between January 1, 2003 and March 31, 2007 were obtained from the High Incidence Intersection Report and the Intersection Collision Severity Summary provided by Sutter County's Department of Public Works. These Statewide Integrated Traffic Record System (SWITRS) reports do not include accident information for streets within the jurisdictions of the Cities of Yuba City and Live Oak and / or information on State highways. Table 3.2-10 ranks the 15 top collision intersections (collisions within 200 feet of the roadway intersection). Table 3.2-11 summarizes the accident types for the four+ year period for the same 15 top intersections (locations).

The intersection of Pleasant Grove Road and Riego Road has experienced a high of over 6 accidents per-annum. Over two collisions per year were recorded at 3 additional roadway intersections. A closer inspection of the individual intersection locations should be performed to identify potential problem areas, accompanied with suggested improvements for intersection controls and possible re-design.

Of the 121 collisions in unincorporated Sutter County in the 4+ year period, 5 involved a fatality. Over half (67) of the collisions were non-injury traffic accidents.

Table 3.2-10. High Incidence Intersection Report
(Number of collisions for the top 15 locations – Between 1/1/2003 and 6/30/2007)

Rank	Intersection	Total Collisions
1	Pleasant Grove Rd / Riego Rd	29
2	Pleasant Grove Rd / Sankey Rd	11
3	Pease Rd / Tierra Buena Rd	10
4	Natomas Rd / Riego Rd	9
5	Franklin Rd / George Washington Blvd	8
6	Oswald Rd / Township Rd	7
7	Butte House Rd / Humphrey Rd	6
8	Clark Rd / Broadway Rd	6
9	Columbia Dr / Bogue Rd	5
10	Franklin Rd / Humphrey Rd	5
11	Lemenager Rd / Acacia Ave - Lower Pass Rd	5
12	Natomas Rd / Howsley Rd	5
13	Pacific Ave / Riego Rd	5
14	Pleasant Grove Rd / Catlett Rd	5
15	Pleasant Grove Rd / Marcum Rd	5
Total		**121**

Source: Sutter County Public Works Department, January, 2008.

Table 3.2-11. Intersection Collision Severity Summary
(Number of collisions for the top 15 locations – Between 1/1/2003 and 6/30/2007)

Rank	Intersection	Fatal Collision	Injury Accident	Non-Injury	Total Collisions
1	Pleasant Grove Rd / Riego Rd	0	8	21	29
2	Pleasant Grove Rd / Sankey Rd	0	6	5	11
3	Pease Rd / Tierra Buena Rd	0	7	3	10
4	Natomas Rd / Riego Rd	1	3	5	9
5	Franklin Rd / George Washington Blvd	0	5	3	8
6	Oswald Rd / Township Rd	1	4	2	7
7	Butte House Rd / Humphrey Rd	1	2	3	6
8	Clark Rd / Broadway Rd	1	2	3	6
9	Columbia Dr / Bogue Rd	0	2	3	5
10	Franklin Rd / Humphrey Rd	1	1	3	5
11	Lemenager Rd / Acacia Ave - Lower Pass Rd	0	1	4	5
12	Natomas Rd / Howsley Rd	0	2	3	5
13	Pacific Ave / Riego Rd	0	0	5	5
14	Pleasant Grove Rd / Catlett Rd	0	3	2	5
15	Pleasant Grove Rd / Marcum Rd	0	3	2	5
Total		**5**	**49**	**67**	**121**

Source: Sutter County Public Works Department, January, 2008.

Future Planned Roadway Improvements

Caltrans

The latest available Caltrans Route Concept Report for SR 20 only calls for widening to six lanes in Yuba City by 2010. It ultimately calls for SR 20 to be a four lane expressway with a bypass around Yuba City.[4]

The Caltrans Draft Route Concept Report for SR 70 calls for improvements within Sutter County. On the segment between the SR 99 interchange and Yuba County line the 2027 concept facility is a four lane expressway.

The Caltrans SR 70 and SR 99 Corridor Study recommend that the segment of SR 70 between the Yuba County line and the SR 99 interchange should be improved to a four lane freeway.

The current Caltrans Route Concept Report for SR 99 calls for improvements throughout the corridor. On the segment between the Sacramento County line and the SR 70 interchange the 2024 concept facility is a six lane freeway, and the ultimate facility is an eight lane freeway. On the segment between the SR 70 interchange and the boundary of the Yuba City urban area the 2024 concept facility is a four lane expressway and the ultimate facility is a four lane freeway. On the segment between the southern boundary of the Yuba City urban area and SR 20 the 2024 concept facility is a six lane expressway north of Lincoln Road, and the ultimate facility is a six lane expressway. The four lane freeway segment between SR20 and Eager Road would remain unchanged. On the segment between Eager Road and the Butte County line the 2024 concept facility is a four lane expressway and the ultimate facility is a four lane expressway.

The Caltrans SR 70 and SR 99 Corridor Study recommends that for the segment of SR 99 between the SR 99 interchange and Bogue Road should be improved to a four lane expressway, the segment between Bogue Road and SR 20 should be improved to a six lane expressway, and the segment between the end of the freeway and the City of Live Oak should be improved to a four lane expressway.

Regional Metropolitan Transportation Plan

Sutter County is a member of the Sacramento Area Council of Governments (SACOG) for which a Regional Metropolitan Transportation Plan (RMP) was prepared in 2006. The SACOG region includes six counties and 22 cities. The six member counties are El Dorado, Placer, Sacramento, Sutter, Yolo and Yuba Counties. The MTP addresses the regional transportation needs of the member jurisdictions and incorporates a variety of transit modes. The overall goal is to provide transportation services and facilities that will modify existing urban forms, shape future urban forms and otherwise influence land use change to make the most efficient and effective use of the region's transportation resources.

The Draft 2035 MTP has several planned roadway improvements in and adjacent to Sutter County. SR 99 would be widened to four lanes from Obanion Road to SR 70. SR 99 would also be widened to four lanes within the Live Oak City limits. Riego Road would be widened to four lanes from SR 99 to a point two miles west. Riego Road would be widened to six lanes from SR 70 – SR 99 to the Placer County line. Sankey Road would be widened to four lanes from Pleasant Grove Road to SR 70 – SR 99. Pacific Avenue would be widened to four lanes. The MTP improvements to Riego Road, Sankey Road, and Pacific Avenue are contingent on

4 Caltrans is currently updating the SR 20 Route Concept Report. Updated information will be used in all subsequent traffic analysis and reporting as it becomes available.

development in the South Sutter County area. There would also be several roadway improvements internal to Yuba City and new roads in the Live Oak annexation area.

Placer Parkway

The South Placer Regional Transportation Authority (SPRTA) and the Federal Highway Administration (FHWA), in cooperation with the California Department of Transportation (Caltrans), propose to select and preserve a corridor for the future construction of Placer Parkway—a new east-west roadway linking SR 65 and SR 70 - SR 99. Placer Parkway is intended to reduce anticipated congestion on both the local and regional transportation systems and advance economic development goals in southwestern Placer County and south Sutter County. Five corridor alternatives and a No-Build Alternative have been analyzed in the Draft Placer Parkway Corridor Preservation Tier 1 Environmental Impact Statement/Program Environmental Impact Report (dated July 29, 2007).

Sutter Pointe

Sutter Pointe is a proposed master-planned community, bounded to the south by the Sacramento/Sutter County line, to the east by Natomas Road, and to the west by Powerline Road. The Sutter Pointe project area consists of 7,500 acres of the 10,500-acre Sutter County Industrial-Commercial Reserve as designated in the 1996 General Plan. The proposed Sutter Pointe circulation system includes a hierarchy of roadways, a pedestrian and bikeway network, and public transit. Sutter Pointe proposes the following key roadway features:

- A grade-separated crossing over Highway 99, at Riego Road.
- A grade-separated crossing over Sankey Road (future Placer Parkway) west of Pacific Avenue.
- Future parallel roadways to SR 99/70 to provide for regional travel parallel to the State highway corridor.

The proposed Sutter Pointe Specific Plan is subject to the review, refinement, and approval of Sutter County. As a result, the above information should be considered conceptual and subject to change.

REGULATORY SETTING

Federal

Federal Highway Administration (FHWA)

FHWA is the agency of the U.S. Department of Transportation (DOT) responsible for the Federally-funded roadway system, including the interstate highway network and portions of the primary State highway network. FHWA funding is provided through the Safe, Accountable, Flexible, Efficiency Transportation Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA-LU can be used to fund local transportation improvement projects, such as projects to improve the efficiency of existing roadways, traffic signal coordination, bikeways, and transit system upgrades.

State

California Department of Transportation (Caltrans)

Caltrans is responsible for planning, designing, constructing, and maintaining all State highways. The jurisdictional interest of Caltrans extends to improvements to roadways at the interchange ramps serving area freeways. Any Federally-funded transportation improvements would be subject to review by Caltrans staff and the California Transportation Commission.

Local

SACOG is responsible for development of the State- and Federally-required Metropolitan Transportation Plan (MTP) every four years in coordination with 22 cities and six counties in the greater Sacramento area. It also incorporates the long-range plans of El Dorado and Placer Counties. Local projects must be included in the MTP in order to obtain State and federal funding. The current MTP 2025 and its complement 2006 MTP extends the horizon year to 2027. SACOG is developing a new plan, MTP 2035. For the first time, the MTP 2030 will pro-actively link land use, air quality, and transportation needs based on the SACOG Board-adopted 2050 Blueprint project, which encourages the use of smart growth principles in local jurisdictional planning.

As the designated metropolitan planning organization, SACOG is also responsible for maintaining a Federal Metropolitan Transportation Improvement Program (MTIP). Projects included in the MTIP are consistent with those in the MTP. The next update of the MTIP will be embedded in MTP 2035.

Designated truck routes within the urban area are governed by Chapter 1137 of Sutter County Ordinance Code.

California Vehicle Code (CVC Section 35701) requires County agencies to coordinate weight restrictions of roads which traverse between county lines.

3.2.2 Transit and Rail

INTRODUCTION

This section describes the transit and rail networks in Sutter County including existing services and facilities, and identifies future planned improvements. Information for this section was obtained from applicable reports and studies prepared by the Yuba-Sutter Transit Agency and AMTRAK.

SUMMARY OF KEY FINDINGS

- The Yuba-Sutter Transit Agency provides Sutter County residents and businesses with fixed route local transit service, three rural routes, and commuter service to Sacramento. Additionally, Yuba-Sutter Transit operates countywide demand responsive transit services for disabled and elderly residents.
- The closest rail passenger service is in Oroville (Butte County) which is a scheduled stop on the Coast Starlight, Seattle to Los Angeles, AMTRAK route. The Coast Starlight serves passengers with one northbound and one southbound train daily.

EXISTING CONDITIONS

Transit

Fixed route and demand responsive transit services are provided to the residents and businesses in Sutter County by the Yuba-Sutter Transit Agency. Yuba-Sutter Transit categorized their fixed route service as "local service" and "rural service."

Local Fixed Route Public Transit[5]

Sutter County is served by the Yuba-Sutter Transit's fixed route system. Yuba-Sutter Transit offers scheduled local fixed route service from 6:30 a.m. to 6:30 p.m. weekdays and from 8:30 a.m. to 5:30 p.m. on Saturdays. No service is available on Sundays. Six routes provide service to Yuba City, Marysville, Linda and Olivehurst. Buses operate every 30 to 60 minutes. Convenient timed transfers are available at Yuba College; the North Beale Road Transit Center; the Yuba County Government Center; Alturas and Shasta Streets; and, the Walton Terminal (Sam's Club / Sunsweet). All Yuba-Sutter Transit buses are equipped with bike racks.

Fares:

- Basic One-Way Fare – $1.00
- Senior (Age 62+) / Disabled Fare w/photo I.D. Card – $0.50
- Youth Fare (Age 5 - 12) – $0.50
- Children (Age 4 and under) – Free
- Transfers – Free
- Basic Monthly Pass – $30.00
- Senior / Disabled Monthly Pass – $15.00
- Youth (Age 5 - 18) Monthly Pass – $5.00 through Dec. 2007
- Discount Ticket Book ($12.00 value) – $10.00

The Sacramento Commuter Express offers frequent commute-hour service between Marysville / Yuba City and key stops in Downtown Sacramento. Commuter Express transit stops are located in Yuba City, Marysville, Linda and East Nicolaus; no reservations are required.

The Sacramento Midday Express offers late morning, noon and early afternoon service each weekday between Yuba City / Marysville and Downtown Sacramento. The Midday Express has transit stops in Yuba City, Marysville, Linda and East Nicolaus; reservations are not required.

Additionally, a combination of advance reservation and scheduled services are offered from selected rural cities and communities to the Marysville / Yuba City urban area where transfers can be made to other services.

5 Source: Yuba-Sutter Transit website: www.yubasuttertransit.com, accessed September 13, 2007.

Rural Fixed Route Public Transit[6]

Yuba-Sutter Transit provides rural transit service to Sutter County via three rural routes; the Live Oak Route, the Foothills Route and the Wheatland Route.

The Live Oak Route offers one round-trip every Monday, Wednesday and Friday from Live Oak to Yuba City and Marysville. Within Live Oak, three scheduled stops are available or eligible passengers will be picked up or dropped off at any address by advance reservation.

The Foothills Route offers two round-trips every Tuesday, Wednesday and Thursday from Challenge, Brownsville and Dobbins to Marysville and most points in between. Service is provided only by advance reservation.

The Wheatland Route offers one round-trip each Tuesday from Wheatland to Linda and Marysville. Within Wheatland, the bus will pick up and drop off at any address. Service is provided only by advance reservation.

Rural Route Fares:

- Basic One-Way Fare – $2.00
- Senior (Age 62+) / Disabled Fare w/photo I.D. Card – $1.00
- Youth Fare (Age 5 - 12) – $1.00
- Children (Age 4 and under) – Free
- Discount Ticket Books ($12.00 Value) – $10.00

Demand Responsive Transportation[7]

Dial-A-Ride service is designed to meet the needs of seniors and persons with qualifying disabilities, especially those who are unable to use the Yuba-Sutter Transit fixed-route system. General public passengers traveling to or from locations more than half a mile from a fixed route may also use Dial-A-Ride, but they are subject to being transferred to and from the fixed route system if they are traveling across the service area except during weekday evening service hours.

Dial-A-Ride offers curb-to-curb shared ride service to eligible passengers anywhere within the area shown in olive green on Figure 3.2-3. Dial-A-Ride service is available from 6:30 a.m. to 9:30 p.m. on weekdays and from 8:30 a.m. to 5:30 p.m. on Saturdays. No service is provided on Sundays.

Dial-A-Ride is Yuba-Sutter Transit's complimentary paratransit service under the Americans with Disabilities Act (ADA). Passengers with disabilities that prevent them from using Yuba-Sutter Transit's urban fixed route bus system may apply for ADA status to receive priority service on Dial-A-Ride. General public Dial-A-Ride passengers are subject to transfer to the fixed route system if they travel across the service area except during evening service hours. Transfers between the Dial-A-Ride and fixed route services are free.

Future Planned Transit Improvements

Currently, Yuba-Sutter Transit is updating their Short Range Transit Plan (SRTP). The updated SRTP is expected to be adopted in March 2008 with a draft released in February 2008. Additional information may be available for incorporation into the Sutter County General Plan

6 Yuba-Sutter Transit, www.yubasuttertransit.com, accessed September 13, 2007.

7 Yuba-Sutter Transit, www.yubasuttertransit.com, accessed September 13, 2007.

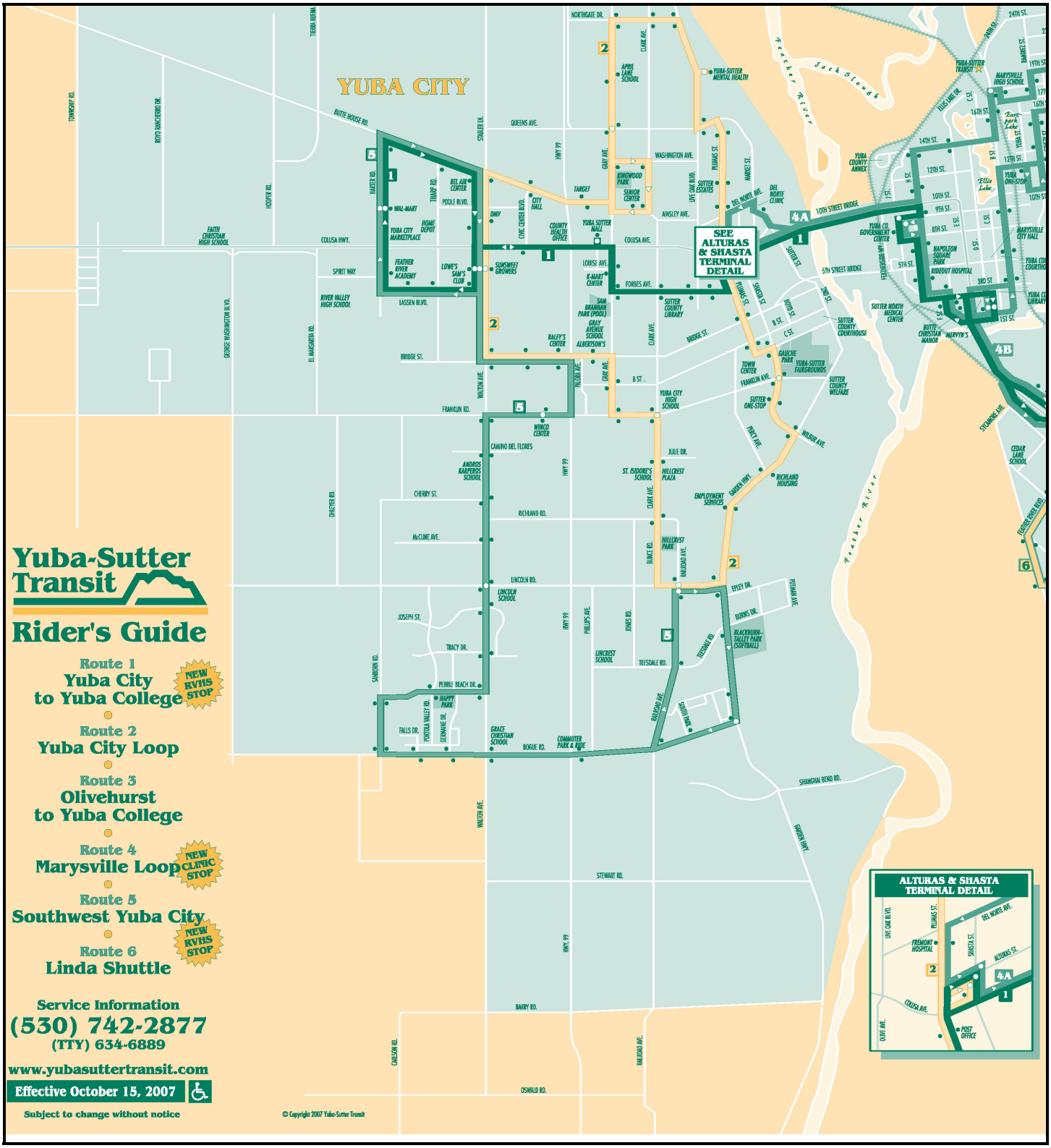


Figure 3.2-3 Yuba-Sutter Fixed Route Transit Map

Update from the February 2008 draft SRTP. There are some probable additional time of day services (schedule improvements) on the existing scheduled routes between Sutter County and downtown Sacramento. Due to funding constraints, there is limited additional transit service planned for unincorporated Sutter County.[8]

The proposed Sutter Pointe project is recognized in the 2008 SRTP Update. The level of transit service provided in the 5-year Transit Plan is still being determined and will depend upon the amount of development forecasted to be completed and occupied in the proposed Sutter Pointe area within the next 5 years.[9] This project is subject to the review, refinement, and approval of Sutter County.

The only dedicated park and ride facility in Yuba and Sutter Counties opened in August 1997 under the sponsorship of Yuba-Sutter Transit using federal and State revenues. Caltrans constructed this 88-space lot on the northeast corner of Bogue Road and Highway 99 south of Yuba City and they continue to own and maintain the facility. Planning for the expansion of this facility, which is now packed to overflowing every weekday, is now underway with federal Congestion Mitigation and Air Quality (CMAQ) funding secured by Yuba-Sutter Transit as the project's financial centerpiece. Caltrans will again be the lead agency for this project which is expected to at least double capacity while providing room for future expansion. This project is now projected for completion in 2009.[10]

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Rail

Southern Pacific Railroad lines run through Sutter County east of Highway 70 from Sacramento County to Yuba City, and north of Yuba City to Butte County. The Rail lines are available for the transport of agricultural goods and other materials.

Rail Passenger service is only available in Oroville by way of the AMTRAK Coast Starlight train that runs from Los Angeles to Seattle with one stop daily in each direction or, Sacramento or Roseville for both the AMTRAK Coast Starlight and the Capitol Corridor that runs from Reno to San Jose with sixteen trains a day between Sacramento and Oakland. The long distance to the nearest train station makes this train service ineffective as a travel alternative for commuters.

No new rail lines are planned within Sutter County.

8 Keith Martin, Transit Manager, Yuba-Sutter Transit, personal communication, December 2, 2007.

9 Keith Martin, Transit Manager, Yuba-Sutter Transit, personal communication, December 2, 2007.

10 Yuba-Sutter Transit, www.yubasuttertransit.com/about.html, accessed December 2, 2007.

11 Yuba-Sutter Transit, www.yubasuttertransit.com/about.html, accessed December 2, 2007.

REGULATORY SETTING

California Public Utility Commission (PUC)

PUC is the State agency which regulates railroad, rail transit, and passenger transportation companies in California.

3.2.3 Bikeways

INTRODUCTION

This section describes the existing and planned bikeway system in Sutter County. Information for this section was obtained from the Yuba-Sutter Bikeway Master Plan and the SACOG Regional Bicycle, Pedestrian, and Trails Master Plan.

SUMMARY OF KEY FINDINGS

- There are currently 4.6 miles (7.4 km) of Class I bikeways, 10.6 miles (17.1 km) of Class II bikeways, and 0.7 miles (1.1 km) of Class III bikeways in unincorporated Sutter County. The existing bikeway system is somewhat limited and fragmented.
- The Yuba-Sutter Bikeway Master Plan identifies substantial improvements in bikeway connectivity, both regionally and locally.

EXISTING CONDITIONS

Sutter County adopted the Yuba-Sutter Bikeway Master Plan (YSBMP) in 1995 and approved an update in 2002. This Bikeway Plan was prepared for the Feather River Air Quality Management District and provides a comprehensive bikeway network for Sutter and Yuba Counties.

This bi-county plan includes:

- Bikeway goals and policies
- Existing conditions
- An analysis of demand
- Existing and proposed bikeway routes
- A cost and funding analysis
- An implementation strategy

Bikeways are generally categorized into three classes; Class I, II, and III. A Class I Bikeway (Multi-Use Path) [12] is defined as a path physically separated from motor vehicle traffic by open space or a barrier. Multi Use Paths are located either within a highway right-of-way or within an independent right-of-way, and are used by bicyclists, pedestrian, joggers, skaters and other non-motorized travelers. Because the availability of uninterrupted rights-of-way is limited, this type of facility is often difficult to locate and expensive to build relative to other types of bicycle and pedestrian facilities. Prime locations for the Multi Use Paths are areas such as power-line

12 Sacramento Area Council of Governments, *Regional Bicycle, Pedestrian and Trails Master Plan*, Final Draft Amendment, July 19, 2007.

easements, utility easements, canal banks, river levees, drainage easements, railroad or highway rights-of-way, or regional community parks.

A Class II Bikeway (Bike Lanes)[13] is a portion of a roadway that has been set aside by striping and pavement markings for the preferential or exclusive use of bicyclists. Bike lanes are intended to promote an orderly flow of bicycle and vehicle traffic. This type of facility is established by using the appropriate striping, legends, and signs.

Class III Bikeways (Bike Routes)[14] are facilities shared with motor vehicle traffic. Bike routes must be of benefit to the bicyclist and offer a higher degree of service than adjacent streets. They provide for specific bicycle demand and may be used to connect discontinuous segments of Class I or Class II bikeways. If the pavement width is sufficient and traffic volume/speeds warrant, an edge line may be painted to further delineate the bike route. Bike routes are signed with the G-93 Bike Route marker, but no striping or legends are required.

Figure 3.2-4 shows the existing County bikeways and Table 3.2-12 describes these existing bikeways.

Table 3.2-12. Existing Bikeways Description (as of 2007)

Segment	Jurisdiction	Class	From	To	Length (feet)
Sutter Commuter Bikeway	Sutter County	I	Acacia Avenue	Hooper Road	24,300
Acacia Avenue	Sutter County	II	Sutter Union High School	Sutter Commuter Bikeway	5,800
P Street	Live Oak	II	Pennington Road	Fir Street	528
Phillips Road	Sutter County	II	Lincoln Road	Bogue Road	5,244
Franklin Road	Sutter County	II	Township Road	Walton Avenue	12,875
Teesdale Road	Sutter County	II	Phillips Road	1,700 e/o Phillips Road	1,696
Butte House Road	Sutter County	II	2,000 e/o Township Road	Tharp Road	10,024
Walton Avenue	Sutter County	II	Franklin Road	2,150' n/o Bogue Road	8,394
Lincoln Road	Sutter County	II	George Washington Blvd	1,200 e/o Walton Avenue	9,557
Butte House Road	Yuba City	II	Tharp Road	Gray Avenue	5,580
Stabler Lane	Yuba City	II	City Limits	500' e/o Butte House Road	6,334
Gray Avenue	Yuba City	II	Colusa Avenue	725' e/o Bridge Street	2,504
Gray Avenue	Yuba City	II	Bridge Street	Franklin Road	1,679
Washington Avenue	Yuba City	II	Onstatt Road	Live Oak Road	3,866
Queens Avenue	Yuba City	II	City Limits	Onstott Road	4,069
Teesdale Road	Yuba City	II	Railroad Avenue	Garden Highway	2,244
Clark Avenue	Yuba City	II	Franklin Road	Richland Road	3,284
B Street	Yuba City		Gray Avenue	Clark Avenue	1,485
Franklin Road	Yuba City	II	SR 99	Percy Avenue	5,259
				Total Feet of Class II	90,422
Walton Avenue	Sutter County	III	Bogue Road	2,150' n/o Bogue Road	2,151

Source: Yuba-Sutter Bikeway Master Plan, Final Report, Table 2, page 14, December 1995. Updated by resolution no. 02-066 on August 6, 2002.

13 Sacramento Area Council of Governments, *Regional Bicycle, Pedestrian and Trails Master Plan*, Final Draft Amendment, July 19, 2007.

14 Sacramento Area Council of Governments, *Regional Bicycle, Pedestrian and Trails Master Plan*, Final Draft Amendment, July 19, 2007.

Future Planned Bikeway Improvements

In its entirety the YSBMP proposed bikeway system includes approximately 395 miles (635 km) of bikeway facilities. The proposed facilities specifically within Sutter County include 3.7 miles (6.0 km) of Class I bikeways, 27.3 miles (43.9 km) of Class II bikeways and 171.9 miles (276.6 km) of Class III bikeways. The proposed system not only connects each city in Yuba and Sutter Counties, but provides regional connections to six other counties, including Butte, Colusa, Nevada, Placer, Sacramento and Yolo. Connections to multi-modal facilities are also identified along with the need for support facilities and programs. The Draft 2035 Metropolitan Transportation Plan has one planned bikeway improvement in Sutter County. Class II Bike Lanes will be added to El Margarita Road between SR 20 and Franklin Road.

The proposed Sutter Pointe Specific Plan calls for the construction of bike lanes and sidewalks to be completed in conjunction with roadway construction. Sutter Point proposes 34 miles of Class I Bike Paths and 18 miles of Class II bike lanes. This includes Class I bike paths along Riego Road and Sankey Road. Additionally, the proposed Sutter Pointe Plan identifies three pedestrian enhanced intersections along Riego Road east of SR 99/70. As previously noted, the proposed Sutter Pointe Specific Plan is subject to the review, refinement, and approval of Sutter County. As a result, the above information should be considered conceptual and subject to change.

REGULATORY SETTING

California Department of Transportation (Caltrans)

Caltrans sets requirements for the bicycle master plan and requires an adopted plan to eligible for State bicycle funding.

Sacramento Area Council of Governments (SACOG)

SACOG prepares the Regional Bicycle, Pedestrian, and Trails Master Plan, which includes facilities in Sutter County and sets priorities for funding.

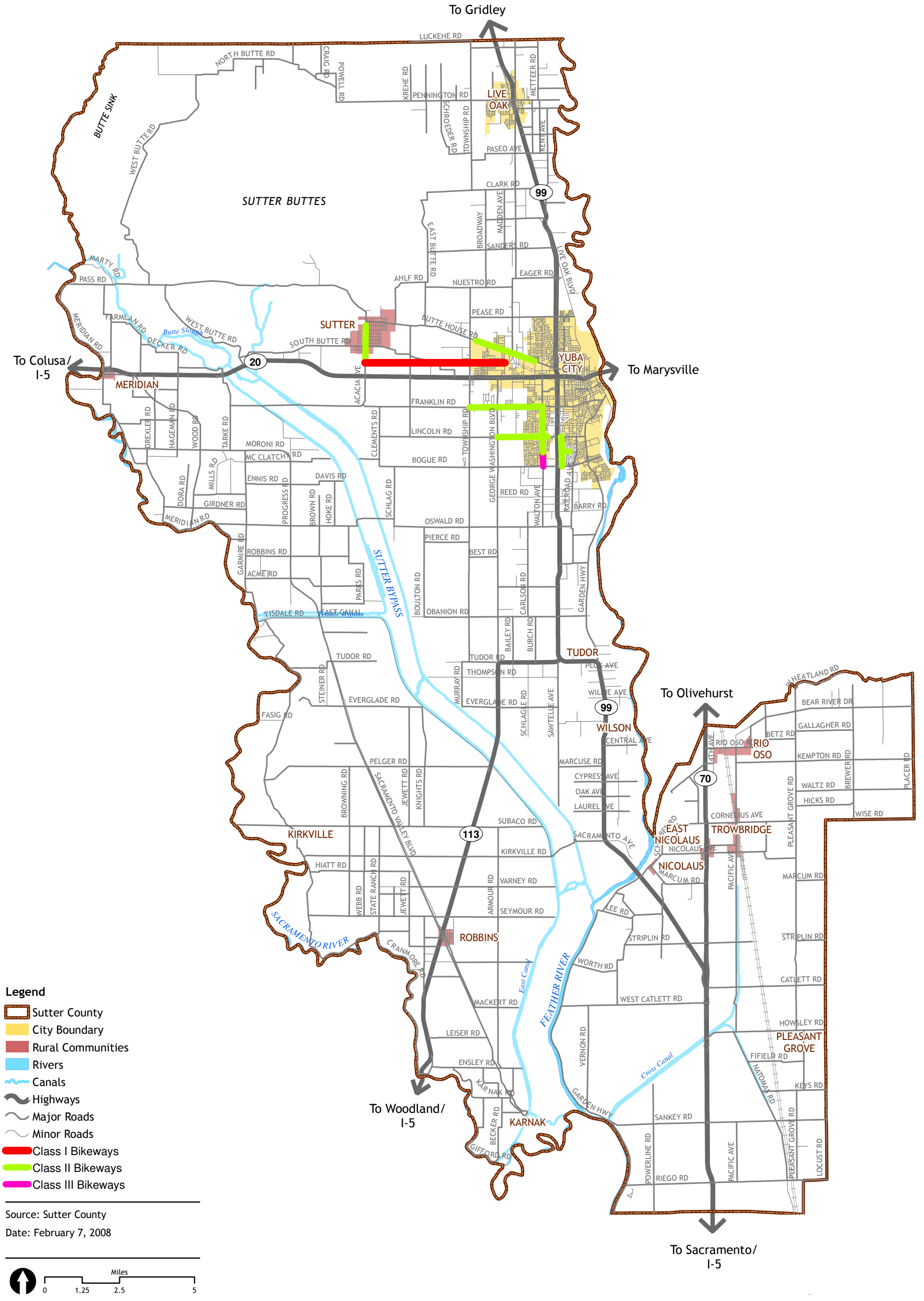
3.2.4 Air Travel and Airports

INTRODUCTION

This section describes the airports within and adjacent to Sutter County. Information for this section was obtained from the Sutter County Public Works Department, the Sacramento International Airport Master Plan, and the Annual Financial Report for the Sacramento County Airport System.

SUMMARY OF KEY FINDINGS

- Air transportation is provided to Sutter County via Sutter County Airport and Sacramento International Airport.



Legend

- Sutter County
- City Boundary
- Rural Communities
- Rivers
- Canals
- Highways
- Major Roads
- Minor Roads
- Class I Bikeways
- Class II Bikeways
- Class III Bikeways

Source: Sutter County

Date: February 7, 2008

Miles
0 1.25 2.5 5

PBS&J

SUTTER COUNTY EXISTING BIKEWAYS
Figure 3.2-4

EXISTING CONDITIONS

The two most relevant airports to Sutter County are the Sutter County Airport and the Sacramento International Airport. In addition, there are a number of small private air strips that serve agricultural purposes and private uses.

Sutter County Airport[15]

The Sutter County Airport is located on approximately 170 acres of land at 100 Airport Road, Yuba City, and is operated by the Sutter County Public Works Department. No commuter airlines utilize the Sutter County airport. Due to Sutter County's proximity and convenience to the Sacramento International Airport directly south of Sutter County, commercial service has not expanded into Sutter County.

The Sutter County airport has a single paved runway 3,040 feet in length and 75 feet wide. No control tower is located at this airport. A major portion of the airport operations are a result of civil aviation. The County adopted a master plan for airport operations in 1968.

Sacramento International Airport

Sacramento International Airport is located south of the Sutter County / Sacramento County border between the Sacramento River and Interstate 5. It began operations in 1967 and is served by fourteen major carriers and one commuter line.[16] There are more than 156 scheduled departures every day to many major U.S. cities and all major California cities. During fiscal year 2006, the airport accommodated approximately 129,000 operations (takeoffs and landings) on parallel runways that can accommodate up to 400,000 operations per year.[17]

Passenger traffic at the Sacramento International Airport is expected to increase over the coming years with the addition of new carriers, additional flights and the implementation of the Sacramento International Airport Master Plan and the Terminal Modernization Program, positioning the Airport to effectively accommodate the growth.[18]

REGULATORY SETTING

Federal

Federal Aviation Administration

The Federal Aviation Administration (FAA) is the Federal agency tasked with regulating civil aviation to promote safety, provide an air traffic control system for both military and civil aircraft, and respond to aircraft crash incidents. FAA regulations are mandated to ensure aircraft are suitable for flight, reduce the risk of crash hazards, and ensure that airports are sited and operated in a manner that poses the least possible risk to the public.

15 Sutter County, www.co.sutter.ca.us/doc/Government/depts/pw/county_airport, accessed November 29, 2007.

16 Sacramento International Airport, www.sacairports.org/int/about/index.html, and www.sacairports.org/int/about/history.html accessed December 4, 2007.

17 Sacramento County Airport System, "Comprehensive Annual Financial Report For the Sacramento County Airport System for the Fiscal Years Ended June 30, 2006 and 2005", page 7, November 2006.

18 Sacramento County Airport System, "Comprehensive Annual Financial Report For the Sacramento County Airport System for the Fiscal Years Ended June 30, 2006 and 2005", page 7, November 2006.

State

California Department of Transportation Division of Aeronautics

The California Department of Transportation (Caltrans) Division of Aeronautics performs many functions to promote aviation safety in California. The division uses the State Aeronautics Act, Public Utilities Code (PUC) Sections 21001 et seq. to provide policies that promote safety in aeronautics. Functions of the division include issuing permits, providing airport inspection and design regulations, planning to ensure consistency with Federal regulations, and providing grants to airports to improve safety.

3.3 COMMUNITY SERVICES AND FACILITIES

Sutter County is committed to sustaining the health and safety of its residents, labor force, and visitors. Protection from the risks of natural and man-made hazards, crime, and disease and provision of a safe and attractive community for all residents through the maintenance of parks, schools, and civic and cultural facilities are essential in establishing a sense of well-being for residents and attracting new businesses and quality jobs to the county.

3.3.1 Law Enforcement

INTRODUCTION

This section identifies the law enforcement service providers for Sutter County and describes facilities, staffing levels and equipment, service programs, crime statistics, and crime prevention programs.

Law enforcement and crime prevention are provided to Sutter County residents to uphold State, federal, and local laws, provide emergency assistance, and to protect people and property. As unincorporated Sutter County continues to grow, equipment and staffing to meet the added demand for law enforcement services will be an issue.

SUMMARY OF KEY FINDINGS

- The Sutter County Sheriff's Department provides police protection services within unincorporated Sutter County and the City of Live Oak.
- California Highway Patrol (CHP) provides traffic enforcement on all highways in the county and all roadways in the unincorporated county area.
- The Yuba City Police Department provides police protection within the City of Yuba City, but not to all incorporated areas currently within the city limits.
- The Sutter County Sheriff's Department is authorized to staff 58 sworn deputies, 54 correctional officers, and 34 civilian staff. Correctional officers do not have peace officer powers (i.e., do not make arrests, etc.), and work exclusively in the jail or as court bailiffs. As of January 1, 2008, the Department has 51 sworn deputies, 47 sworn correctional officers, and 33 civilian staff.
- The Sutter County Sheriff Department's response times for 2006 county priority I calls average 8 minutes 11 seconds, while county priority II calls average 9 minutes 54 seconds.[1] The Sheriff's department currently has no response time standards.
- While population continues to increase in Sutter County, over the last three years, the reported crimes in the county have dropped in numbers.
- The rise in rural crimes such as metal theft; illegal dumping; vandalism; methamphetamine labs; and thefts of farm equipment, chemicals, livestock, and crops highlights the need for rural crime prevention.

1 Denney, Jim, Sheriff, Sutter County Sheriffs Department, personal communication, September 14, 2007.

- Yuba City Police Department will gradually assume service for the Walton/Happy Park region and the recent annexation of a majority of the Tierra Buena area.
- The Sutter County Sheriff Department has indicated that the current Sutter County jail facility is in need of a building expansion. The current County jail has a capacity of 352 inmates, and between spring 2007 and fall 2007, the jail consistently housed over 300 inmates.
- As more growth occurs in the incorporated City of Live Oak, increased facilities and officers will be needed to meet service demands.

EXISTING CONDITIONS

The Sutter County Sheriff's Department has the responsibility for providing law enforcement services to the unincorporated county area as well as being contracted to provide service to the City of Live Oak. The CHP provides traffic enforcement on all highways and roadways in the unincorporated area. Additional law enforcement services are provided to the county through the District Attorney's office. Yuba City Police Department provides all law enforcement services in the incorporated City of Yuba City.

Sutter County Sheriff's Department

There is one Sherriff dispatch center and one sub-station located in Sutter County that provide service to the unincorporated county area, as well as the City of Live Oak. The dispatch center is located on Civic Center Boulevard at the Sutter County offices in Yuba City. This location contains the County Sheriff's headquarters and a dispatch office that serves as the hub of all dispatch activity for both sheriff and fire services for Sutter County. The Sheriff's Department also has a sub-station located on O Street in the City of Live Oak. The Live Oak Sub-Station does not have its own dispatch center; rather all calls are routed through the dispatch center in Yuba City.

The City of Live Oak currently contracts with the Sutter County Sheriff's Office for law enforcement officers to service approximately 8,100 Live Oak residents. The contract area includes the Live Oak city limits and the surrounding rural area. The boundaries are encompassed by the county line on the north, Feather River on the east, Paseo Road to the south, and Township Road to the west. The patrol services are provided by County Sheriff's Department staff made up of 7 patrol deputies, 1 patrol sergeant, and 1 lieutenant assigned to the substation located next to the fire station on the corner of Fir Street and O Street in Live Oak.

In 2000, an agreement was reached (Master Tax Agreement) with the City of Yuba City to provide law enforcement for portions of the unincorporated county area south of Yuba City and the Tierra Buena area. The agreement stated that Yuba City would take over areas that were annexed into the city, but still patrolled by the Sheriff's Department. Effective January 1, 2008, Yuba City has agreed to assume all law enforcement duties from Franklin Road north to Pease Road.

Staffing

The Sutter County Sheriff's Department is authorized to staff 58 sworn deputies, 54 correctional officers, and 34 civilian staff. Correctional officers do not have peace officer powers (do not make arrest, etc), and work exclusively in the jail or as court bailiffs. As of January 1, 2008, the Department has 51 sworn deputies, 47 sworn correctional officers, and 33 civilian staff. The

County Sheriff's Department adopted officer-to-residential ratio is 1.1 sworn officer per 1,000 persons and 0.06 support personnel per 1,000 persons (ratio based on population including incorporated areas of Sutter County).[2] When computing officer to citizen ratio's only fully sworn deputies are accounted for in the computation. As of 2008, the current population-to-officer ratio is approximately 1.6 sworn officers per 1,000 persons for the Sheriff's Department service area, which includes unincorporated County area and the City of Live Oak. The Department is well within the officer-to-residential goal for the county.

Sheriff Divisions

Patrol Division

The Patrol Division is led by the patrol captain who is responsible for the budget, personnel, and special units. These units consist of the Boat Patrol, Live Oak Contract, Search and Rescue, Dive Team, Swift Water Rescue Team, Canine, Special Enforcement Detail Team (SED), Reserves, Cadets, mounted Posse, and the Citizen Volunteers.

The Patrol Division has a total staff of 44 composed of 35 deputies, six sergeants, two lieutenants and one captain. Eight Patrol Division deputies, one sergeant, and one lieutenant are stationed at the City of Live Oak office to serve and patrol the surrounding areas.

Sutter County Sheriff's Department also utilizes two levels of reserve deputes in various divisions, but predominantly in the Patrol Division – level one and level two. There are currently four level one reserve deputies and 22 level two reserve deputies serving in the county. Level one reserve deputies are assigned to solo patrols, while level two reserve deputies are supervised by a full time deputy. All reserve deputes are required to maintain their skills through monthly meetings, training, and work hours.

With shifts scheduled around the clock, the patrol division provides protection and service every day of the year. Responses to emergency calls are prioritized according to urgency, with priority I and II being the most urgent calls in need of response. The Sutter County Sherriff's Department response times for 2006 county priority I calls averaged 8 minutes 11 seconds, while county priority II calls averaged 9 minutes 54 seconds.[3] While there is no codified response time standard, the Sheriff's Department has a response time goal of 7 minutes or less on priority I calls.

School Resource Officers (SRO)

County Sherriff's officers patrol the schools in the county on a continuous rotation cycle. Sutter County currently has two deputies assigned as School Resource Officers (SRO) during the school year. The program places law enforcement officers in schools with the goal of creating and maintaining a safe and secure learning environment for students, teachers, and staff. SROs represent a proactive strategy designed to bring prevention and intervention into the schools.

River Patrol

The River Boat and All Terrain Vehicle (ATV) Patrol is another area serviced by 2 sheriff deputies along with 1 sergeant on a half time basis. The Sutter County Sheriff's Department routinely patrols approximately 10 miles of the Feather River bottoms during the spring, summer, and fall months with the use of the ATV patrol unit. The goal of the unit is to ensure the

2 Denney Jim, Sheriff, Sutter County Sheriffs Department, personal communication, September 14, 2007.
3 Denney Jim, Sheriff, Sutter County Sheriffs Department, personal communication, September 14, 2007.

public's safety while they use the river bottoms. The ATV deputies patrol the area enforcing State and county regulations.

Swift Water Rescue Team (S.W.A.R.T)

The Swift Water Rescue Team became fully functional after the 1997 flood. The Swift Water Rescue Team works in conjunction with the Sutter County Sheriff's Department Boat Patrol and local fire departments that also have a Swift Water Rescue Team. The Swift Water Rescue Team is trained in emergency boat rescue, removing people from homes who have become flood victims and aiding other agencies in the retrieval of animals.

K-9 Patrol

The Sutter County Sheriff's Department maintains a Canine Unit that was established in 1969. The County currently has six canine teams. Four of the teams operate out of the Department's main office, while one team is assigned to the Live Oak Sub-Station and one team operates out of the Net-5 investigation division. All of the officer protection dogs are cross trained as narcotics dogs and respond to incidents including felonies and jail incidents, and when called upon, the Canine Unit is also available to outside agencies.

Detective Division

The Detective Division is mainly responsible for felony investigations, coroner investigations, internal investigations, and any public administration cases. The Detective Division has specialties which range from computer voice stress analyzer, firearms and forensic ballistics, identi-kit, finger print identification, sex crimes, and criminal intelligence. The Division commander oversees a staff of two detective sergeants, four detectives, one evidence officer, and two narcotic enforcement team detectives.

Support Division

The 25 sworn and non-sworn personnel in the Support Division service the Dispatch Center, Records Division, Civil Division, and Training. Some of the responsibilities of the Support Division include (but are not limited to) radio communication, emergency medical dispatching, specialized and technical clerical duties, warrants, live-scan fingerprinting, processing of civil papers, concealed weapons permits, and other safety permits. The Support Division is also responsible for enforcing and upholding court orders for real or personal property, warrants, writs, bank levees, as well as preparing and entering civil judgments for distribution of services.

Other Sheriff Teams and Programs

Other specialized teams and programs provide additional services to Sutter County residents as part of the Sheriffs Department law enforcement agency.

Dive Team

The Dive Team is a select group of officers trained in underwater search, rescue, and recovery. Visibility is limited in the rivers and waterways of the county and divers are trained annually in dive techniques and crime scene procedures.

Special Enforcement Detail Team (SED)

The role of the Special Enforcement Detail (SED) Team is to respond to and handle critical incidents, with the goal of resolving the incident without injury or the loss of life. The SED Team

is comprised of 10 to 12 deputies including team commanders, team leaders, assistant team leaders, and four hostage negotiators. Special training includes basic SWAT, use of chemical agents, non lethal force munitions and firearms, diversionary devices, negotiation, and special weapons training.

Aero-Squadron

The Aero-Squadron (YSSAS) is a volunteer non-profit organization dedicated to providing aerial support to Yuba and Sutter County Sheriff's Departments. Some of the YSSAS tasks have included search and rescue, aerial observation, and emergency transportation of Sheriff's Department personnel.

County Crime Statistics

For reporting purposes, criminal offenses are divided into two major groups: (1) Part I crimes, and (2) Part II crimes. The Federal Bureau of Investigations (FBI) defines Part I crimes as violent in nature and Part II crimes as property crimes. Aggravated assault, forcible rape, murder, and robbery are classified as violent, while arson, burglary, larceny-theft, and motor vehicle theft are classified as property crimes. Part I crimes receive the highest level of importance when received by the dispatching officer and attended to immediately by law enforcement services.

Part I crimes have not risen significantly in the Sheriffs service areas (including the City of Live Oak) in spite of a marked increase in population in the county. Arrests as a percent of reports have decreased since 1997, from 62 to 28 percent according to statistics provided by the Sutter County Sheriff's Department. Reported Part I crimes that occurred in the Sheriff's jurisdiction in 2006 were 1,481 compared to 1,572 crimes reported in 2005. Table 3.3-1 gives a breakdown of the reported Part I and II crimes for the unincorporated county area during 2005. Even with the increase in population, 2006 crime figures fell below 1994 crime figures with 1,496 Part I crimes reported. Table 3.3-2 gives an overview of reported crimes for Sutter County over the past 3 years. Reported crimes have dropped in numbers, while the countywide population continues to increase. Drops in crime statistics for the Sutter County and Live Oak have been attributed to the new proactive preventative approach program implemented by the Sheriff's Department that works with community members to stop crime before it occurs.

Table 3.3-1. 2005 Unincorporated Sutter County Crime Statistics

Classification	Crimes	Totals
Part I crimes	Homicide	0
	Forcible Rape	10
	Robbery	13
	Aggravated Assault	128
	Burglary	372
Part II crimes	Motor Vehicle Theft	89
	Larceny Theft Over $400	211
	Larceny Theft $400 and Under	424
	Arson	7

Source: California department of Justice, Office of the Attorney general, and criminal Justice Profiles, http://ag.ca.gov/, accessed March 7, 2007.

Table 3.3-2. Sutter County Crime Statistics

	2003	2004	2005
Violent Crimes	340	354	326
Property Crimes	1,856	1,800	1,524
Larceny Theft	2,258	2,121	1,920
Arson	22	36	16
Total	**4,476**	**4,311**	**3,786**

Source: California department of Justice, Office of the Attorney general, and criminal Justice Profiles, http://ag.ca.gov/, accessed March 7, 2007.

Sutter County's total prison bookings between July 2006 and July 2007 were logged at 4,879 for both incorporated and unincorporated areas. With an average of 14 bookings per day, 58 percent of the bookings were logged as felony charges and 42 percent were misdemeanor charges.

Crime Prevention

The Rural Crime Prevention Program through the California Farm Bureau Federation aims to improve the lines of communication between local law enforcement agencies and the agricultural community. The rise in rural crimes such as metal theft; illegal dumping; vandalism; methamphetamine labs; and thefts of farm equipment, chemicals, livestock, and crops highlights the need for rural crime prevention.

The Sheriffs Department is taking a proactive approach to crime prevention through a departmental change from "reactive" to "proactive" patrolling and interaction before a crime occurs. Deputies are assigned county areas and are encouraged to get to know the people in those areas. Together, they will use available resources to proactively solve problems. The "proactive" law enforcement philosophy has effectively reduced Part I crimes, bringing them below 1991 levels.

Homeland Security

The Sheriff's Department is a partner in the Sutter Regional Homeland Security Task Force and provides a link to federal homeland security programs.

California Highway Patrol

The California Highway Patrol (CHP) has 1 office in the City of Yuba City, which serves Sutter and Yuba Counties, as well as portions of Butte, Plumas, and Sierra Counties. The office is staffed with 29 officers, 4 sergeants, and 1 captain that assist with law enforcement, traffic control, accident investigation, and hazardous spills. The CHP has a mutual aid agreement with the Sutter County Sheriff's Department to respond with backup units as needed. All dispatch calls are routed through the Chico CHP dispatch center.

Yuba City Police

The City of Yuba City is currently divided into 4 primary patrol areas or beats patrolled by 36 police officers. Supervisory officers, crime scene investigators, and traffic enforcement patrols have full City coverage. The Yuba City Police Department is supervised by the police captain with the support of 3 lieutenants and 5 sergeants. With the addition of the Walton/Happy Park region and the recent annexation of a majority of the Tierra Buena area, 2 additional City police beats will be added as the Yuba City Police Department gradually assumes service for these segments of the community from the Sutter County Sheriff's Office.

Judicial

Criminal Justice includes the Sutter County Probation Department, and Sutter County Courts, along with the District Attorney's office. The District Attorney's office prosecutes on behalf of the people of Sutter County, all individuals, both adult and juvenile, accused of felonies, misdemeanors, and infractions occurring in the county. The District Attorney's office is located on 2nd Street in Yuba City. The County courthouse offices are split into 2 locations with Courthouse West housing the administrative and criminal trial and jury processing and Courthouse East housing civil suits, small claims, and human resources. Both sections of the Courthouse are located on Second Street in Yuba City.

Incarceration

The Incarceration Department is part of the County Probation Department and is divided into 4 basic units: Juvenile Services, Adult Services, Administrative Services, and Prevention Services. The Adult Services and Juvenile Services include supervision and investigation. Prevention Services include probation officers assigned to Andros Karperos and Gray Avenue Middle Schools, Feather River Academy and Positive Attendance with Yuba City Unified School District (YCUSD). Other specialized programs include an Adult Drug Court, Proposition 36 Supervision, the Family Intervention Team, and the Stepping Stones Aftercare Program for minors committed to the Maxine Singer Youth Guidance Center.

Adult Facilities

The Sutter County Jail Commander and a Lieutenant oversee personnel consisting of 5 correctional sergeants, 47 correctional officers, 6 jail nurses, and 1 outside work release coordinator. The jail personnel perform several specialty assignments in addition to maintaining the care and custody of the inmates. These specialty assignments consist of civil officer, transportation, court bailiff, jail reserve program, and hostage negotiations.

The Sutter County Main Jail is located at 1077 Civic Center Boulevard in Yuba City. The main portion of the jail was built in 1977 and has had several construction modifications since then. The Sheriffs Department has indicated that the current County jail facility is in need of a building expansion.[4] The current County jail has a capacity of 352 inmates, and between spring 2007 and fall 2007, the jail consistently housed over 300 inmates. The average inmate population is 286 inmates, with approximately 87 percent males and 13 percent females.

Juvenile Facilities

The Yuba-Sutter Juvenile Hall is a bi-county facility serving both Yuba and Sutter Counties. The facility is located on 14th Street in the City of Marysville. The Juvenile Courts, Juvenile Justice Commissions, and Juvenile Probation Departments of both counties govern this facility. The Yuba-Sutter Juvenile Hall is a 45 bed detention facility for offenders under 18 years of age. Comprehensive correctional service programs, educational, and mental health services are provided to residents.

In addition to the detention center for correctional services, the Camp Singer Youth Guidance Center is located at this site. Camp Singer, or Boot Camp, is for low-risk detainee. The Maxine Singer Youth Guidance Center is a 12 bed Boot Camp program for female offenders. Comprehensive services and substance abuse counseling is provided to residents. Community

4 Jim Denney, Sheriff-Coroner, Sutter County Board of Supervisors meeting minutes 2/05/07.

services work projects are undertaken and the Wards work closely with local schools and civic groups. Specialized program elements include small engine repair, a construction technology class, anger management, and family services.

Private Facilities

The Leo Chesney Correctional Facility (LCCF), located on Apricot Street in the City of Live Oak is a privately owned and operated minimum security women's prison. It is currently under extensive construction. The facility is designed to house 220 inmates. The staff consists of one facility director, one program director, one food services director, correctional officers, one social worker, and one teacher. LCCF receives 10 to 20 new inmates per week which classifies it as a Level 1 and Level 2 minimum security facility.

REGULATORY CONTEXT

Federal, State and Local

There are no federal, Sate, or local policies that are directly applicable to police services within the county.

3.3.2 Fire Protection and Emergency Services

INTRODUCTION

This section provides information on the existing fire and emergency services within the county. Current staffing, equipment, response times, and adopted standards for these services are described along with their ability to meet the needs of Sutter County. Information for this section was obtained from the Yuba City Fire Department website, the current Grand Jury Report, and communication with staff from the Sutter County Fire Department.

Fire protection is a fundamental safety component of the services provided by the County to area residents minimizing the loss of life from fires. With continued growth in both the incorporated and unincorporated county areas, additional facilities and staffing will play a vital role in maintaining adequate levels of service in Sutter County.

SUMMARY OF KEY FINDINGS

- Fire protection and emergency services are provided by 4 County Service Areas (CSA) and 2 independent Fire Protection Districts.
- CSA's C, D, and F are overseen by Sutter County Fire Chief who allocates funds to the service areas.
- The CSA-G is under Sutter County Fire Department's jurisdiction but has been contracted back to the City of Yuba City along with funding allocations to cover all fire services within CSA-G.
- Meridian and the Sutter Basin are independent fire protection districts, have separate funding, and are not overseen by the Sutter County Fire Chief.
- New development and community growth has increased the number of calls for service in recent years.

- Response times in the urban areas of Live Oak and the community of Sutter averages less than 5 minutes. Response times for other service areas and district are not regularly maintained due to the volunteer status of area fire station staff.
- Currently, funding for County service districts generated from general revenue, property taxes, and a special fire tax that is allocated by the Fire Chief through annual budget, but in fact, has not been enough to cover staffing, new facilities, or maintenance.
- The Meridian and Sutter Basin independent fire districts receive no funds from Sutter County and are funded solely by community property taxes and fundraisers.

EXISTING CONDITIONS

Fire protection and emergency services are provided by 4 County Service Areas (CSA) and 2 independent Fire Protection Districts, as illustrated on Figure 3.3-1. The 4 CSA's are governed by the County Board of Supervisors and directed by the Fire Chief and include CSA-C, CSA-D, CSA-F, and CSA-G. The other 2 districts serving Sutter County include Meridian Fire Protection District, and Sutter Basin Fire Protection District. Both districts have their own independent governing boards. The fire districts in Sutter County are also equipped to provide medical aid at the basic life support level with the ability to perform emergency cardiac shock (defibrillation).

The Sutter County Fire Chief and 2 captains oversee operations and service to approximately 360 square miles within the largest CSAs C, D, and F. CSA-G is operated by the Yuba City Fire Department. The Sutter County Fire Chief is also responsible for all budgetary allocations and future funding mechanisms for all service areas except for CSA-G, which is funded through Yuba City Fire Department. In addition, Meridian and the Sutter Basin are independent fire protection districts and have separate funding not overseen by the Sutter County Fire Chief. The facilities and staffing at each CSA and Protection District is described in more detail below.

Many of the fire stations in the county utilize volunteer firefighters as the primary staff or to supplement staffing as needed. Volunteer firefighters are a very important part of delivering fire and emergency services, as they supplement the limited number of career firefighters. Unpaid volunteers receive the same training as career firefighters and come primarily from the local community, Yuba Community College, and Butte Community College Fire Academy.

New development and community growth has increased the number of calls for service in recent years. As presented in Table 3.3-3, in 2006, CSA-F received a total of 1,934 calls, up from previous years. Response time in the urban areas of Live Oak and Sutter averages less than 5 minutes.[5] Response times in the rural areas and the all-volunteer departments vary. The emergency dispatch center for all fire service areas, except Yuba City and Sutter Basin (Robbins), is located at the Sutter County Sheriff's office. Yuba City Fire Department personnel are dispatched by the Yuba City Police Department and Yolo County receives emergency calls and dispatches Robbins personnel. Fire personnel receive calls by mobile and portable radios on dedicated frequencies.

5 Sutter, County of. Grand Jury 2007 Report, February 2007.

Table 3.3-3. Fire Calls, 2006

	Number of Calls
CSA-C	178
CSA-D	237
CSA-F	1,934
CSA-G	6,120
Meridian Fire Protection District	N/A
Sutter Basin Fire Protection District	85-100

Source: Yager Dan, Fire Chief, Sutter County Fire Department, personal communication, September 18, 2007.

CSA-C

CSA-C contains the rural areas bordered by the Bear River/Yuba County line on the north and the Feather River on the west. CSA-C includes the communities of Nicolaus, East Nicolaus, and Rio Oso. Two stations are located in the CSA-C, and include the East Nicolause Fire Station number 85 and the Rio Oso Station number 85-2, as described below. The day to day operations are overseen by the volunteer Fire Chiefs at each of the two stations. Due to the predominantly volunteer firefighting staff, average response times are not regularly maintained for the service area. The Insurance Services Office (ISO) rating for all of the stations in CSA-C is 8 for structures within 5 miles of a station and 10 for structures farther than 5 miles from a station. One seasonal firefighter covers both CSA-C and CSA-D for approximately one month during harvest season. This firefighter is hired by CSA-F.

East Nicolaus Fire Station Number 85

The East Nicolaus Fire Station is located on Nicolaus Avenue and shares a staff of 13 to 14 volunteer firefighters with the Rio Oso Sub-Station. During harvest season (roughly one month out of the year) an additional seasonal firefighter is transferred from CSA-F to CSA-C to cover the high fire season. The station houses four fire station vehicles maintained by staff.

Rio Oso Station Number 85-2

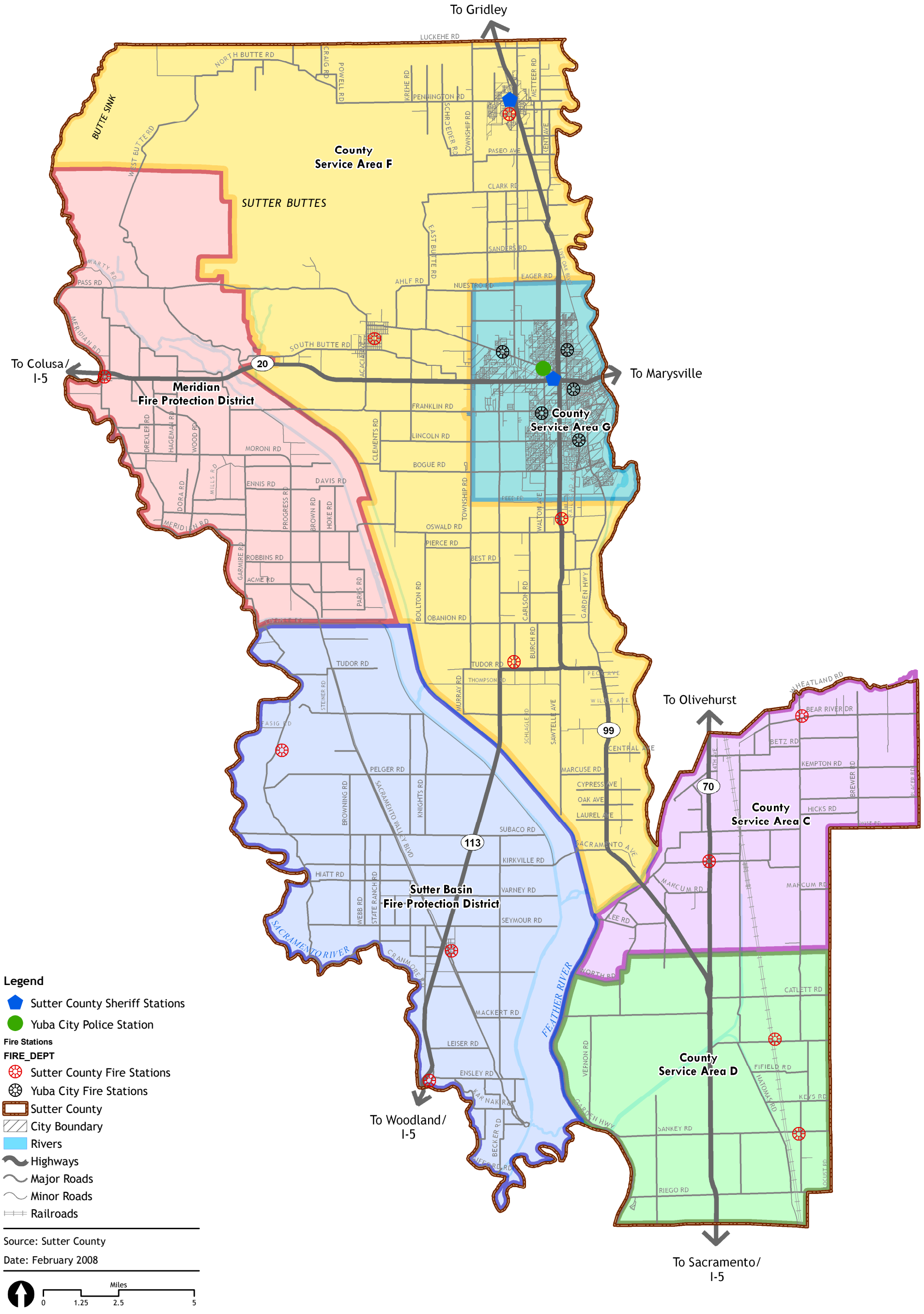
The Rio Oso Station is a sub-station of the East Nicolaus Fire Department and shares the volunteer firefighting staff with the East Nicolaus Fire Station.

CSA-D

CSA-D provides service to the rural area north of the Sacramento County line, between Placer County and the Feather River. Two stations are located in CSA-D, and include the Pleasant Grove Fire Station number 9 and the Pleasant Grove Fire Station number 9-2, as described below. The day to day operations are overseen by the volunteer Fire Chiefs. Due to the predominantly volunteer firefighting staff average response times are not regularly calculated for the service area. The ISO Rating for all of the stations in CSA-D is 8 for structures within 5 miles of a station and 10 for structures farther than 5 miles from a station.

Pleasant Grove Fire Station Number 9

Pleasant Grove Fire Station Number 9 is located on Howsley Road in the community of Pleasant Grove. It is a volunteer station staffed by 18 volunteers and one seasonal firefighter that is utilized by CSA-C and CSA-D covering the one month of harvest season. The station houses five fire station vehicles on site.



Legend

- Sutter County Sheriff Stations
- Yuba City Police Station

Fire Stations

FIRE_DEPT

- Sutter County Fire Stations
- Yuba City Fire Stations
- Sutter County
- City Boundary
- Rivers
- Highways
- Major Roads
- Minor Roads
- Railroads

Source: Sutter County

Date: February 2008

Miles
0 1.25 2.5 5

PBS&J

LAW ENFORCEMENT AND FIRE PROTECTION
Figure 3.3-1

Pleasant Grove Fire Station Number 9-2

Pleasant Grove Fire Station Number 9-2 is the second fire station in the Pleasant Grove community located on Sankey Road. The station shares volunteer staff with the Pleasant Grove Fire Station Number 9 and houses 4 fire station vehicles on site.

CSA-F

CSA-F includes three stations – Live Oak Fire Station, Sutter Fire Station, and Oswald-Tudor Fire Station. The Service Area covers rural and urban areas in the northern portion of the county and south of Yuba City. Each station is staffed with 3 Lieutenants; 1 Fire Apparatus Engineer; and approximately 12 volunteer fire fighters. Four seasonal firefighters are hired during "fire season" and shared between the three CSA-F stations. Seasonal firefighters are hired to augment the Career Staff during "fire season," when the calls for service typically increase. Recruitment and retention of volunteer staff has been difficult in this Service Area and a Reserve Firefighter Program is being developed for the Live Oak station to improve volunteer staffing and retention.

The Sutter County Fire Chief directly oversees CSA-F maintaining data for the service area. In 2006 CSA-F had and average response times of 7 minutes and 57 seconds within the service area.[6]

Live Oak Fire Station Number 5

The City of Live Oak contracts with Sutter County for fire services. Live Oak Station response times in the urban areas of the City average less than 5 minutes. The Live Oak stations ISO is rated at a 3 and 4 when the call is located within 5 miles of the station. When calls are outside of the municipal water system but sill within 5 miles of a station the ISO drops to a 5. The ISO ratings are higher in the incorporated areas because of the available water supply and water pressure provided by the municipal water systems. If the housing is located farther than 5 miles from a station the ISO is at 8 and if it is a commercial structure the rating drops to 9.

The Live Oak Fire Station Number 5 is located on Fir Street attached to the Sheriff's substation, in the City of Live Oak. The station houses a total of 9 fire station vehicles and is staffed with 3 Lieutenants and 1 Fire Apparatus Engineer. There are no firefighters stationed at the Live Oak Fire Station Number 5; however, a volunteer fire fighting crew of approximately 12 services the area along with four seasonal firefighters that are divided between the three CSA-F stations.

Sutter Fire Station Number 6

The Sutter Fire Station Number 6 provides services to the Sutter community and supports other stations as needed. This station is staffed with 3 Lieutenants and 1 Fire Apparatus Engineer. There are no firefighters stationed at the Sutter Fire Station Number 6; however, a volunteer fire fighting crew of approximately 12 services the area along with four seasonal firefighters that are divided between the three CSA-F stations.

In addition, the Sutter County Emergency Operations Center is located at the Sutter Station, and chosen for its geographical location within the county. The Sutter Station's ISO is 3 when 1,000 feet from a fire hydrant and 5 if it is 5 miles away from a station and over 1,000 feet from a fire hydrant. The ISO for structures farther than 5 miles from a station is 10. There are 6 fire

6 Yager Dan, Fire Chief, Sutter County Fire Department, personal communication, September 18, 2007.

station vehicles housed at this station with specialized equipment for both hazardous materials and specialized rescue. The Sutter County Fire Department has a Hazardous Materials Response Team with equipment and personnel trained to mitigate hazardous materials releases. Other services provided include technical rescue capabilities and public education programs promoting fire safety at all local elementary schools. The Sutter Station response times averages less than 5 minutes.

Oswald-Tudor Fire Station Number 8

The Oswald-Tudor Fire Station Number 8 is located on Barry Road, south of Yuba City. This station is staffed with 3 Lieutenants and 1 Fire Apparatus Engineer. There are no firefighters stationed at the Oswald-Tudor Fire Station Number 8; however, a volunteer fire fighting crew of approximately 12 services the area along with four seasonal firefighters that are divided between the three CSA-F stations.

The Oswald-Tudor Fire Station has the distinction of housing Sutter County's "Hazmat" (hazardous materials) response vehicle due to its central geographical location within the county. The station also houses five fire station vehicles on site. The Oswald Tudor ISO Rating is 5 for structures within 5 miles of a station and 9 for structures farther than 5 miles from a station. The Oswald-Tudor Fire Station also has a sub-station located on Bailey Road, south of the Oswald-Tudor Fire Station. This station has one fire engine and the ISO rating for this district also applies to within 5 miles of this station.

CSA-G

In 2001, the Walton Fire Protection District merged with the Yuba City Fire Department to form the CSA-G, which now encompasses the City of Yuba City and the protection areas surrounding the City beyond the sphere of influence boundaries. The CSA-G is under Sutter County Fire Department's jurisdiction but has been contracted back to Yuba City along with funding allocations to cover all fire services within CSA-G. The day to day operations are overseen by fire captains. The merged CSA-G serves a combined city/county service area of approximately 30 square miles and 66,000 residents. Because of the mostly volunteer firefighting staff in the unincorporated areas the CSA's, average response times are not regularly maintained.

With the CSA-G merger Yuba City Fire Department took over responsibility for Fire Station Number 4 (211 S. Walton Ave.) and Number 7 (2855 Butte House Rd.) that had previously serviced the unincorporated areas around Yuba City. Other Yuba City stations included in the recently merged service district are Clark Avenue Station Number 1, Gray Avenue Station Number 2, and the Lincoln Road Station Number 3.

Walton Avenue Station Number 4

The Walton Avenue Fire Station Number 4 level of service has begun being adversely affected by recent development in the area and is being looked at for possible relocation to a site west of Ohlever Road, south of Franklin Road in Yuba City. The station is staffed full time, 24 hours a day, with 3 fulltime firefighters that rotate in from the overall district firefighting staff of 49. The station currently houses a total of 8 fire station vehicles on site.

Tierra Buena Fire Station Number 7

The Tierra Buena Fire Station Number 7 is located on Butte House Road in the community of Tierra Buena and is staffed with 2 full time firefighters and additional volunteer staff. The station currently houses 4 fire station vehicles.

Meridian Fire Protection District

The Meridian Fire District is an independent district covering approximately 93 square miles providing fire protection to areas bounded by the Sacramento River, Tisdale Weir, Sutter By-pass and CSA-F. One fire station is located within this district.

The Meridian Fire Station Number 65

The Meridian Fire Station Number 65 is located in the community of Meridian and is a part time station staffed with 1 paid firefighter during the week. The station is supplemented with 18 or more volunteer firefighters during high fire season. Seven fire station vehicles are housed on site for use in the service area.

Sutter Basin Fire Protection District

Robbins-Sutter Basin Fire Station Number 1, 2, and 3

The Robbins-Sutter Basin Fire Protection District is an independent district governed by a 3-member board. The Fire Department staff consists of 19 volunteers, 4 of whom are Emergency Medical Technicians. Staff provides support to the Pepper Street Station (Number 1) located in Robbins, the South Knights Road Station (Number 2) located just outside Robbins, and the Cranmore Road Station (Number 3) located between Robbins and Knights Landing. The Pepper Street Station houses 3 vehicles and the other stations each house 1 vehicle. All dispatch to the Sutter Basin Fire Protection District is routed through the Yolo County dispatch center to the area fire stations. The District has approximately 900 residents with anywhere from 85 to100 emergency calls received and dispatched through Yolo County per year.[7]

Mutual Aid

Mutual Aid agreements are established between all of the CSDs and Fire Protection Districts to address any major fire incident within both the incorporated and unincorporated areas of Sutter County. The internal mutual aid agreement provides for automatic sharing of emergency resources between adjacent agencies. Sutter County and its fire departments depend heavily on volunteer firefighters and mutual aid. In addition, the Sutter County Fire Department has established mutual aid agreements with neighboring Yuba and Yolo Counties to assist as needed during major fire incidents. These agreements allow them to draw personnel and/or equipment from either County, as necessary.

Sutter County is also part of a statewide master mutual aid agreement. When possible, the County will provide emergency services anywhere in the state for such events as forest fires during fire season.

Funding

Increased residential development and subsequent added population in the county have increased service needs with no subsequent increase in staff or funding for new or updated facilities. Currently, funding for County fire departments is generated from general revenue property taxes and a special fire tax that is allocated by the Fire Chief through the annual budget; however, additional funding mechanisms have not been developed. Additional funds for CSA-F are received from the City of Live Oak under the current contract between the City of

7 Yager Dan, Fire Chief, Sutter County Fire Department, personal communication, September 18, 2007.

Live Oak and the County Fire Department. Funds are used to maintain and update fire safety and emergency response equipment. Maintenance for all County fire vehicles and equipment is performed by the appropriate County department or contracted out if the required maintenance cannot be completed in-house.

It should be noted that the independent fire districts such as Meridian and Robbins receives no funds from Sutter County and are funded solely by community property taxes and fundraisers.

REGULATORY CONTEXT

Federal

There are no federal regulations related to fire protection services that apply to the Planning Area.

State

California Fire Code

The California Fire Code contains specialized regulations related to construction, maintenance, and use of buildings in relation to fire and safety. The extent of the code coverage pertains to fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to aid fire responders, industrial processes, and other fire-safety requirements for new and existing buildings.

California Health and Safety Code

Sate fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, include regulations for building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

Local

The Building and Fire Division of the County of Sutter is a part of the Community Services Department and is charged with the enforcement of both the Uniform Building Code and the Uniform Fire Code for the purpose of public health and safety.

There are currently no local standards for equipment, staffing, or levels of fire service in the county. Station IOS standards are designated and outlined in the preceding sections.

3.3.3 Schools

INTRODUCTION

This section provides an overview of the school districts which serve Sutter County and includes a description of existing and planned facilities as well as enrollment and capacity of existing facilities. Information from this section is based on state education data and communication with staff at several of the school district offices.

Sutter County educational opportunities are an important component to overall vitality of the region. The potential for an increased skilled workforce is directly proportional to educational opportunities available to area residents. It is important to understand the capacity of existing and planned school facilities to be able to assess future needs.

SUMMARY OF KEY FINDINGS

- Sutter County is served by 13 different public school districts at the elementary, middle school, and high school level. Included in the total is the Woodland Unified School District that provides school services to a portion of southern Sutter County.
- In 2007, Sutter County had an enrollment total of approximately 18,727 K-12 students.[8]
- Sutter County schools employ approximately 870 full time teachers in the 32 schools.
- Sutter County students come from a diverse ethnic background with 46 percent of White Non-Hispanic ethnicity, 31 percent Hispanic, and 13 percent of Asian.
- More than 1/3 of the schools within Yuba City School District are operating with enrollment above capacity, while all the schools within Sutter Union High School District are operating at or above capacity.
- Many of the school districts in the southern part of the county are experiencing increasing enrollment and are at or over capacity for the school facilities. In contrast many of the schools in the northern half of the county are experiencing declining enrollment and are allowing children from neighboring counties and areas to enroll in the schools.
- Only 1/2 of the schools in the county have a two-way emergency communication system.
- The 2007-2008 Grand Jury Report found that there is no countywide policy for individual schools to develop an emergency plan dealing with an immediate levee failure or other emergency.

EXISTING CONDITIONS

Over 17,000 students are enrolled in the Sutter County public school system making it the principal provider of primary, secondary, and high school (K-12) education in the County. The County has several private educational institutions which serve school age children and the County also provides for higher educational degrees from private technical/vocational and community college institutions. Among the County's 49,071 residents, 73 percent hold a high school diploma or higher and 15 percent hold a bachelor's degree or higher.[9]

A majority of Sutter County's population is in proximity to the County's two incorporated cities – City of Live Oak and City of Yuba City. With much of the population residing around these two cities, the County's school district education facilities are primarily located within these

8 California Department of Education, Educational Demographics Office (CBEDS, assign05 8/18/06, public schools 8/4/06, sfib0506 8/22/06).

9 U.S. Census Bureau, Census 2000, SF-3, DP-2.

incorporated areas. For the purpose of this document, any schools within Sutter County school districts will be referred to as Sutter County schools even if they are located within the incorporated areas of the county.

Sutter County Schools Overview

Sutter County's public school system is comprised of 12 individual school districts under the lead of the Sutter County Superintendents Office which provides financial oversight and administering countywide educational programs. The 12 Sutter County public school districts are made up of 8 elementary school districts, 2 high school districts and, 2 joint elementary/high school unified districts. In addition, Sutter County has a joint jurisdiction program with the Yolo County School District to provide public education programs and facilities to children in the Knights Landing area located in the lower southwestern corner of Sutter County. County school districts range in size from 77 students in the Meridian Elementary District to Yuba City Unified's 21 schools with an enrollment of over 13,000 students. Figure 3.3-2 provides current district boundaries and school locations for Sutter County.

Facilities

Sutter County's educational facilities are comprised of 23 elementary schools, 3 middle schools, and 6 high schools with a total 2007 enrollment of approximately 18,727 students.[10] Table 3.3-4 shows the school districts serving the County, 2006/2007 school year enrollment totals, and capacities with district growth rates. Currently, none of the school districts have plans for any new school facilities; however, additional portable buildings and continued maintenance to existing buildings and school facility sites occur on an ongoing basis as enrollment changes.

Table 3.3-4. School District Enrollment Figures, 2007

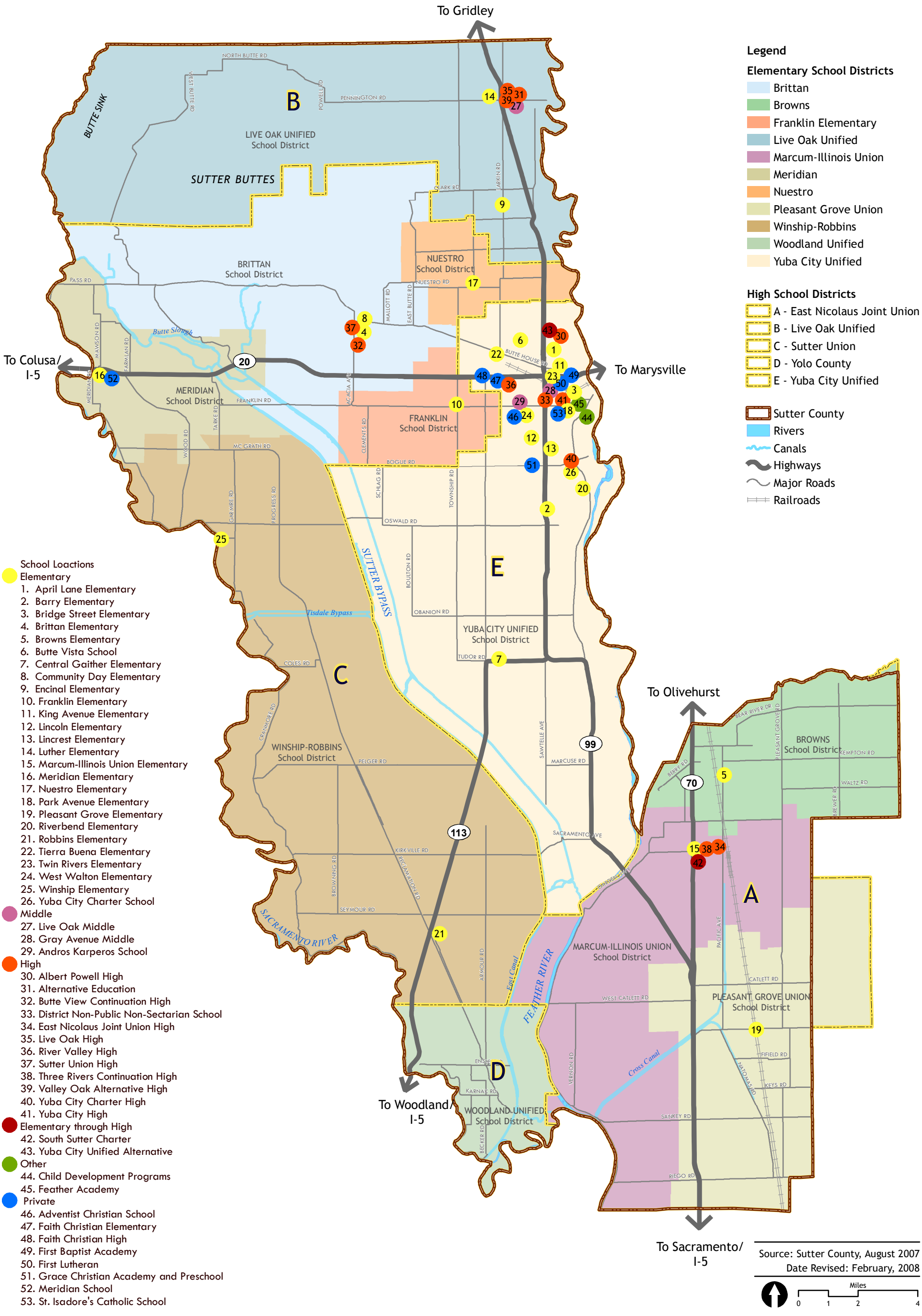
District Boundaries	Current Enrollment	Estimated Enrollment Capacity	Average Percent Growth
Brittan Elementary	570	650	-0.73%
Browns Elementary	130	200	-1.33%
East Nicolaus High	332	500	2.03%
Franklin Elementary	414	430	2.30%
Live Oak Unified	1,876	2,950	-0.07%
Marcum-Illinois Union	956	N/A	7.34%
Meridian Elementary	77	175	6.06%
Nuestro Elementary	259	150	2.87%
Pleasant Grove Joint Union	155	200	-0.32%
Sutter Union High	775	780	3.03%
Winship-Robbins Elementary	123	190	23.76%
Yuba City Unified	13,060	14,276	1.80%
Total	**18,727**	**20,501**	**2.43%[1]**

Source: California Department of Education, Educational Demographics Office (CBEDS, assign05 8/18/06, public schools 8/4/06, sfib0506 8/22/06).
Sutter County School Districts, correspondence 9/26/07- 11/20/07.
[1]Average percent growth total calculated excluding highest and lowest outliers.

10 California Department of Education, Educational Demographics Office (CBEDS, assign05 8/18/06, public schools 8/4/06, sfib0506 8/22/06).

SUTTER COUNTY
General Plan Update

SUTTER COUNTY
GENERAL PLAN UPDATE



School Loactions
Elementary
1. April Lane Elementary
2. Barry Elementary
3. Bridge Street Elementary
4. Brittan Elementary
5. Browns Elementary
6. Butte Vista School
7. Central Gaither Elementary
8. Community Day Elementary
9. Encinal Elementary
10. Franklin Elementary
11. King Avenue Elementary
12. Lincoln Elementary
13. Lincrest Elementary
14. Luther Elementary
15. Marcum-Illinois Union Elementary
16. Meridian Elementary
17. Nuestro Elementary
18. Park Avenue Elementary
19. Pleasant Grove Elementary
20. Riverbend Elementary
21. Robbins Elementary
22. Tierra Buena Elementary
23. Twin Rivers Elementary
24. West Walton Elementary
25. Winship Elementary
26. Yuba City Charter School
Middle
27. Live Oak Middle
28. Gray Avenue Middle
29. Andros Karperos School
High
30. Albert Powell High
31. Alternative Education
32. Butte View Continuation High
33. District Non-Public Non-Sectarian School
34. East Nicolaus Joint Union High
35. Live Oak High
36. River Valley High
37. Sutter Union High
38. Three Rivers Continuation High
39. Valley Oak Alternative High
40. Yuba City Charter High
41. Yuba City High
Elementary through High
42. South Sutter Charter
43. Yuba City Unified Alternative
Other
44. Child Development Programs
45. Feather Academy
Private
46. Adventist Christian School
47. Faith Christian Elementary
48. Faith Christian High
49. First Baptist Academy
50. First Lutheran
51. Grace Christian Academy and Preschool
52. Meridian School
53. St. Isadore's Catholic School

Legend

Elementary School Districts
- Brittan
- Browns
- Franklin Elementary
- Live Oak Unified
- Marcum-Illinois Union
- Meridian
- Nuestro
- Pleasant Grove Union
- Winship-Robbins
- Woodland Unified
- Yuba City Unified

High School Districts
- A - East Nicolaus Joint Union
- B - Live Oak Unified
- C - Sutter Union
- D - Yolo County
- E - Yuba City Unified

- Sutter County
- Rivers
- Canals
- Highways
- Major Roads
- Railroads

Source: Sutter County, August 2007
Date Revised: February, 2008

Miles
0 1 2 4

PBS&J

SCHOOL LOCATIONS
Figure 3.3-2

Sutter County schools employ approximately 870 full time teachers in the 32 schools. Table 3.3-5 provides a breakdown of area schools with number of teachers and average teacher student ratios for each school type. Area schools maintain an average student to teacher ratio across all school districts of approximately 20.4 students to every 1 teacher with special education students receiving more one on one teacher interaction than K-12 students.

Table 3.3-5. Sutter County Schools by Type, 2005-06

	Number of Schools	Full-Time Equivalent (FTE) Teachers[1]	Pupil-Teacher Ratio[2]
Elementary	23	472.0	19.6
Middle	3	126.0	20.4
High School	6	199.8	24.3
K-12	2	7.7	34.2
Alternative	3	15.6	23.7
Special Education	1	33.2	6.5
Continuation	4	15.0	16.1
Community Day	1	0.0	0.0
Total	**43**	**869.3**	**20.4**

Source: California Department of Education, Educational Demographics Office (CBEDS, assign05 8/18/06, public schools 8/4/06, sfib0506 8/22/06).
[1] FTE teacher counts include those assigned to a particular type of school; district and county office of education teachers not associated with a school are excluded.
[2] The Pupil-Teacher Ratio is enrollment divided by the number of full-time equivalent teachers. Because some teachers are not assigned to a classroom, the Pupil-Teacher Ratio is usually smaller than the average class size.

Enrollment

Although some individual schools and districts are experiencing decline in student enrollment, Sutter County schools as a whole have had a steady increase in student enrollment as illustrated on Figure 3.3-A. Enrollment in the county for the 2005 to 2006 school year show the highest number of students being enrolled at the high school level, as illustrated on Figure 3.3-B. The second highest enrollment level is occurring in the kindergarten and first grade elementary education in the county.

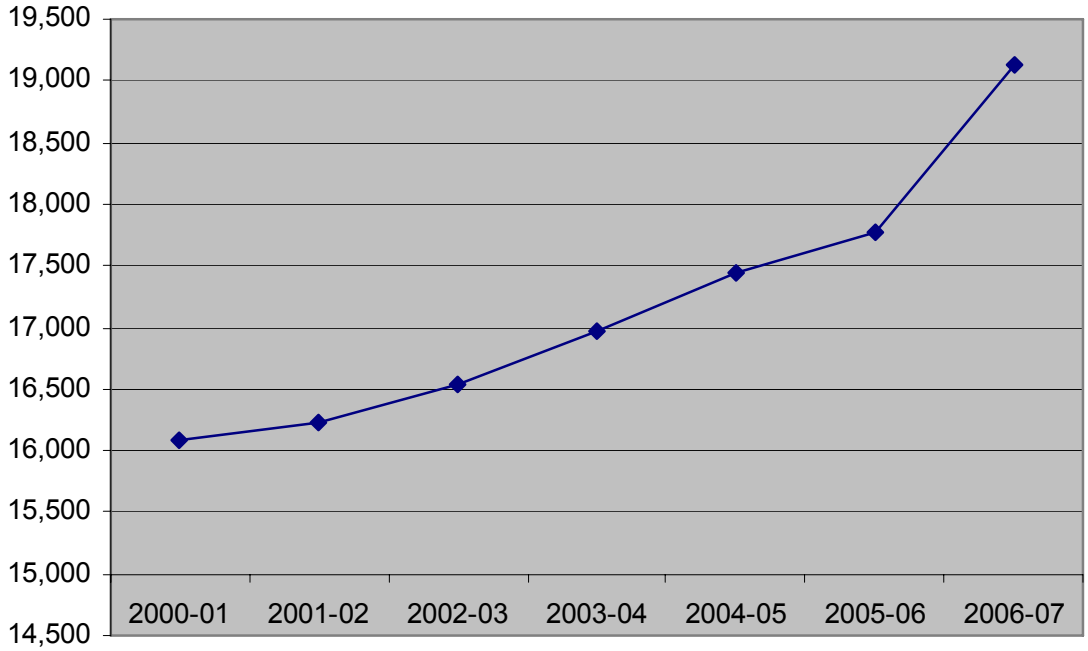
Student Makeup

The student population, as seen on Figure 3.3-B, is relatively evenly distributed between the grade levels with slightly less students in the senior year of high school. Sutter County students come from a diverse ethnic background with 46 percent of White Non-Hispanic ethnicity, 31 percent Hispanic, and 13 percent of Asian ethnicity (Figure 3.3-C).

School Districts

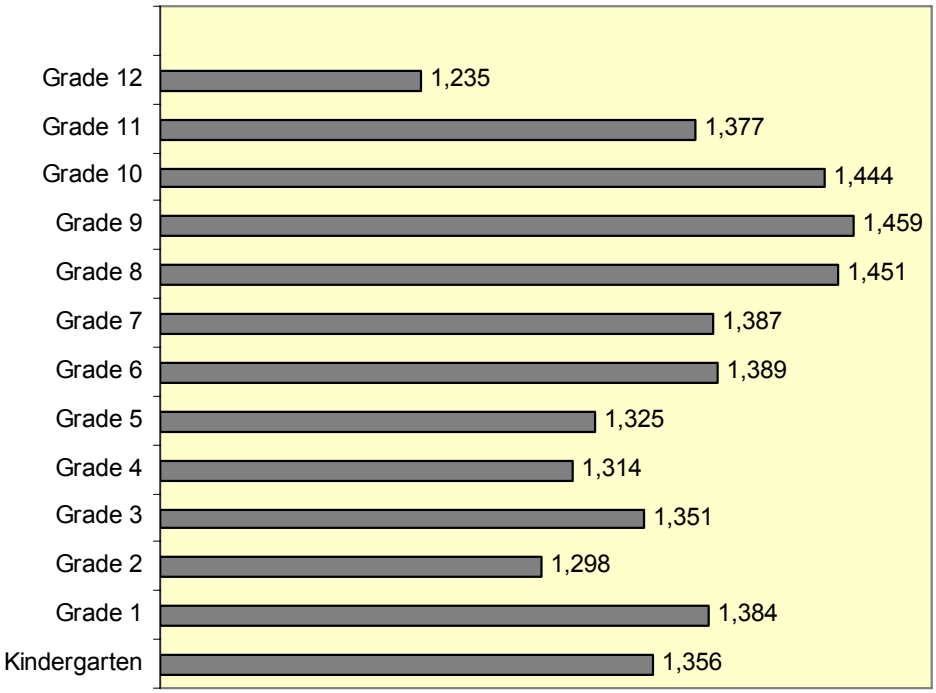
Each school district provides services to students in designated geographic areas. Table 3.3-6 identifies and provides summary information for the individual school districts that service Sutter County. For the purpose of Sutter County school capacity, each facility was accessed for approximate enrollment capacity based on existing facilities. The discussion that follows provides additional details for each of the school districts which serve Sutter County students.

Figure 3.3-A. Sutter County Enrollment Trends



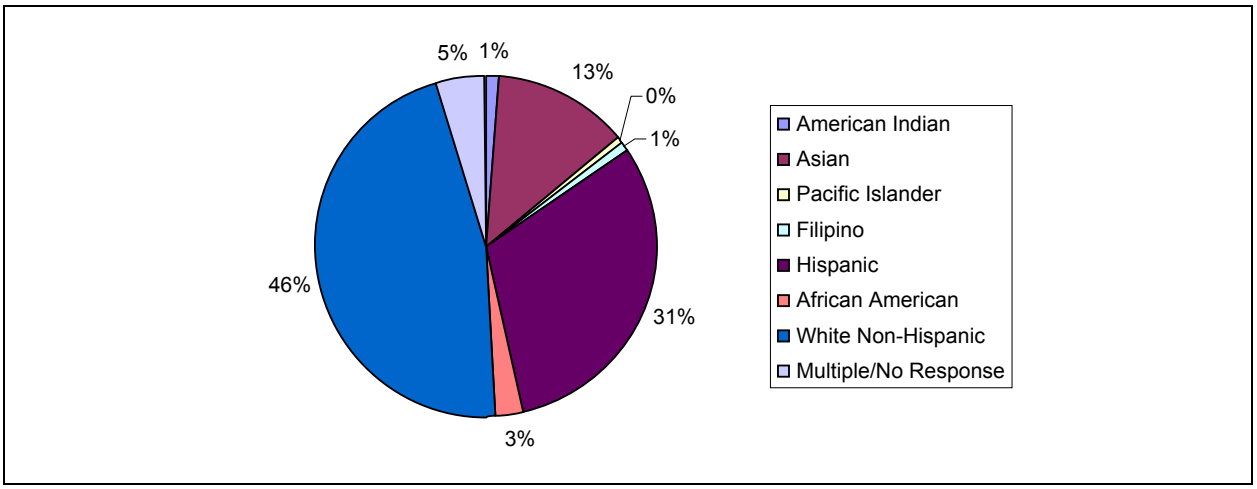
Source: California Department of Education, Educational Demographics Office (CBEDS, sifb0506 8/22/06).

Figure 3.3-B. Enrollment by Grade Sutter County, 2005-06



Source: California Department of Education, Educational Demographics Office (CBEDS, sifb0506 8/22/06).

Figure 3.3-C. Students by Ethnicity Sutter County, 2005-06



Source: California Department of Education, Educational Demographics Office (CBEDS, sifade05 8/23/06, sifb0506 8/22/06).

Table 3.3-6. School Districts Servicing Sutter County

School District	Schools	Grades Served	Location	Enrollment	Capacity
Brittan Elementary	Brittan Elementary School	K-8	2340 Pepper Street, Sutter	559	650
	Community Day Elementary School	K-8	2340 Pepper Street, Sutter	11	Portion of Brittan Elementary School capacity
Browns Elementary	Browns Elementary	K-8	1248 Pacific Avenue, Rio Oso	130	200
East Nicolaus Joint Union High	Three Rivers Continuation High School	10-12	2378 Nicolaus Avenue, Nicolaus	15	50
	East Nicolaus High	9-12	2454 Nicolaus Avenue, East Nicolaus	317	450
Franklin Elementary	Franklin Elementary	K-8	332 North Township Road, Yuba City	414	430
Live Oak Unified	Alternative Education	9-12	2207 Pennington Road, Live Oak	21	N/A
	Encinal Elementary	K-8	6484 Larkin Road, Live Oak	85	500
	Luther Elementary	K-4	10123 Connecticut Avenue, Live Oak	629	500
	Live Oak Middle School	5-8	2082 Pennington Road, Live Oak	571	750
	Live Oak High School	9-12	2351 Pennington Road, Live Oak	547	1,200
	Valley Oak Continuation High	10-12	2207 Pennington Road, Live Oak	23	N/A

Table 3.3-6. School Districts Servicing Sutter County

School District	Schools	Grades Served	Location	Enrollment	Capacity
Marcum-Illinois Union Elementary	Marcum-Illinois union Elementary	K-8	2452 El Centro Boulevard, East Nicolaus	141	N/A
	South Sutter Charter	K-12		815	Independent Study Only
Meridian Elementary	Meridian Elementary	K-8	15898 Central Street, Meridian	77	175
Nuestro Elementary	Nuestro Elementary	K-8	3934 Broadway Road, Live Oak	129	150
	California Virtual Academy	K-8	N/A	130	Independent Study Only
Pleasant Grove Joint Union	Pleasant Grove Elementary	K-8	3075 Howsley Road, Pleasant Grove	155	200
Sutter Union High	Butte View Continuation High School	9-12	2044 Elm Street, Sutter	23	30
	Sutter Union High School	9-12	2665 Acacia Street, Sutter	752	750
Winship-Robbins	Robbins Elementary School	K-8	4700 Robbins Circle, Robbins	89	120
	Winship Elementary	K-8	4305 South Meridian Road, Meridian	34	70
Yuba City Unified	Albert Powell Continuation High School	10-12	1875 Clark Avenue, Yuba City	198	N/A
	Andros Karperos Middle	6-8	1666 Camino De Flores, Yuba City	1,032	900
	April Lane Elementary School	K-5	800 April Lane, Yuba City	571	625
	Barry Elementary School	K-8	1255 Barry Road, Yuba City	821	800
	Bridge Street Elementary School	K-5	500 Bridge Street, Yuba City	441	600
	Butte Vista Elementary School	K-7	2195 Blevin Road, Yuba City	923	950
	Central Gaither Elementary School	K-8	8403 Bailey Road, Yuba City	252	250
	Gray Avenue Intermediate School	6-8	808 Gray Avenue, Yuba City	908	900
	King Avenue Elementary School	K-5	630 King Avenue, Yuba City	384	600
	Lincoln Elementary School	K-5	1582 Lincoln Road, Yuba City	676	650
	Lincrest Elementary School	K-5	1400 Phillips Road, Yuba City	779	700
	Park Avenue Elementary	K-5	100 Morton Street, Yuba City	606	625
	River Valley High School	9-12	801 El Margarita Road, Yuba City	1,251	1800
	Riverbend Elementary	K-8	301 Stewart Road,	741	1000

Table 3.3-6. School Districts Servicing Sutter County

School District	Schools	Grades Served	Location	Enrollment	Capacity
	School		Yuba City		
	Tierra Buena Elementary	K-8	1794 Villa Avenue, Yuba City	756	750
	Twin Rivers Charter School	K-8	840 Cooper Avenue, Yuba City	263	N/A
	West Walton Elementary School	K-5	1700 Camino De Flores, Yuba City	612	650
	Yuba City Charter School	K-12	613A Bogue Road, Yuba City	175	340
	Yuba City Charter High School	7-12	613A Bogue Road, Yuba City	89	136
	Yuba City High School	9-12	850 B Street, Yuba City	2,187	2000
	Yuba City Unified Alternative	K-12	1877 Clark Avenue, Yuba City	132	Independent Study Only
	District Non-Public Non-Sectarian School	9-12	750 Palora Avenue, Yuba City	4	Independent Study Only
Woodland Unified School District	Grafton Elementary School	K-12	9544 Mill Street Knights Landing (Yolo County)	25	200

Source: California Department of Education, Educational Demographics Office (CBEDS, sifade05 8/23/06, sifb0506 8/22/06) and Sutter County School Districts Correspondence 10/25/07.

Brittan Elementary School District

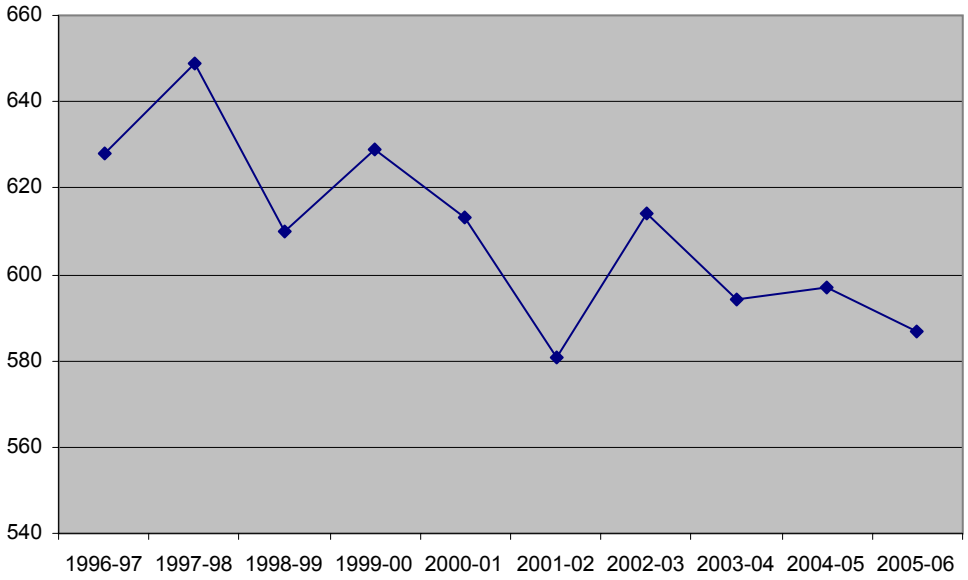
Brittan Elementary School District is approximately 63 square miles in size and provides elementary (K-8) education to the community of Sutter and surrounding areas. The District has one elementary school located on Pepper Street in the community of Sutter. The 2007 District enrollment is currently below capacity with 559 students.[11] Brittan Elementary Schools overall facility capacity is 650 students. Technology provisions are above state and county averages with 3.2 students per computer.

In previous years, the School District has had to provide additional portable classrooms to accommodate new students; however, recent enrollment trends, as provided on Figure 3.3-D, show average growth in enrollment over the last 9 school years at -0.73 percent. The School District has lost over 100 enrolled students in the last 3 school years and has offset the declining enrollment with transfer agreements to enroll students from neighboring districts and counties. The Brittan Elementary School Districts committee set goals for the 2008 school year to achieve the fallowing tasks:

- Maintain the fiscal integrity of the District while making adjustments for declining enrollment.
- Develop a plan to manage the increasing cost of Special Education.

11 California Department of Education, Educational Demographics Unit. http://dq.cde.ca.gov/dataquest/content.asp, accessed 9/27/07.

Figure 3.3-D. Brittan Elementary School District Enrollment Trends



Source: California Department of Education, Educational Demographics Office (CBEDS, sifb0506 8/22/06).

- Complete the Community Day School project and the Preschool, and if funded, the gym.

The Community Day School is located at the same site as Brittan Elementary and provides continuation and special education for K-8 grade students. The Community Day School had 11 students enrolled during the 2006-07 school year. The school's capacity is a portion of the total Brittan Elementary capacity of 650 students.

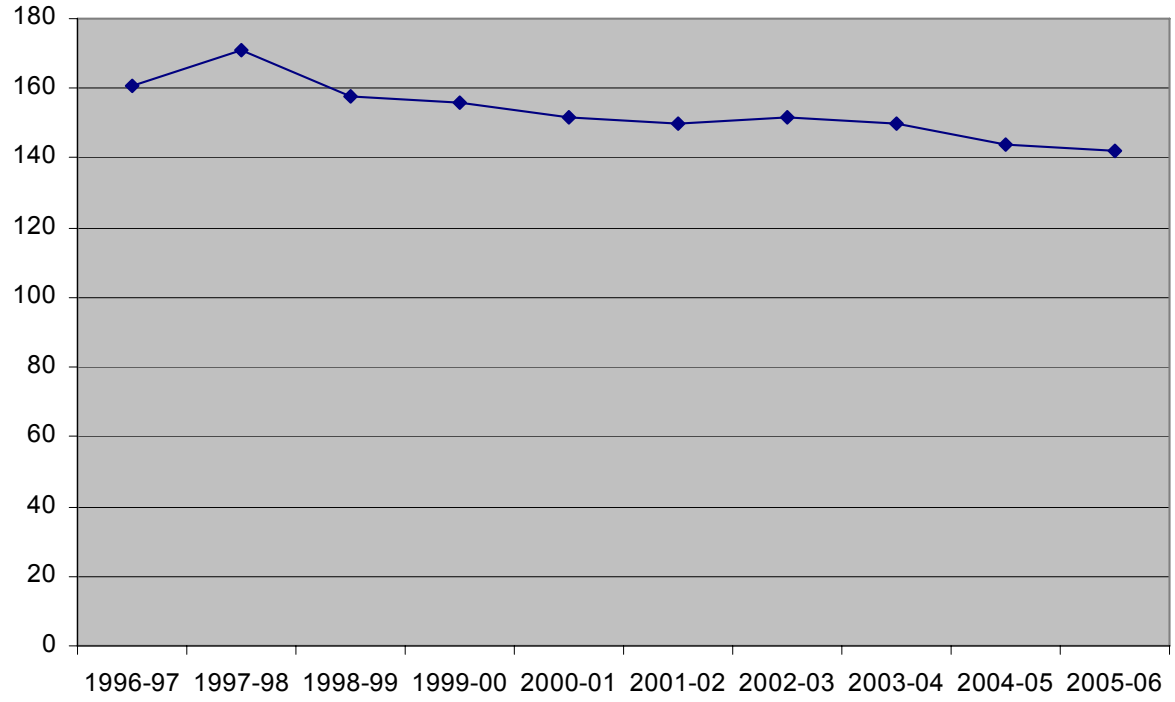
Browns Elementary School District

Browns Elementary School District provides primary and secondary (K-8) education to the farming community of Rio Oso and the surrounding 35 square miles of rural area. The District contains 1 school facility that has an average student to teacher ratio of 17.8, with 4.2 students per computer, slightly below the Sutter County average. The enrollment for Browns Elementary in the 2006-07 school year was 130 students, with school facility capacity at approximately 200 students. Enrollment in the District has not had positive growth over the last 9 years with an average decline of -1.33 percent as shown on Figure 3.3-E.

East Nicolaus Joint Union High School District

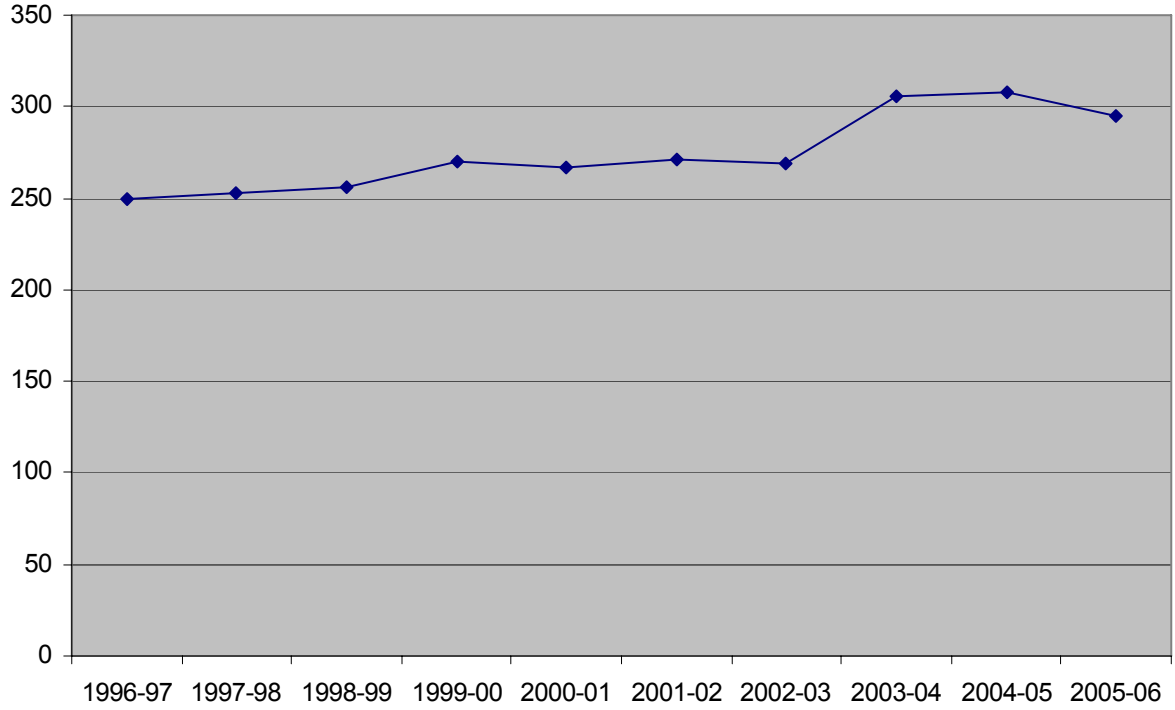
East Nicolaus Joint Union High School District provides education to 332 students from the communities of Rio Oso, Nicolaus, East Nicolaus, Trowbridge, and Pleasant Grove. The approximate 152 square mile district contains 1 high school with an enrollment of 317 students and 1 continuation school with an enrollment of 15 students for the 2006-07 school year. Average student to teacher ratio is 19.5, with 2.8 students per computer. Students from Browns, Marcum-Illinois, and Pleasant Grove Elementary School Districts continue to East Nicolaus High School for secondary education. With the influx of students from surrounding elementary school districts, the East Nicolaus High School District has had a positive average trend in enrolment with 2.03 percent enrollment growth, as seen on Figure 3.3-F.

Figure 3.3-E. Brown Elementary School District Enrollment Trends



Source: California Department of Education, Educational Demographics Office (CBEDS, sifb0506 8/22/06).

Figure 3.3-F. East Nicolaus Joint Union High School District Enrollment Trends

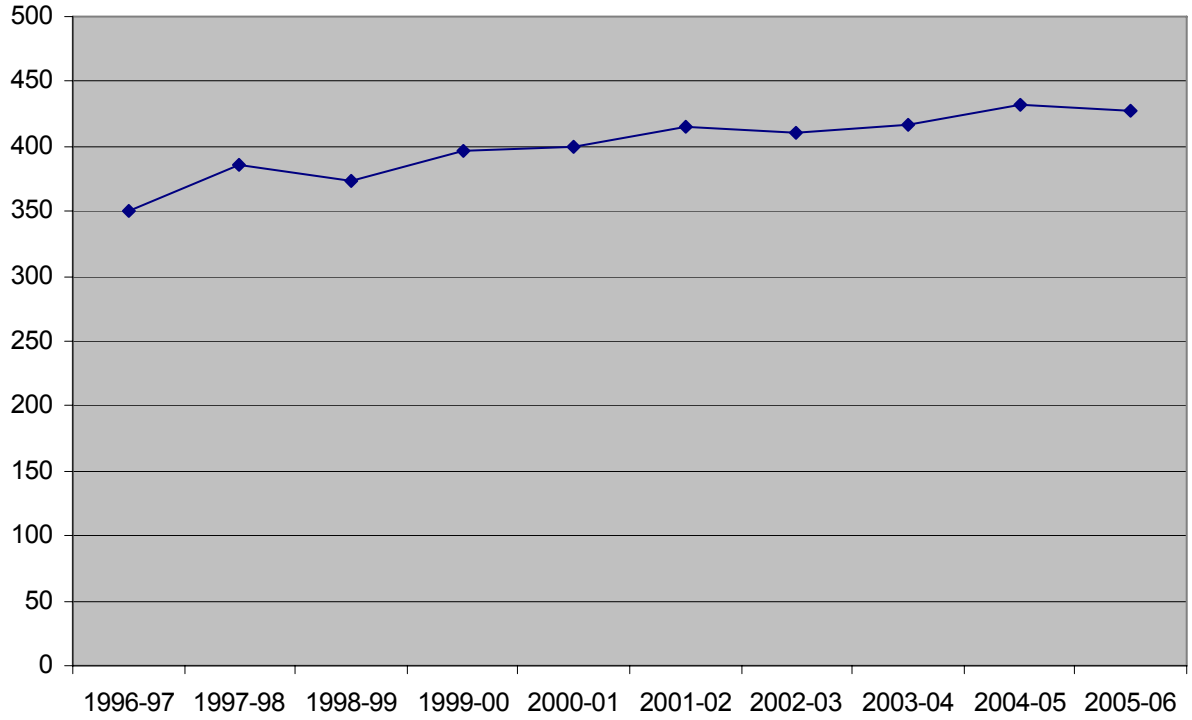


Source: California Department of Education, Educational Demographics Office (CBEDS, sifb0506 8/22/06).

Franklin Elementary School District

Franklin Elementary School District provided elementary (K-8) education to 414 students in the 2006-07 school year, with a facility capacity of 430 students from the area west-southwest of Yuba City. The District has been experiencing a positive growth rate over the last 9 years with a 2.30 percent enrollment growth trend, as seen on Figure 3.3-G. Franklin Elementary School is close to capacity; however, no new buildings are proposed for additional capacity at this time. The teacher to student ratio is 21.7 students for every teacher, with 6.7 students per computer, slightly higher than state and county averages. The District is approximately 15 square miles in size and students attend Sutter Union High School District for continuing secondary education.

Figure 3.3-G. Franklin Elementary School District Enrollment Trends



Source: California Department of Education, Educational Demographics Office (CBEDS, sifb0506 8/22/06).

Live Oak Unified School District

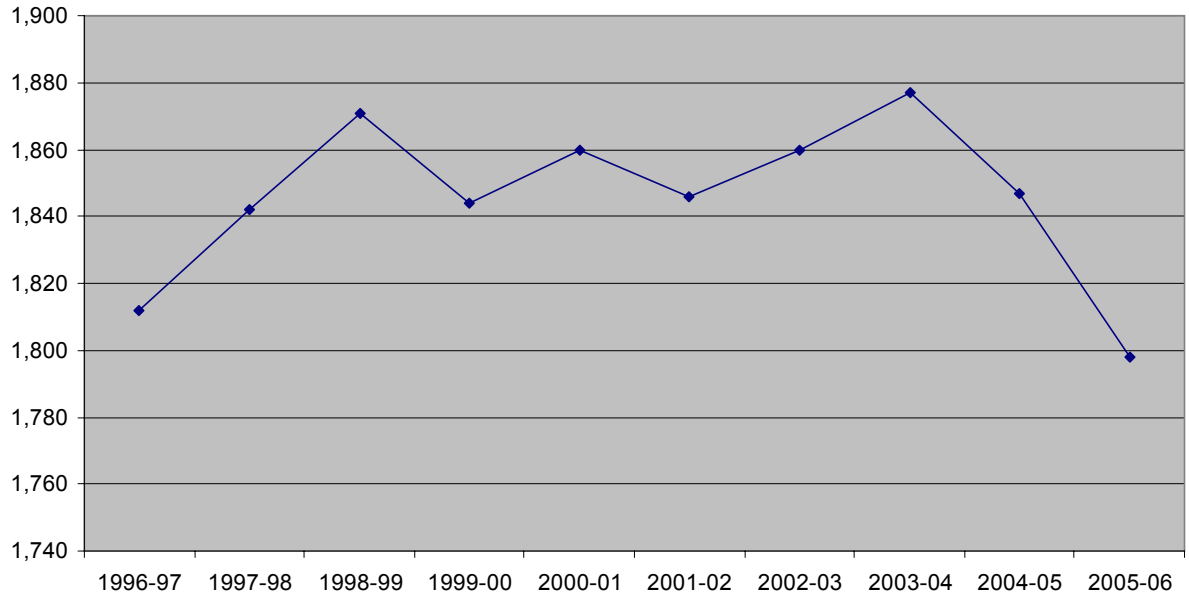
The Live Oak Unified School District provides elementary and secondary education to 1,876 students from the City of Live Oak and the northerly portion of Sutter County. The District is approximately 90 square miles in size and operates 6 schools, as shown in Table 3.3-7. The Live Oak schools include Luther Elementary (K-4) with an enrollment of 629, Encinal Elementary (K-4) with an enrollment of 85, Live Oak Middle School (5-8) with an enrollment of 571, Valley Oak Continuation (8-12) with an enrollment of 23, Live Oak Alternative (independent study K-12) with an enrollment of 21, and Live Oak High School (9-12) with an enrollment of 547. The average enrollment has declined by 0.07 percent over the last 9 years as seen on Figure 3.3-H. The average teacher to student ratio for the District is 21.4, with the average students to computer ratio below county and state averages.

Table 3.3-7. Schools by Type Live Oak Unified School District, 2005-06

	Number of Schools	Enrollment	Pupil-Teacher Ratio[2]
Elementary	2	688	19.7
Middle	1	571	22.1
High School	1	547	25.0
Alternative	1	21	7.0
Continuation	1	23	15.0
Total	**6**	**1,876**	**21.4**

Source: California Department of Education, Educational Demographics Office (CBEDS, assign05 8/18/06, public schools 8/4/06, sfib0506 8/22/06).

Figure 3.3-H. Live Oak Unified School District Enrollment Trends



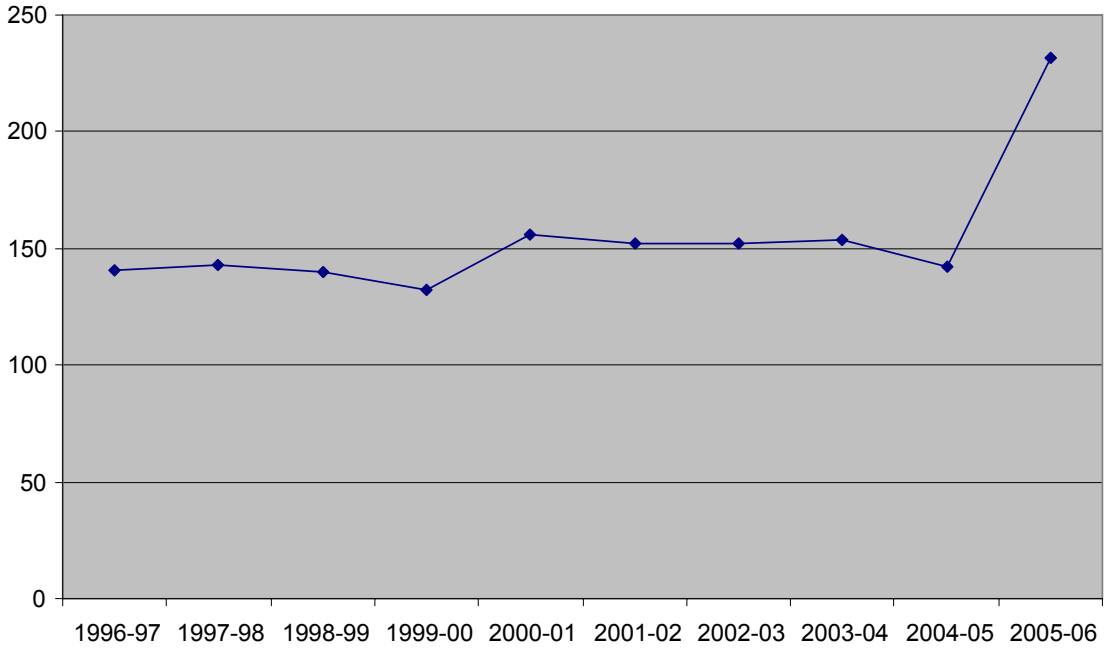
Source: California Department of Education, Educational Demographics Office (CBEDS, sifb0506 8/22/06).

Marcum-Illinois Union School District

Marcum-Illinois Elementary School District provides elementary education through 2 school facilities located in East Nicolaus. In the 2006-07 school year, the District served 956 students from the communities of Nicolaus, East Nicolaus, Trowbridge, and Rio Ramaza covering approximately 61 square miles. The District includes the South Sutter Charter School with 815 enrolled students and Marcum-Illinois Elementary with 141 enrolled for the 2006-07 year.

Marcum Illinois Union Elementary School located on El Centro Boulevard (Highway 70) in Nicolaus has a teacher to student ratio at 21.1, with a higher student to computer ratio than the county and state at 6.2. The District has experienced heavy growth in the last year and had an average enrollment growth rate of 7.3 percent over the past 9 years, as illustrated on Figure 3.3-I. Current capacity numbers are not available; however, the school facility has been expanded by 2 additional class rooms along with expansions to the multipurpose room. Students attend East Nicolaus High School for their secondary education.

Figure 3.3-I. Marcum-Illinois Union School District Enrollment Trends



Source: California Department of Education, Educational Demographics Office (CBEDS, sifb0506 8/22/06).

South Sutter charter school offers teacher guided independent study to 815 students as of 2006-07 in Sutter and surrounding counties. The charter school's offices are located on the Marcum Illinois Union Elementary School grounds with individual education taking place in student's homes.

Other services available at Marcum Illinois Union Elementary School include a state subsidized preschool program that offers 2 classes a day for 3- and 4-year old children. Marcum also offers a free after school program for school age students.

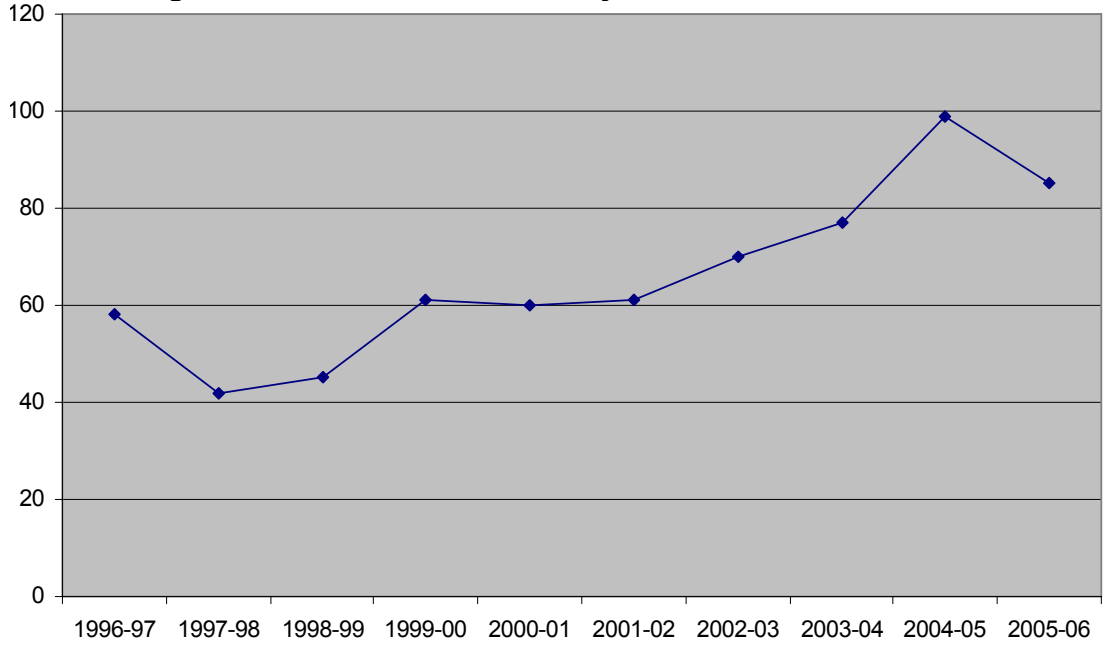
Meridian Elementary School District

With approximately 22 square miles, the Meridian Elementary School District provides elementary (K-8) education to the community of Meridian and the surrounding area. The District operates a single school with an enrollment of 77 students and has a facility capacity of approximately 175 students. The school's teacher student ratio is 20.2 with a student to computer ratio of 8.5. The District has experienced growth, with average enrollment at 6 percent over the last 9 years; however, only 4 of the 7 class rooms at the school are currently being used for classes. Figure 3.3-J shows the student enrollment trend in the Meridian Elementary School District over the 10 years. Following eighth grade, Meridian students attend middle school and high school in the Sutter Union High School District.

Nuestro Elementary School District

Nuestro Elementary School District provides elementary (K-8) education to students from the approximately 11 square miles of unincorporated area between the cities of Yuba City and Live Oak. The District has 2 schools with an overall 2005-06 District enrollment of 259 students. The Nuestro Elementary School has 129 enrolled students in the 2005-06 school year and the

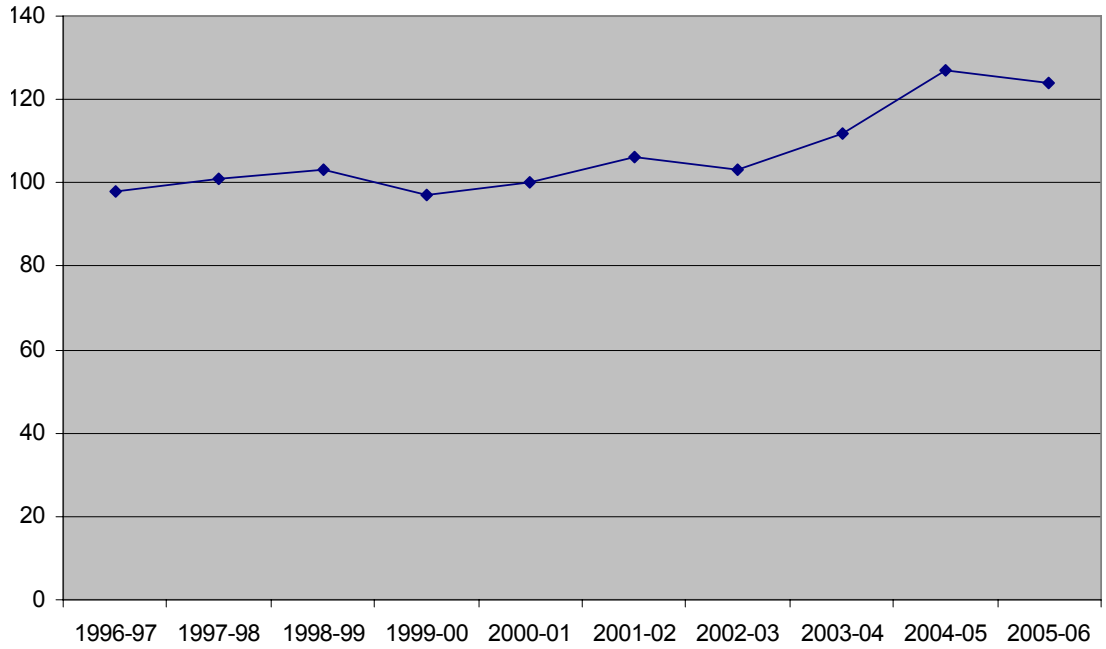
Figure 3.3-J. Meridian Elementary School District Enrollment Trends



Source: California Department of Education, Educational Demographics Office (CBEDS, sifb0506 8/22/06).

California Virtual Academy provides independent study to 130 students. The average teacher to student ratio for the District is 17.7, with a student to computer ratio of 5.6. As illustrated on Figure 3.3-K, the District has experienced a positive growth rate over the past several years, with nearly 3 percent average enrollment growth over the last 9 years. Secondary education is provided by the Sutter Union High School District.

Figure 3.3-K. Nuestro Elementary School District Enrollment Trends

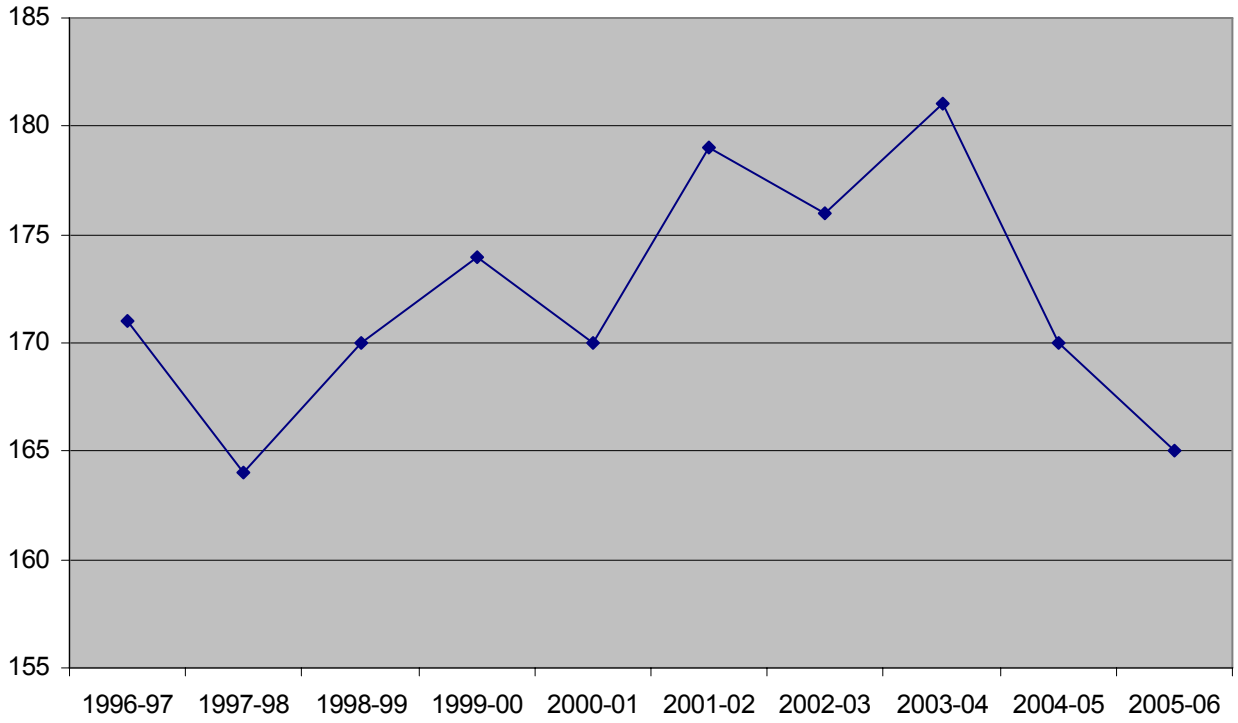


Source: California Department of Education, Educational Demographics Office (CBEDS, sifb0506 8/22/06).

Pleasant Grove Joint Union School District

The Pleasant Grove Joint Union School District is approximately 56 square miles in size and provides elementary (K-8) education to the residents in the community of Pleasant Grove and the surrounding area of southeast Sutter County as well as a portion of western Placer County. Enrollment for 2006-07 school year was 155 students, with a facility capacity of 200 students. The school's student to teacher ratio is 20.6, with an excellent student to computer ratio of 1.9. The District has experienced an average growth rate of 32 percent over the last 9 years, as seen on Figure 3.3-L. Secondary education is provided by East Nicolaus Union High School District.

Figure 3.3-L. Pleasant Grove Joint Union School District Enrollment Trends

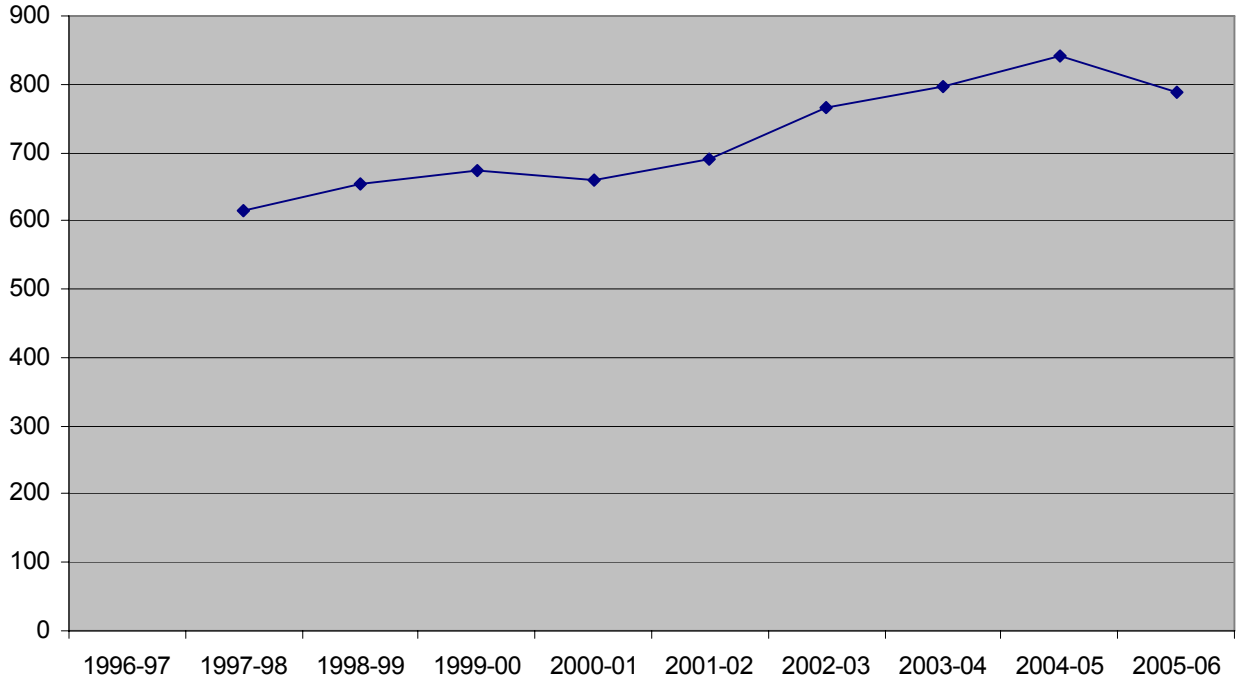


Source: California Department of Education, Educational Demographics Office (CBEDS, sifb0506 8/22/06).

Sutter Union High School District

Sutter Union High School District provides secondary education to the residents of Sutter and the surrounding 151 square miles including Brittan, Franklin, Meridian, Nuestro, and Winship Elementary School Districts. Enrollment for the District was 775 for the 2005-06 school year, with Sutter High School's enrollment at 752 students and Butte View Continuation High School with an enrollment of 23 students. The average teacher student ratio for the District is 24.3, with a 3.1 student to computer ratio for Sutter High and 1.3 for Butte View. The District has experienced some growth in enrollment, with a 3 percent average as seen on Figure 3.3-M. The slight decline in the 2005-06 year is due to a new school facility that was built by the Yuba City Unified School District, which is in close proximity to Sutter High School. This new school facility was desired, as future growth in the District is anticipated to continue.

Figure 3.3-M. Sutter Union High School District Enrollment Trends



Source: California Department of Education, Educational Demographics Office (CBEDS, sifb0506 8/22/06).

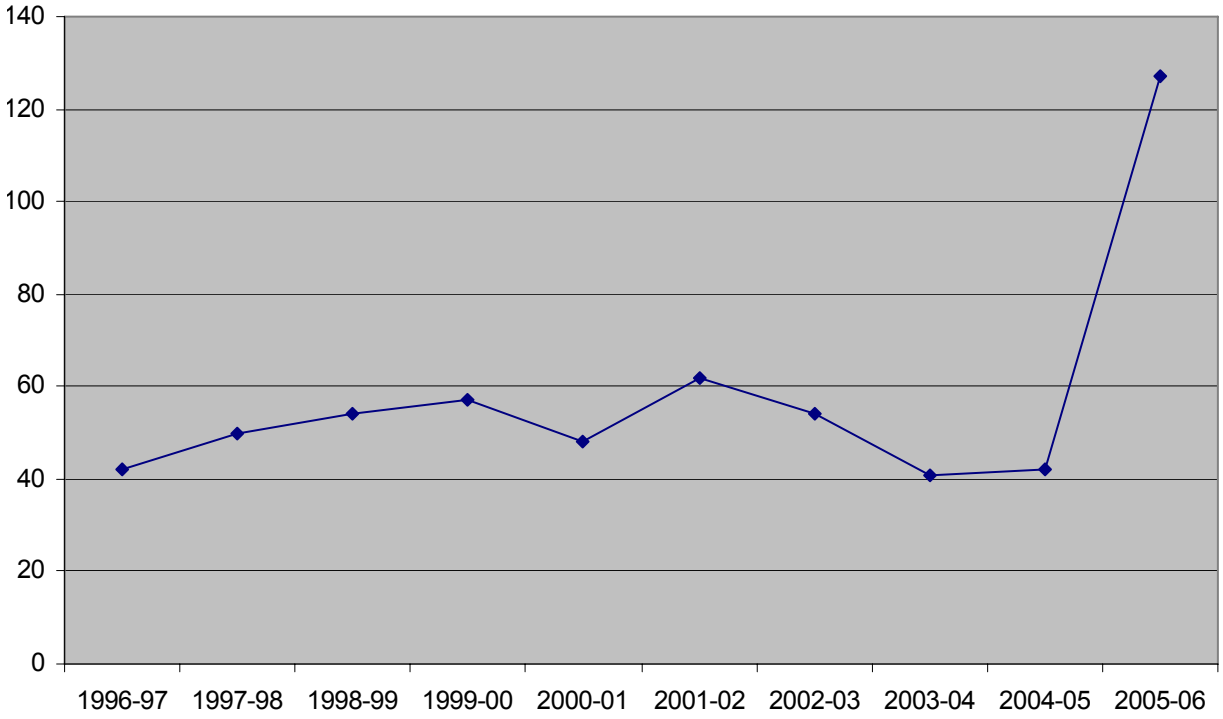
In response to the anticipated growth Sutter Union High School District is planning a second bond measure in 2008 to meet the financial need of the new facilities. The Sutter Union High School District Master Plan estimates the student population to grow to 1,500 students in the next 15 years. To accommodate the future growth, the Master Plan calls for a new cafeteria, gymnasium, library, permanent classrooms, an on-site agriculture complex, and an on site continuation high school. The District has purchased 30 acres to the west of the current high school campus for future expansion.

Winship-Robbins Elementary School District

The Winship-Robbins Elementary School District provides elementary (K-8) education to the residents encompassing a 40 square mile area of western Sutter County, south of the community of Meridian. There are currently 2 school facilities servicing the area, with the 2006-07 enrollments at 123 students.

Robbins Elementary School has an enrollment of 89 students, with a facility capacity of 120 students, while Winship Elementary School is at 34 students for the 2006-07 school year, with a facility capacity of 70 students. The District has an average student to teacher ratio of 15.9, with and average of 3.6 students per computer. Overall District growth for the past 9 years averages nearly 25 percent due to the recent annexation. Figure 3.3-N illiterates the sudden spike in student enrollment accruing in 2005. The Winship Elementary School District annexed the Robbins Elementary School attendance area from Yuba City Unified School District, which caused this increase in enrollment.

Figure 3.3-N. Winship-Robbins Elementary School District Enrollment Trends



Source: California Department of Education, Educational Demographics Office (CBEDS, sifb0506 8/22/06).

Yuba City Unified School District

The Yuba City Unified School District provides elementary and secondary education to residents of Yuba City, Tierra Buena, and a large area of the unincorporated county area extending south, including the community of Robbins, and covering an area of approximately 200 square miles. The District operates 21 schools, as outlined in Table 3.3-8, with a total enrollment of 13,060 for the 2005-06 year.

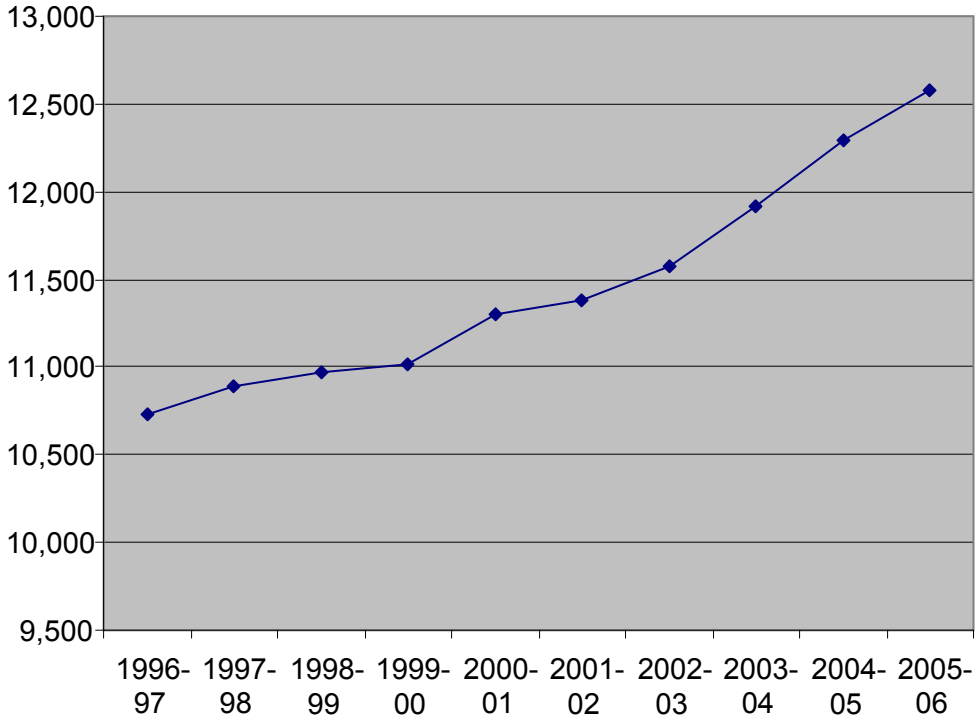
Table 3.3-8. Schools by Type Yuba City Unified School District, 2006-07

	School Type	Computer to Student Ratio	Enrollment	Full-Time Equivalent Teachers[1]	Pupil-Teacher Ratio[2]
Elementary	12	6.5	7,562	346.0	19.5
Middle	2	6.3	1,940	101.8	20.0
High School	3	3.1	3438	132.4	24.7
Alternative[1]	3	29.6	663	11.6	37.0
Continuation	1	2.5	198	10.4	18.7
Total/Average	**21**	**9.6**	**13,801**	**602.2**	**20.9**

Source: California Department of Education, Educational Demographics Office (CBEDS, assign05 8/18/06, public schools 8/4/06, sfib0506 8/22/06).
[1]Includes charter schools.

The District employs approximately 206 full-time teachers with an average teacher to student ratio of 20.9 and an overall student to computer ratio of 9.6, as shown on Figure 3.3-O. The Yuba City Unified School District has experienced rapid growth with 1.80 percent enrollment growth over the past 9 years.

Figure 3.3-O. Yuba City School District Enrollment Trends



Source: California Department of Education, Educational Demographics Office (CBEDS, sifb0506 8/22/06).

Many of the school districts in the southern part of the county, including the Yuba City Unified School District, are experiencing increasing enrollment, and are at, or over school facility capacity, and as a result, have had to build new schools and bring in portable classrooms to limit overcrowding.

Woodland Unified School District

As depicted on Figure 3.3-2, a portion of the Woodland Unified School District overlaps into the southern portion of Sutter County near the community of Knights Landing at the Yolo/Sutter County border. Approximately 20 to 25 students from Sutter County attend Grafton Elementary School in the Woodland Unified School District. The school's total enrollment currently is 123 students. According to state data, enrollment has grown an average of 2 percent since 2000.

Planned Facilities

Many of the County's public schools and/or districts that are at or over capacity have room for portables on site that can increase the enrollment capacity. Currently, none of the school districts have plans for new school facilities due to budgetary constraints. Future expansions for areas such as East Nicolaus Joint Union High School District and the Sutter Union High School District will be looked at as development occurs and enrollments increase. Development fees will account for some of the school facilities funding that will be used in these high growth areas.

Private School Facilities

Several private schools are located in Sutter County providing various levels of primary, secondary, and high school education. Most of the private schools are located in Yuba City and

draw from a larger geographical area including outlying counties. The approximate total enrollment for Sutter County private schools is at 955 students for the 2005-06 school year. Table 3.3-9 documents existing Sutter County private schools and their affiliation, location, enrollment, and grade levels served at each educational institution.

Table 3.3-9. Private School Enrollment Figures

School Name	Location	Grade Levels	Current Enrollment
Christian Outreach Fellowship	Live Oak	1-12	14
St. Isidore Catholic School	Yuba City	K-8	154
Yuba City Adventist Christian School	Yuba City	K-8	33
Faith Christian Elementary	Yuba City	K-6	190
Faith Christian High	Yuba City	7-12	168
First Baptist Academy	Yuba City	K-8	19
First Lutheran Elementary	Yuba City	K-8	152
Grace Christian Academy/Pre-School	Yuba City	K-8	180
Covenant Christian	Yuba City	K-12	37
Basics and Beyond	Yuba City	K-2	n/a
California International School	Yuba City	K-12	8
Total			**955**

Source: California Department of Education, Educational Demographics Office (CBEDS, assign05 8/18/06, schools 8/4/06, sfib0506 8/22/06).

Higher Education

The closest community college for Sutter County residents is Yuba Community College, located east of Sutter County in Marysville; although a satellite campus facility is slated to open in Sutter County in the coming years. Butte Community College, to the north, is also in the surrounding Sutter County area, while the University of California, Davis main campus is south of Sutter County, UC Davis does provide agricultural extension services within Sutter County.

A new 50,000 square foot Sutter County educational outreach facility, which was part of the Measure "J" Facilities Bond, was approved by the Yuba Community College District voters in November of 2006. The $31 million designated for Sutter County will fund the construction of an outreach facility that will house 10 to15 contemporary classrooms and district offices. This facility will greatly expand Sutter County students' access to 2- and some 4-year degree coursework. As of 2000, Sutter County had 4,072 college or graduate school students.

County Programs and Services

The Sutter County Superintendent of Schools Office also provides funding for countywide programs for special needs students that cannot be met on an individual district level.

Through cooperative agreements with the County school districts, the Sutter County Superintendent of Schools Office provides direct service instructional programs to nearly 9,500 students annually through infant programs, special education, vocational/occupational programs, outdoor science, and alternative education.[12] These programs are operated at the

12 Sutter County Superintendent of Schools, website http://www.sutter.k12.ca.us/, accessed October 2, 2007.

countywide level to provide specialized educational services beyond any one district boundary for more efficiency in economy and scale.

Within the Superintendent of Schools Office is the Educational Services Department, which oversees curriculum, staff development, Student Attendance Review Board (SARB), Peer Assistance and Review (PAR), Alternative Education programs, Intervention and Prevention Programs (IPP), School Assistance & Intervention Teams (SAIT), Beginning Teacher Support and Assessment (BTSA), Woodleaf Outdoor School, and any state and federal programs for the Sutter County Superintendent of Schools Office.

The Sutter County Superintendent of Schools Office also facilitates the Special Education Local Plan Area (SELPA), which is made up of local education agencies (LEAs) within the county boundaries including all school districts, the Yuba City Charter School, and the Sutter County Superintendent of Schools. The goal of SELPA is to support a collaborative effort to provide support to all special education students, teaching staff, families and parents.

Specialized programs and services provided in Sutter County are described below.

Tri-County Regional Occupational Program (ROP)

The Tri-County ROP offers career technical training courses to high school students and adults. These courses provide vocational training in Colusa, Sutter, and Yuba Counties. Several schools in Sutter County participate in the vocational training program including East Nicolaus High School, Live Oak High School, River Valley High School, Sutter High School, Yuba City High School, and Sutter County Superintendent of Schools.

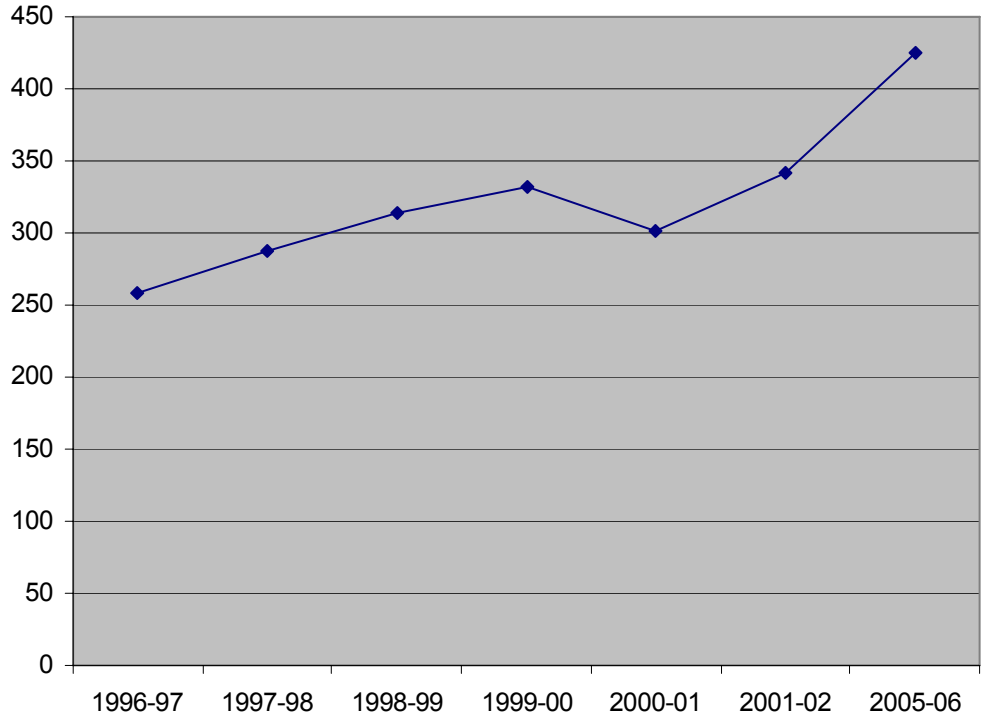
Woodleaf Outdoor Education Program

The Woodleaf Outdoor education program serves over 6,000 students annually from 8 counties. The program runs from September through November and February through May. The highly regarded five-day-a-week school program works to promote a sense of responsibility for the natural environment and the community around us through education, self confidence, and teamwork.

Special Education Programs

Through Sutter County's special education and alternative school program, the County provides a wide range of educational settings to help students that cannot otherwise function in the public schools. For the 2005-06 school year, 425 students were enrolled in the districtwide programs. The Special Education Program had 217 students enrolled for the 2005-06 school year, with a 6.5 teacher to student ratio. The student to computer ratio was 5.9 for the same year, slightly above state averages that provide more computers to students. Growth in special education programs is determined by the growth in the schools in the county. It is hard to predict what percentage of students moving into the county will need special education services. Special education classes are normally held on district sites, thus building and development will go along with district needs and projections. The enrollment trends illustrated on Figure 3.3-P show a steadily increasing need for these specialized programs to meet the growing needs of Sutter County students.

Figure 3.3-P. Special Education School District Enrollment Trends



Source: California Department of Education, Educational Demographics Office (CBEDS, sifb0506 8/22/06).

Feather River Academy

This alternative academy specifically serves students who have issues functioning within a standard educational setting. The school program had 208 students and 21.7 students per teacher for the 2005-06 school year. The teachers provide a curriculum for both in-class and independent study covering grades 7-12. Students who enter this program have been expelled by their local school districts, referred by the Probation Department, and/or referred by the School Attendance Review Board (SARB). The program also works with students who are homeless or voluntarily referred by a parent or guardian figure.

Infant Program

The infant program provides educational services for Yuba and Sutter Counties to infant and toddlers with severe disabilities up to three years of age. The goal of the program is to provide appropriate educational interventions, which may include language and speech, occupational therapy, direct and indirect teacher support, and nurse intervention.

Preschool Intervention Program

Special education services are provided through the Preschool Intervention Program to children age 3 to 5 years old who do not require intensive education. Speech, language, and special education services are provided to eligible students in individual or small group settings at the Preschool Intervention Program classroom, as well as at Head Start and State Preschool/Children's Centers throughout Sutter County.

Multiple Handicapped (M.H.) Program

The M.H. Program provides services to students who have multiple severe disabilities. Some may have medical needs. This program is designed to address the development of communication, mobility, social, and independent daily living skills.

Severely Handicapped (S.H.) Program

The S.H. Program provides services to students who have severe developmental disabilities. This program focuses on the development of functional skills in the areas of self-help, independent living, vocational, recreational, and communication.

Emotional Disturbance (E.D.) Program

The E.D. Program is designed to help children that are not functioning successfully in a regular school setting due to an emotional disturbance. With the help of this program the children receive one on one support and education in a therapeutic environment with a staff trained to meet the educational needs of children with an emotional disturbance.

Deaf and Hard of Hearing (D/HH) Program

Through the D/HH Program for the deaf and hard of hearing a specialized teaching staff works with students to provide education specific to their needs. This program focuses on the development of language, communication, academic achievement, and social skills.

Non-categorical (N.C.) Program

If a student is not performing up to public school academic standards, but does not fall under one of the 13 handicap conditions covered by the other specialty programs, the student can enroll in the N.C. Program. This program focuses on the development of language, communication, academic, and social skills.

Resource Specialist Program (R.S.P.) Program

Designed to provide services to students who have specific learning disabilities, the R.S.P. Program offers specialized instruction for part of the school day and modified curriculum materials in order to maintain within the school curriculum.

Language and Speech Services Program

Students with language and speech disabilities related to articulation, receptive and/or expressive language, or fluency and voice are provided therapy through the Language and Speech Services Program. Services are provided at the school sites and in conjunction with any of the other county operated programs.

Psychological Services Program

The Psychological Services Program provides assessment, counseling, and the development of behavior plans for students who are being assessed for special education services and to those who are currently identified with a handicapping condition.

School Emergency Response

According to the Sutter County Superintendent of Schools, Sutter County presently has two-way communication in place for emergency situations in approximately only 1/2 of the schools. The Sutter County Office of Emergency Services grant is scheduled to be received in September of 2007 and is due to augment some of the budgetary need for the emergency service.

While each school district has some form of emergency plan, no countywide uniform emergency plan and communication system exist. A 2007-2008 Grand Jury report recommends the completion and implementation of the two-way emergency communication system in light of increased school violence nationwide. The Report also found that there is no countywide policy for individual schools to develop a plan dealing with an immediate levee failure or other emergency. According to the County Multi-Hazard Mitigation Plan, levee failure is one of Sutter County's most likely emergencies to occur. Currently, both the superintendent of schools and the individual district schools use the Rising River Emergency Plan, which does not address the immediacy of an unforeseen levee failure and emergency plan for County schools.

The Grand Jury report goes on to recommend:

> *That the Grand Jury reviews the emergency response by school districts and law enforcement, and subsequent emergency plan updates. Relying solely on the Sutter County rising river emergency plan does not address what actions school officials/principals should take at their respective sites should an immediate levee failure or other emergency occur while school is in session. The Sutter County Superintendent of Schools Office and district superintendents and principals within the county, in cooperation with the Office of Emergency Services, must establish individual school emergency plans for those schools most likely to be impacted/inundated in the event of an unanticipated levee failure.*

Other Programs

The Sutter County Head Start is a nonprofit organization that works in conjunction with local schools to provide support to low income and at risk children and families in the county. Sutter County Head Start has several programs that including early childhood education, parenting workshops, health education, medical checkups, job training, and mother infant programs. With the influx of migratory workforce in the county, Head Start has two Migrant Centers located in Live Oak and Yuba City that provide bilingual services to families from May to October during agricultural harvesting seasons.

Funding

State Sources

The major State funding program for providing permanent school facilities is the School Facility Program (SFP), created by the passage of Senate Bill (SB) 50 and Proposition 1A in 1998 and administered by the State Office of New Public School Construction. With the adoption of Proposition 55 in March 2004, an additional $2.44 billion in funding became available for the Critically Overcrowded Schools (COS) program.[13]

13 State Allocation Board, *Annual Report 2003-2004*, page 26, www.documents.dgs.ca.gov/opsc/pdfresrs_info/AR_2003-04.pdf, accessed January 4, 2005.

Levels of developer fee contribution are determined by the State Allocation Board and increase annually. Current State statutes dictate that school districts have the authority to levy fees (known as statutory or Level I fees) on new development. Because these Level I fees often do not generate sufficient funding for new schools, some districts use fees (known as Level II fees) to generate 1/2 the cost of providing new school facilities. Use of Level II fees assumes that the State will provide the other half of the cost of new schools through the issuance of general obligation bonds. In the event that the State does not have funding available, participating districts have the option to temporarily increase the fees (then known as Level III fees) on new residential development to try and meet their needs. The district must, however, refund these funds when general obligation funds from the State do become available. It should also be noted that some income for school districts is obtained through the State lottery but cannot be used for funding construction projects due to the fluctuating funding levels available through this means.

Local Sources

Local funding sources include both non-revenue and revenue monies. Non-revenue funds include certificates of participation and other mechanisms typically in the form of loans. Revenue funds are generated from several sources including the District's general fund, money from the sale of unused school sites, general obligation funds, redevelopment agreement funds, developer fees, and others.

The Sutter County Superintendent of Schools Office is fiscally independent of the County government and manages a yearly budget of $23 million through a variety of funding sources including principal apportionment, grants, and fees charged to the individual districts.[14]

REGULATORY CONTEXT

Federal

There are no specific federal regulations related to school facilities within the Policy Area.

State

California Code of Regulations

The California Code of Regulations, Title 5 Education Code, governs all aspects of education within the State.

Proposition 1A/Senate Bill 50

Proposition 1A/SB 50 (Chapter 407, Statutes of 1998) is a school construction measure authorizing the expenditure of State bonds totaling $9.2 billion through 2002, primarily for modernization and rehabilitation of older school facilities and construction of new school facilities. $2.5 billion is for higher education facilities and $6.7 billion is for K-12 facilities.

Proposition 1A/SB 50 implemented significant fee reforms by amending the laws governing developer fees and school mitigation:

14 Sutter, County of. Grand Jury 2007 Report, February 2007.

- It establishes the base (statutory) amount (indexed for inflation) of allowable developer fees at $1.93 per square foot for residential construction and $0.31 per square foot for commercial construction.
- It prohibits school districts, cities, and counties from imposing school impact mitigation fees or other requirements in excess of or in addition to those provided in the statute.
- It also suspends for a period of at least 8 years (2006) a series of court decisions allowing cities and counties to deny or condition development approvals on grounds of inadequate school facilities when acting on certain types of entitlements.

Proposition 1A/SB 50 prohibits local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any "legislative or adjudicative act involving the planning, use, or development of real property" (Government Code 65996(b)). In addition, a local agency cannot require participation in a Mello-Roos for school facilities; however, the statutory fee is reduced by the amount of any voluntary participation in a Mello-Roos.

Satisfaction of the Proposition 1A/SB 50 statutory requirements by a developer is deemed to be "full and complete mitigation." The law identifies certain circumstances under which the statutory fee can be exceeded, including preparation and adoption of a "needs analysis," eligibility for State funding, and satisfaction of 2 of 4 requirements (post-January 1, 2000) identified in the law including year-round enrollment, general obligation bond measure on the ballot over the last 4 years that received 50 percent plus one of the votes cast, 20 percent of the classes in portable classrooms, or specified outstanding debt.

Assuming a district qualifies for exceeding the statutory fee, the law establishes ultimate fee caps of 50 percent of costs where the State makes a 50 percent match, or 100 percent of costs where the State match is unavailable. District certification of payment of the applicable fee is required before the City or County can issue the building permit.

Proposition 55

Proposition 55 is a school construction measure passed in 2004 authorizing the sale of approximately $12.3 billion in bonds to fund qualified K-12 education facilities to relieve overcrowding and to repair older schools. Funds target areas of the greatest need and must be spent according to strict accountability measures. These bonds will be used only for eligible projects. Approximately $10 billion will be allocated to K-12 schools, with the remaining $2.3 billion allocated to higher education facilities.

Department of Education Standards

The California Department of Education published the Guide to School Site Analysis and Development to establish a valid technique for determining acreage for new school development. Rather than assigning a strict student/acreage ratio, this guide provides flexible formulas that permit each district to tailor its ratios as necessary to accommodate its individual conditions. The Department of Education also recommends that a site utilization study be prepared for the site, based on these formulas.

Local

There are no specific local regulations related to school facilities within Sutter County.

3.3.4 Parks and Recreation

INTRODUCTION

This section describes existing park facilities, recreational opportunities, and open space areas available to residents and visitors of Sutter County. In addition, this section briefly describes private park facilities and park located within incorporated areas of Sutter County that are utilized by county residents. County adopted park standards and facility maintenance is also discussed.

Parks play an important role in connecting residents to the surrounding community areas and each other through organized recreation events, civic gatherings, and other outdoor sporting activities.

SUMMARY OF KEY FINDINGS

- Approximately 15,947 acres of wildlife areas in Sutter County provide refuge for thousands of migratory birds along the Pacific Flyway.
- The Feather and Sacramento rivers provide water recreation, which make up a large portion of the County's recreational facilities.
- Other recreational facilities offer areas available for organized sports including four multi-purpose park areas (one contains a community center and pool), three area baseball diamonds, three area golf courses, and the Sutter County rifle range.
- Under a 1995 Yuba/Sutter County joint cooperation agreement, a blueprint for a 395-mile bi-county bikeway system was formed that connects the cities in Yuba and Sutter Counties with regional destinations.
- Sutter County's current park ratio is 309 acres of parkland per 1,000 persons. This parkland ratio drops to approximately 1 acre of community and neighborhood parkland per 1,000 persons when wildlife areas are excluded.

EXISTING CONDITIONS

Numerous parks and recreation facilities are located within Sutter County and include State wildlife areas for hunting, fishing, hiking; river recreation areas for boating, picnicking, and fishing; parks for recreation and community events; and sports facilities for baseball, soccer and golf. Existing County recreational facilities are described in Table 3.3-10.

Sutter County Park Facilities

Although Sutter County does not have a park and recreation service district, the County Board of Supervisors assigned the Public Works/Support Service Committee to provide advice on existing park services and expansions in the following ways:[15]

- advise the Board as to those policies and practices which offer opportunities for a full range of recreational activities;

15 Sutter County General Plan, Background Report, November 25, 1996.

Table 3.3-10. Sutter County Parks and Recreation Areas

	Name	Acres	Amenities	Location
State Wildlife Areas	Butte Slough	178	None	South of Pass Road, and west of West Butte Road
	Feather River	2,265	fishing, hunting, and other recreational uses	East of Garden Highway, at the end of Star Bend Road; east and west of Hwy. 99 on Sacramento Ave., north of Nicolaus and the Feather River
	Gray Lodge	Portion in Sutter Co. 371.42	Birding, educational tours, hunting and fishing permitted in some areas	Accessible from Almond Orchard Rd., off of North Butte Rd.
	Sutter By-Pass	3,766	Hunting, birding, nature Observation	Length of the By-Pass from Highway 20 to Nelson Slough
	Butte Sink	733	Duck hunting clubs, no public access	West of West Butte Rd. and north of Pass Rd. to the Butte Co. line
County River Recreation Areas	Live Oak Riverfront Park & Recreation Area	11.5	camping, RV spaces, boat launch, fishing, day use, group facilities, picnic areas, restrooms	East end of Pennington Road on the Feather River
	Tisdale Boat Launch *(under construction)*	2.4	Boat launch and parking	Tisdale Weir, east bank of the Sacramento River
	Boyd's Pump	5	Boat launch, dock, paved parking	On the Feather River, east of Garden Highway, south of Oswald Ave.
	Yuba City Boat Ramp	3	Boat launch fishing, docks, and general parking Additional privately operated facilities include: camping, RV parking, and day use picnic area	Over the levee at 2nd Street (near Sutter Co. airport) on the Feather River
	Feather River Parkway	61	Undeveloped	From south of the Yuba City Boat Ramp to north of Shanghai Bend
County Sports Facilities	South Sutter Recreation Association facility	10.12	Swimming pool and community center	Palm Street in the rural community of East Nicolaus
	South Sutter Baseball and Softball	1.49	Little league fields	Palm Street in the rural community of East Nicolaus
	Sutter Youth Organization facility (leased to Sutter Youth Organization Inc.)	3.67	Community center, swimming pool, picnic facilities, little league field	Corner of Butte House Road and Acacia Street
	Peach Bowl Little League Field (leased to a private facility operator)	3.49	Three little league fields	Second St. in Yuba City, next to Sutter Co. airport

Table 3.3-10. Sutter County Parks and Recreation Areas

	Name	Acres	Amenities	Location
	Live Oak Swimming Pool (through joint-use agreement)		A community swimming pool, little league and softball fields are located adjacent to the pool	In the City of Live Oak west of Hwy. 99 on Pennington Road.
	Nuestro School Playground (through joint-use agreement)		Play fields and age appropriate play structures	Broadway Road in the City of Live Oak
	Robbins School Athletic Fields (through joint-use agreement)	3.8	Community Park and play fields	Adjacent to Robbins School in the Community of Robbins
Private Recreation Areas and Sports Facilities	Twin Cities Rod and Gun Club	4.77	Outdoor shooting range	Second St. in Yuba City, next to Sutter Co. airport
	Lake Minden	157	Private RV campground and resort facility with man made lake	Marcum Road at Powerline Road south of Nicolaus
	Rio Ramaza	12.53	Boat dock, boat launch. camping and RV area	Garden Highway north of Riego Road along the Sacramento River
	Robbins Little League Field and Community Center		Little league field and community center	Community of Robbins
	Verona Marina	5.5	Fishing, boat launch, picnic area, RV area	Garden Highway at Vernon Road, along the Sacramento River
	Lovey's Landing	1.89	Boat launch, RV hookups, day camping, gas and oil, restaurant, store, and river docks	North of Meridian on the Levee Road along the Sacramento River
	Verona Joe's	5.01	Restaurant, fishing, boating, picnic, RV campground and river docks	South of Cross Canal at Sankey Road, along the Sacramento River
	South Ridge Golf Course	200+	18 hole golf course, group event facility, restaurants, bathrooms	South Butte Rd., west of Wyncoop Rd.
	Mallard Lake Golf Course	41	9 hole golf course, driving range, and miniature golf	Highway 99, south of Oswald Rd.
	Rio La Paz Golf Course	135+	18 hole golf course, club house, restaurant	Southwest of Nicolaus, south side of Lee Road and east side of Garden Highway
	Sutter Buttes	50,560	Middle Mountain Foundation docent led hikes	Northern section of Sutter County
Other	Sutter Commuter Bikeway	6.1 miles in length	Paved bicycle and walking path	From Acacia Ave. in Sutter to Hooper Road in Yuba City

Source: Sutter County, 2007.

- encourage development of natural resource areas for recreational activities;
- make recommendations for coordinated regional processes for park and recreational planning, acquisition, funding, and development;
- encourage the planned development of parkways, bike paths, off-road vehicle travel areas, wildlife preserves, picnic and camping facilities, and special facilities accommodating such leisure-time activities as golf, zoological attractions, historical areas, arboretums, and similar facilities;
- make recommendations on the development of future park and recreation capital improvement programs and the assignment of priority ratings thereto with the classifications: urgent projects, necessary projects, desirable projects, and deferrable projects;
- recommend policy positions to the Board of Supervisors on pending legislation affecting County park and recreation systems and its policies and procedures; and
- review, evaluate, and recommend updates of the County's Park and Recreation Element of its General Plan.

Facility Maintenance

The Public Works Department is responsible for administrative services to the County Airport, Facilities Maintenance, Parks and Recreation, street lighting and landscape districts, and several special districts. Under the direction of the Public Works Department, Facilities Management is responsible for the building and grounds maintenance of County buildings and parks including custodial services for County properties. The staff is responsible for landscape maintenance, custodial, minor remodeling, and facility maintenance. In a quadrant with a park assessment boundary, park maintenance may be expanded to include replacement and/or purchase of new park equipment and the replacement and/or purchase of new vegetation when necessary.

Facility Standards

The 1996 Sutter County General Plan included a goal of maintaining a ratio of 10 acres of parkland per 1,000 persons. As of 2007, Sutter County had a parkland ratio of 309 acres of parkland per 1,000 persons. This parkland ratio drops to approximately 1 acre of community and neighborhood parkland per 1,000 persons when wildlife areas are excluded. However, most of the populations within the unincorporated areas of the county reside in close proximity to Live Oak or Yuba City and use park facilities in these two incorporated cities.

Neighborhood parks in Sutter County serve dual purposes as local park areas serving residents within a 1/2 mile, while also serving area residents within a 2- to 3-mile radius. While most of the community parks are located in the City of Yuba City, some of them are within easy access of unincorporated county areas. With a little over 20 acres, the West Walton Park, Holly Tree Park, Harter Park, and Happy Park provide adjacent unincorporated County residents active recreation facilities in Yuba City. See Figure 3.3-2 School Location in Section 3.3.3, Schools, for the location of school facilities in the county.

Park Fees

Although there are no officially established County park districts, park funding is allocated according to five designated "quadrants" within the county. Money for parks is collected through

developer impact fees and is then used within the quadrant it was collected to develop new parks after forming a park assessment district. Currently, the County has 2 park assessment boundaries.

Yuba City and Live Oak Park Facilities

Much of Sutter County's population is clustered around the two incorporated cities of Yuba City and Live Oak, with most of the active park facilities that include recreational facilities located in these incorporated cities.

City recreation departments in Live Oak and Yuba City provide residents within the unincorporated county area access to swimming, softball, and other organized recreational activities. The area's YMCA facility is located in Yuba City and also provides activities and summer camps for children.

Sports Facilities

Area sports facilities offer a variety of recreational options including grass play fields, baseball diamonds, golf courses, and the Sutter County rifle range. In addition, picnic and play areas accompany many of the facilities. Sutter County residents enjoy four little league baseball facilities including the Peach Bowl little league field, South Sutter Recreation Association facility, Sutter Youth Organization facility and adjacent community center, as well as the Robbins Little League Field and Community Center. Most of the sports facilities in the County are privately owned and operated, however the Sutter Youth Organization facility and the Peach Bowl Little League field are both leased to private operators by the County. Additionally, the Live Oak swimming pools as well as the Nuesto and Robbins school play fields have been approved through a joint use agreement as community recreational facilities.

River Recreation Areas

Sutter County contains numerous recreational areas along the Feather and Sacramento Rivers. Several area river parks provide boat launch, restroom, picnicking and camping facilities. The Donahue Road Park and the Tisdale Boat Ramp provide public access to the Sacramento River recreation areas. Along the Feather River, Boyd's Pump, Feather River parkway, Yuba City Boat Ramp, Riverfront Park, and Live Oak Park and Recreation Area provide public access to the river with amenities. Several private river parks also provide access to the rivers including Verna Joe's Place, Lovey's Landing, Rio Ramaza, and Verona Marina with camping, boating, and other amenities described in Table 3.1-10.

State Wildlife Areas

California's Central Valley has long been recognized as an important waterfowl wintering area because of its ample food supply and mild temperatures. More than 60 percent of the waterfowl that utilize the Pacific Flyway winter somewhere in California. There are approximately 15,947 acres of wildlife areas in Sutter County. There are 5 State wildlife areas and 1 state park located within Sutter County (Table 3.1-10). All of the wildlife areas are managed by the California Department of Fish and Game (CDFG). The goal of CDFG is to aid in the restoration of North America's waterfowl population through its continued maintenance and expansion of wildlife areas throughout California. The 1 state park in the county is managed by the California State Parks Department. Most of the wildlife areas are preserved for passive recreational opportunities such as bird watching and hiking; however, some of the areas allow seasonal hunting of water fowl such as the Butte Slough Wildlife Area.

Sutter County contains 5 state-run wildlife recreation areas countywide and 1 state park located in the northern section of the county in the Sutter Buttes, as described below.

Butte Slough Wildlife Area

Upper Butte Basin includes the Butte Slough Wildlife Area that provides important wintering waterfowl habitat. The Butte Slough Wildlife Area is a 178 acre facility located a few miles north of the Sutter Buttes in the Butte Basin south of Pass Road, west of West Butte Road. Hunting programs are run on all 3 units of the Butte Slough Wildlife Area. It is comprised of the Little Dry Creek Management Unit, Howard Slough Management Unit, and the Llano Seco Management Unit.

Feather River Wildlife Area

The Feather River Wildlife Area is the second largest wildlife area in Sutter County at 2,265 acres. It contains 5 management units. The 439-acre Abbot Lake Management Unit is located east of Garden Highway at the end and on the north side of Star Bend Road. The 662-acre Lake of the Woods Management Unit is only accessible by boat via the Star Bend Fishing Access and Boat Ramp located on the Feather River Boulevard in Yuba County. Nelson Slough Management Unit occupies 751 acres north of Nicolaus and the Feather River on Sacramento Avenue. The O'Connor Lakes Management Unit is a 471-acre area east of Garden Highway, at the end of Star Bend Road on the south side. Finally, the Star Bend Management Unit is the smallest unit with only 50 acres is located east of Garden Highway, at the end of Star Bend Road on the south side.

Gray Lodge Wildlife Area

An approximate 371-acre portion of the Gray Lodge Wildlife Area is located in the northern part of the County and is Sutter County's largest wildlife area. This wildlife area is known as a world renowned Pacific Flyway bird refuge and it is accessible from Gridley Road in Butte County.

Sutter By-Pass Wildlife Area

The Sutter By-Pass Wildlife Area is composed of long fingers of land covering 3,766 acres running the length of the floodwater by-pass from Highway 20 to Nelson Slough. The area is accessible just south of Sutter County where Reclamation Rd. crosses Tisdale Weir.

The Sutter By-Pass is a flood control corridor, part of the Sacramento Flood Control Project that is approximately 3/4 mile wide and is bordered by two parallel channels. The Sutter Bypass collects flood overflow water from the Sacramento River after passing through Butte Slough and the Butte Sink wildlife areas.

Butte Sink Wildlife Conservation Area

The Butte Sink Wildlife Conservation Area is 18,000 acres and is owned by the U.S. Fish and Wildlife Service (USFWS). This Conservation Area was established in 1980 to protect wetlands for wintering fowl. Much of the land consists of conservation easements, which require landowners to maintain the wetlands on their property. The actual refuge consists of 733 acres.

Butte Sink's 18,000 acre Wildlife Management Area has the highest concentration of waterfowl per acre in the world. Located in the northern portion of Sutter County, it includes the Butte Sink National Wildlife Refuge and 10,311 acres of conservation easements acquired on adjacent private lands not open to the public. The landscape is flat, bordered by the Sierra Nevada and Coast ranges, and surrounded by intensive agriculture (primarily rice and nut orchards).

Sutter Buttes – Peace Valley State Park

In 2003 the California State Parks Department purchased approximately 1,800 acres on the north side of the Sutter Buttes, known as Peace Valley. This property has not yet been developed for park use and is not open to the general public.

Private Facilities

Several area recreational opportunities are not maintained by the County, but offer a regional tourist pull to Sutter County including such locations as private golf courses, Lake Minden, and the Sutter Buttes.

Privately maintained golf courses provide first class golfing opportunities to area residents. Private Sutter County golf courses include Rio La Paz 18-hole course, the South Ridge 18-hole course, and the Mallard Lake 9-hole course and driving range.

Lake Minden offers RV camping and recreation facilities around a man-made lake located just south of the community of Nicolaus.

The Sutter Buttes, located at the northern portion of the county, is a prominent mountain range. The Sutter Buttes make up roughly 13 percent of the county land covering almost 79 square miles with elevations from approximately 80 to 2,117 feet. Although most of the mountain range is privately owned, much of the land has been placed in a land trust under the care of the Middle Mountain Foundation. The Foundation has created learning opportunities within the Sutter Buttes through guided hikes for the public or schools.

Yuba-Sutter Bikeway

In joint cooperation, Yuba and Sutter Counties in 1995 completed a master plan outlining the blueprint for a bi-county bikeway system that includes both on-street and off-street facilities throughout the 2 counties. The bikeway includes approximately 395 miles of bikeway facilities connecting the cities in Yuba and Sutter Counties with regional destinations in neighboring Butte, Colusa, Nevada, Placer, Sacramento, and Yolo Counties. The proposed facilities specifically within Sutter County include 3.7 miles of Class I bikeways, 27.3 miles of Class II bikeways, and 171.9 miles of Class III bikeways. The bikeway system connects county residents to multi-modal facilities that service the larger region.

REGULATORY CONTEXT

Federal

There are no specific federal regulations related to park facilities in Sutter County.

State

State Public Park Preservation Act

Under the Public Resource Code, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.

State Street and Highway Code

The State Street and Highway Code assists in providing equestrian and hiking trails within the right-of-way of County roads, streets, and highways.

Local

There are no specific local regulations related to park facilities in Sutter County.

3.3.5 General Government, Civic, and Cultural Facilities

INTRODUCTION

This section presents an overview of the general government structure, civic facilities, and resources available in Sutter County. Public recreational facilities such as parks are discussed separately in Section 3.3.4. Information for this section is based on communication with City staff and various websites associated with cultural amenities within Sutter County.

Sutter County offers a variety of civic amenities for all sectors of the population. Civic and cultural facilities provide area residents with resources and information that connect residents to the community around them.

SUMMARY OF KEY FINDINGS

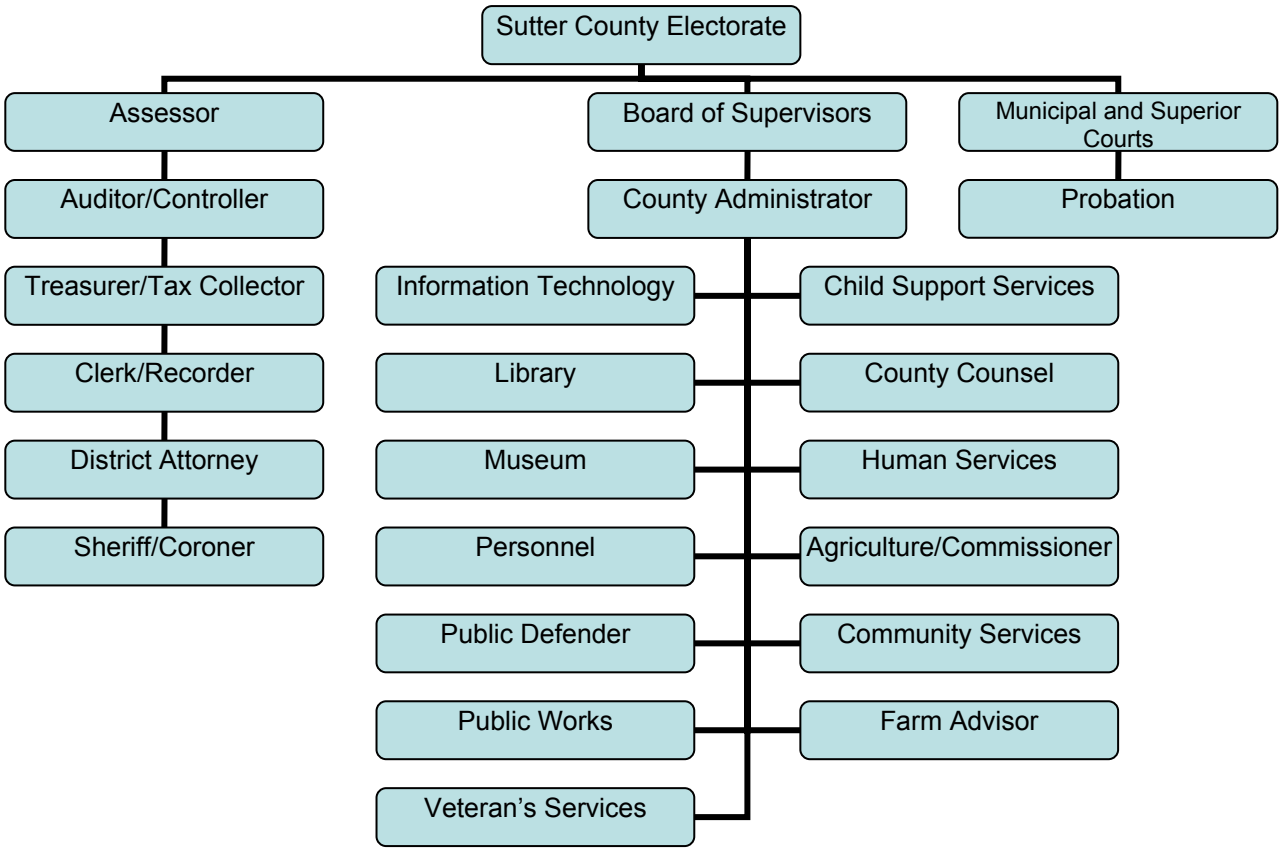
- Members of the Board of Supervisors are elected to represent the citizens in one of the five supervisory districts in the County.
- The Planning Commission acts in an advisory role to the Board of Supervisors on projects such as general plan amendments and rezones and in an approving role for use permits and land divisions.
- The County departments consist of the Community Service Department, Public Works Department, Agriculture Department, Child Support Services Department, Human Services Department, Personnel Department, Information Technology Department, Sheriff/Coroner, Probation, Municipal and Superior Courts, District Attorney, County Clerk/Recorder, County Counsel, Public Defender, Libraries, and Museums. The bi-County agencies/services and departments include Veteran's Services and the Farm Advisor.
- The County Library maintains five public library locations.
- As of 2007, Sutter County libraries do not have per capita standards to define adequate levels of library space or holdings.

EXISTING CONDITIONS

The Sutter County general government structure provides residents with elected and appointed officials and a variety of departments and services that focus on specific areas pertaining to health and human services, facilities, and public works, as well as building and planning needs, as shown on Figure 3.3-3.

Sutter County, with the help of area cities, also provides its residents with a diverse array of local civic and cultural amenities form history museums to the County fair facilities.

Figure 3.3-3
Sutter County Governmental Structure



County Officials

County officials are elected or appointed and consist of the Board of Supervisors, Planning Commission, officers, judges, and department heads, as described below.

Board of Supervisors (BOS)

Members of the BOS are elected to represent the citizens in 1 of the 5 supervisory districts in the county. The BOS serves as the legislative body for Sutter County and provides policy direction for all branches of County government in response to the needs of the people of Sutter County. The BOS appoints the Chief Administrative Officer, the Planning Commission, and most of the County department heads.

The 5 supervisors are elected to the BOS for a 4-year term that overlaps with voters electing a representative in Districts 1, 4, and 5 during presidential election years and Districts 2 and 3 in State general election years. The 5 District boundaries are redrawn after each U.S. Census count to have approximately the same population in each supervisory district to ensure equal representation.

Board members, in partnership with County staff, work to ensure the delivery of services and programs essential to the residents of Sutter County. The BOS set policy for the County and its operation within guidelines established by State and federal laws and regulations. In planning and zoning matters, the BOS vote on recommendations from the Planning Commission to establish policies, enact ordinances and resolutions, adopt the budget, levy taxes, and approve

formal contracts and agreements. The BOS also serves as the governing body for several special districts which provide water, sewer, and fire suppression services in the unincorporated county area.

All meetings of the BOS are open to the public and can be viewed on public television in the Yuba City area or by requesting a previously taped meeting.

Planning Commission (PC)

The PC acts in an advisory role to the BOS on projects such as general plan amendments and rezones, and in an approving role for use permits and land divisions.

The Commission consists of 7 members that can serve a maximum of 8 consecutive years. Five members are appointed by the BOS representing each of the Supervisory Districts. The remaining two seats are filled by a planning commissioner from the cities of Live Oak and Yuba City.

County Administrator

The County Administrator is appointed by the BOS to be accountable for the day-to-day management of all County departments. As outlined in State Statute and County Ordinance, the County Administrator provides staff support to the Board by conducting research and providing policy recommendations, submitting an annual budget, monitoring the fiscal condition and overall effectiveness of County programs and generally seeing that Board policy is carried out through the county's various departments.

Assessor

The County Assessor is elected to oversee the annual assessment of property values that determine the legal assessment rolls, mandated by the state, from which local property taxes are derived. Once the Assessor has determined and assembled property value information, the information is then provided to the County Auditor/Controller, who applies tax rates, and then turned over to the County Treasurer/Tax Collector, who issues tax bills. The three departments together comprise the overall Property Tax Administration function for the County.

Auditor/Controller

The elected Auditor/Controller, is the chief accounting officer, maintaining fiscal records for the County and special districts controlled by the Board, with emphasis on internal control, economy and efficiency within all departments. The traditional auditor functions include auditing special districts, auditing treasury cash and investments, accounting for payments and receipts, budget control, financial reporting, payroll and cost accounting. In addition, the position oversees control accounts for self-governed special districts and school districts depositing money with the County Treasurer.

Agricultural Commissioner

Appointed by the Board of Supervisors for a four-year term, the County Agricultural Commissioner is responsible for the local administration of certain state and local laws and regulations which protect the environment, public health and safety, agriculture, and consumer. The Agricultural Commissioner is also the County Sealer of Weights and Measures and the Director of Underground Storage of Hazardous Materials.

Treasurer/Tax Collector

The Treasurer/Tax Collector is an elected official responsible for safeguarding public funds, cash management, investment of pooled funds, and providing full accountability for County funds. The position also gives direction to the Office of Revenue Collection.

Boards and Committees

Sutter County's Boards and Committees provide a way for the public to volunteer and participate in the County's decision-making process on numerous issues, from parks to health and human services.

County Committees include Agriculture/Public Protection and General Government Committee, Public Works/Support Services Committee, Airport Committee, Fish and Game Advisory Committee, Gilsizer County Drainage District, Health Committee, and In-Home Supportive Services Public Authority. Two of these committees – Agriculture/Public Protection and General Government Committee and Public Works/Support Services Committee – are made up of only two BOS members, which act as the liaison between County departments and the BOS.

County Services and Departments

Numerous Sutter County departments are available to residents, as discussed below.

Community Service Department

In 1994 the Community Services Department was created by consolidating Animal Control, Planning, Fire Services, Emergency Services, Building Inspection, and Environmental Health programs under one department. The Department is divided into two categories of services: (1) permitting services (land use, planning, construction, food facility/other environmental health, and animal control), and (2) emergency services.

Planning Division

The Planning Division deals with issues pertaining to current and advanced planning functions which are related to the administering of policies found in the County General Plan, the zoning code, the subdivision ordinance, the California Environmental Quality Act, and the preparation of policy documents that guide the physical development of the County. The Planning Division provides support to the County Planning Commission in addition to serving as staff to the Local Agency Formation Commission (LAFCO).

Animal Care and Control

The Animal Care and Control Program provide protection to animals and residents of Sutter County, City of Live Oak, and the City of Yuba City. The services include animal licensing, pet adoption, animal bite investigation, and quarantine.

Building Inspection Division

The Building Inspection Division works closely with the planning and code enforcement programs and is responsible for administering the building, electrical, plumbing, and zoning codes adopted by the County as control measures for public safety. The Building Inspection Division checks plans, issues construction permits, and inspects buildings and structures at all stages of construction alteration, and repair for safety and conformity with State and local codes.

Code Enforcement

Code Enforcement is responsible for inspection, investigation and enforcement of violations involving building, housing, zoning, sanitation, and other related codes, ordinances, and regulations. Code Enforcement works closely with Building Inspection and County Fire to assure the safety of construction and structures within the County. Code Enforcement issues citations, assists in structure condemning cases and public hearings, and testifies in court.

Environmental Health Division

The Environmental Health Division's primary aim is to protect and enhance the public's health through the control of potentially harmful materials, organisms, energies, and conditions in the environment. The Division's primary responsibilities include: onsite sewage disposal, water wells, monitoring wells, small water systems, land use planning, retail food facilities, public swimming pools, and code compliance. Environmental Health also serves as the Certified Unified Program Agency (CUPA) for the County in dealing with hazardous materials.

Fire

The Fire Chief administers the fire protection programs and activities of the five fire districts and acts as the liaison between the County and local fire organizations.

Emergency Services

The Emergency Services manager heads the County Office of Emergency Services (OES). The Emergency Services Program is responsible for planning; response and recovery activities associated with natural and man-made emergencies and disasters throughout the County; and coordination of those activities with Local Agencies, State OES, and the Federal Emergency Management Agency (FEMA). Public disaster preparedness information is also provided to citizens through the OES webpage information and links.

Public Works Department

The Public Works Department is responsible for the operation of a large number of programs. Administrative services are provided to the County Airport, Facilities Maintenance, Central Services, County Fleet, Fish and Game, Parks and Recreation, Purchasing, Road Department, Water Agency, street lighting and landscape districts, and several special districts.

General Services

General Services is responsible for the organization and overall management of Central Services, Facilities Management, Fleet Management, and Purchasing Divisions of Public Works.

Water Resources Division

County Water Resources is responsible for number of programs including drainage, including various drainage zones of benefit, storm water quality and, floodplain administration for the National Flood Insurance Program.

Agriculture Department

The Agricultural Department is mandated to promote and protect the agricultural industry; the environment; and the public through enforcement of local, State, and federal laws and

regulations. It is also responsible for the protection of agricultural worker health and safety. The Division of Weights and Measures is charged with assuring equity in the marketplace by inspecting commercial weighing and measuring devices. While the Environmental Health Division is the CUPA for Sutter County, the County Agricultural Department serves as a Participating Agency (PA) for reviewing Hazardous Materials Business Plans for agricultural businesses, hazardous waste generators, and above ground storage tanks for agricultural users. The Agricultural Department implements the underground storage tank (UST) program for all underground storage tank facilities in the County.

Child Support Services Department

The mission of the Department of Child Support Services is to enhance the quality of life for children and families in Sutter County by providing child support establishment and enforcement services to ensure that both parents share the obligation to support their children. Services include establishing paternity, child support and medical coverage; locating non-custodial parents and their assets to enforce courts orders; collecting and distributing child and spousal support payments; maintaining accounts of payments owed and received; modifying court orders when appropriate; and enforcing child support court orders.

Human Services Department

The Human Services Department is comprised of 3 operating divisions and a Public Authority staff. The Department is responsible for managing the prevention and containment of infectious disease, improvement of public health, the evaluation and treatment of psychiatric disorders and substance abuse, and general medical problems. The Human Services Department also provides public assistance eligibility determination for various programs.

Welfare Division

The Welfare Division oversees Social Services to Children and Elderly Adults, Employment Services, Food Stamps, eligibility for state and federal aid programs (TANF), and the Sutter County Conservators Office.

Public Health and Clinical Services Division

The Public Health and Clinical Services Division provides outpatient medical clinic services, laboratory services, and disease prevention programs. This Division also administers the Women Infant and Children Nutrition programs for Sutter County.

Children and Families Commission

The Children and Families Commission's mission is to provide a comprehensive system of information, programs, and services that supports all Sutter County children and their families and help to ensure that each child enters school healthy and ready to learn.

Mental Health Division

The Mental Health Division serves both Sutter and Yuba Counties and provides Mental Health and Substance Abuse Treatment and Prevention programs.

Public Authority

The Public Authority works in conjunction with Sutter County's In Home Supportive Program to provide personal care-domestic services to those who are elderly and/or disabled, allowing the

person to remain safely in their own homes. The Public Authority maintains a list of certified homecare providers that are matched to clients needs.

Personnel Department

The Personnel Department handles all human resources tasks for County staff providing the services pertaining to labor relations, recruitment and selection, classification and salary administration, administration of personnel rules and regulations, deferred compensation, unemployment insurance, and risk management.

Information Technology Department

The County's Information Technology Department (IT) provides comprehensive maintenance to the information infrastructure including hardware, connectivity, and communication equipment for all County offices. The IT Department also provides software, training, and research and development support for County staff.

Bi-County Agencies/Services & Departments

There are a number of bi-county agencies that have been established through memorandums of understanding (MOU) between Sutter and Yuba Counties. This arrangement allows the counties to address regional issues that affect both jurisdictions through shared resources.

Veteran's Services

The Veteran's Services office is funded by both Sutter and Yuba Counties, with Yuba County acting as a lead agency. The office staff helps veterans, survivors, and dependents obtain benefits by providing information and assistance with U.S. Department of Veterans Affairs (VA) and the California Department of Veterans Affairs (CDVA) claims.

Farm Advisor

The Farm Advisors is a bi-county agency with Sutter County administering the program; however, the lead agency is the University of California, Davis Cooperative Extension. The emphasis of the program is on agricultural research and education, 4-H youth development activities, farm and home economic information, and the master gardener program.

County Judicial Services & Departments

Sheriff/Coroner

A detailed description of the Sheriff's Department's duties and responsibilities are discussed in Section 3.3.1, Law Enforcement.

Probation

The Probation Department provides mandated and discretionary probation services to the adult and juvenile courts of the County. The Department is divided into 4 basic units: (1) Juvenile Services, (2) Adult Services, (3) Administrative Services, and (4) Youth and Adult Services. The services provided by the Department include investigations, sentence recommendation, supervision of persons placed on probation, custody mediation, domestic violence diversion, truancy, and child custody investigation. The Probation Department operates under the direction of the Probation Officer who is appointed by the presiding judge of the Juvenile Court.

Juvenile Hall

The Yuba-Sutter Juvenile Hall is a 45 bed detention facility for offenders under 18 years of age. Comprehensive correctional service programs, educational and mental health services are provided to residents. The Maxine Singer Youth Guidance Center is a 12 bed Boot Camp program for male offenders. Comprehensive services and substance abuse counseling is provided to residents. Community services work projects are undertaken and the Wards work closely with local schools and civic groups. Specialized program elements include small engine repair, a construction technology class, anger management and family services.

Municipal and Superior Courts

The County Municipal Courts have jurisdiction over civil cases involving amounts up to $25,000 and presides over preliminary hearings in felony cases to determine whether there is reasonable and probable cause to hold a defendant for further proceedings in Superior Court. There are two Municipal Court judges in the county.

The Superior Court has jurisdiction for civil cases over $25,000 and for all felony cases. The Superior Court is responsible for Probate, Domestic Relations, and Juvenile Court and is responsible for the selection of the Grand Jury. The Court is currently composed of three judges.

Grand Jury

The Grand Jury is a body of 19 electors who are selected annually from a panel of prospective jurors by the Superior Court. The Grand Jury hears evidence of criminal matters presented by the District Attorney and judges if there is sufficient evidence to present an indictment to the Superior Court. The Grand Jury also investigates the operation accounts and records of the County departments and inquires into misconduct by any public office within the County.

District Attorney

The District Attorney is elected to serve as the chief law enforcement officer of the County and acts as the public prosecutor for all criminal violations of state and county laws and ordinances. In addition, the District Attorney operates a family support division that enforces child and family support obligations; investigates and prosecutes criminal child abuse; operates a welfare fraud unit to investigate welfare and public assistance fraud; and provides enforcement of environmental health, planning, and building code violations.

County Clerk/Recorder

The elected County Clerk/Recorder serves as the Clerk of Superior Court and is responsible for filing all civil, criminal, probate, and juvenile cases. The clerk also registers voters, conducts elections, records vital statistics and real estate documents, maintains files on corporate and fictitious business names, issues marriage licenses, and may perform civil marriages. In addition, this office serves the BOS with clerk attendance at all meetings and maintains all minutes and records in accordance with State law.

County Counsel

Appointed by the BOS for a four-year term, the County Counsel serves as the chief legal counsel to the BOS and all County departments, Local Agency Formation Commission (LAFCO), some special districts, and the Boards and Commissions. The Counsel is responsible for advice on legal matters, written legal opinions, review of County contracts, personnel

hearings and arbitrations, overseeing litigation, and represents the County in administrative hearings.

Public Defender

The Public Defender provides legal counsel at the request of the defendant or of the court to those citizens who have been charged with a criminal offense and who are not able to provide for their own legal defense.

Public Guardian-Conservator

As appointed by the court, the Public Guardian-Conservator serves as conservator of persons, and/or the estate of persons, who are unable to manage their personal and/or financial affairs by reason of a mental or physical disability.

County Civic & Cultural Departments and Facilities

Sutter County residents have access to several civic and cultural facilities, as described below.

Veterans Memorial Community Building

Sutter County operates the Veterans Memorial Community Building located on Veterans Memorial Circle in the City of Yuba City. This facility can be rented by the public and includes a full service kitchen and the main hall with a capacity of 640 persons or 400 persons for dinner. The building is typically used for community events and rented by the public; however, it can also be used as an emergency facility in case of area disaster.

Yuba City Senior Center

The Yuba City Senior Center provides unincorporated county area residents with senior services, health and wellness classes, arts and crafts activities, social events, and workshops. The center is located on Ainsley Avenue in the City of Yuba City.

Sutter County Museum – Community Memorial Museum

The Community Memorial Museum is located on Butte House Road in Yuba City and is a department of Sutter County government. The Museum is funded by both Sutter County and through private funds and is open to the public 7 days a week free of charge. The mission of the Museum is the acquisition, preservation, interpretation and exhibition of artifacts and information reflecting the cultural heritage of Sutter County.

The Museum provides the residents of Sutter County a place to experience local history through exhibition, research, school programs, adult and children's programs as well as virtual museum archives of images with online access to Sutter County's history.

The Museum houses several permanent exhibits on the native Maidu Indians, early Sutter County settlers, agriculture, and the Sutter Buttes. Displays incorporate artifacts and photographs of historic structures or events with interpretive labels to aid in self guided tours of the museum. Highlights of the collection include a restored Yuba Ball Tractor, John Sutter's Gun, and Lola Montez's dressing table. The Museum also rotates in special exhibits every 3 to 4 months that can be viewed in the main hall.

Sutter Community Center

The Sutter Community Center is located on the corner of Butte House Road and Acacia Street in the community of Sutter and is owned and operated by the South Sutter Recreation Association. The facility consists of the main community room and adjacent little league field with bleachers. The facility hosts community events and is available to the public for rental.

Libraries

The five County branches, shown in Table 3.3-11, service the rural areas of the County as well as provide reciprocal access by residents of both Yuba City and the City of Live Oak. Public branch libraries are a valuable resource center for Sutter County residents and provide services including, information assistance, children's reading programs, on line access kiosks, and on line book renewal service. In branch and online catalog search options have access to books, periodicals, audiovisual materials, and reciprocity agreements for loan materials form other jurisdictions.

Table 3.3-11. Sutter County Libraries and Accessibility

Branch	Location	Hours
Main Branch	Forbes Avenue, Yuba City	10-8 Monday – Thursday 10-5 Friday – Saturday Closed Sunday
Barber Branch	Live Oak Boulevard, Live Oak	1-5 Monday – Thursday 9-1 Friday Closed Sunday
Browns Branch	Pacific Avenue, Rio Oso	8:30 – 12:30 Monday, Wednesday – Friday 2- 6 Tuesday Closed Saturday and Sunday
Pleasant Grove Branch	Howsley Road, Pleasant Grove	8 – 4:30 Tuesday and Thursday Closed all other days
Sutter Branch	California Street, Sutter	1 – 5 Monday – Friday Closed Saturday and Sunday

Source: Sutter County, 2007.

As of 2007, Sutter County libraries do not have per capita standards to define adequate levels of library space or holdings. In addition, it is important to note that “adequate” square footage varies for each branch depending on the services it offers. No new library facilities are planned in Sutter County with budget limited to funds collected through the local bonds.

Yuba/Sutter Fairgrounds

The joint fairground facility shared by Yuba and Sutter Counties is located adjacent to Gauche Park on Franklin Avenue at Garden Highway in Yuba City. Facilities include 4 exhibit halls with kitchens, a 2,300 occupancy main exhibit building, livestock barns, exhibitor arenas, main arena with grandstands, shower and bathroom facilities, and RV hookups. The fairgrounds are used for many events, including the annual county fair, and have also been used to stage county flood rescue and outreach.

YMCA

The YMCA offers education and recreation programs to area residents with a focus on healthy child development. YMCA centers in Sutter County are located in Robbins (one center), Live

Oak (one center), and Yuba City (five centers). Yuba City's YMCA has a migrant education center included.

REGULATORY CONTEXT

Federal and State Local

There are no specific federal, State, or local regulations related to general government or civic and cultural facilities within the Policy Area.