

4.14 UTILITIES

This chapter describes the existing water, wastewater, stormwater, solid waste, and energy service in unincorporated Butte County and discusses potential impacts associated with the projected 2030 buildout of General Plan 2030. This section is based on a quantitative analysis, although it also considers the spatial distribution of anticipated population growth across utilities districts. Implementation of the Airport Land Use Compatibility Plan (ALUCP) override would have no utilities impact in Butte County, and is not discussed further in this chapter.

Storm drainage systems and groundwater are addressed below as well as in Section 4.8, Hydrology and Water Quality.

A. *Water*

This section describes applicable regulations, current conditions, and potential impacts of the proposed General Plan 2030 with regard to the provision of water in Butte County.

1. **Regulatory Framework**

This section summarizes key federal and State agencies and regulations that govern water service in Butte County.

a. Federal and State Regulatory Agencies

The US Environmental Protection Agency (EPA) is the federal agency assigned to maintain safe water throughout the country. Butte County is in EPA Region 9, which includes Arizona, California, Hawaii, Nevada, the Pacific Islands, and over 140 Tribal Nations.

The California Department of Public Health (CDPH) Drinking Water Program (DWP)¹ is within the Division of Drinking Water and Environmental Management. The DWP regulates public water systems; certifies drinking

¹ California Department of Public Health (CDPH), Drinking Water Program, <http://www.cdph.ca.gov/programs/Pages/DWP.aspx>, accessed May 27, 2009.

water treatment and distribution operators; supports and promotes water system security; provides support for small water systems and for improving technical, managerial, and financial capacity; and provides funding opportunities for water system improvements. The Field Operations Branch of the DWP is responsible for the enforcement of the federal and California Safe Drinking Water Acts and the regulatory oversight of approximately 7,500 public water systems to assure the delivery of safe drinking water to all Californians. In this capacity, Field Operations Branch staff perform field inspections, issue operating permits, review plans and specifications for new facilities, take enforcement actions for non-compliance with laws and regulations, review water quality monitoring results, and support and promote water system security.

The California State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) are responsible for controlling water pollution sources to protect the State's surface waters and ground waters for all beneficial uses, including domestic and municipal water supply uses.

The California Department of Water Resources (DWR) is responsible for the overall management of California's water resources. DWR oversees regulation of water service availability, including Senate Bills (SB) 610 and 221 and the California Urban Water Management Planning Act, as described below.

b. Federal and State Regulations

There following are federal and State regulations that affect water service in Butte County.

i. Federal Safe Drinking Water Act

The Safe Drinking Water Act authorizes the EPA to set national standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally-occurring and man-made contaminants. These standards set enforceable maximum contaminant levels in drinking water and require all water providers in the United States to treat water to

remove contaminants, except for private wells serving fewer than 25 people. In California, the State Department of Health Services conducts most enforcement activities. If a water system does not meet standards, it is the water supplier's responsibility to notify its customers.

ii. California Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act (Porter-Cologne), which was passed in California in 1969, the SWRCB has the ultimate authority over State water rights and water quality policy. Porter-Cologne also establishes nine RWQCBs to oversee water quality on a day-to-day basis at the local and regional level. RWQCBs engage in a number of water quality functions in their respective regions. RWQCBs regulate all pollutant or nuisance discharges that may affect either surface water or groundwater.² Butte County is overseen by the Central Valley RWQCB.

iii. California Senate Bills 610 and 221

SB 610 and SB 221 amended State law to ensure better coordination between local water supply and land use decisions, and ensure adequate water supply for new development. Both statutes require that detailed information regarding water availability be provided to City and County decision-makers prior to approval of large development projects.³

iv. California Urban Water Management Planning Act

Through the Urban Water Management Planning Act of 1983, the California Water Code requires all urban water suppliers within California to prepare and adopt an Urban Water Management Plan (UWMP) and update it every five years. This requirement applies to all suppliers providing water to more

² California Environmental Resources Evaluation System's website. http://ceres.ca.gov/wetlands/permitting/Porter_summary.html, accessed on April 9, 2009.

³ California Department of Water Resources' website. <http://www.owue.water.ca.gov/Guidebook.pdf>, accessed April 9, 2009.

than 3,000 customers or supplying more than 3,000 acre-feet⁴ of water annually. The Act is intended to support conservation and efficient use of urban water supplies at the local level. The Act requires that total projected water use be compared to water supply sources over the next 20 years in five year increments, that planning occur for single and multiple dry water years, and that plans include a water recycling analysis that incorporates a description of the wastewater collection and treatment system within the agency's service area along with current and potential recycled water uses.⁵

v. California Groundwater Management Act

The Groundwater Management Act of the California Water Code (AB 3030) provides guidance for applicable local agencies to develop a voluntary Groundwater Management Plan (GMP) in State-designated groundwater basins. GMPs can allow agencies to raise revenue to pay for measures influencing the management of the basin, including extraction, recharge, conveyance, facilities' maintenance and water quality.⁶

2. Existing Conditions

This section describes existing water sources and water providers in Butte County.

a. Water Sources

Butte County lies entirely within the Sacramento River watershed. Primary waterways include the Feather River with its several branches, as well as Butte Creek and Big Chico Creek. The majority of the surface water supply used by Butte County residents and businesses originates in the Feather River

⁴ One acre-foot is the amount of water required to cover 1 acre of ground (43,560 square feet) to a depth of 1-foot.

⁵ Department of Water Resources, Urban Water Management Planning Program's website. <http://www.owue.water.ca.gov/urbanplan/index.cfm>, accessed April 9, 2009.

⁶ California Department of Water Resources' website. http://www.groundwater.water.ca.gov/water_laws/ab3030_gma/index.cfm, accessed on August 20, 2007.

watershed, accumulates in Lake Oroville, and is primarily used for agriculture locally. By volume, surface water provides 69 percent of the county's water needs. Based on 2000 data, the Butte County water demand is approximately 90 percent agricultural, followed by wildlife at 5 percent and residential at 5 percent.

Annual runoff in the region averages about 22.4 million acre-feet (MAF), which is nearly one-third of the State's total natural runoff. Major water supplies in the region are provided through surface storage reservoirs. Annually, municipal, industrial, and agricultural water usage in the region is about 8 MAF, with about 5.5 MAF coming from surface water sources, and groundwater providing about 2.5 MAF. A substantial portion of the remainder of the total runoff goes to dedicated natural flows, including in-stream fishery flows and flushing flows in the Delta.

Approximately 75 percent of the residential water supply is extracted from groundwater basins. The availability of groundwater in an area depends largely upon its geologic, hydrologic, and climatic conditions. In Butte County, reserves of groundwater are found in the thick sedimentary deposits of the Sacramento Valley and the mountainous areas to the east and north. Groundwater is found in perched, unconfined and confined zones in the valley portion of Butte County. Perched groundwater zones are most common in shallow, consolidated soils with low permeability. Major portions of groundwater are unconfined or semi-confined, occurring in floodplain and alluvial fan deposits. High permeability in these soils yields large amounts of water to shallow domestic irrigation wells. The Tuscan Formation contains an important deep aquifer that is theorized to underlie most of the valley area. Confined water occurs in the Tuscan and Laguna Formations, and the younger alluvium, where it is overlain by flood basin deposits. The highest producing well in alluvial uplands occurs when Older Alluvium or the deeper Tuscan volcanic rocks are tapped. Groundwater can also be found in more limited amounts in mountainous areas of the county within volcanic, metamorphic, and granitic rock with a total volume of water stored estimated to less than 2 percent of the rock volume.

b. Water Service Providers

Butte County is served by the following water service providers, all of which are reviewed in the discussion below and in Table 4.14-1.⁷ A map showing the respective service area boundaries is provided in Figure 4.14-1. Note that a small portion of the Ramirez Water District is shown along the southern boundary of Butte County; however, no discussion of this Water District is provided since more than 95 percent of the District lies within Yuba County to the south. Also, the Cities of Biggs and Gridley provide water service to properties located within their respective city limits. However, since neither of these cities supply water to unincorporated areas of Butte County, they are not discussed further in this section.

i. *Buzztail Community Services District*

Buzztail Water was deeded to Butte County and management of the water district was turned over to Buzztail Community Service District (CSD) in 1994. The District supply comes from a single well. Due to infrastructure limitations in the system, there are no plans to expand the system. Any further expansion of the system would require substantial improvements.⁸

ii. *California Water Service Company, Chico*

The California Water Service Company, Chico (Cal Water Chico) is a private company that serves some areas of unincorporated Butte County as well as the City of Chico. Cal Water Chico pumps groundwater at 69 active wells. The Cal Water system also includes seven storage tanks with a combined capacity of approximately 2.375 million gallons of water. Water supplied by Cal Water Chico is used solely for urban purposes.

⁷ Unless otherwise noted, the information presented is from Butte LAFCO, June 1, 2006, *Final Municipal Service Review – Domestic Water and Wastewater Providers*, prepared by Quad Knopf.

⁸ Buzztail Community Services District, Buzztail Water, <http://www.buzztail.org/water.htm>, accessed on May 10, 2007.

TABLE 4.14-1 WATER SUPPLIER OVERVIEW

Water Supplier	Water Source		Water Uses			Storage Available (millions of gallons)	Population Served	Treatment Capacity (mgd)	Water Supply Entitlement (TAF)
	Surface Water	Groundwater	Agricultural	Municipal and Industrial	Environmental				
Municipal									
Buzztail Community Services District	✓	✓	✓	✓	✓	Unknown	75	N/A	Groundwater
Cal Water Chico	✓	✓	✓	✓	✓	25.4	86,000	N/A	Groundwater
Cal Water Oroville	✓	✓	✓	✓	✓	4.85	10,000	7.0	- ^a
Gran Mutual Water Company	✓	✓	✓	✓	✓	Unknown	150	N/A	Groundwater
Lake Madrone Water District	✓	✓	✓	✓	✓	34	15	N/A	Groundwater
Del Oro Water Company	✓	✓	✓	✓	✓	1.7	10,153	- ^b	0.565 ^c
Durham Irrigation	✓	✓	✓	✓	✓	0.345	1,300	N/A	Groundwater
South Feather Water & Power Agency	✓	✓	✓	✓	✓	28	21,400	14.5	51
Paradise Irrigation District (PID)	✓	✓	✓	✓	✓	8.6	27,468	22.8	18.3
Thermalito Water and Sewer	✓	✓	✓	✓	✓	2.8	9,400	6.0 ^d	8.2 ^c
Agricultural									
Biggs-West Gridley Water District	✓	✓	✓	✓	✓	161	N/A	N/A	161
Butte Water	✓	✓	✓	✓	✓	100	N/A	N/A	100
Dayton Mutual Water Company	✓	✓	✓	✓	✓	-	N/A	N/A	- ^e
Durham Mutual Water Company	✓	✓	✓	✓	✓	-	N/A	N/A	- ^e
Richvale Irrigation District	✓	✓	✓	✓	✓	168.3	N/A	N/A	168.3
Western Canal Water District	✓	✓	✓	✓	✓	301.4	N/A	N/A	301.4

^a Purchase from PG&E; no limit established.

^b Treatment provided by PID.

^c Surface water supply only; total groundwater supplies not known.

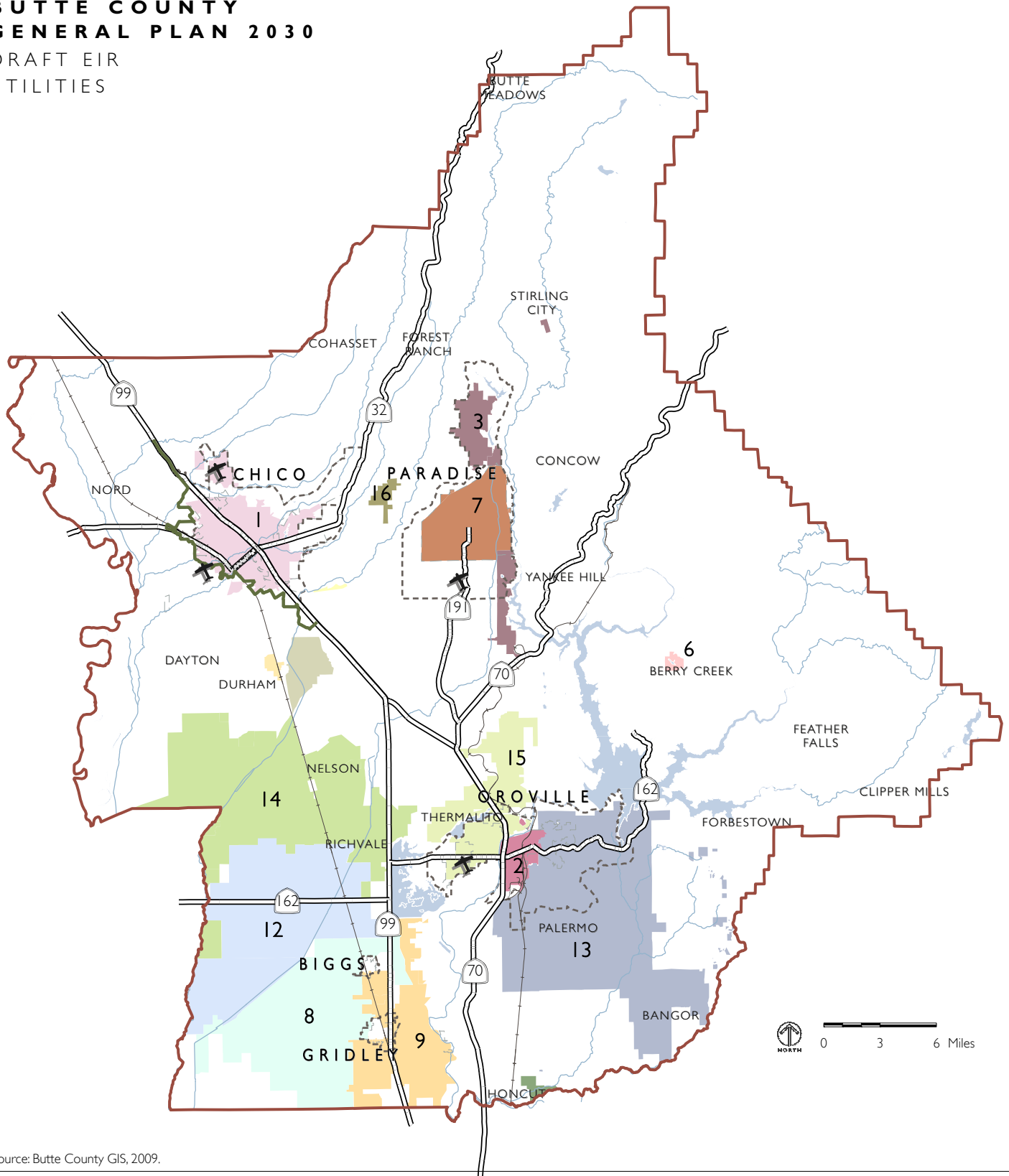
^d Expansion to 10 mgd is under construction; future expansion to 20 mgd planned for 2015.

^e Information not available.

Source: Camp Dresser & McKee, 2001, *Water Inventory and Analysis Report*. Updated with data from Butte LAFCO, June 1, 2006, *Final Municipal Service Review – Domestic Water and Wastewater Providers*, prepared by Quad Knopf.

**BUTTE COUNTY
GENERAL PLAN 2030**

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UTILITIES



Source: Butte County GIS, 2009.

1 California Water District - Chico	7 Paradise Irrigation District	13 South Feather Water & Power Agency	Highways
2 California Water District - Oroville	8 Biggs-West Gridley Water District	14 Western Canal Water District	Railroad
3 Del Oro Water Company	9 Butte Water District	15 Thermalito Water & Sewer District	Sphere of Influence
4 Durham Irrigation District	10 Durham Mutual Water Company	16 Buzztail Community Services District	City/Town Limits
5 Gran Mutual Water Company	11 Ramirez Water District	Airports	County Boundary
6 Lake Madrone Water District	12 Richvale Irrigation District	Greenline	

FIGURE 4.14-1

WATER PROVIDERS AND SERVICE AREA BOUNDARIES

iii. California Water Service Company, Oroville

The California Water Service Company, Oroville (Cal Water Oroville) is a private water supplier. Cal Water Oroville provides water within the Oroville city limits, except in areas served by other Oroville water suppliers, including the Thermalito Water and Sewer District and South Feather Water and Power Agency, both of which area discussed below. Only a very small portion of the service area, the southwest corner, lies outside the city limits. The average water quantity supplied by the company is 4,850 acre-feet/year (AFY), which comes from four wells plus surface water from the west branch of the Feather River that is purchased from PG&E. The peak daily use is approximately 6.3 million gallons per day (mgd). The average daily use during high demand is 5.5 mgd. Cal Water Oroville has two reservoirs and two storage tanks, providing a total of 7.209 million gallons of storage. All of the water that Cal Water Oroville provides is dedicated to urban retail use.⁹

iv. Gran Mutual Water Company

The Gran Mutual Water Company supplies domestic and fire protection water for the existing Skansen Estates, Spanish Gardens, and Rocky Bluffs subdivisions located east of Chico along the Skyway. The water company obtains its supply from two wells with an estimated production capacity of 650 gallons per minute (gpm). Water storage is provided in two tanks with a combined volume of 190,000 gallons. The existing service area includes approximately 75 single family residences, two commercial connections, and two homeowner association connections for landscape irrigation.¹⁰

v. Lake Madrone Water District

The Lake Madrone Water District provides service to 15 year-round residents in the Lake Madrone area, which is principally a vacation and recreation community. Water supply is obtained from two wells, with a third inactive well

⁹ Camp Dresser & McKee, March 30, 2001, *Butte County Water Inventory and Analysis Report*, prepared for Butte County Department of Water and Resource Conservation.

¹⁰ Northstar Engineering, July 2007, *Gran Mutual Water Company Engineers Report Update fore System Expansion and Upgrade*.

in reserve. The combined capacity of the two active wells is approximately 160,000 gallons per day (gpd). Average daily demand is approximately 25,000 gpd. The District has several water tanks with a combined storage capacity of 145,000 gallons.

vi. Del Oro Water Company

The Del Oro Water Company serves the unincorporated urban areas around the Town of Paradise. The Del Oro Water Company has four separate service districts: Lime Saddle, Magalia, Paradise Pines, and Stirling Bluffs. The water supply includes a combination of well water and surface water diversion. Surface water is treated by Paradise Irrigation District and Del Oro facilities for use in the various districts. Each of these service districts is described below:^{11,12}

a) Lime Saddle District

The Lime Saddle District is approximately 4.3 square miles and provides service to approximately 265 customers, primarily residential uses utilizing approximately 200 AFY. Lime Saddle has three wells and also receives water from the Del Oro Water Company's Stirling Bluffs Service District and the Paradise Irrigation District.

In 2007, Butte County approved an interconnection between Lake Oroville and the Lime Saddle District, connecting to the Paradise Irrigation District. When constructed, this project will provide an additional water supply of 200 AFY. The pipeline can carry substantially more capacity if/when additional water supply is secured.¹³

¹¹ Carvalho, Jennifer, Director of Community Relations, Del Oro Water Company, personal email communication with Carl Nelson, Questa Engineering, May 18, 2007.

¹² Camp Dresser & McKee, March 30, 2001, *Butte County Water Inventory and Analysis Report*, prepared for Butte County Department of Water and Resource Conservation.

¹³ California Public Utilities Commission, Decision 24924-01, <http://docs.cpus.ca.gov>, accessed September 21, 2009.

b) Magalia District

The Magalia District serves approximately 258 customers, primarily residential connections. Magalia has two wells. In addition, Magalia receives supplemental water from the Paradise Pines Service District during the off-peak periods and from the Stirling Bluffs Service District, via the Paradise Irrigation District, during peak periods.

c) Paradise Pines District

The Paradise Pines District has six active wells; the newest was added in 2005. In addition to local groundwater, Paradise Pines receives surface water from the Stirling Bluffs Service District. The District has 4,440 metered connections and 562 additional services, primarily single-family residential dwellings.

d) Stirling Bluffs District

The Stirling Bluffs District serves approximately 160 residential connections and has 23 inactive service connections. The District has a contract to receive up to 365 AFY of water from PG&E through the Hendrick Canal.

vii. Durham Irrigation District

The Durham Irrigation District provides domestic water services in an area south of Chico. Distribution, testing and maintenance operations are currently contracted out to Cal Water Chico. The District's water comes from three wells. These have a maximum pumping capacity of approximately 4.176 mgd. Although water supply has generally been adequate over the years, the water table has been subject to lowering during drought periods. Water in the system currently meets all State and federal drinking water standards.

viii. South Feather Water and Power Agency

The South Feather Water and Power Agency district encompasses 38,320 acres. The Agency has six reservoirs, which store runoff water collected from the South Fork of the Feather River and from Slate Creek, a tributary of the North Fork of the Yuba River. The Agency's primary treatment plant is

located at the Miners Ranch Reservoir and has the capacity to treat 14.5 mgd. Supplied water is used for agricultural, residential, and commercial purposes.

ix. Paradise Irrigation District

The Paradise Irrigation District (PID) serves municipal, residential, and commercial customers in the Town of Paradise, and additional surrounding areas immediately adjacent to the town. The primary source of water is surface water from the Little Butte Creek watershed stored in two reservoirs with a total capacity of 12,293 acre-feet. The water system includes 169 miles of transmission and distribution pipelines and a 22.8-mgd treatment plant constructed in 1994. Treated water in the District is used for both agricultural and domestic purposes. Approximately 6 percent of the District's water is used to irrigate area orchards.

x. Thermalito Water and Sewer District

The Thermalito Water and Sewer District (TWSD) delivers potable water to a combination of residential, industrial, and governmental users. TWSD has rights to 8,200 AFY and obtains its surface water from the Concow Reservoir. The water enters the West Branch of the Feather River through Concow Creek, then is released from Oroville Dam and delivered to the District through the Thermalito Power Canal. TWSD also has five groundwater wells that are used as a backup water source. Currently, the District delivers approximately 2,800 AFY of water.

c. Agricultural Water Suppliers

Following is a brief summary of the agricultural water suppliers in Butte County.¹⁴ These agricultural water suppliers are also summarized in Table 4.14-1 and shown in Figure 4.14-1.

¹⁴ The information in this section is based on the *Butte County Water Inventory and Analysis Report*, March 30, 2001, prepared by Camp Dresser & McKee for Butte County Department of Water and Resource Conservation.

i. Biggs-West Gridley Water District

The Biggs-West Gridley Water District covers 32,000 acres and provides water for irrigated agriculture and managed wetland uses, including the Gray Lodge Wildlife Area, which is partially within the District boundaries. The District obtains its water from surface water diversions, and has an annual entitlement of 161,000 AFY, plus a recapture system that provides approximately 25,000 AFY.

ii. Butte Water District

The Butte Water District provides irrigation water to approximately 18,000 acres of agricultural land in the Gridley and East Biggs area. The water supply is obtained from the Thermalito Afterbay, and totals approximately 100,000 AFY per year.

iii. Dayton Mutual Water Company

The Dayton Mutual Water Company provides surface water to meet the area's agricultural water needs. Dayton Mutual has water rights to Butte Creek and the West Branch of the Feather River, diverted through Butte Creek, totaling 19.334 cubic feet per second (cfs).

iv. Durham Mutual Water Company

The Durham Mutual Water Company provides surface water for agricultural uses from Butte Creek, diverted at Durham Mutual Dam. The Water Company is part of the Butte Creek adjudication, and has first priority rights to 44.7 cfs.

v. Richvale Irrigation District

The Richvale Irrigation District serves an area of approximately 33,000 acres and has riparian water rights on Little Dry Creek for 18.3 thousand acre-feet (TAF) that can only be used during the period between April and September. It also receives 150 TAF pursuant to pre-1914 water rights.¹⁵ Some ground-

¹⁵ Prior to 1914, there was no comprehensive permit system available to establish appropriative water rights in California, and the establishment of such a right required simply posting and recording a notice of intended diversion and the construc-

water pumping occurs to supplement surface water during the initial flooding of rice fields, but there are no estimates of the quantity.

vi. Western Canal Water District

The Western Canal Water District encompasses a land area of approximately 58,000 irrigable acres in both Butte and Glenn Counties, the majority being in Butte County. The supply is obtained from the Thermalito Afterbay, with a maximum diversion of 1,250 cfs. The pre-1914 surface water rights comprise 150 TAF of natural flow from the Feather River and 140 TAF from Lake Almanor. The District also has rights to 11.4 TAF from Butte Creek, which can only be diverted during the period between April 15 and June 15. Approximately 7 TAF of groundwater are also pumped by landowners in the District to supplement surface supplies.

3. Standards of Significance

General Plan 2030 would have a significant impact with regard to water service if it would:

- ◆ Have insufficient water supplies available to serve the project from existing and identified entitlements and resources.
- ◆ Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

4. Impact Discussion

The following discussion provides an analysis of potential project and cumulative water service impacts that could occur as a result of the projected 2030 buildout of General Plan 2030.

tion and use of actual diversion facilities. In 1914, a comprehensive permit system was established in California and all new appropriative uses subsequent to that year require application to the SWRCB. Post-1914 applicants must demonstrate to the SWRCB the availability of un-appropriated water and the ability to put it to a beneficial use. As California adheres to the “first in time, first in right” rule, a pre-1914 right will have priority over a post-1914 right.

a. Project Impacts

- i. *Have insufficient water supplies available to serve the project from existing and identified entitlements and resources.*

General Plan 2030 would allow new construction that would increase the demand for water supplies. Many of the water suppliers in the county have sufficient supplies to meet the demands of existing and projected 2030 development in their respective service areas; however, some do not. Following is a review of the status for each of the major water suppliers in the county. Unless otherwise noted, capacity information is based on information contained in the Butte County LAFCO Final Municipal Service Review.¹⁶ Water demand is estimated using the following factors: 0.33 AFY per connection,¹⁷ 0.2 gpd per square foot for retail/office uses,¹⁸ and 0.1 gpd per square foot for industrial uses.¹⁹

a) Buzztail Community Services District

The Buzztail Community Services District has sufficient groundwater supplies for existing uses, but is lacking redundant capacity. Projected 2030 buildout under General Plan 2030 is estimated to add 50 new dwelling units and 100 residents, which would more than double the service area population. The estimated water demand associated with this additional growth would be approximately 17 AFY. The existing water system does not have defined

¹⁶ Butte LAFCO, June 1, 2006, *Final Municipal Service Review – Domestic Water and Wastewater Providers*, prepared by Quad Knopf.

¹⁷ California Public Utilities Commission, Decision 24924-01, <http://docs.cpuc.ca.gov>, accessed September 21, 2009.

¹⁸ Retail/Office use of 0.2 gpd/ft² estimated based on 30 gpd per employee and one employee per 150 ft² of developed space. 30 gpd per employee is equal to twice the unit wastewater flow factor per employee as contained in Butte County sewage disposal regulations. As a general industry guideline, average sewage generation is approximately 50 percent of water demand. Lacking any details on projected landscaping plans and other water uses activities associated with retail uses, wastewater generation related to employee estimates provides the best means of estimating potential water demand.

¹⁹ Industrial use of 0.1 gpd/ft² estimated based on 30 gpd per employee and one employee per 300 ft² of developed space. See also the previous footnote.

water supplies to meet this projected demand, and no studies have been completed to determine the feasibility and level of water supply expansion that would be required.

b) California Water Service Company, Chico

Cal Water Chico has sufficient water supplies to meet existing water demands and a portion of the projected future demand. Development allowed by General Plan 2030 is projected to increase the population by 1,350 people in 2030, and add 550 dwelling units, 37,600 square feet of retail and office development and 421,700 square feet of industrial development. The future water demand from this growth in the service area is estimated to be 237 AFY, which would exceed the groundwater pumping supply sometime before 2020.

c) California Water Service Company, Oroville

Cal Water Oroville has sufficient water capacity of 10.74 mgd for its existing service area in the Oroville urban area, which has maximum demand of approximately 6.3 mgd. Development allowed by General Plan 2030 is projected to increase the population by 2,350 people in 2030 and add 950 dwelling units, 11,200 square feet of retail and office development, and 5,500 square feet of industrial development. The future water demand from this growth is anticipated to be 317 AFY. It is estimated that the water demands associated with this growth, plus the growth anticipated within the City of Oroville, would approach the water system supply around the year 2025. Existing supplies may be insufficient to meet the demand from the 2030 growth projections; however, additional water supplies are available for purchase from PG&E.

d) Gran Mutual Water Company

The Gran Mutual Water Company has sufficient water supplies from two production wells for existing customers and the remaining buildout of properties in its service area. No new residential, retail/office or industrial development is projected by 2030 within the service area of this water company.

e) Lake Madrone Water District

The Lake Madrone Water District has sufficient water well production capacity to meet existing demands. Development allowed by General Plan 2030 is projected to increase retail and office uses by 400 square feet in 2030, which would cause an increase in demand of 80 gpd, an insignificant amount that can be accommodated by the existing supplies.

f) Del Oro Water Company

The Del Oro Water Company currently purchases water from PID to make up shortfalls in supply. However, the Company has obtained approval for a pipeline project to provide an additional 200 AFY from Lake Oroville; this acquisition is dependent on purchasing an additional 200 AFY from Lake Oroville. This additional water is estimated to be sufficient to supply up to 600 residential connections, at 0.33 AFY per connection.²⁰ Development allowed by General Plan 2030 is projected to add 500 new dwelling units and 130,200 square feet of retail and office development by 2030 within the Del Oro Water Company service area. The estimated water demand associated with this additional growth would be approximately 195 AFY, or roughly equal to the projected available new supply, 200 AFY, once the intertie project is constructed.

g) Durham Irrigation District

The Durham Irrigation District has more than sufficient water supplies for existing and projected 2030 growth. The District supply of 4.2 mgd is more than ten times the current water demand of about 0.39 mgd. General Plan 2030 is projected to result in approximately 100 new dwelling units within this District. This additional growth would demand approximately 33 AFY, which would be well within the capacity of the existing supplies.

h) South Feather River Water and Power Agency

The South Feather River Water and Power Agency has water rights for 51,000 AFY compared with existing demands of about 7,000 AFY for potable

²⁰ California Public Utilities Commission, Decision 24924-01, <http://docs.cpuc.ca.gov>, accessed September 21, 2009.

and 21,000 AFY for agricultural use. Development allowed by General Plan 2030 is projected to increase the service area population by 14,700 people through the addition of 5,950 dwelling units by 2030, and add about 300,000 square feet of retail and office development and about 150,000 square feet of industrial development by 2030. This additional growth would demand approximately 2,048 AFY, which is still within the available water supply of the Agency.

i) Paradise Irrigation District

PID has sufficient supplies to meet existing water demands during normal and wet rainfall years, but not during periods of drought. The District will require additional supplies to accommodate projected growth in the Town of Paradise. However, since no new residential, retail/office or industrial development is projected within the unincorporated area of this District by 2030, General Plan 2030 would not impact the water supply needs of this District.

j) Thermalito Water and Sewer District

TWSD has water rights for the diversion of 8,200 AFY, compared with existing water demands of approximately 2,800 AFY. Two-thirds of TWSD's customers are in the unincorporated county area, with the remainder in the City of Oroville. Development allowed by General Plan 2030 is projected to increase the unincorporated service area population by 1,100 people through the addition of 450 dwelling units by 2030, and add 655,200 square feet of retail and office development by 2030. This additional growth would demand approximately 296 AFY, which is within the available water supply entitlement of the TWSD. Additional growth in the City of Oroville could also be accommodated by the TWSD's available supply.

k) Agricultural Water Suppliers

Development allowed by General Plan 2030 is projected to increase the population by 2,800 people by 2030 in the areas of several agricultural water suppliers, including the Biggs-West Gridley Water District, Butte Water District, Dayton Mutual Water Company, Durham Mutual Water Company, Richvale Irrigation District, and Western Canal Water District. None of these water

suppliers currently provide water for domestic or municipal uses. Therefore, projected water demands for development in these areas would need to be supplied either by individual water wells or changes to these existing water supply systems. The capacity of these agricultural water suppliers to deliver potable water for residential uses is unknown.

Residents and businesses in the agricultural areas of the county obtain their domestic water supplies from wells; future residents in these areas would be expected to do the same. While it would be physically and technically possible for any of the irrigation districts to implement changes in their facilities and operations to provide water for domestic uses, the source of water, water rights limitations and distribution costs would have a significant effect on the feasibility of making such changes. The area covered by these agricultural water suppliers in the county totals over 150,000 acres. The projected population increase of 2,800 people for this area represents an average density of less than one person per 50 acres. In general, water treatment and distribution costs would make it prohibitively expensive for the existing irrigation districts to provide potable water to such a dispersed and rural population. The only reasonable potential for irrigation water supplies to be converted to potable supplies would be for moderate to high-density development where the treatment and distribution infrastructure costs are absorbed as part of the development, which is not projected in General Plan 2030 for the agricultural areas of the county.

With respect to agricultural water use, according to the Butte County Inventory and Analysis,²¹ the county is estimated to have an adequate supply of surface water and groundwater to meet current agricultural demands. Additionally, the Butte County Inventory and Analysis evaluated several scenarios for future agricultural water use, considering the individual and combined effects of: (a) agricultural land conversion; (b) increased crop prices; (c) increased crop idling; and (d) conservation. The agricultural demand forecast

²¹ Camp Dresser & McKee, June 2004, *Draft Integrated Water Resources Plan, Volume 1 of 2*, prepared for Butte County Department of Water and Resource Conservation.

analysis concluded that the most reasonably foreseeable changes would not result in significant changes in agricultural water demand, and the combined effect of the above noted factors could result in reduction in water demands ranging from 0.6 to 8.75 percent in different regions of the county. In addition, as indicated in Section 4.2, Agriculture, the land available for agriculture is expected to decrease somewhat overall as a result of the proposed project. Therefore, it is reasonable to conclude that there is no significant risk that future irrigation water demand would exceed the available supplies.

l) Impact Significance Determination

The proposed General Plan 2030 Water Resources Element includes goals, policies, and actions that address the need for comprehensive planning and management of water supplies in the county to meet water demands of future growth. Action W-A2.1 commits the County to implementing and updating the Integrated Water Management Plan to ensure the sustainability of water resources within the county. Policy W-P2.6 supports water development projects that are needed to supply local demands, and Policy W-P2.5 encourages the expansion of public water systems to areas identified for future development on the General Plan land use map. Policy W-P2.2 promotes continued regional cooperation surrounding water issues; however, Butte County users should be prioritized for Butte County water supplies, according to Policy W-P2.4 and W-P2.8, which support the full utilization of the County's State Water Project allocation within the county and Area of Origin water rights. Policy W-P2.9 requires applications for new development to demonstrate adequate water supply to meet the needs of the project. Policy W-P3.1 requires sustainable management of groundwater resources. Goal W-4 and the eight policies that follow encourage water conservation, drought-tolerant landscaping, and use of reclaimed wastewater.

The goals, policies, and actions listed above will help to preserve and extend the availability of water resources in the county for the benefit of current and future uses, and will help to minimize the amount of new water capacity development that may be needed to meet future 2030 growth. In addition, these goals, policies, and actions would ensure the appropriate planning and timely

implementation of new and expanded water supply capacity to serve future anticipated growth in the county as it occurs. Therefore, implementation of General Plan 2030 would have a *less-than-significant* impact on water supply.

ii. Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

General Plan 2030 would allow development that would likely require new and/or expanded water supply facilities. Based on the projected 2030 buildout, water districts estimated to require expansion of water supply, treatment and/or storage facilities to meet the increased demand include:

- ◆ Buzztail Community Services District
- ◆ Cal Water Chico
- ◆ Cal Water Oroville
- ◆ Del Oro Water Company
- ◆ Thermalito Irrigation District

Any of the water suppliers may also undertake water facility improvements to extend water distribution lines, increase system reliability, replace existing facilities or potentially to comply with changes in water system requirements.

Water facilities may include, for example, wells, canals, reservoirs, water tanks, water treatment facilities, and pipelines. Impacts from the construction of new or expanded water facilities would be project-specific. A generic summary of the types of potential impacts associated with water supply facilities is provided in Table 4.14-2. Any new or expanded water facilities projects would require permitting and review in accordance with CEQA, which would ensure that any environmental impacts are disclosed and mitigated to the extent possible.

The proposed General Plan 2030 Water Resources Element includes the following policies and actions that either directly address the mitigation of potential environmental impacts of new and expanded water facilities, or would facilitate the timely identification, review, and avoidance of potential adverse

TABLE 4.14-2 **POTENTIAL ENVIRONMENTAL IMPACTS FROM NEW WATER SUPPLY PROJECTS AND RELATED INFRASTRUCTURE**

Types of Potentially Affected Resources	Possible Impacts Unless New or Expanded Facilities are Carefully Planned and Executed
Surface Water Hydrology	Changes in the magnitude and timing of flows in affected streams; changes in the level of affected reservoirs and lakes.
Geology and Soils	Increase in erosion and sedimentation from construction activities; change in sediment transport in streams; geologic hazards could cause problems for new facilities and their operators if they are not sited carefully.
Water Quality	Changes in stream and reservoir/lake temperature, dissolved oxygen, turbidity, total suspended solids and other water quality parameters of concern during construction and operation of new facilities.
Fishery Resources including Special-status Species	Change in the amount and quality of fishery habitat in affected streams and reservoirs/lakes and potential fish entrainment at possible diversion sites in lakes and streams.
Wetlands and Riparian Habitat	Changes in the amount or functions and values of various types of wetlands from the construction of new facilities, or in riparian areas from changes in the operation of reservoir/lakes and changes in stream flows. Riparian habitat could be affected by hydrology changes or new construction and is especially important habitat for wildlife and botanical species.
Botanical Resources including Special-status Species	Disturbance to rare plants and their habitat and other types of vegetation from construction activities or changes in hydrology along streams and at reservoirs and lakes.
Wildlife Resources including Special-status Species	Changes in the amount and quality of wildlife habitat near affected reservoir/lakes, and streams and where appurtenant facilities would be located.
Recreation	Changes in the quantity or quality of recreation opportunities, including fishing, boating, hiking, and whitewater rafting in affected reservoirs/lakes and streams; some impacts could also occur during construction and operation of new conveyance, treatment, storage, and pumping facilities.

TABLE 4.14-2 **POTENTIAL ENVIRONMENTAL IMPACTS FROM NEW WATER SUPPLY PROJECTS AND RELATED INFRASTRUCTURE**
(CONTINUED)

Types of Potentially Affected Resources	Possible Impacts Unless New or Expanded Facilities are Carefully Planned and Executed
Visual Resources	The addition of new project facilities could affect the visual environment. New pipelines, pumping stations, or transmission lines near or in residential areas or highly visited areas could cause negative impacts.
Agriculture	Some irrigated land or grazing land could be taken out of production where project conveyance facilities need to be located and to accommodate growth.
Cultural Resources	Historic, prehistoric, and ethnographic resources could be affected by hydrology changes or the construction and maintenance of new facilities.
Compatibility with Existing Land Uses and Other Policies and Plans	Some new project facilities may not be compatible with surrounding land uses, or may be inconsistent with related federal, State, tribal, and local plans and policies (including those of the US Forest Service, US Fish and Wildlife Service, and California Department of Fish and Game).
Mineral Resources	New project facilities could interfere with the extraction of minerals at known or yet-to-be discovered mineral sites.
Public Utilities	The routing and siting of new project facilities could interfere with the operation or maintenance of existing or planned public utilities, including communication and energy infrastructure.
Socioeconomic Resources	Customers of the water purveyors and others would enjoy the socioeconomic benefits associated with a more reliable water supply and related economic growth. Water rates would likely increase to help pay for new facilities. Facility construction would cause short-term and beneficial employment and income impacts. Energy or mineral impacts would also cause related socioeconomic effects.

TABLE 4.14-2 **POTENTIAL ENVIRONMENTAL IMPACTS FROM NEW WATER SUPPLY PROJECTS AND RELATED INFRASTRUCTURE (CONTINUED)**

Types of Potentially Affected Resources	Possible Impacts Unless New or Expanded Facilities are Carefully Planned and Executed
Air Quality and Noise	Air emissions from construction equipment and traffic and loud noises could occur during the construction phase of new projects. New pumping stations could cause adverse noise impacts for nearby residents and recreationists.
Transportation	Local roads would experience traffic increases during construction.
Public Health and Safety	Construction activities could create some safety hazards.
Growth-Inducing Effects	New system infrastructure and water supply projects could cause growth-inducing impacts.

Source: County of Napa, Napa County General Plan Update Draft Environmental Impact Report, February 2007.

impacts. To minimize the potential for detrimental affects to the environment as a result of new water infrastructure to accommodate growth allowed by General Plan 2030, Action W-A1.2 requires the County to develop domestic well standards and programs to ensure that groundwater resources are protected, and Action W-A3.2 calls for the County to develop standards to preserve groundwater recharge and protect groundwater quality.

The policies and actions listed above would help to minimize significant environmental effects resulting from the construction of new water facilities or expansion of existing facilities. In addition, these polices and actions would ensure that the appropriate planning occurs prior to development in order to limit the potential for subsidence and to limit development in established groundwater recharge zones. As specific projects, including water system improvements, are identified, additional project-specific environmental analysis would be completed pursuant to CEQA. Consequently, implementation of General Plan 2030 would have a *less-than-significant* impact on the environment resulting from the construction of water infrastructure.

b. Cumulative Impacts

There is a possibility that growth in other areas within the region could impact regional water supplies. The regional water supplies at risk would be the large supply of groundwater located within the permeable soils of the Sacramento Valley floor. If new development were to penetrate that supply, a water shortage could potentially develop. However, the Integrated Water Resource Plan revised in 2008 indicates that currently, there is no water supply shortfall during normal years, but that shortages occur during dry conditions in specific areas. Drought period shortages are concentrated in the southwestern portion of the county, where supply is limited by groundwater fluctuations during drier summer months, heavier agricultural use, and the geology of the aquifer.

The General Plan 2030 Water Resources Element addresses cooperation with regional water users to protect Butte County's water resources. General Plan Policy W-P2.2 requires the County to continue the Four-County Memorandum of Understanding (MOU) with Colusa, Glenn, Tehama, and Sutter Counties, and foster regional cooperation with other counties and water purveyors. The MOU will serve to protect the region's water supply as the region experiences increasing growth and development pressure. Therefore, implementation of General Plan 2030 would result in a *less-than-significant* cumulative impact to water supplies.

5. Impacts and Mitigation Measures

Since there are no significant impacts related to water supplies and water facilities as a result of General Plan 2030, no mitigation measures are required.

B. Wastewater

This section describes applicable regulations, current conditions, and potential impacts of the proposed General Plan 2030 with regard to the provision of wastewater service in Butte County.

1. Regulatory Framework

This section summarizes existing federal, State, and local agencies, policies and regulations that apply to wastewater services analyzed in this section.

a. Federal and State Agencies and Regulations

The following are federal and State agencies and regulations that affect wastewater services in Butte County.

i. Central Valley Regional Water Quality Control Board

As noted in section A.1.b.ii, above, Butte County is overseen by the Central Valley RWQCB. The RWQCB oversees water quality and regulates all pollutant or nuisance discharges that may affect either surface water or groundwater, including wastewater discharges.²²

Throughout California, the RWQCB regulatory activities are guided by water quality control plans, called Basin Plans, which set forth the State's water quality standards (i.e. beneficial uses of surface waters and groundwater) and the objectives or criteria necessary to protect those beneficial uses. The Basin Plan for the Sacramento Valley Region is the master policy document that contains descriptions of the legal, technical, and programmatic bases of water quality regulation in Butte County. Any party conducting an activity that could discharge waste into waters of the State must meet formal waste discharge requirements (WDRs) consistent with the Basin Plan, which are discussed further in Section B.1.a.ii. The RWQCB utilizes the WDRs to set specific standards for treatment and discharge of wastes, and monitoring programs for on-going documentation of compliance with the adopted requirements.

ii. Statewide General Waste Discharge Requirements

On May 2, 2006, the SWRCB adopted Order #2006-0003-DWQ, the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

²² California Environmental Resources Evaluation System's website. http://ceres.ca.gov/wetlands/permitting/Porter_summary.html, accessed on April 9, 2009.

(WDRs). Under this Order, publicly-owned sanitary sewer systems that are comprised of more than 1 mile of pipes or sewer lines must develop and implement a Sanitary Sewer Management Plan (SSMP). The WDRs are intended to provide a regulatory framework designed to ultimately reduce the number and severity of sanitary sewer overflows from publicly-owned sewer systems.

b. Local Regulations

Butte County requirements governing the design and installation of on-site wastewater treatment systems are comprised of a combination of ordinances and policy documents that are described in this section.

i. *Butte County On-site Wastewater Regulations*

On-site wastewater treatment systems in Butte County generally fall under the local jurisdictional authority of the Butte County Public Health Department, Environmental Health Division. The only exception is in the Town of Paradise, where on-site systems have been regulated by the Town since 1992 with the formation of the Paradise On-site Wastewater Management Zone. On-site systems located within the incorporated areas of Chico and Oroville are regulated by the County under agreements with these Cities. The County and the Town of Paradise are required to conduct their local regulatory programs in accordance with the RWQCB Basin Plan Guidelines and related requirements identified by specific written agreements. For large on-site systems, defined as those that treat over 2,500 gpd, and community systems, the RWQCB has direct oversight and permitting responsibility, unless they choose to waive that authority, which can be done on a case-by-case basis.

ii. *Butte County Code Chapter 19*

Chapter 19 of the Butte County Code establishes the permitting requirements and guidelines for sewage disposal within the county. Supplementing the Chapter 19 framework is a series of policy and guideline documents establishing design and construction requirements for septic systems. These requirements include bedroom definition specifications, disposal field sizing, siting

and design requirements, septic tank sizing, inspection requirements, and materials requirements.

iii. Butte County Code Appendix VII – Subdivisions

Appendix VII of the Butte County Code, which was revised on January 20, 1987, supplements the County regulations by establishing requirements for subdivisions. These requirements are significantly more restrictive than the design requirements of Chapter 19 and its supporting policy documents. Appendix VII defines the minimum usable lot areas for subdivisions where septic tanks and leachfields are to be used.

iv. Nitrate Compliance Plan

In the 1980s, the RWQCB recognized that on-site systems were contributing to elevated nitrate levels in groundwater in the Chico area. In response, the RWQCB initially issued a Prohibition Order requiring all existing septic systems in the Chico Urban Area to convert to community sewer. Butte County, working with the City of Chico and the RWQCB, developed strict standards limiting any new systems, requiring creation of an On-Site District, and a developing a plan to finance the conversion of thousands of existing septic systems to city sewer connections. This is known as the Nitrate Compliance Plan, which was adopted by the Board of Supervisors in 2001.

v. Proposed Individual On-Site Wastewater Ordinance

Butte County is currently in the process of updating and replacing existing County regulations governing individual on-site wastewater systems. Notably, the proposed ordinance would: (a) implement standardized procedures for soil and site evaluations; (b) incorporate new requirements pertaining to the vertical separation between the bottom of dispersal systems and groundwater or restrictive layers; (c) provide a broader range of treatment and dispersal designs; and (d) institute a program to assure ongoing maintenance of certain types of systems. The Draft EIR for the proposed on-site wastewater ordinance was issued for public review in mid-August 2009. As of the publication of this Draft EIR, certification of the on-site wastewater ordinance EIR and adoption of the new ordinance is expected to occur in spring 2010.

2. Existing Conditions

Wastewater service in Butte County is provided by a combination of public sewer systems and individual on-site wastewater treatment and dispersal systems (i.e. septic systems). Public sewer systems fall into two main categories: municipal systems and community systems.

a. Municipal Wastewater Systems

Municipal wastewater treatment plants are used to serve the sanitary sewer needs of major population areas. Typically, these systems are operated by cities or local sewage agencies under permits from the RWQCB.

There are currently five municipal wastewater treatment plants in Butte County, including facilities located in the Biggs, Chico, Gridley, Richvale, and Oroville areas. All of the municipal systems are owned and operated by independent agencies, either cities or special districts. Information concerning the capacity, treatment, and disposal methods in use at these facilities, as well as any known issues, is summarized in Table 4.14-3. Information in Table 4.14-3 is based on: the 2007 Setting and Trends Report; the Butte LAFCO Municipal Service Review for Domestic Water and Wastewater Service Providers, dated February 2006; and interviews of agency, Butte County, and RWQCB staff by members of the General Plan 2030 EIR team. Additional discussion of each of the municipal wastewater systems that provide service to unincorporated areas of the county is provided below. The Cities of Biggs and Gridley provide wastewater service only to properties within their respective incorporated areas and are not discussed further in this section.

i. City of Chico²³

The City of Chico provides sanitary sewer service for a population of approximately 75,000 people in the Chico urban area, including some unincorporated areas of the county within the Nitrate Compliance Plan area. The treatment plant is an activated sludge system, with a design capacity of

²³ Unless otherwise noted, information presented is from Butte County LAFCO, February 2006, *Municipal Service Review - Domestic Water and Wastewater Services*.

TABLE 4.14-3 MUNICIPAL WASTEWATER TREATMENT SYSTEMS

Community	Treatment Method	Disposal Method	Permitted Capacity (mgd) ^b	Comments
City of Biggs	Aerated Lagoons	Surface Discharge	0.37	Problems with disinfection system (chlorine), inflow and infiltration in collection system, and flow recordation.
City of Chico	Activated Sludge	Surface Discharge	6.5	Two-phased expansion, to 12 mgd and 15 mgd, planned to accommodate growth in City of Chico and septic conversions in Nitrate Compliance Plan area. Improvement to industrial pretreatment program necessary.
City of Gridley	Aerated Lagoons	Evaporation/Percolation Ponds	1.05	Approaching permit capacity.
Richvale Sanitary District	Primary Settling	Evaporation Ponds	0.03	Cease and desist order issued by RWQCB due to excessive infiltration and inflow. Sewer systems improvements in process.
Sewerage Commission – Oroville Region ^a (City of Oroville, TWSD, LOAPUD)	Activated Sludge	Surface Discharge	6.5	Industrial pretreatment program approved by RWQCB in 2000; history of inflow and infiltration problems (responsibility of collection system agencies).

^a SCOR provides wastewater treatment for the City of Oroville, LOAPUD, and TWSD under a Joint Powers Agreement.

^b mgd = million gallons per day.

9.0 mgd, average dry weather flow, and existing flows averaging approximately 6.5 mgd. The treated wastewater is discharged to the Sacramento River under the terms of NPDES Permit No. CA0079081 issued by the Central Valley RWQCB.²⁴ Expected growth in the city in the near future is expected to increase wastewater flows beyond the existing system capacity. The City has plans to expand the capacity in two phases: first to 12 mgd, and then to 15 mgd. At 15 mgd, the treatment capacity is estimated to be sufficient to accommodate growth projections for the city. However, if all areas within the Nitrate Compliance Plan area, which includes unincorporated county areas, ultimately convert from existing septic systems to sewer connection, the 15 mgd treatment capacity would be exceeded by 2025.

ii. Richvale Sanitary District²⁵

The Richvale Sanitary District operates a wastewater pond treatment system with a permitted design capacity of 30,000 gpd, average dry weather flow. The maximum wet weather hydraulic capacity of the plant is 80,000 gpd. Current flows average approximately 9,000 gpd during the dry season, but during the wet season excessive amounts of infiltration and inflow (I&I) to the sewer system cause peak flows to exceed the system design capacity. The RWQCB has imposed a cease and desist order on the District, requiring action by the District to determine and correct the sources of excessive I&I, and prohibiting system expansion until the order is lifted. The District has been in the process of replacing sewer lines and working with property owners to upgrade private sewer laterals to respond to the cease and desist order.

²⁴ California Regional Water Quality Control Board, Central Valley Region, June 4, 2004, Order No. R5-2004-0073.

²⁵ Unless otherwise noted, information presented is from Butte County LAFCO, February 2006, *Municipal Service Review - Domestic Water and Wastewater Services*.

*iii. Sewerage Commission Oroville Region*²⁶

The Sewerage Commission–Oroville Region (SCOR) system and Regional Wastewater Treatment Plant is the single regional wastewater treatment facility for the Oroville area.

SCOR operates under a Joint Powers Agreement with its member entities, including the City of Oroville, TWSD and Lake Oroville Area Public Utility District (LOAPUD). SCOR is responsible for the operation and maintenance of the wastewater treatment plant and three interceptor/trunk lines that collect wastewater discharges from the three member entities. The treatment plant and interceptor lines are less than 30 years old and are generally in good condition. Additionally, SCOR is responsible for meeting the wastewater treatment and discharge standards specified in the federal NPDES permit issued by the Central Valley RWQCB.

As of 2006 and 2007, the SCOR treatment plant currently receives an average dry weather flow of 2.9 mgd and an average wet weather flow of 3.3 mgd.²⁷ Effluent discharge from the plant is expected to increase to approximately 5.2 mgd by 2025. Currently, the treatment facility is capable of treating dry weather wastewater flows of 6.5 mgd and is therefore adequate to accommodate increased dry weather flow from expected growth in its service area over the next 20 years.

The treatment plant is permitted by the Central Valley RWQCB to receive, treat and discharge a maximum of 6.5 mgd of daily dry weather flow (July through September). The RWQCB has no limitation of wet weather flow discharges from the plant (October through June). SCOR has reported to the

²⁶ Unless otherwise noted, all information presented in this section comes from Ray Sousa and Bill Lampkin, Sewerage Commission – Oroville Region, personal phone communication with David Early and Chad Markell, DC&E, February 1, 2008.

²⁷ Bill Lampkin, Environmental Compliance Manager, Sewerage Commission – Oroville Region, personal email communication with Alexis Lynch, DC&E, December 10, 2008.

RWQCB that the plant has the capacity to process, treat and discharge a maximum of 15.5 mgd of wet weather flow.²⁸

Historical operational data provided to the RWQCB by SCOR show that over the last ten years, the highest average wet weather flows received by the plant occur annually in the calendar months of January and February, with average daily flows based on monthly throughput to the plant of 4.2 mgd. Since 1997, the average instantaneous peak wet weather flows (PWWFs) during the months of January and February are 12.3 and 12.0 mgd, respectively. The highest individual instantaneous PWWFs range from 16.0 mgd in January 2004 to 23.2 mgd in January 1997. These instantaneous PWWFs represent the highest sewage flow rate into the plant during a 24-hour period during a wet weather event.

In the last ten years, there have been eight occurrences of instantaneous PWWFs exceeding the treatment plant's maximum daily wet weather throughput flow rate of 15.5 mgd. During these occurrences, excess flow is diverted to one or two equalization basins, or storage ponds, with a reported total temporary storage capacity of 26.5 million gallons. The basins temporarily store peak flows during the time necessary for the storm event and peak flows to drop below the plant's maximum throughput level. The temporarily stored wastewater is then processed through the plant. Data shows that since 1997, the plant has successfully processed all peak wet weather flows by using the storage ponds to temporarily store peak flows. SCOR has reported that the higher historical peak flow events do challenge the plant's capacity limits. Continued I&I reduction efforts to be completed by the collection entities in the upcoming years are expected to reduce peak wet weather flows to the plant in the future.

²⁸ Central Valley Regional Water Quality Control Board letter to SCOR dated April 9, 2008, regarding "Order to Submit Information Pursuant to California Water Code Section 13267, Sewerage Commission Oroville Regional Wastewater Treatment Plant."

In December 2005, SCOR experienced a sanitary sewer overflow in their east interceptor line outside the plant. The east interceptor line conveys the combined flows from all three collection entities into the plant. This overflow was of a limited duration, and was caused by excessive I&I contributed by the three collection entities. As discussed above, continued I&I reduction efforts to be completed by the collection entities in the upcoming years should have the effect of reducing peak wet weather flows to the east interceptor line in the future.

SCOR recently conducted a capacity study, updated its Master Plan and adjusted its connection fee structure to plan and fund additional improvements that will address increased capacity needs in both the interceptor lines and treatment plant capacity. The capacity study and Master Plan updates provide an improvement and funding plan that will enable SCOR to accommodate an additional 4,200 Equivalent Dwelling Units (EDUs).²⁹ SCOR will implement the needed improvements incrementally to meet increased capacity needs.

The wastewater collection systems of TWSD and LOAPUD, SCOR member entities that serve the unincorporated lands in the Oroville area, are discussed below.

a) Thermalito Water and Sewer District³⁰

TWSD provides wastewater collection services to approximately 1,985 customers or approximately 2,650 EDUs. Wastewater dry weather flows presently average 0.41 mgd, or approximately 155 gpd per EDUs, and are ex-

²⁹ Sousa, Ray, Sewerage Commission – Oroville Region, personal communication with Mike Harris, Questa Engineering, October 2, 2009.

³⁰ Unless otherwise noted, all information presented in this section comes from Mike Edwards, Compliance Officer, Thermalito Irrigation District, personal phone communication with Joanna Jansen and Chad Markell, DC&E, February 14, 2008.

pected to grow to 0.67 mgd within the next 20 years. Instantaneous PWWFs are 4 mgd.³¹

TWSD's collection system consists of 40 miles of sanitary sewer line and is generally in adequate condition. TWSD's collection system discharges into the SCOR west interceptor pipe for treatment at their plant. On average, dry weather flows are at approximately 30 percent of system capacity and wet weather flows are at approximately 70 to 80 percent of capacity. During extreme wet weather events, the system experiences the highest level of I&I impact at the east trunk line. During major storm events, the east trunk line has almost overflowed.

Currently, TWSD has issued "will serve" letters that commit to serving approximately 30 additional EDUs.³² Although TWSD has issued these letters, there are no plans for future infrastructure capacity expansion. Developers are required to either upgrade existing infrastructure or install new infrastructure for new development within TWSD's Sphere of Influence (SOI).

b) Lake Oroville Area Public Utility District

LOAPUD provides sanitary sewer collection services to approximately 12,000 individuals, mainly in unincorporated areas east and south of the City of Oroville. As of January 2008, LOAPUD provides service for approximately 5,900 EDUs. Population growth in the service area is expected to reach over 20,000 individuals by 2025 as significant development is expected throughout the service area. LOAPUD will likely annex 4,400 acres of the

³¹ Rick Walls, Senior Civil Engineer, City of Oroville Public Works Department, personal communication with Joanna Jansen and Chad Markell, DC&E, March 20, 2009.

³² Bill Lampkin, Environmental Compliance Manager, Sewerage Commission - Oroville Region, personal email communication with Alexis Lynch, DC&E, December 10, 2008.

State Water Project area which has been approved by LAFCO and is pending State Board of Equalization approval.³³

On average, LOAPUD collects 384 million gallons of wastewater annually. Current dry weather flows are 0.81 mgd and are expected to increase to 1.35 mgd over the next 20 years. A PWWF was measured in December 2005 at 9.8 mgd.³⁴ LOAPUD has approximately 75 miles of sanitary sewer line and six pump stations, with approximately 80 percent of the system constructed in the last 35 years.³⁵

In general, the collection system is in good condition and lines requiring service are maintained by LOAPUD. LOAPUD's Master Plan from 2000 outlines several capital improvements, including pipeline replacement, new pipeline installation and facility construction to be completed by 2020. LOAPUD's collection system discharges into the SCOR east interceptor pipe for treatment at the SCOR plant. Currently, there are no collection capacity issues and no plans for capacity expansion. Within the LOAPUD system, new development may be required to upgrade the existing collection system if additional capacity is required. LOAPUD is currently on schedule to meet its construction goals outlined in the 2000 Master Sewer Plan, having completed all but three of the recommended improvements in the Plan.³⁶

b. Community Wastewater Systems

Although the term is not codified, community wastewater systems are generally defined as those systems serving more than one developed parcel, such as residential subdivisions or mixed-use developments. In Butte County, com-

³³ Brown, Alan, General Manager, LOAPUD, personal letter communication with Jared Hancock, City of Oroville, January 23, 2008.

³⁴ Alan Brown, General Manager, Lake Oroville Area Public Utilities District, personal email communication with Alexis Lynch, December 16, 2008.

³⁵ Butte County LAFCO, February 2006, *Municipal Service Review - Domestic Water and Wastewater Services*.

³⁶ Butte County LAFCO, February 2006, *Municipal Service Review - Domestic Water and Wastewater Services*.

munity wastewater systems have been developed with public management and oversight provided by various County Service Areas (CSAs). The Butte County Public Works Department is generally responsible for overseeing operation and maintenance of the systems, with the Public Health Department's Environmental Health Division providing technical assistance and monitoring functions.

There are currently six CSAs managing a number of community wastewater systems in the county. A summary is provided in Table 4.14-4. All of these systems are regulated by the RWQCB except for one. The exception is CSA 135, Zone 4, which serves a small four-lot subdivision and is regulated by the Butte County Environmental Health Division. The typical wastewater system includes a collection system, such as sewers; treatment facilities, including septic tanks, wastewater ponds and advanced treatment units, such as sand filters; and final effluent dispersal to community leachfields and/or spray irrigation fields.

c. On-Site Sewage Disposal Systems

There are an estimated 50,000 on-site sewage disposal systems (i.e. septic systems) in Butte County, serving approximately half of the county's population.³⁷ Roughly 25 percent of the septic systems are located within and fall under the jurisdiction of the Town of Paradise; the remaining 75 percent of the systems fall under County jurisdiction. On-site sewage disposal systems generally fall into two categories: standard systems and alternative systems.

i. *Standard Systems*

Standard septic tank-leachfield systems have historically been the common practice in most of the unincorporated areas of the county. Standard on-site sewage disposal systems consist of two major components: (1) a septic tank for collection, settling and digestion of sewage wastes from the building; and (2) a disposal system for dispersal and absorption of septic tank effluent into

³⁷ Fogel, Doug, Program Manager, Environmental Health, Public Health Department, Butte County, personal communication with Lisa Katz, DC&E, July 3, 2007.

TABLE 4.14-4 EXISTING CSA COMMUNITY WASTEWATER SYSTEMS

System Name	RWQCB Status ^a	Parcels Served	System Description	County Environmental Health Activities
CSA 21 Zone 1 – Oakridge Sewer – Skansen	3B	34	Gravity sewer system with fresh water flushing - collector piping to dosing tank to two ponds; semi-annual cleanout of ponds.	Monthly monitoring and water testing
CSA 21 Zone 2 – Oakridge Sewer – The Bluffs at Spanish Gardens	None	23	STEP ^b to community leachfield.	Quarterly monitoring
CSA 21 Zone 3 – Oakridge Sewer – The Bluffs at Spanish Gardens	None	3	Individual on-site septic tanks and leachfields.	None required
CSA 21 Zone 4 – Oakridge Sewer – Rocky Bluffs	3B	31	STEP ^b to dosing siphon to bottomless sand/gravel filter; redundant system available.	Quarterly monitoring with water testing
CSA 82 – Stirling City Sewer	2B	94	Gravity main line to two concrete storage tanks to three ponds; storage tanks constructed in 2002 to replace redwood storage tank.	Quarterly monitoring
CSA 94 – Sycamore Valley Sewer and Lighting	None	22	STEP ^b to community leachfield.	Quarterly monitoring
CSA 135 Zone 2 – Keefer Creek Estates	3B	21	STEP ^b to dosing siphon to gravel filter to community leachfield; Homeowners Association administers WDRs. ^c	Quarterly monitoring
CSA 135 Zone 4 – McWilliams	3B	4	STEP ^b to open-bottom sand filters in community leachfield.	Quarterly monitoring
CSA 141 – Mountain Oaks Sewer	2B	55	STEP ^b to dosing chamber to pond to irrigation system; redundant system available; Homeowners Association administers WDRs. ^c	Quarterly monitoring
CSA 169 Zone 1 – Pheasant Landing	3B	17	STEP ^b to individual sand filters to shallow percolation.	Administers WDRs ^c
CSA 169 Zone 2 – Pheasant Landing	None	26	STEP ^b to individual sand filters to shallow percolation; Homeowners Association administers WDR; County may assume responsibility of regulation oversight and maintenance in the future, but developer continues to operate and maintain system.	Currently only fee collection

^a Combined rating of threat to water quality (Categories 1, 2 and 3) and complexity of discharge (Categories A, B and C) as assigned by the RWQCB in accordance with criteria set forth in California Code of Regulations, Title 23, Division 3, Chapter 9, Article 1. Assigned rating is used to establish permit fees.

^b STEP = Septic tank effluent pump collection system.

^c WDR = Waste discharge requirements.

the soil or geologic strata. In the septic tank, heavier solids settle, forming a sludge layer at the bottom of the tank while fats, oils, grease, lighter solids, and decomposing organic material float to the surface to form a scum layer. The effluent from the “clear zone,” above the sludge and below the scum layer, flows by gravity to the disposal field. The conventional type of disposal system approved for use in Butte County is the standard leachfield trench. Seepage pits have also been used; however, they are generally discouraged.

ii. Alternative Systems

Alternative systems include supplemental treatment systems and various types of dispersal methods used in place or as a variation of a standard gravity leaching trench. The most common types of supplemental treatment are sand filters, proprietary packed bed filters, and aerobic treatment units. Alternative dispersal methods include pressure distribution, subsurface drip irrigation, mound systems, and engineered fill. Alternative systems are not currently covered under Butte County on-site wastewater regulations and, therefore, their use has been limited mainly to repair situations, systems permitted by the RWQCB, and other special cases. The proposed new ordinance expected to be implemented in early 2010 includes provisions and criteria for the general use of a broad range of alternative systems.

3. Standards of Significance

General Plan 2030 would have a significant impact with regard to wastewater service if it would:

- ◆ Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- ◆ Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- ◆ Have insufficient wastewater treatment capacity available to serve the project’s projected demand in addition to existing demand.

4. Impact Discussion

The following discussion provides an analysis of potential project and cumulative water service impacts that could occur as a result of the projected 2030 buildout of General Plan 2030.

a. Project Impacts

- i. *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.*

Development allowed by General Plan 2030 would generate sewage wastes and would require an acceptable method of wastewater treatment and disposal. Depending on the location and type of construction, wastewater treatment and disposal may be provided by either: an existing, new, or expanded municipal or community wastewater facility; or construction of a private on-site wastewater treatment and disposal facility.

As noted above, municipal and community wastewater facilities, with few exceptions, come under the direct regulatory authority of the Central Valley RWQCB. All such facilities are required to comply with wastewater treatment requirements of the RWQCB, implemented through the issuance of WDRs and self-monitoring and reporting programs. Any expansion of facilities would also require the filing of a Report of Waste Discharge with the RWQCB, and appropriate modification of WDRs. This provides the mechanism to assure compliance with RWQCB requirements for any new construction served by municipal and community wastewater facilities.

Private on-site wastewater treatment and disposal systems, and some very small community systems, are regulated in accordance with County regulations administered by the Butte County Public Health Department, Environmental Health Division. The County regulations are structured to be compatible with guidelines and criteria contained in the RWQCB Basin Plan, and are subject to RWQCB review and acceptance. The County is in the process of updating the current individual on-site wastewater regulations, consistent with the provisions of the Basin Plan. New construction served by

private on-site wastewater systems would be required to comply with County regulations that implement the requirements of the Basin Plan.

The General Plan 2030 Public Facilities and Services Element includes policies and actions that address the need for adequate wastewater treatment and disposal facilities for new development to assure continued compliance with applicable requirements of the RWQCB. Policy PUB-P12.3 requires that new community sewerage systems be managed by a public County sanitation district or other County-approved methods and that proponents demonstrate the financial viability of constructing, operation, and maintaining the proposed community sewerage system. Additionally, water quality standards will be upheld according to Policy PUB-P12.4, which requires all sewer collection and transmission systems to minimize potential inflow and infiltration, Policy PUB-P12.2, which supports wastewater regulation in the Chico area according to the Nitrate Compliance Plan, and Action PUB-A12.1, which calls for an update to on-site wastewater policies and standards.

The proposed General Plan 2030 policies and actions noted above, in conjunction with applicable State and County regulatory requirements, would ensure that new development would be served by appropriate wastewater treatment facilities constructed and operated in conformance with requirements of the RWQCB. Therefore, impacts to wastewater treatment requirements resulting from the proposed project would be *less than significant*.

ii. Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Development allowed by General Plan 2030 may require new and/or expanded wastewater treatment and disposal facilities, either municipal, community, or private on-site systems.

This section evaluates the projected 2030 buildout estimates for the service areas of the two existing municipal treatment facilities serving unincorporated areas of the county: the Richvale Sanitary District and SCOR. Sewer service

in the unincorporated areas around Chico would be limited to the replacement of existing septic systems in the Nitrate Compliance Plan area, and would not be provided to serve new development.

a) Richvale Sanitary District

The Richvale Sanitary District treatment plant has a permitted design capacity of 30,000 gpd, and existing wastewater flows averaging approximately 9,000 gpd during the dry season. However, during the wet season, excessive amounts of infiltration and inflow to the sewer system cause peak flows to exceed the system design capacity. Because of this, the District is under a cease and desist order imposed by the RWQCB. Projected 2030 buildout in the Richvale area is 150 residential units, which would generate wastewater flows of approximately 27,500 gpd, based on an estimated average flow of 250 gpd per residence.³⁸ The additional sewage flows would exceed the capacity of the existing treatment plant under wet weather conditions, and expansion would be required.

b) Sewerage Commission – Oroville Region

The wastewater facility operated by SCOR has a design capacity of 6.5 mgd, average dry weather flow, and current wastewater flows of approximately 3.2 mgd, leaving a surplus capacity of approximately 3.3 mgd under average dry weather flow. Projected 2030 buildout and associated sewage flow estimates in the service area of the two member agencies serving the unincorporated area, LOAPUD and TWSD, are provided in Table 4.14-5.

As indicated in Table 4.14-5, the total estimated demand for sewage treatment capacity in these two districts is approximately 0.65 mgd, which is within the available surplus treatment capacity at the SCOR facility under average dry weather flow. Therefore, expansion of SCOR treatment plant capacity

³⁸ Based on 100 gpd per capita and 2.5 persons per residence; City of Chico standard of 88 gpd/capita (City of Chico Collection System Facilities Sanitary Sewer Master Plan Update, May 2003); and City of Biggs estimate of 288 gpd/residence (City of Biggs Municipal Service Review, November 2008).

TABLE 4.14-5 **LOAPUD AND TWSD 2030 SEWAGE FLOW ESTIMATES**

Agency	Residential Units	Retail/Office Development
LOAPUD	3,300	118,100 ft ^b
TWSD	400	655,200 ft ^b
Total	3,700	773,300 ft^b
Estimated Flow (gpd)	573,500 ^a	77,300 ^b

^a Based on unit flow rate of 155 gpd per residence, which is the existing TWSD flow rate per EDUs.

^b Based on unit flow rate of 0.10 gpd per ft² (15 gpd per employee, one employee per 150 ft²), Butte County Public Health Department, Draft On-Site Wastewater Manual, Part 3, May 28, 2008.

would not be required to meet the requirements of these two districts. However, since the SCOR facility also serves the City of Oroville, the additional projected growth in the city could combine to exceed the available surplus treatment capacity. Moreover, additional improvements are already needed to both SCOR’s interceptor lines and treatment plant in order to address the existing lack of capacity for peak wet weather flow, as discussed in below in more detail.

c) Impact Significance Determination

General Plan 2030 Policy PUB-P13.2 requires that new development demonstrate the availability of a safe, sanitary, and environmentally sound wastewater system. Therefore, any development in both the SCOR and the Richvale areas would have to meet this standard. No studies have been completed to determine the feasibility and associated environmental impacts of expanding these existing plants. This EIR is a programmatic document and does not evaluate the environmental impacts of any project-specific development. Any new or expanded municipal or community wastewater facilities would be considered a project-specific development and would come under the direct regulatory authority of the RWQCB, would require a Report of Waste Dis-

charge to be filed, and would require issuance of new or modified WDRs by the RWQCB. The WDR process requires environmental review in accordance with CEQA. In addition, new on-site wastewater facilities would be required to comply with the County regulations, including applicable mitigation measures adopted as a result of the environmental review.

In conjunction with applicable State and County regulatory requirements, new and expanded wastewater facilities required to serve new development would conform to CEQA regulations to ensure that any environmental effects would be *less than significant*.

iii. Have insufficient wastewater treatment capacity available to serve the project's projected demand in addition to existing demand.

General Plan 2030 would allow development that would require new and/or expanded wastewater treatment and disposal facilities. The additional wastewater treatment capacity may be met by municipal, community, or private on-site wastewater and disposal systems. Planning and construction of new and expanded wastewater facilities to accommodate new development is an on-going process for any area where future growth is anticipated.

Projected 2030 buildout and associated wastewater flows in the service area of LOAPUD and TWSD are within the treatment capacity of the SCOR regional wastewater treatment plant. However, the SCOR facility also serves the City of Oroville, and the combined growth within the city and county areas may exceed the plant capacity before 2030. Also, projected growth in the area served by the Richvale Sanitary District is expected to exceed the capacity of the existing wastewater treatment system, which is adequate during the dry season, but currently experiences excessive wastewater flows during the wet weather season.

Wastewater collection system capacity is also an issue in both the Oroville and Richvale service areas. In Oroville, the TWSD and LOAPUD collection systems currently have adequate capacity for current and projected demand. However, the City of Oroville collection system experiences excessive wet

weather sewer flows that create sewer overflow for the SCOR interceptor sewers and additional operational challenges for the treatment plant. As noted previously, SCOR recently conducted a capacity study, updated its Master Plan, and adjusted its connection fee structure to plan and fund additional improvements that will address increased capacity needs in both the interceptor lines and treatment plant capacity.

The proposed General Plan 2030 Public Facilities and Services Element includes policies that address the need for and the proper planning of wastewater facilities. Policy PUB-P13.2 requires demonstration of available capacity at a wastewater treatment system that is safe, sanitary, and environmentally sound as a condition of approval for new development. For developments that will rely on on-site wastewater systems, Policy PUB-P13.3 requires applicants to provide detailed plans demonstrating that the system will be adequate to serve the project.

General Plan 2030 policies listed above would ensure sufficient wastewater treatment capacity is available to serve the project's projected demand, in addition to existing demand. Therefore, the impact to wastewater treatment resulting from implementation of General Plan 2030 would be *less than significant*.

b. Cumulative Impacts

Development allowed by General Plan 2030 would generate increased amounts of wastewater in the unincorporated areas of the county. As previously discussed, wastewater generated in these areas would be treated by on-site septic systems, standalone community systems, the Richvale Sanitary District, or the SCOR Regional Wastewater Treatment Facility. On-site septic tanks and community systems are independent, self-contained wastewater treatments systems designed to meet County and RWQCB standards that provide for avoidance of cumulative impacts. The Richvale Sanitary District is also an isolated wastewater treatment facility with limited capacity and expansion possibilities; new development and wastewater generation in the Richvale area would be a local issue and would not contribute to cumulative

impacts. However, in the SCOR area, growth in the unincorporated area and the City of Oroville would have a combined effect on SCOR wastewater facilities, and the potential effects warrant additional discussion as provided below.

The SCOR treatment plant is permitted by the Central Valley RWQCB to treat and discharge 6.5 mgd of dry weather flow between July and September. Based on historical connection rates of 1 percent per year, SCOR would reach its permitted treatment and discharge capacity in 16 years. However, the City of Oroville General Plan projects growth rates of over 1 percent a year. If the projected growth rate is accurate, SCOR would reach its permitted treatment capacity sooner.

SCOR's operating permit from the Central Valley RWQCB requires that SCOR notify the Central Valley RWQCB when the plant is within 48 months of reaching its permitted capacity. At the time of notification that the plant is reaching its permitted capacity, SCOR will utilize the improvements outlined in its Sanitary Sewer Management Plan to initiate a review and update of the Central Valley RWQCB's treatment and discharge permit. SCOR will be required to work with the Central Valley RWQCB to complete an approved plan and renew its treatment and discharge permit.

In addition, development in the area surrounding Butte County may require the construction of new or expanded wastewater facilities. As with the project-level analysis in Section B.4.a, any new or expanded wastewater facilities would be subject to project-specific review under CEQA and the direct regulatory authority of the RWQCB, and would require a Report of Waste Discharge to be filed and issuance of new or modified WDRs by the RWQCB.

The processes and requirements described in this section will ensure that the cumulative impacts related to wastewater would be *less than significant*.

5. Impacts and Mitigation Measures

Since there are no significant impacts related to wastewater as a result of General Plan 2030, no mitigation measures are required.

C. Stormwater

This section describes existing regulations and physical conditions of stormwater facilities in Butte County, as well as potential impacts of the proposed General Plan 2030 with regard to stormwater facilities.

1. Regulatory Framework

This section summarizes existing regulations that apply to stormwater quality and stormwater drainage.

a. Stormwater Quality

As discussed in Section 4.8, Hydrology and Water Quality, the SWRCB is responsible for implementing the Clean Water Act (CWA) and does so through issuing NPDES permits to cities and counties through RWQCBs. Federal regulations allow two permitting options for stormwater discharges: individual permits and general permits. The California SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2003-0004-DWQ) for Small Municipal Separate Storm Sewer System (MS4s) operators covered under the CWA to efficiently regulate stormwater discharges under a single permit. Permittees must meet the requirements in Provision D of the general permit, which require development and implementation of a Stormwater Management Plan (SWMP) with the goal of reducing the discharge of pollutants to the maximum extent practicable.

Butte County operates under a Small MS4 permit as required by Phase II of the NPDES permit. In order to fulfill the requirements of the permit, Butte County developed and implemented a Storm Water Management Program in 2003. The Program is managed at the State level by the SWRCB under a permit from the EPA. The Program includes the following core elements: public education and outreach; public participation and involvement; illicit dis-

charge detection and elimination; construction site stormwater runoff control; post-construction stormwater management in new development and redevelopment; and pollution prevention and good housekeeping for County operations and facilities. The Program also includes descriptions of Best Management Practices (BMPs) to address specific activities identified in the regulations, such as illicit discharge. The regulations are contained in Chapter 50 of the Butte County Code.³⁹ The Department of Public Works and the Development Services Department are responsible for planning, inspection, enforcement, and permit clearances for construction projects in the county that are subject to the Program.

b. Stormwater Drainage

Applicable regulations for stormwater drainage are covered in several places in the Butte County Municipal Code, including: Chapter 3, Article XI, Drainage Impact Fees; Chapter 13, Grading and Mining; and Chapter 20, Subdivisions. Under the Code, stormwater drainage provisions for new development in the county are required to be constructed in accordance with adopted master drainage plans where they exist and to pay applicable drainage impact fees, depending upon the location of the project. At a minimum, the County Code requires new development to construct on-site storm drainage facilities with mitigation for no increase in peak runoff from the site above pre-development conditions.

2. Existing Conditions

Stormwater drainage master plans have been developed for the two main urban areas of Butte County: Thermalito/Oroville and Chico.

a. Thermalito Master Drainage Plans

The Thermalito Master Drainage Plans are a joint effort of the Public Works Departments of Butte County and the City of Oroville. The Plans were initially developed in 1980 and recently updated in 2007. The Master Drainage Plans for this area include regional and sub-basin hydrological analysis of 10-

³⁹ Butte County Municipal Code, Chapter 50. *Stormwater Management and Discharge Control*.

and 100-year storm conditions, identification of deficiencies in the existing drainage systems, recommendations for regional drainage improvements such as detention basins and trunk lines, cost estimates, and implementation recommendations. Future development in the areas covered by these Master Drainage Plans is required to conform to applicable recommendations.

b. Chico Storm Drainage Master Plan

The Chico Storm Drainage Master Plan addresses drainage needs in the Chico urban area. The Master Plan was initially developed as a Preliminary Plan in 1987 and updated with an Addendum in 1997. The Plan covers storm drainage systems operated and maintained by both the City of Chico and Butte County. The Preliminary Plan provided a conceptual drainage plan for ultimate buildout conditions focusing on major pipes and channel capacity issues. The 1997 Addendum addressed channel stabilization issues for waterways in the urban area, best management practices, and various design and data collection needs.

There is no storm drainage master plan for the remainder of Butte County; however, a number of local drainage assessment districts have been established to provide for storm drainage in individual subdivisions and other development areas. Many of these drainage systems are within CSAs, and are operated and maintained by the County Department of Public Works. The County is also responsible for construction and maintenance of the many thousands of culverts, ditches, and waterways for the road drainage systems in the county.

3. Standards of Significance

General Plan 2030 would have a significant impact with regard to stormwater facilities if it would:

- ◆ Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

4. Impact Discussion

The following discussion provides an analysis of potential project and cumulative stormwater impacts that could occur as a result of the projected 2030 buildout of General Plan 2030.

a. Project Impacts

- i. *Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*

General Plan 2030 would allow new development and more impervious surface coverage that would generate additional storm water runoff. Without new or expanded drainage facilities, the runoff would endanger public safety and the environment.

Provisions of the Butte County Code require that all new development provide appropriate storm drainage facilities in conformance with adopted master drainage plans where they exist and, at a minimum, with mitigation to maintain peak runoff rates at levels equal to or less than pre-development conditions. The County Grading Ordinance requires permitting and environmental review of projects involving the grading of more than 1,000 cubic yards of soil in the eastern portions of the county, and the NPDES permit requirements apply to projects involving the grading of 1 acre or more. These permitting and review requirements ensure a process for identifying and avoiding the creation of project-specific environmental impacts related to new or expanded storm drainage facilities.

The General Plan 2030 Water Resources Element contains policies to ensure that adequate stormwater facilities are provided by new development. Policy W-P5.2 requires that new development adequately mitigate its water quality impacts from stormwater runoff, and Policy W-P5.3 encourages the use of pervious pavements to reduce urban runoff. In addition, Policy W-P1.2 directs the County to cooperate with State and local agencies in efforts to identify and eliminate or minimize all sources of existing and potential point and non-point sources of pollution to ground and surface waters, including dis-

charges from storm drains, among other sources. Policy W-P1.4 encourages Low Impact Development that minimizes impervious area, minimizes runoff and pollution, and incorporates BMPs.

The policies listed above would help to reduce increases in stormwater runoff quantity resulting from implementation of General Plan 2030. However, new stormwater drainage facilities would likely be needed to accommodate anticipated development. Specific environmental impacts of necessary new stormwater drainage facilities would be determined either through CEQA review of new development projects or of Public Works improvements. This EIR is a programmatic document and does not evaluate the environmental impacts of any project-specific development. Any new or expanded stormwater facilities would be considered as part of a specific project and would require environmental review in accordance with CEQA. In addition, new stormwater facilities would be required to comply with the County regulations described above, as well as applicable mitigation measures adopted as a result of the environmental review.

As a result, General Plan 2030 would have a *less-than-significant* impact on stormwater drainage facilities.

b. Cumulative Impacts

As development proceeds within and around Butte County, including within the incorporated cities, impervious surfaces would increase, thereby increasing stormwater drainage rates and quantity. General Plan 2030 policies minimizing increases in stormwater runoff, the detailed Butte County Development Code stormwater drainage provisions for new development, and the provisions of the County's NPDES permit would combine to limit the need for new stormwater facilities. These regulations also ensure that new facilities are carefully planned and extensively reviewed for potential environmental impacts prior to construction. These regulations would combine to prevent a cumulative impact from the construction of new stormwater facilities within Butte County. In addition, new stormwater facilities in the region surrounding Butte County would be subject to project-specific environmental analysis

and NPDES permit and other requirements of the applicable jurisdiction. Therefore, implementation of General Plan 2030 would result in a *less-than-significant* cumulative impact to stormwater facilities.

5. Impacts and Mitigation Measures

Since there are no significant impacts related to stormwater as a result of General Plan 2030, no mitigation measures are required.

D. Solid Waste

This section describes existing regulations and solid waste facilities in Butte County, as well as potential impacts of the proposed General Plan 2030 with regard to solid waste facilities.

1. Regulatory Framework

This section summarizes existing federal, State, and local policies and regulations that apply to solid waste services.

a. Federal and State Regulations

i. California Integrated Waste Management Act

California's Integrated Waste Management Act of 1989 (AB 939) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling and composting. To help achieve this, the Act requires that each city and county prepare and submit a Source Reduction and Recycling Element. AB 939 also established the goal for all California counties to provide at least 15 years of on-going landfill capacity. As part of the California Integrated Waste Management Board's (CIWMB) Zero Waste Campaign, regulations affect what common household items can be placed in the trash. As of February 2006, household materials including, but not limited to, fluorescent

lamps and tubes, batteries, electronic devices, and thermostats that contain mercury are no longer permitted in the trash.⁴⁰

ii. California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act requires areas to be set aside for collecting and loading recyclable materials in development projects. The Act required the CIWMB to develop a model ordinance for adoption by any local agency relating to adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model, or an ordinance of their own. The intent of the Act is to require development projects to include advanced planning that focuses on solid waste issues at the beginning of a project and implement an adequate recycling program for the development project.

b. Countywide Integrated Waste Management Plan

The Countywide Integrated Waste Management Plan (CoIWMP) is mandated by State law under AB 939. The purpose of the CoIWMP is to describe local waste diversion and disposal conditions and lay out realistic programs to achieve the waste diversion goals outlined in AB 939. The CoIWMP serves as the primary tool for designing waste reduction programs that are countywide in scope. The Plan also addresses the county's landfill needs in a comprehensive way. In Butte County, waste reduction and disposal facilities that require Solid Waste Facility Permits must conform to the policies contained in the CoIWMP.

2. Existing Conditions

Solid waste management facilities in Butte County consist of two transfer stations, a large materials recovery/transfer station facility, the Neal Road Recycling and Waste Facility (Neal Road Facility) and adjacent septic waste disposal area, a private wood waste recycler, and two municipal wood waste recyclers. The City of Chico operates its own compost site for green waste byproducts, located at the Chico Municipal Airport.

⁴⁰ California Integrated Waste Management Board's Zero Waste Campaign's website, <http://www.zerowaste.ca.gov/>, accessed August 20, 2007.

Recycling, composting and waste combustion programs in Butte County are designed to make other waste management operations more environmentally friendly and economically efficient. Butte County currently meets the requirements of AB 939, the California Integrated Waste Management Act of 1989. In 2006, approximately 112,000 tons, or about 56 percent, of the solid waste generated within the Butte Regional Solid Waste Management Authority jurisdiction was diverted from permitted disposal facilities.⁴¹ To meet waste diversion and recycling goals, Butte County requires its licensed waste collectors to provide curbside recycling in all cities and towns and most populated unincorporated areas within the county.

Butte County is served by four licensed private haulers who provide residential, commercial, and industrial collection services. Franchise agreements for these services are established in the incorporated cities of Biggs, Gridley, Oroville, and Paradise. In Butte County, Waste Management, Inc. operates North Valley Disposal and North Valley Waste Management. Recology operates Oroville Solid Waste and Recology of Butte County. Northern Recycling and Waste Services have contracted with the Town of Paradise to provide waste collection services and operate the Town's green waste recycling facility. The other solid waste collection company is Country Roads Disposal. All residential/commercial waste haulers operating in Butte County are required to obtain a permit issued by the Butte County Environmental Health Division after meeting requirements set forth in Chapter 31 of the Butte County Code.

Most municipal wastes are hauled to the Neal Road Facility, which is owned by Butte County and managed by the Butte County Department of Public Works. The Neal Road Facility is permitted to accept municipal solid waste, inert industrial waste, demolition materials, special wastes containing non-friable asbestos, and septage.⁴² Hazardous wastes, including friable asbestos,

⁴¹ California Integrated Waste Management Board website, <http://www.ciwmb.ca.gov/LGTools/MARS/JurDrDtl.asp?Flag=1&Ju=612&Yr=2006>, accessed on August 20, 2009.

⁴² Existing septage ponds are scheduled to be closed in 2014.

are not accepted at the Neal Road Facility or any other Butte County disposal facility. The Facility is permitted to accept 1,500 tons per day; however, peak usage rarely exceeds 1,200 tons per day, and the average daily disposal into the landfill is approximately 500 tons.

The total capacity of the Neal Road Facility is approximately 20,217,600 cubic yards (13,141,300 tons).⁴³ Based on an average waste disposal amount of 500 tons per day and using the Butte County Association of Government's (BCAG) average annual growth rate of 1.1 percent, it is anticipated that the site will continue to receive solid waste until at least the year 2034.

3. Standards of Significance

General Plan 2030 would have a significant impact with regard to solid waste if it would:

- ◆ Not be served by a landfill with sufficient permitted capacity to accommodate the buildout of the project's solid waste disposal needs.
- ◆ Not comply with federal, State, and local statutes and regulations related to solid waste and recycling.

4. Impact Discussion

The following discussion provides an analysis of potential project and cumulative solid waste impacts that could occur as a result of the projected 2030 buildout of General Plan 2030.

a. Project Impacts

- i. *Not be served by a landfill with sufficient permitted capacity to accommodate the buildout of the project's solid waste disposal needs.*

Development allowed by General Plan 2030 would occur entirely within Butte County. Therefore, the majority of the solid waste generated by new development would be disposed into the Neal Road Facility. As discussed in Section D.2, the Neal Road Facility is currently operating below capacity.

⁴³ Rodowick, Steve, Butte County Recycling Coordinator, personal communication with DC&E, March 2, 2007.

The landfill permit estimates the landfill to reach capacity in 2033; however, current trend projections estimate a later date. As a result, it can be concluded that there would be adequate capacity in the landfill to support county increases in population. Therefore, implementation of General Plan 2030 would not generate more solid waste than could be accommodated by the daily or long-term permitted capacity of the Neal Road Facility.

In addition, Butte County is committed to reducing its waste stream. As mentioned in Section D.2, in 2006 the County diverted 56 percent of its waste stream from the Facility. Future innovations in recycling technology may allow the County to increase its recycling capability significantly, thereby conserving landfill space. Furthermore, the General Plan 2030 Public Facilities and Services Element includes a number of policies and actions that would reduce the waste stream. Policy PUB-P11.1 requires that the County meet or exceed State waste diversion requirements. Policy PUB-P11.2 requires that construction sites provide for the salvage, reuse, or recycling of construction and demolition materials. Policy PUB-P11.3 requires that public buildings be designed or improved with on-site storage facilities for recycled materials. Policy PUB-P11.4 directs the County to use post-consumer recycled paper and other recycled materials for County operations whenever possible. In addition, Action PUB-A9.1 directs the County to review and update the Recycling and Waste Facility Plan as needed to ensure that there is adequate space to meet projected growth.

Since there is adequate long-term landfill capacity serving Butte County and General Plan 2030 includes policies and actions to reduce the waste stream, General Plan 2030 would have a *less-than-significant* impact with regard to landfill capacity.

ii. Not comply with federal, State, and local statutes and regulations related to solid waste and recycling.

General Plan 2030 includes policies and actions that help the County to meet the State-mandated 50 percent recycling goal and to encourage recycling minimize the amount of solid waste generated by residents and businesses. Policy

PUB-P9.1 encourages residents, businesses and industries to reduce the use of non-biodegradable and non-recyclable materials, and as the amount of recycled material is largely dependent on individual choice, Action PUB-A9.2 requires education materials to be distributed to the public regarding solid waste reduction, recycling and composting, and proper handling of household hazardous waste. Action PUB-A11.1 calls for the County to implement and expand its program to achieve more aggressive recycling goals, and Policy PUB-P11.1 requires the County to meet or exceed the State waste diversion requirements. In an effort to limit bulky, recyclable construction materials from the landfill, construction sites shall facilitate diversion of those materials according to Policy PUB-P11.2. Given the policies and actions described above, General Plan 2030 would minimize potential increases in solid waste generation by calling for an increase in recycling. Therefore, this impact would be *less-than-significant*.

b. Cumulative Impacts

Growth within and around Butte County would contribute to an increase in the need for solid waste disposal service. As discussed above, the Neal Road Facility currently has about a 24-year capacity. As a result, it can be concluded that there would be adequate capacity to support county increases in population. In addition, General Plan 2030 includes Policy PUB-P9.5, which requires the Neal Road Facility to prioritize waste materials from Butte County and only accept waste materials from outside the county if there is landfill capacity available. Given the long-term remaining capacity within the Neal Road Facility and priority for waste generated in Butte County, General Plan 2030 would have a *less-than-significant* cumulative impact on solid waste.

5. Impacts and Mitigation Measures

Since there are no significant impacts related to solid waste generation and landfill capacity as a result of General Plan 2030, no mitigation measures are required.

E. Energy

This section describes current conditions and potential impacts of General Plan 2030 with regard to energy consumption in Butte County.

1. Regulatory Framework

The State has adopted the Title 24 energy standards to reduce the overall energy usage of new development. Title 24 requirements address a wide range of design and performance features of development, including heating and cooling, shading, and lighting.

2. Existing Conditions

Like all California counties, Butte County has become increasingly aware of its energy use. After the energy shortages of the year 2000, the accompanying rise in energy costs, and the negative impacts of fossil fuel combustion, such as poor air quality and the affect of global warming on agricultural crops, Butte County has made energy conservation and implementing renewable energy technologies top priorities.

The residential sector's energy demands typically constitute the highest electricity sales in rural counties. The most important factors influencing residential energy consumption are the size of the house, the type of house (detached single-family or multi-family structure), the number of major appliances, and the construction and siting of the structure. Residential energy needs are often fulfilled by electricity or a combination of gas and electricity. Space heating is the most energy-consuming activity in residential structures.

Butte County has several opportunities to promote energy conservation and reduce energy consumption, mainly through enforcing construction standards and through its own operations. The Butte County Solar Energy System was completed in August 2004. It is located at the Butte County Government Center on County Center Drive in Oroville. There are four separate arrays containing a total of 6,360 185-watt photovoltaic panels. The total project output is 997 kilowatts AC or 1.18 Megawatts DC. This system provides all the electrical energy needs for three County buildings. When this system became operational, it was the fifth-largest solar energy system in

the United States and is among the top 25 largest solar power systems in the world. In addition, some of the County's fleet of vehicles now run on alternative fuels. A landfill gas-to-energy project is schedule to start operation at the Neal Road Recycling and Waste Facility in 2010.

3. Standards of Significance

General Plan 2030 would have a significant impact on energy consumption if it would:

- ◆ Result in the wasteful, inefficient and unnecessary consumption of energy during construction or operation.

4. Impact Discussion

The following discussion provides an analysis of potential project and cumulative energy consumption impacts that could occur as a result of the projected 2030 buildout of General Plan 2030.

a. Project Impacts

- i. *Result in the wasteful, inefficient and unnecessary consumption of energy during construction or operation?*

General Plan 2030 would allow new development within Butte County, providing for a range of land uses with varying energy needs. To prevent the wasteful, inefficient, and unnecessary consumption of energy during the construction and operation of new residential and non-residential buildings, Butte County enforces the State Building Standard Code, Title 24. The State Building Standard Code, including Title 24, applies to any new structures, additions to existing structures, changes to the footprint of a structure, or changes to water and heating systems. In June 2001, amendments to Part 6, Title 24, of the State Administrative Code were enacted. These amendments mandated more stringent conservation and efficiency requirements for new residential and non-residential construction.

In addition to the energy conservation efforts under Title 24, General Plan 2030 includes policies and actions pertaining to renewable energy generation and energy conservation. Policy COS-P3.2 supports the generation and use

of renewable fuel sources in Butte County. Policy COS-P3.4 encourages solar-oriented and renewable design and grid-neutral development, and Policy COS-P3.5 requires developers to give homebuyers the option of having renewable heat and power incorporated into new homes. Policy COS-P4.3 requires that new development meet the guidelines of the California Energy Star New Homes Program, or equivalent, and demonstrate detailed energy conservation measures, and Policy COS-P4.4 requires that new site and structure designs maximize energy efficiency. In addition, Action COS-A4.2 directs the County to review and update the Zoning Ordinance and building codes to allow for innovative energy efficient technologies, and Action COS-A4.3 and COS-A4.4 direct the County to institute County purchasing policies that give preference to renewable energy and energy-efficient products.

Butte County is committed to energy conservation through the enforcement of Title 24 standards and through the policies and actions of the proposed General Plan 2030. The proposed General Plan 2030, along with Title 24 requirements, would prevent the wasteful, inefficient, and unnecessary consumption of energy, resulting in a *less-than-significant* impact.

b. Cumulative Impacts

As growth occurs throughout the Butte County region, there will be an increased demand for electricity and natural gas. As discussed in Section E.4.a, General Plan 2030 would avoid a significant project-level impact associated with the wasteful use of energy by implementing General Plan 2030 policies and actions and complying with State regulations. Similarly, other jurisdictions in the region are required to meet State Title 24 regulations regarding energy conservation. As a result, General Plan 2030 would contribute to a *less-than-significant* cumulative impact to the wasteful, inefficient, or unnecessary use of energy.

5. Impacts and Mitigation Measures

Since there are no significant impacts related to energy consumption as a result of General Plan 2030, no mitigation measures are required.

F. Maximum Theoretical Buildout

The maximum theoretical buildout allowed under General Plan 2030 would include significantly more development than the projected 2030 buildout analyzed in the impact discussion sections in terms of both the amount and the extent of development. Therefore, the potential for impacts to utilities would increase. However, as discussed in Chapter 3, it is unlikely that maximum theoretical buildout would ever occur under General Plan 2030, and an analysis of maximum theoretical buildout is not required by CEQA.

BUTTE COUNTY GENERAL PLAN 2030
DRAFT EIR
UTILITIES