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**Chapter 5**  
**Non-County Infrastructure and Services**

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## CHAPTER 5

### NON-COUNTY INFRASTRUCTURE AND SERVICES

#### 5.1 INTRODUCTION

This chapter assesses the potential effects of development under the *General Plan Land Use Diagram* on the infrastructure systems and services serving the unincorporated area of Placer County that are not provided by the County, including water, sewer, drainage, solid waste, and schools. The assessment is necessarily general because the type of information required to provide a more specific analysis is not available at the countywide general plan level, and will not become available until more precise information is developed for actions implementing the *General Plan* (e.g., community plan updates, specific plans, major development projects). Accordingly, the assessment presented in this chapter focuses on a much broader level, providing a general understanding of the demand for various services generated by development at 2010 and 2040, as well as the capacity of existing systems to serve that demand. Where existing systems do not appear to have adequate capacity to serve development under the *Land Use Diagram*, the analysis suggests the type of improvements that may be necessary to provide such capacity.

#### 5.2 WATER SUPPLY AND DELIVERY

##### ENVIRONMENTAL SETTING

Domestic and agricultural water supply in Placer County is provided in two common ways: community systems and individual systems. On-site wells are commonly used for domestic use for single, ranch style residential homes on large lots; irrigation of farm land; and domestic use for small groups of houses. Community water systems range from small systems serving a few homes to large capacity systems serving large communities. Information presented in the *Background Report* outlines the types, conditions, and capacities of the existing water facilities and methodologies used in Placer County. While some of that information is summarized here, the *Background Report* should be referenced for greater detail.

This section of the *Final EIR* outlines the prospective impacts of development under the *General Plan* on both the community and individual onsite water supply systems in Placer County. The development estimates used for this analysis are summarized in Tables 2-3 through 2-8 in Chapter 2 of this *EIR*.

##### ASSUMPTIONS AND METHODOLOGY

###### Water Demands

###### Municipal

The intent of this analysis is to determine the projected increase in water demand from 1990 to 2010 and 2040 and to quantify the impacts to various water sources (as well as groundwater aquifers). It should be noted that there is a substantial number of homes in Placer County that are currently using individual groundwater wells for domestic use. The number of these individual wells per analysis area was not made available to the EIR consultants. Therefore, estimated existing and future demands have been calculated based on total dwelling units (in addition to commercial, office, and industrial acreages).

For purposes of this analysis, average daily flows for residential uses were estimated to be 400 gallons per day per dwelling unit. This demand amount is based on Placer County Water Agency (PCWA) record data. Residential demands used for the Tahoe Basin were assumed to be 250 gallons per day per dwelling unit. This smaller demand is based on the fact that occupancies in the Basin area are assumed to be approximately 66 percent and that very little water is used for landscape irrigation. Also, this assumption results in demand figures that correlate well with the amount of water used in record years. In the Summit and Alpine Meadows areas, 140 gallons per day per dwelling unit was used for demand estimates. Again, this smaller demand results from occupancies in these areas of approximately 50 percent and very little landscape irrigation. The Squaw Valley and Martis Valley analysis areas, although similar in make-up to the Summit and Alpine Meadows, use much more water per dwelling unit based on record data. For these areas, a demand estimate of 320 gallons per dwelling unit per day was used.

In calculating the total water demands for each analysis area for the various scenarios, the consultants have assumed that all demand will be serviced by a community source. This assumption creates a conservative estimate of the amount of water, and therefore the costs of serving that water, to be served by the community water systems to meet the estimated demands.

An attempt has been made to correlate the water demand estimates and estimated sewage flow quantities used in this report. In some cases, there are significant differences in these numbers. Due to the scope of this analysis, these differences cannot be fully explained, although factors such as amount of water used to make snow, infiltration into the sewer systems, and water spillage and reuse influence actual water supply and sewage disposal amounts.

Average daily flows for commercial uses were estimated to be 2,000 gallons per day per acre. This demand amount is based on PCWA's maximum daily estimated demand of 4,200 gallons per day per acre (Nolte and Associates, *Zone 1 Water System Master Plan*, February 1993, Table 2-8). Dividing this maximum daily demand by a peaking factor of 2.1 results in an average daily demand of 2,000 gallons per day per acre. The analysis assumes the same demand rate for office uses.

Average daily flows for all industrial uses were estimated to be 2,917 gallons per day per acre. This demand amount is based on PCWA's maximum daily estimated demand of 6,125 gallons per day per acre (Nolte and Associates, *Zone 1 Water System Master Plan*, February 1993, Table 2-8). Dividing this maximum daily demand by a peaking factor of 2.1 results in an average daily demand of 2,917 gallons per day per acre.

### Agricultural Irrigation

The acreage amount and associated water demand for agricultural irrigation were determined from a report entitled *Western Placer County Water Supply Appraisal Investigation*, prepared by Boyle Engineering Corporation in 1989, for Placer County, Placer County Water Agency, the Bureau of Reclamation, and the California Department of Water Resources. Since the geographic areas of analysis of the Boyle report do not correspond with the analysis areas used in this report, the irrigation water demand for each analysis area were determined by the following procedure:

1. The acreage of irrigated agricultural land in years 1990, 2010, and 2040 was estimated by applying the percentage of potential irrigated cropland given in the Boyle report to the ultimate areas designated for agriculture uses on the *Land Use Diagram*. These designated agricultural areas did not include community planning areas such as the Auburn-Bowman community planning area. The agricultural acreages for the community planning areas were

obtained from the individual Community Plan reports and discussions with County staff. The Boyle report projected irrigation demands up to the year 2020. The EIR consultants have assumed that this projection will hold true for the year 2040 for analysis areas that do not have community plans.

2. Water application rates, which were also obtained from the Boyle report, were applied to the number of acres to be irrigated to determine the total annual amount of water required for irrigation within each analysis area. In determining the amount of surface water necessary to meet the various scenario's calculated demands, it was assumed that existing demands (1990) would continue to be met by their current sources, whether it be groundwater or surface water. Also, it was assumed that the existing agricultural uses within non-agriculturally designated areas would remain in agricultural use until developed.

Only the agricultural irrigation needs for areas analyzed in the Boyle report were addressed. The western area of the county, which made up the study area for the Boyle report, represents the vast majority of the land currently being used for agriculture.

### Municipal Irrigation

All estimated municipal irrigation demands are included in domestic water demands calculated for residential, office, commercial, and industrial uses.

### **Treatment Requirements**

Future, additional treatment requirements were estimated by determining each analysis area's existing treatment capacity and comparing that amount to the estimated, future treatment requirements. The future requirements were based on estimated average daily demands, multiplied by a peaking factor of 2.1, resulting in an estimated maximum day demand. It was assumed that treatment facilities would be sized to handle a maximum day demand.

Recent amendments to the Federal Safe Drinking Water Act (the Surface Water Treatment Rule) require a higher level of treatment of potable water. These changes have led to increased cost for using and developing surface water resources. Many of the community water purveyors operating surface water treatment plants in Placer County must make improvements to their raw water supplies and plants to meet the new water quality requirements; these improvements are independent of the improvements necessary to meet increased demands due to development under the *General Plan*. Existing community water systems that utilize surface water and/or groundwater sources that do not require treatment with conventional treatment plants were, however, assumed to treat future municipal water demands with conventional treatment plants. This assumption is a worst case scenario that attempts to take into account the changes to regulations concerning surface water treatment.

The amount of existing treatment in a given area is the product of all treatment provided by each water purveyor in that area. Total future treatment for each area was compared to the total existing treatment to arrive at an estimated future treatment need. It should be noted that this total estimated treatment value does not reflect individual water purveyor's treatment needs, but an aggregate total for that area.

## Storage Requirements

Storage requirements were calculated from the following criteria:

- Storage for emergency use = 25 percent of maximum day
- Storage for operational use = 25 percent of maximum day
- Storage for fire flows = 3,000 gallons per minute for 4 hours

Many of the water purveyors in Placer County have different standards for storage than the criteria listed above. These general criteria were, however, used to estimate the impacts of future development on the existing water systems while using a uniform standard to allow comparisons between systems.

The amount of existing storage in a given area is the product of all storage provided by each water purveyor in that area. Total future storage for each area was compared to the total existing storage to arrive at an estimated future storage need. It should be noted that this total estimated storage value does not reflect individual water purveyor's storage needs, but an aggregate total for that area.

## Organization of Analysis

The analysis presented in this section is organized according to the unincorporated analysis areas listed in Table 2-2 of Chapter 2 of this EIR and shown in Figure 2-1. For each area, existing (1990) and future (2010 and 2040) conditions are assessed. The determination of the significance of impacts focuses on the 2010 assessment.

## IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM

The implications of the *General Plan Land Use Diagram* on each of the analysis areas' domestic water supply were analyzed by estimating both existing and future water demands for potential development. Tables 5-1 and 5-2 summarize these demands for 2010 and 2040, respectively.

The implications on agriculture irrigation water supply were analyzed based on the development scenario for each of the analysis areas. It was determined that there is no significant existing agriculture irrigation demand and that no significant agriculture uses are planned in most of the analysis areas, except where noted (the Auburn-Bowman, Dry Creek, Placer Central, Placer West, Sunset, and Sheridan analysis areas contain agricultural land designations).

Following are summaries of the effects that estimated development years 2010 and 2040 will have on the water systems serving each of the analysis areas. Each summary includes a description of the water purveyors serving the area and their facilities along with estimates of the demand generation estimates and the capacity needed to serve that development.

TABLE 5-1

WATER DEMAND PROJECTIONS  
Unincorporated Placer County

2010

	1990 Demand		2010 Water Demand Projections						1990 to 2010 Change		
	GPD	Acre-Feet	Residential (GPD)	Commercial (GPD)	Office (GPD)	Industrial (GPD)	Irrigation (AF/YR)	Total (GPD)	Total (AF/YR)	Acre-Feet Per Year	Percentage
<b>Tahoe Basin Total</b>	<b>2,403,352</b>	<b>2,692</b>	<b>3,187,500</b>	<b>226,706</b>	<b>46,768</b>	<b>70,715</b>	<b>0</b>	<b>3,531,689</b>	<b>3,956</b>	<b>1,264</b>	<b>46.9%</b>
Alpine Meadows	76,372	86	74,560	6,034	971	0	0	81,564	91	6	6.8%
Martis Valley	148,766	167	196,000	18,994	3,308	1,339	0	219,641	246	79	47.6%
Squaw Valley	152,162	170	193,920	14,965	2,572	0	0	211,457	237	66	39.0%
<b>Sierra Resorts</b>	<b>377,300</b>	<b>423</b>	<b>464,480</b>	<b>39,992</b>	<b>6,851</b>	<b>1,339</b>	<b>0</b>	<b>512,662</b>	<b>574</b>	<b>152</b>	<b>35.9%</b>
Gold Run/Dutch Flat/Alta	222,271	249	230,400	10,571	1,811	268	0	243,049	272	23	9.3%
Placer East	325,652	365	343,200	9,333	1,568	4,286	0	358,386	401	37	10.1%
Summit	96,622	108	104,000	1,025	184	0	0	105,208	118	10	8.9%
<b>Sierra</b>	<b>644,545</b>	<b>722</b>	<b>677,600</b>	<b>20,928</b>	<b>3,562</b>	<b>4,554</b>	<b>0</b>	<b>706,644</b>	<b>792</b>	<b>70</b>	<b>9.6%</b>
Colfax CPA	421,348	472	561,600	2,905	99	2,679	0	567,282	635	163	34.6%
Foresthill	871,931	977	1,081,200	36,104	3,270	33,974	0	1,154,548	1,293	317	32.4%
Meadow Vista	606,898	680	787,200	19,110	1,431	0	0	807,740	905	225	33.1%
Weimar/Applegate/Clipper Gap	691,564	775	914,800	12,061	761	3,214	0	930,837	1,043	268	34.6%
<b>Lower Sierra</b>	<b>2,591,741</b>	<b>2,903</b>	<b>3,344,800</b>	<b>70,180</b>	<b>5,561</b>	<b>39,867</b>	<b>0</b>	<b>3,460,408</b>	<b>3,876</b>	<b>973</b>	<b>33.5%</b>
Auburn-Bowman	10,479,401	11,739	4,825,200	621,529	289,360	337,138	9,090	14,187,614	15,893	4,154	35.4%
Horseshoe Bar/Pemryn	1,039,929	1,165	1,256,800	20,631	2,114	804	0	1,280,349	1,434	269	23.1%
Newcastle/Ophir	704,098	789	778,400	50,041	29,716	19,352	0	877,509	983	194	24.6%
<b>Auburn -Foothills</b>	<b>12,223,428</b>	<b>13,693</b>	<b>6,860,400</b>	<b>692,201</b>	<b>321,190</b>	<b>357,294</b>	<b>9,090</b>	<b>16,345,472</b>	<b>18,311</b>	<b>4,618</b>	<b>33.7%</b>
Dry Creek	4,436,095	4,969	2,032,000	99,473	53,003	126,651	4,691	6,498,696	11,971	7,002	140.9%
Granite Bay	2,181,650	2,444	3,118,400	233,436	28,575	0	0	3,380,412	3,787	1,343	54.9%
Placer Central	135,392,034	151,669	1,388,400	762	211	4,326	191,251	171,659,804	192,297	40,628	26.8%
Placer West	119,111,946	133,432	263,200	1,837	0	4,554	177,576	158,788,515	177,878	44,446	33.3%
Sheridan	828,245	928	112,800	2,794	184	2,411	1,354	1,326,700	1,486	558	60.2%
Sunset	7,163,585	8,025	11,600	124,614	230,983	1,011,912	11,660	11,787,777	13,205	5,180	64.6%
<b>South Placer</b>	<b>269,113,554</b>	<b>301,466</b>	<b>6,926,400</b>	<b>462,915</b>	<b>312,955</b>	<b>1,149,853</b>	<b>386,532</b>	<b>353,441,904</b>	<b>400,624</b>	<b>99,157</b>	<b>32.9%</b>
<b>TOTAL</b>	<b>287,353,920</b>	<b>321,900</b>	<b>21,461,180</b>	<b>1,512,923</b>	<b>696,887</b>	<b>1,623,621</b>	<b>395,622</b>	<b>377,998,778</b>	<b>428,133</b>	<b>106,233</b>	<b>33.0%</b>

TABLE 5-2

WATER DEMAND PROJECTIONS  
Unincorporated Placer County

2040

	1990 Demand		2040 Water Demand Projections							1990 to 2040 Change	
	GPD	Acre-Feet	Residential (GPD)	Commercial (GPD)	Office (GPD)	Industrial (GPD)	Irrigation (AF/YR)	Total (GPD)	Total (AF/YR)	Acre-Feet Per Year	Percentage
<b>Tahoe Basin Total</b>	<b>2,403,352</b>	<b>2,692</b>	<b>3,187,500</b>	<b>311,767</b>	<b>59,920</b>	<b>70,715</b>	<b>0</b>	<b>3,629,902</b>	<b>4,066</b>	<b>1,374</b>	<b>51.0%</b>
Alpine Meadows	76,372	86	85,280	6,884	1,102	0	0	93,267	104	19	22.1%
Martis Valley	148,766	167	281,600	24,948	4,229	1,339	0	312,116	350	183	109.8%
Squaw Valley	152,162	170	179,200	21,344	3,558	0	0	204,103	229	58	34.1%
<b>Sierra Resorts</b>	<b>377,300</b>	<b>423</b>	<b>546,080</b>	<b>53,176</b>	<b>8,889</b>	<b>1,339</b>	<b>0</b>	<b>609,485</b>	<b>683</b>	<b>260</b>	<b>61.5%</b>
<b>Gold Run/Dutch Flat/Alta</b>	<b>222,271</b>	<b>249</b>	<b>256,000</b>	<b>13,973</b>	<b>2,337</b>	<b>268</b>	<b>0</b>	<b>272,578</b>	<b>305</b>	<b>56</b>	<b>22.6%</b>
Placer East	325,652	365	405,649	12,682	1,798	4,286	0	424,414	475	111	30.3%
Summit	96,622	108	119,589	1,556	184	0	0	121,329	136	28	25.6%
<b>Sierra</b>	<b>644,545</b>	<b>722</b>	<b>781,238</b>	<b>28,211</b>	<b>4,318</b>	<b>4,554</b>	<b>0</b>	<b>818,321</b>	<b>917</b>	<b>195</b>	<b>27.0%</b>
<b>Colfax CPA</b>	<b>421,348</b>	<b>472</b>	<b>875,600</b>	<b>4,181</b>	<b>625</b>	<b>2,679</b>	<b>0</b>	<b>883,084</b>	<b>989</b>	<b>517</b>	<b>109.6%</b>
Foresthill	871,931	977	1,364,400	53,010	10,241	24,309	0	1,451,960	1,627	650	66.5%
Meadow Vista	606,898	680	926,400	22,459	2,318	0	0	807,740	905	225	33.1%
Weimar/Appligate/Clipper Gap	691,564	775	1,313,600	14,294	1,353	3,214	0	930,837	1,043	268	34.6%
<b>Lower Sierra</b>	<b>2,591,741</b>	<b>2,903</b>	<b>4,480,000</b>	<b>93,944</b>	<b>14,537</b>	<b>30,202</b>	<b>0</b>	<b>4,073,621</b>	<b>4,563</b>	<b>1,660</b>	<b>57.2%</b>
<b>Auburn-Bowman</b>	<b>10,479,401</b>	<b>11,739</b>	<b>5,911,600</b>	<b>807,599</b>	<b>381,424</b>	<b>404,793</b>	<b>10,839</b>	<b>17,181,104</b>	<b>19,247</b>	<b>7,507</b>	<b>64.0%</b>
Horseshoe Bar/Penryn	1,039,929	1,165	1,515,600	27,861	2,903	804	0	1,547,168	1,733	568	48.8%
Newcastle/Ophir	704,098	789	1,010,400	59,422	42,868	19,352	0	1,132,042	1,268	479	60.8%
<b>Auburn -Foothills</b>	<b>12,223,428</b>	<b>13,693</b>	<b>8,437,600</b>	<b>894,883</b>	<b>427,195</b>	<b>424,949</b>	<b>10,839</b>	<b>19,860,314</b>	<b>22,248</b>	<b>8,555</b>	<b>62.5%</b>
<b>Dry Creek</b>	<b>4,436,095</b>	<b>4,969</b>	<b>5,978,947</b>	<b>213,454</b>	<b>123,497</b>	<b>230,260</b>	<b>4,691</b>	<b>10,733,728</b>	<b>16,715</b>	<b>11,746</b>	<b>236.4%</b>
Granite Bay	2,181,650	2,444	3,536,842	323,813	38,439	0	0	3,899,095	4,368	1,924	78.7%
Placer Central	135,392,034	151,669	1,604,863	762	211	4,326	224,349	201,422,245	225,637	73,968	48.8%
Placer West	119,111,946	133,432	320,000	1,837	0	4,554	196,995	176,180,478	197,361	63,929	47.9%
Sheridan	828,245	928	134,737	2,794	184	2,411	1,636	1,600,373	1,793	865	93.2%
Sunset	7,163,585	8,025	16,842	167,995	311,605	1,688,066	13,780	14,485,661	16,227	8,202	102.2%
<b>South Placer</b>	<b>269,113,554</b>	<b>301,466</b>	<b>11,592,232</b>	<b>710,655</b>	<b>473,936</b>	<b>1,929,616</b>	<b>441,451</b>	<b>408,321,580</b>	<b>462,101</b>	<b>160,635</b>	<b>53.3%</b>
<b>TOTAL</b>	<b>287,353,920</b>	<b>321,900</b>	<b>29,024,649</b>	<b>2,092,636</b>	<b>988,796</b>	<b>2,461,375</b>	<b>452,290</b>	<b>437,313,224</b>	<b>494,578</b>	<b>172,678</b>	<b>53.6%</b>

**Tahoe Basin**

Water service for the Tahoe Basin analysis area is currently provided by 13 public and private water purveyors, as well as some individual wells. The water purveyors and the source of their water supply are the following:

<b>Water Purveyor</b>	<b>Source of Supply</b>
Agate Bay Water Company	Underground spring and Lake Tahoe
Fulton Water Company - Main and Links System	Lake Tahoe and wells
Lake Forest Water Company	Lake Tahoe and well
Madden Creek Water Company	Lake Tahoe (through connection with Tahoe Swiss Village Utility) and well
McKinney Water District	Wells
North Tahoe Public Utility District -Kings Beach, Carnelian Woods, and Dollar Cove	Well and Lake Tahoe
Tahoe Cedars Water Company	Wells, Lake Tahoe, and wells through connection with McKinney Water District
Tahoe City Public Utility District - Main, Alpine Peaks, McKinney Shores, Quail Lake Water Company	Wells, underground springs, and Lake Tahoe
Tahoe Park Water Company - Main, Skyland, Neilson	Underground springs and Lake Tahoe
Tahoe Swiss Village Utility	Lake Tahoe
Talmon Resort Improvement District	Well and Lake Tahoe and underground springs through connection with Tahoe Park Water Company
Ward Well Water Company	Wells

Due to the number of water purveyors in the Tahoe Basin, the condition of the existing transmission systems and the water quality status of treatment facilities vary. Lake water sources are currently treated by chlorination only. Many of the water purveyors in the Tahoe Basin area are exploring alternatives to the Lake Tahoe water source in lieu of plant upgrades to meet the new Surface Water Treatment Rule (SWTR) guidelines. If alternative sources (i.e., groundwater) are not found for surface water in the Tahoe Basin area, existing treatment facilities must be upgraded to meet these water quality regulations.

According to the California-Nevada Interstate Water Compact, California has a 23,000 acre-feet per year allocation of water diverted for use within the Lake Tahoe Basin. In addition, the Interstate Water Compact limits maximum surface water diversions in the Truckee River watershed in California (which includes parts of Placer, Nevada, and Sierra Counties) to 10,000 acre-feet annually.

Based on the projected demands for water supply in the year 2010, there is sufficient water available which may be diverted for use within the Lake Tahoe Basin. Projected water supply demand for the year 2040 also indicates that there will be sufficient supply available for diversion from the Lake Tahoe Basin.

New water treatment and storage facilities will be necessary to accommodate additional demands resulting from new development. These new facilities include water treatment plants, storage tanks, pressure control devices, groundwater wells and pumps, and main transmission lines, all of which are assumed to be paid for by new development. Even though some additional storage will be necessary in some areas of the Tahoe Basin, the overall area does not require additional storage.

**Alpine Meadows**

Water service for the Alpine Meadows analysis area is provided by Alpine Springs County Water District. Water is supplied via groundwater pumping by four horizontal springs and three vertical wells. Based on current water quality standards, additional treatment will not be required for the groundwater source in Alpine Meadows for estimated 2010 and 2040 development levels. The existing groundwater pumping system has additional capacity which could accommodate the planned new development. New treatment facilities and additional transmission mains and appurtenances may, however, be necessary to serve new development. The consultants assume that the costs of any additional facilities (i.e., transmission lines) would be borne by new development.

**Martis Valley**

Water service for the Martis Valley analysis area is provided by Northstar Community Service District, Truckee-Donner Public Utilities District (T-DPUD), and the Donner Lake Utility District (DLUD). The Northstar CSD supplies water via groundwater pumping by two springs and by surface water via a reservoir. Currently, the Northstar CSD provides full conventional treatment through its surface water treatment plant; this treatment plant will have to be up-sized to meet future demands in both the 2010 and 2040 time frames. A recently-constructed well (that is not currently on-line) will also need to be connected to the existing system to meet future demands. Also, an additional water source must be provided to adequately serve the future needs for new development estimated by the year 2010 and 2040. Currently, the Northstar CSD has permits for 1,206 acre-feet per year of surface water for their use. District staff has indicated that there is sufficient groundwater available to meet the future demands in areas expected to rely on groundwater.

The Truckee-Donner PUD serves a total of 6,000 water connections, about 500 of which are located in the Placer County part of Martis Valley. The District, which relies on deep wells for its water supply, anticipates serving a limited amount of future development in Placer County. The Donner Lake Utility District also serves a small number of water connections in Placer County, but does not anticipate expanding its facilities to provide additional services to development in Placer County.

**Squaw Valley**

Most of the water service for the Squaw Valley analysis area is provided by Squaw Valley County Water District via groundwater pumping by five wells. Currently, some chlorination treatment is provided throughout the system whenever necessary. Little is known about the capacity of the Olympic Valley Aquifer, although the District is currently trying to determine if there is sufficient groundwater available to meet the future demands. An additional water source or additional storage capacity will have to be provided to adequately provide fire protection and backup storage for new development predicted for 2010 and 2040.

The Squaw Valley Mutual Water Company also serves approximately 300 homes, but is not expected to expand to provide additional service.

### **Gold Run/Dutch Flat/Alta**

Water service for the Gold Run/Dutch Flat/Alta analysis area is provided by Placer County Water Agency (PCWA) Alta System and individual wells. Surface water from Lake Spaulding is supplied via canals to PCWA's 300 gpm capacity treatment plant. Currently, conventional treatment is provided by the treatment plant. Some planned improvements to the plant will be necessary to allow it to meet future demands and correct other existing deficiencies. In addition to the treatment plant upgrades, additional storage capacity will have to be provided to adequately provide fire protection and backup storage for new development estimated by the years 2010 and 2040. PCWA has ample water rights to serve expected demand in this area.

### **Placer East**

Water service for the Placer East analysis area is provided by groundwater pumping by individual wells and springs, as well as by the PCWA Monte Vista System, which serves a small number of connections in the northern part of the area. Due to the limited development planned for this area, and the size of lots to be developed, nearly all future water supply will be served by individual wells and springs. The use of the limited aquifers in this analysis area should have a negligible effect on the groundwater resource. New development in the Monte Vista System's service area, will however, require some additional water treatment and storage capacity and new facilities will have to be provided.

The Emigrant Gap Estates water system also serves approximately 40 homes in this area, but is not expected to expand to provide additional service.

### **Summit**

Water service for the Summit analysis area is provided by Sierra Lakes County Water District. Water is supplied via a pipeline from Lake Serena to the treatment plant. A small groundwater well provides additional backup supply. Currently, conventional treatment is provided at the treatment plant. Some planned improvements must be made to the plant to meet increased future demands. Additional storage capacity will have to be provided to the system to adequately provide fire protection and backup storage for new development predicted by the years 2010 and 2040. Sierra Lakes County Water District has ample water rights to adequately serve the domestic water demands for this area, but is currently exploring drilling a new well because of the ramifications of Surface Water Treatment Rule requirements.

### **Colfax Analysis Area**

Water service for the Colfax analysis area is provided by Placer County Water Agency (PCWA) Colfax System and individual wells. Surface water from Lake Spaulding, Jackson Meadows, and Lake Fordyce is supplied via the Boardman Canal to PCWA's 1.3 mgd capacity treatment plant. Complete treatment is provided by the treatment plant, which is currently operating at capacity and must be up-sized to meet the future demands. In addition to the treatment plant upgrades, many of the existing transmission mains will have to be replaced or up-sized to allow peak flows to be delivered throughout the system. Also, additional storage capacity will probably have to be provided to adequately provide fire protection and backup storage for new development predicted by the year 2010 and 2040. PCWA has ample water rights to adequately serve the domestic water demands projected for this area.

**Foresthill**

Water service for the Foresthill analysis area is provided by Foresthill Public Utility District and individual wells and springs. In 1990, the District's system produced about 906 acre-feet of the total analysis area's estimated demand of 977 acre-feet. The District's source water supply is supplied via a pipeline from Sugar Pine Reservoir and Mill Creek to the treatment plant. Two groundwater wells provide additional backup supply. Currently, treatment is provided by a 3 mgd capacity, gravity, direct filtration treatment plant. With the recent closure of the sawmill in the Foresthill area, actual annual water demands are now (September 1993) lower than those estimated for 1990. The existing system has sufficient supply, storage, treatment capacity, and system capacity to handle current demands. System improvements will, however, be required to meet the estimated development demands by the years 2010 and 2040. The district has water rights of 3,000 acre-feet per year from the Sugar Pine Reservoir, which appears to be adequate for the 2010 and 2040 demands.

**Meadow Vista**

Water service for the Meadow Vista analysis area is provided by Placer County Water Agency (PCWA) Colfax System, Meadow Vista County Water District, Midway Heights County Water District, and individual wells. Surface water from Lake Spaulding, Jackson Meadows, and Lake Fordyce is supplied via the Boardman Canal to PCWA's 1.3 mgd capacity treatment plant in Colfax. Source water for the Meadow Vista 2.5 mgd treatment plant is from the Bowman Feeder Canal. Midway Heights CWD receives treated water from the Weimar Water Company. Currently, complete treatment is provided by the PCWA, Weimar Water, and the Meadow Vista treatment plants. The PCWA treatment plant is currently operating at capacity and will have to be up-sized (new storage and transmission facilities may also be required) to meet estimated demand at 2010 and 2040 and to adequately provide fire protection and backup storage for new development. PCWA has ample water rights to adequately serve the additional demand resulting from development in this area.

**Weimar/Applegate/Clipper Gap**

Water service for the Weimar/Applegate/Clipper Gap analysis area is provided by Placer County Water Agency (PCWA) Colfax System, the Weimar Water Company, Midway Heights County Water District, and individual wells. Surface water from Lake Spaulding, Jackson Meadows, and Lake Fordyce is supplied via the Boardman Canal to PCWA's 1.3 mgd capacity treatment plant in Colfax and to Weimar Water Company's 1 mgd capacity treatment plant in Weimar. Midway Heights County Water District purchases treated water from Weimar Water Company. Currently, complete treatment is provided by the PCWA Colfax System treatment plant and the Weimar Water Company's plant. The PCWA treatment plant is currently operating at capacity and will have to be up-sized to meet the future demands. The Weimar Water plant will also have to be up-sized to meet future, increased demands. In addition to the treatment plant upgrades, additional storage capacity will be required to adequately provide fire protection and backup storage for new development by 2010 and 2040. PCWA has ample water rights to adequately serve this area in both 2010 and 2040.

**Auburn-Bowman**

Domestic water service for the Auburn-Bowman analysis area is currently provided by the Nevada Irrigation District--North Auburn System (NID-NAS), PCWA, and a small portion of the area is served by Christian Valley Community Services District. The direct source of the NID water supply is the PG&E-owned Rock Creek Reservoir, impounding water from the Wise Canal. Water supplied by PCWA

Bowman-Auburn System originates in Lake Spaulding and is obtained from PG&E's Boardman Canal and transmitted to the treatment plants in Auburn and Bowman. Except for the North Auburn Treatment Plant, an expansion of which was completed by NID in early 1994, the domestic distribution systems in this analysis area are currently operating at capacity. PCWA and NID will have to expand their existing facilities to meet the projected demands. The western portion of the Auburn-Bowman analysis area consists of some agricultural uses. Additional agriculture irrigation demands could potentially be supplied by either NID, PCWA, or a combination of these sources. PCWA and NID have ample water rights to adequately service the additional, domestic demand in this area. NID has an ongoing contract with PG&E for a maximum of 12 million gallons per day (13,443 acre-feet per year). This contract can be renegotiated, if necessary, with one year notice by either party. PCWA has water rights for their Zone 1 water system, (of which the Auburn-Bowman analysis area is a part), in the amount of 292, 000 acre-feet per year (beginning in the year 2007).

### **Horseshoe Bar/Penryn**

Water service for the Horseshoe Bar/Penryn analysis area is provided by Placer County Water Agency (PCWA) Foothill/Sunset System and individual wells. The Foothill treatment plant draws surface water from the PG&E's South Canal with the Boardman Canal serving as a secondary source. The Sunset plant draws water from Whitney Reservoir via the Caperton Canal. Currently, complete treatment is provided by the PCWA treatment plants. These plants will either have to be up-sized or replaced by a larger plant, or a combination of these measures, to meet the estimated future demands. In addition to the treatment plant upgrades, many of the existing PCWA transmission mains, raw water canals, and storage tanks will have to be replaced or up-sized to deliver the estimated demands to the system. PCWA has ample water rights to adequately serve this area.

### **Newcastle/Ophir**

Domestic water service for the Newcastle/Ophir analysis area is provided by the PCWA Newcastle System and individual groundwater wells. The PCWA supply originates from Lake Spaulding via the Newcastle Canal which is fed by the Boardman Canal. Currently, complete treatment is provided by the Newcastle treatment plant, although PCWA plans to abandon this plant in the near future and serve the Newcastle area from the Auburn treatment plant. Many of the existing PCWA Newcastle System's transmission mains must be replaced or up-sized to deliver the expected demands to the system. PCWA has ample water rights to adequately serve the projected domestic water demands for this area.

### **Dry Creek**

The Dry Creek analysis area is currently served by individual groundwater wells. The Dry Creek-West Placer Community Plan prohibits new development based on a groundwater source. Domestic water service for this area will probably be supplied by the same source that supplies the Villages of Dry Creek Specific Plan. It appears that PCWA will supply the treated surface water on a temporary basis through the Roseville Water Treatment Plant utilizing excess treatment capacity in the plant.

To supply water through the Roseville system on a permanent basis would require substantial improvements to Roseville's treatment plant, and additional storage capacity and transmission lines would be necessary. For the purposes of this analysis, therefore, it has been assumed that PCWA would ultimately construct a new pipeline to serve this area and the Sunset analysis area with treated water. It is assumed that the cost of this pipeline project will be apportioned to development in these areas based on their expected water demands.

With no new agricultural areas projected in Dry Creek (due to the potential for conversion to urban uses), the agriculture irrigation demands will probably continue to be served by groundwater sources, although they could be served by surface water carried by canals to the north of the analysis area. Groundwater sources are still available, although the aquifer in this area has been affected by groundwater pumping in the past. The County Service Area (CSA 28, Zone 29) for the western region of Placer County is responsible for planning and constructing facilities for irrigation purposes. PCWA has ample water rights to adequately serve the projected irrigation and domestic water demands for this area.

### **Granite Bay**

Water service for the Granite Bay analysis area is provided by Placer County Water Agency (PCWA) Foothill/Sunset System, PCWA Los Lagos System, San Juan Suburban Water District (SJSWD), and individual wells. The Foothill treatment plant draws surface water from the PG&E's South Canal, with the Boardman Canal serving as a secondary source. The Sunset plant draws water from Whitney Reservoir via the Caperton Canal. The SJSWD draws water from the American River via the Folsom Dam. Currently, complete treatment is provided by the PCWA and SJSWD treatment plants. These plants must be up-sized or replaced by a larger plant, or a combination of these measures, to meet the estimated future demands. In addition to the treatment plant upgrades, many of the existing PCWA and SJSWD transmission mains, raw water canals, and storage tanks must be replaced or up-sized to deliver the expected demands to the system. PCWA has ample water rights to adequately serve this area.

### **Placer Central**

Water service for the Placer Central analysis area, for urban uses as well as irrigation, is provided by individual groundwater wells. Additional irrigation water could potentially be supplied from the American River by PCWA or the Bear River by NID and transported through Auburn Ravine. The County Service Area (CSA 28, Zone 29) for the western region of Placer County is responsible for planning and constructing facilities for irrigation purposes in this area. There is a significant amount of land in this area used for agriculture, although agricultural use in the area is less extensive than it could be, partly because of the lack of an adequate supply of irrigation water. To accommodate future expansion demanding additional water supply for both domestic and irrigation uses, PCWA and/or NID must provide additional water supply. Both PCWA and NID have sufficient water rights to adequately serve the domestic demands projected for this area.

The Placer Central analysis area includes the proposed Bickford Ranch project. Development of this project will require that a reliable domestic supply be available. Placer County Water Agency (PCWA) Foothill/Sunset System has indicated that they will provide service to this project. PCWA system improvements necessary for this project would include raw water transmission facilities, treatment plant expansion or replacement with a new plant, transmission lines, pressure control devices, and storage tanks. PCWA's *Zone 1 Water System Master Plan*, dated February 1993, proposes a new water treatment plant located within the limits of the Bickford Ranch project. For the purposes of this report, it has been assumed that this project would share in the costs of extending the 36-inch line (as shown in PCWA's study) to this site.

### **Placer West**

Water service for the Placer West analysis area is provided by individual groundwater wells. Additional irrigation water could potentially be supplied from the American River by PCWA or the Bear River by

NID and transported through Auburn Ravine. The County Service Area (CSA 28, Zone 29) for the western region of Placer County is responsible for planning and constructing facilities for irrigation purposes in this area. While there is a substantial amount of agricultural development in this area, there is less than there might be if an adequate supply of irrigation water were available. To accommodate future expansion demanding additional water supply for both domestic and irrigation uses, PCWA and/or NID would have to provide additional water supply. Both PCWA and NID have sufficient water rights to adequately serve the domestic demands projected for this area.

### **Sheridan**

Domestic water service for the Sheridan analysis area is provided by Placer County Service Area Zone #28 - Zone #6 Sheridan. Water is supplied via groundwater pumping by two wells with limited chlorination treatment. The existing groundwater pumping system has extra capacity which could accommodate the planned, new development. Additional transmission mains and appurtenances may, however, be necessary to serve new development. It is assumed that the costs of any additional facilities will be borne by new development. Groundwater levels in the surrounding area are high, so it is likely that the existing and planned development could be served by the existing groundwater system. Agriculture irrigation water could also continue to be served by groundwater. If surface water is chosen as an irrigation supply option, water from the Bear River or the American River via Auburn Ravine may be alternatives. Pumping would, however, be required to get the water to the higher elevation at Sheridan. The County Service Area (CSA 28, Zone 29) for the western region of Placer County is responsible for planning and constructing facilities for irrigation purposes.

### **Sunset**

Water service for the Sunset analysis area is provided by Placer County Water Agency (PCWA) Foothill/Sunset System and individual wells. The Foothill treatment plant draws surface water from the PG&E's South Canal with the Boardman Canal serving as a secondary source. The Sunset plant draws water from Whitney Reservoir via the Caperton Canal. Currently, complete treatment is provided by the PCWA treatment plants. These plants will have to be up-sized or replaced by a larger plant, or a combination of these measures, to meet the estimated future demands. The western portion of the Sunset analysis area consists of some agriculture uses. It has been assumed that PCWA would construct a new pipeline to serve this area and the Dry Creek/West Placer area with treated water. The cost of this pipeline project will be apportioned to projects in these areas based on their expected water demands.

Future irrigation needs could be served by PCWA with American River water via the Auburn Ravine. The County Service Area (CSA 28, Zone 29) for the western region of Placer County is responsible for planning and constructing facilities for irrigation purposes. PCWA has ample water rights to adequately serve this area under both the 2010 and 2040 scenarios.

### **Summary of Impacts**

Domestic water demand in all of the identified analysis areas in Placer County will increase due to development under the *General Plan*. While water purveyors in the county have sufficient water rights to serve this development, the increase in domestic water demand will require, in nearly all cases, upgrading of treatment capabilities. Also, the storage and the transmission capabilities of many of the systems must be improved to meet the planned development's needs. Finally, this increase in domestic water demand will require the various water purveyors to expand and extend their water distribution systems to provide service to areas not currently served.

Demand for irrigation water will continue to be substantial, particularly in the western part of the county. This demand will, however, be difficult to satisfy without provision of a reliable surface supply. While the water purveyors serving the western part of the county have sufficient rights to surface water, the facilities necessary to transmit water to agricultural users have not been developed.

## GENERAL PLAN POLICY RESPONSE

The following policies and programs address the implications of the *Land Use Diagram* water supply and delivery.

### *Policies*

- 4.C.1. *The County shall require proponents of new development to demonstrate the availability of a long-term, reliable water supply. The County shall require written certification from the service provider that either existing services are available or needed improvements will be made prior to occupancy. Where the County will approve groundwater as the domestic water source, test wells, appropriate testing, and/or report(s) from qualified professionals will be required substantiating the long-term availability of suitable groundwater.*
- 4.C.2. *The County shall approve new development based on the following guidelines for water supply:*
- a. *Urban and suburban development should rely on public water systems using surface supply.*
  - b. *Rural communities should rely on public water systems. In cases where parcels are larger than those defined as suburban and no public water system exists or can be extended to the property, individual wells may be permitted.*
  - c. *Agricultural areas should rely on public water systems where available, otherwise individual water wells are acceptable.*
- 4.C.3. *The County shall encourage water purveyors to require that all new water services be metered.*
- 4.C.4. *The County shall require that water supplies serving new development meet state water quality standards.*
- 4.C.5. *The County shall require that new development adjacent to bodies of water used as domestic water sources adequately mitigate potential water quality impacts on these water bodies.*
- 4.C.6. *The County shall promote efficient water use and reduced water demand by:*
- a. *Requiring water-conserving design and equipment in new construction;*
  - b. *Encouraging water-conserving landscaping and other conservation measures;*
  - c. *Encouraging retrofitting existing development with water-conserving devices; and*
  - d. *Encouraging water-conserving agricultural irrigation practices.*
- 4.C.7. *The County shall promote the use of reclaimed wastewater to offset the demand for new water supplies.*
- 4.C.9. *The County shall support opportunities for groundwater users in problem areas to convert to surface water supplies.*

- 4.C.10. *The County shall promote the development of surface water supplies for agricultural use in the western part of the county.*
- 4.C.11. *The County shall protect the watersheds of all bodies of water associated with the storage and delivery of domestic water by limiting grading, construction of impervious surfaces, application of fertilizers, and development of septic systems within these watersheds.*

### *Programs*

- 4.8. *The County shall work with local water purveyors and members of the California Groundwater Association, Mother Lode Branch, to adopt and implement a water availability monitoring program that includes the following components:*
- a. A private well sampling program to evaluate the quality of groundwater supplied to newly constructed private domestic wells;*
  - b. A program to evaluate the quantity and quality of groundwater in small public water systems (the County shall support state monitoring of larger systems); and*
  - c. A program to monitor and evaluate surface water quality in major reservoirs and rivers, and*
  - d. A geo-based, digitized database which plots groundwater and water well information, and shall become the basis of conclusions about groundwater quality and quantity.*
- 4.9. *The County shall initiate a review of any water system that persistently fails to meet applicable standards and shall encourage consolidation or regionalization of surface water treatment systems to address problems in common.*
- 4.10. *The County should identify precise locations of severe groundwater contamination or overdrafting. The County shall work with water users in these areas to investigate methods for shifting to reliance on surface water supplies or other appropriate solutions.*

These policies and programs require that new development occur only when there is a demonstrated long-term reliable water supply, promote the maintenance of state water quality standards in domestic water supplies, and promote efficient use of water and water conservation in new and existing development. These policies also support the conversion to surface water supply for current users of groundwater in problem areas and in agricultural areas in the western county.

In addition, the policies and programs under Goal 6.A promote the protection of water quality and the policies and programs under Goal 4.B address funding of public facilities and services.

### **IMPACTS**

The *Policy Document* policies cited above would reduce the impact on water supplies due to development under the *General Plan*. Facilities necessary to serve anticipated growth can be constructed as necessary and, according to the policies of the *General Plan Policy Document*, will have to be provided by the proponents of new development. The impact of the *General Plan* on water supply and distribution systems is, therefore, less-than-significant.

### **MITIGATION MEASURES**

No mitigation measures are necessary.

## 5.3 COMMUNITY AND INDIVIDUAL WASTEWATER SYSTEMS

This section assesses the potential effects of development under the *General Plan* on community and individual wastewater systems. The information outlined in this section is presented on an analysis area basis at a broad level of detail. A more detailed analysis would require more precise information about the type and location of development than is available for this *EIR*. This level of detail will more appropriately be provided at the project level.

### ENVIRONMENTAL SETTING

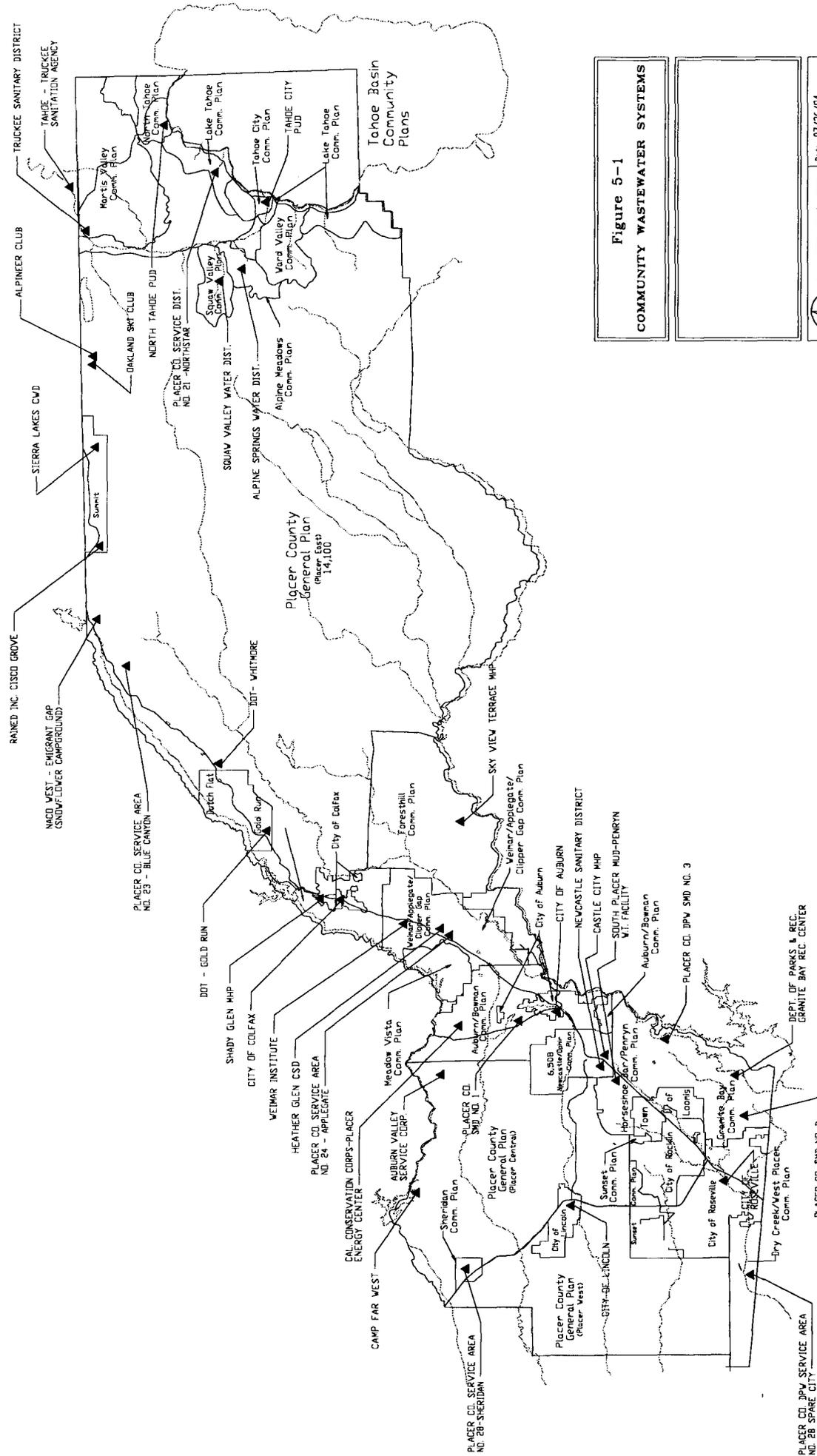
Wastewater collection, treatment, and disposal in Placer County takes two forms: community systems and individual onsite systems. Rudimentary onsite "septic" systems are commonly used on single parcels, mostly in outlying areas. Community wastewater systems range in complexity from simple, small flow systems to highly technical, large capacity systems serving extended areas.

The *General Plan Background Report* outlines wastewater management methodologies generally available and the types, conditions, and capacities of the existing wastewater facilities used in Placer County. While brief summaries of these existing facilities are presented here, the *Background Report* should be consulted for greater detail.

#### Existing Community Wastewater Systems

The *Background Report* describes thirty-seven (37) community wastewater systems included on the Regional Water Quality Control Board's permitted facility list. Figure 5-1 shows the approximate locations of the various existing community wastewater facilities throughout the county and their locational relationship to the analysis areas. Technical Appendix B from the *Background Report* shows the generalized service area boundaries of these systems. Table 5-3 lists the 1990 flow, permit/design capacity, and remaining capacity for the State-permitted (RWQCB) community wastewater systems by analysis area. The 1990 flow estimates were compared with flow estimates developed for the *Background Report* to verify reasonable accuracy and to calibrate the analysis.

Some of the permitted community wastewater facilities serve small, isolated communities and are, therefore, not well-suited for expansion to accommodate future growth. These restricted facilities are highlighted in Table 5-3 and are primarily located in the central (foothill region) analysis areas and upper elevation zones of the eastern analysis areas. Because of their isolation and small size, these facilities are, in most cases, considered unsuitable for purposes of satisfying future community wastewater demands.



**Figure 5-1**  
**COMMUNITY WASTEWATER SYSTEMS**



0 1000' 2000' 3000'

SCALE

Date: 07/26/94  
 Prepared by:  
 [Name]

TABLE 5-3

**CURRENT COMMUNITY WASTEWATER FACILITIES BY ANALYSIS AREA  
(1990-91 Data, Flows in MGD)**

Analysis area	Available Permitted Facilities	Existing Flow	Permit/Design Capacity	Remaining Capacity
Tahoe Basin	North Tahoe PUD	0.95	11.0	10.05
	Tahoe City PUD	1.08	6.0	4.92
Alpine Meadows	Alpine Springs CWD	0.05	0.5	0.45
Martis Valley	Northstar CSD	0.13	2.2	2.07
	Tahoe-Truckee Sanitation Agency <sup>1</sup>	± 2.51	± 5.31	± 2.80
	Truckee Sanitary District <sup>2</sup>	± 0.13	± 0.87	± 0.75
Squaw Valley	Squaw Valley CWD	± 0.17	1.0	± 0.83
Gold Run/Dutch Flat/Alta	DOT - Gold Run Rest Stop **	± 0.040	0.041	± 0.001
Placer East	DOT - Whitmore **	± 0.0039	0.0039	± 0.0
	Pla. Co. SA No. 23 - Blue Canyon **	± 0.015	0.025	± 0.010
	Naco West - Emigrant Gap **	± 0.03	0.030	± 0.0
	Rainco Inc. - Cisco Grove **	± 0.005	0.010	± 0.005
Summit	Oakland Ski Club **	± 0.0024	± 0.0024	± 0.0
	Alpineer Club **	± 0.0024	0.0024	± 0.0
	Sierra Lakes CWD (convey to DSPUD)	± .080	1.05	± 0.97
Colfax Analysis area	No Permitted Community Facilities			
Colfax City	City of Colfax WWTP	0.140	1.50	1.36
	Shady Glen MHP **	0.015	0.024	0.009
Foresthill	Sky View Terrace MHP**	0.0375	0.039	0.0015
Meadow Vista	No Permitted Community Facilities			
Weimar/Applegate/Clipper	Weimar Institute **	0.011	0.027	0.016
	Heather Glen CSD **	± 0.010	0.020	± 0.010
	Pla. Co. SA No. 24 - Applegate **	± 0.010	0.010	± 0.0
Auburn-Bowman	CCC - Placer Energy Center **	0.0036	± 0.01	± 0.0064
	Pla. Co. SMD No. 1	± 1.80	± 1.80	± 0.0
Auburn City	City of Auburn	1.00	1.23	0.23
Horseshoe Bar/Penryn	So. Pla. MUD - Penryn	0.213	0.364	0.151
	Pla. Co. DPW SMD No. 3	0.070	0.350	0.280
Loomis Town	Collection to Roseville RWWTP			
Newcastle/Ophir	Newcastle Sanitary District	0.048	0.070	0.022
	Castle City MHP **	± 0.017	0.022	± 0.005
Dry Creek	Pla. Co. DPW SA No. 28 - Sabre City	± 0.045	0.045	± 0.0
Granite Bay	Dept. Parks & Rec. - Granite Bay**	0.005	± 0.005	± 0.0
	Pla. Co. SMD No. 2 (convey to RWWTP)	1.30	± 1.30	± 0.0
Lincoln City	City of Lincoln WWTP	0.800	1.4	0.6
Placer Central	So. Sutter - Camp Par West **	0.043	0.053	0.010
	Auburn Valley Services Corp. **	± 0.02	0.043	0.023
Placer West	No Permitted Community Facilities			
Rocklin City	Collection to Roseville RWWTP			
Roseville City	Roseville RWWTP	± 6.0	11.75	± 5.75
Sheridan	Pla. Co. SA No. 28 - Sheridan	± 0.040	0.040	± 0.0
Sunset	Collection to Roseville RWWTP			
<b>TOTALS<sup>3</sup></b>		<b>14.32</b>	<b>42.84<sup>4</sup></b>	<b>28.53<sup>4</sup></b>

Notes: \*\* = Isolated facility, limited expansion capability, discounted from future capacity considerations.

± = Estimated flow based on best available data.

1. The Tahoe-Truckee Sanitation Agency facility is located out of Placer County (in Nevada Co). T-TSA receives flows from all Tahoe area analysis areas (i.e., NTPUD, TCPUD, ASCWD, NCSD, and TSD). Placer County contributions only are tabulated (Total T-TSA existing flow is approximately 3.5 MGD and plant capacity is 7.4 MGD, ADDW).

2. Flows and estimated capacities shown are for Placer County portions of TSD flow only (total TSD flows to T-TSA are ± 1.3 MGD).

3. Total does not include T-TSA flows since they are already summed by analysis area.

4. Permit/Design and Remaining capacity totals are exaggerated by Tahoe analysis area's collection systems capacities which indicate peak flow capacities for the facilities. T-TSA treatment plant capacity is the actual area-wide capacity limitation.

MHP = Mobile Home Park.  
CSD = Community Services District  
SA = Service Area  
SMD = Sewage Maintenance District  
CCC = California Conservation Corps

DPW = Department of Public Works  
WWTP = Wastewater Treatment Plant  
RWWTP = Regional Wastewater Treatment Plant  
CWD = County Water District  
DOT = Dept. of Transportation (CalTrans)

**Onsite Wastewater Disposal**

Development relying on onsite wastewater systems in Placer County follows a usage trend similar to other counties in the eastern Sacramento Valley area which are primarily located along the "foothill" region. Recently, however, changes in the frequency of application of onsite systems having higher technical design sophistication has been realized by the Placer County Department of Health and Medical Services (PCDHMS). The PCDHMS is the local jurisdictional agency for approval and permitting of onsite systems in Placer County.

Table 5-4 summarizes recent requests for onsite system permits received by PCDHMS. These requests, which relate to non-standard systems, are approaching the 50th percentile level for the indicated service period. This trend may signal a change in onsite system design and application which could result in more appropriate application of onsite systems, decreases in failures, increases in public health protection and favorable allowance in the case of previously marginal or undevelopable areas. One concern connected to the use of onsite systems, including alternative systems, is determining technical solutions for the reduction of groundwater contamination, particularly resulting from nitrate discharges.

**TABLE 5-4**

**PCDHMS SERVICE REQUESTS FOR LAND DEVELOPMENT APPLICATION  
(From Period 07/01/92 to 06/30/93)**

<b>Task Description</b>	<b>Number of Requests</b>
Recertifications	2
Standard System	131
Deep Trench System	3
Steep Slope System	2
Intermittent Sand Filter System	28
Pressure Dose Distribution	64
<b>Total Number of Non-Standard Systems</b>	<b>97</b>
<b>Percentage of Non-Standard Systems</b>	<b>43%</b>

Source: Placer County Department of Health and Medical Services.

Table 5-5 indicates currently understood general conditions for individual onsite wastewater system soils suitability and design and regulatory aspects for the various community analysis areas. Additional information is presented in the *Background Report* and associated state and local documents. The information presented here is general in nature and is based on agency staff field experience and limited hydrogeological data. Current County policy mandates that any proposed onsite system, or development proposing the use of onsite disposal systems, meet the applicable regulations and that any such systems be reviewed and approved by the appropriate regulatory agencies on an individual basis.

TABLE 5-5

**ONSITE SYSTEM SUITABILITY  
By Analysis Area**

Analysis area	Use Suitability	Rec. Min. Lot Size (acres)	Regulatory and Design Aspects
Tahoe Basin	N/A	N/A	Prohibited.
Alpine Meadows	N/A	N/A	Prohibited.
Martis Valley	Individual Evaluation	5	5-ac. minimum, exempted lots
Squaw Valley	N/A	N/A	Prohibited.
Gold Run/Dutch Flat/Alta	Individual Evaluation	2.3	Areas w/poor soil & HGW.
Placer East	Individual Evaluation	2.3	Limited Data.
Summit	Individual Evaluation	2.3	Some areas have shallow soils.
Colfax Analysis area	Individual Evaluation	2.3	Some fractured rock areas.
Colfax City	Community Service	N/A	High density.
Foresthill	Individual Evaluation	2.3	Areas with unsuitable soils.
Meadow Vista	Individual Evaluation	2.3	HGW in downtown area.
Weimar/Applegate/Clipper	Individual Evaluation	2.3	Some poor soils areas
Auburn-Bowman	Individual Evaluation	2.3	Thin soils and HGW areas.
Auburn City	Community Service	N/A	High density.
Horseshoe Bar/Penryn	Individual Evaluation	2.3	HGW area, GWP, comm. serv. avail.
Loomis Town	Individual Evaluation	2.3	HGW, comm. serv. available.
Newcastle/Ophir	Individual Evaluation	2.3	Community service available.
Dry Creek	Individual Evaluation	7.0	Community service available.
Granite Bay	Individual Evaluation	2.3	Thin soils, HGW, comm. serv.
Lincoln City	Community Service	N/A	High density.
Placer Central	Individual Evaluation	10	Poor soils, HGW, GWP.
Placer West	Individual Evaluation	10	Poor soils, HGW, GWP.
Rocklin City	Community Service	N/A	High density/Comm/Indust.
Roseville City	Community Service	N/A	High density/Comm/Indust.
Sheridan	Individual Evaluation	10	Poor soils, HGW, GWP.
Sunset	Community Service	N/A	High density/industrial.
Placer Villages	Community Service	N/A	High density.
Villages of Dry Creek	Community Service	N/A	High density.
Bickford Ranch	Community Service	N/A	High density.
Stanford Ranch West	Community Service	N/A	High density.

Notes: HGW = High (elevated) groundwater levels can cause system failure and health risks.  
GWP = Groundwater pollution potential or contaminated groundwater areas.

## METHODOLOGY AND ASSUMPTIONS

For planning purposes, residential wastewater generation rates are typically determined as a percentage of the average daily water demand. Commercial, office, and industrial generation rates are generally based on the type of land use proposed using a flow per unit basis (e.g., gallon per acre per day). In addition, wastewater generation rates from planning and design studies are usually referenced.

For this analysis, residential generation volumes were based on percentage of water demand and existing planning documents. Placer County Water Agency (PCWA) water demand rates were referenced for comparison with the generation rates used in this analysis since PCWA is the largest purveyor of raw and finished water in Placer County. Planning documents for the various analysis areas were referenced where available to develop and verify generation rates. In addition, the ongoing Roseville regional plant wastewater master planning effort was referenced since the City of Roseville is the largest manager of wastewater in Placer County. Table 5-6 summarizes the land use categories and the associated generation rates selected for use in this analysis.

Using the population estimates, as well as the commercial, office and industrial square footage projections for 2010 and 2040 (see Tables 2-3 to 2-8) with the previously-established generation rates, future wastewater generation volumes were projected for residential, commercial, office, and industrial dischargers.

**TABLE 5-6**  
**WASTEWATER GENERATION RATE FACTORS USED FOR ANALYSIS**  
**(Average Daily Dry Weather Flow)**

Land Use Designation	Unit	Generation Rate
Residential SFDU	gpd/DU	260
Residential - Tahoe Basin	gpd/DU	220
Residential - Other Tahoe & Summit	gpd/DU	130
Commercial	gpd/acre	1,040
Office	gpd/acre	1,040
Industrial	gpd/acre	1,560

Notes: gpd = gallons per day  
DU = Dwelling unit

For the Tahoe Basin, surrounding Tahoe region, and Summit analysis areas, reduced residential wastewater generation rates of 220 and 130 gpd/du were used to reflect the higher vacancy rates typical of these resort areas. For the remainder of the county, residential and non-residential generation rates comparable to the *Roseville Regional Wastewater Treatment Plant Master Plan* were selected. Calculated generation volumes for each of the analysis areas were compared with known record volumes from the community treatment facilities where available to calibrate the calculation method.

The wastewater analysis is based upon estimated populations for residential generation and upon square footage projections for estimated non-residential development generation for each analysis area. The analysis does not consider the influences and considerations that would affect the overall "water use-to-wastewater disposal cycle," such as reclaimed water use for irrigation or other policy goals; the result is a more conservative range of wastewater generation estimates (i.e., higher volumes than would be estimated with consideration of these factors).

Wastewater generation factors were used for determining total potential volumes for both community and individual onsite systems. The information summarized in the "Implications of the Land Use Diagram" section outlines existing and expected future wastewater generation. While wastewater generation rates may vary between communities or locations within the county, general countywide factors were used to simplify the analysis. Total wastewater generation estimates by analysis area have been used to estimate the general size of wastewater system improvements necessary to serve assumed development levels.

This analysis assumes that wastewater characteristics will remain relatively consistent for residential and non-residential generators throughout the time frame being analyzed (i.e., 2040). Although not considered for this analysis, peak flow rates and volumes would be required for adequate design level facilities sizing and would be considered part of the work to be performed at a project-specific planning level.

## **IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM**

The *General Plan Land Use Diagram* provides for significant growth of residential and non-residential (commercial, office and industrial) development in Placer County. Wastewater characteristics are expected to generally remain consistent with existing quality, although quantities of wastewater generated will increase as population and non-residential development increase. Wastewater treatment within Placer County analysis areas will, in the future, rely on both onsite systems and community facilities to manage varying flow quantities and wastewater strengths.

General concerns associated with use of individual (onsite) systems include the following:

- groundwater contamination issues
- geotechnical considerations
- system failures
- use density
- cumulative impacts
- drinking water protection
- public health issues
- environmental considerations
- septic sludge disposal

General concerns associated with the use of community wastewater systems include the following:

- point source discharge contamination
- cumulative impacts
- concentration of specific waste constituents
- public health issues
- environmental considerations
- appropriate technology application
- economics
- sewage sludge disposal
- air pollution

The use of onsite systems and community facilities will continue to be regulated by federal, state, and local codes and ordinances that are independent of the *General Plan*. Onsite systems must continue to comply with primary design considerations based on soils, health, and groundwater aspects.

Since some of the areas of the county currently employing onsite wastewater systems will experience failure, and some developments in rural and/or suburban areas will require community wastewater treatment systems, a percentage of this existing development will be required to shift to community wastewater facilities. It is also feasible that new onsite system technologies developed in the future may allow a higher percentage of new development to rely on onsite systems. The calculation of the percentage of these systems that will rely on new "alternative" onsite systems or conversion to community systems would be speculative and is, therefore, impractical for this analysis.

Community facilities must continue to comply with changing regulations that mandate technological upgrades to meet increasingly-stringent discharge requirements. Design and technological advancements will assist in improving the use of community facilities and will, thereby, reduce some of the detrimental impacts associated with their use. Commercial/industrial dischargers will continue to be required to employ pretreatment systems to assist in source reduction of contaminants being exported to community wastewater facilities.

The following pages summarize the impacts of development permitted under the *General Plan* by unincorporated analysis area. No analysis of systems serving incorporated areas is included since each city is responsible for addressing the impacts of development within its jurisdiction. For each of the analysis areas, the analysis reviews both onsite and community treatment systems and summarizes the specific impacts in terms of general facilities improvements or development necessary to serve development at 2010 and 2040. Tables 5-7 and 5-8 summarize estimated wastewater generation used for this analysis in millions of gallons per day (MGD) and year (MG/YR), respectively.

TABLE 5-7

WASTEWATER GENERATION ESTIMATES  
Unincorporated Placer County

1990, 2010, and 2040

Average Daily Flow in Millions of Gallons Per Day (MGD)

	1990			2010			1990 to 2010 Change			2040			1990 to 2040 Change		
	Onsite	Community	Total	Onsite	Community	Total	MGD	Percentage	MGD	Community	Total	MGD	Percentage	MGD	Percentage
<b>Tahoe Basin Total</b>	0.000	2.320	2.320	0.000	2.994	2.994	0.674	29.1%	0.000	3.046	3.046	0.726	31.3%	0.000	3.046
Alpine Meadows	0.000	0.060	0.060	0.000	0.064	0.064	0.004	6.8%	0.000	0.073	0.073	0.013	22.2%	0.000	0.073
Martis Valley	0.080	0.118	0.198	0.100	0.172	0.272	0.074	37.3%	0.100	0.245	0.345	0.147	74.2%	0.100	0.245
Squaw Valley	0.000	0.156	0.156	0.000	0.167	0.167	0.011	7.0%	0.000	0.159	0.159	0.003	1.7%	0.000	0.159
<b>Sierra Resorts Total</b>	0.080	0.334	0.414	0.100	0.403	0.503	0.089	21.4%	0.100	0.477	0.577	0.163	39.4%	0.100	0.477
Gold Run/Dutch Flat	0.103	0.040	0.143	0.122	0.034	0.156	0.013	9.1%	0.137	0.039	0.175	0.032	22.2%	0.137	0.039
Placer East	0.067	0.130	0.197	0.116	0.116	0.232	0.035	17.6%	0.137	0.137	0.274	0.077	39.1%	0.137	0.137
Summit	0.000	0.080	0.080	0.049	0.036	0.085	0.005	6.4%	0.057	0.041	0.098	0.018	22.6%	0.057	0.041
<b>Sierra Total</b>	0.170	0.250	0.420	0.287	0.186	0.473	0.053	12.6%	0.330	0.217	0.547	0.127	30.2%	0.330	0.217
Colfax Community Plan Area	0.276	0.000	0.276	0.332	0.037	0.368	0.092	33.3%	0.516	0.057	0.573	0.297	107.5%	0.516	0.057
Foreshill	0.536	0.038	0.573	0.716	0.030	0.746	0.173	30.2%	0.899	0.037	0.936	0.363	63.3%	0.899	0.037
Meadow Vista	0.393	0.000	0.393	0.470	0.052	0.523	0.129	32.9%	0.554	0.062	0.615	0.222	56.4%	0.554	0.062
Weimar/Applegate	0.423	0.031	0.454	0.543	0.060	0.603	0.150	33.0%	0.778	0.086	0.864	0.410	90.4%	0.778	0.086
<b>Lower Sierra Total</b>	1.628	0.069	1.697	2.061	0.179	2.241	0.544	32.1%	2.746	0.243	2.989	1.292	76.2%	2.746	0.243
Auburn/Bowman	0.541	1.804	2.344	1.266	2.570	3.835	1.491	63.6%	1.561	3.170	4.731	2.387	101.8%	1.561	3.170
Horseshoe/Pemryn	0.396	0.283	0.679	0.373	0.456	0.829	0.150	22.1%	0.451	0.551	1.002	0.322	47.5%	0.451	0.551
Newcastle/Ophir	0.395	0.065	0.460	0.392	0.168	0.561	0.101	21.9%	0.510	0.219	0.729	0.269	58.6%	0.510	0.219
<b>Auburn-Foothills Total</b>	1.332	2.152	3.483	2.031	3.194	5.225	1.742	50.0%	2.522	3.940	6.462	2.979	85.5%	2.522	3.940
Dry Creek/West Placer	0.123	0.045	0.168	0.742	0.742	1.485	1.317	782.8%	2.108	2.108	4.215	4.047	2406.3%	2.108	2.108
Granite Bay	0.124	1.305	1.429	0.433	1.731	2.163	0.734	51.4%	0.497	1.990	2.487	1.058	74.0%	0.497	1.990
Placer Central	0.450	0.063	0.513	0.552	0.432	0.985	0.471	91.9%	0.680	0.589	1.269	0.756	147.3%	0.680	0.589
Placer West	0.148	0.000	0.148	0.175	0.000	0.175	0.027	18.5%	0.212	0.000	0.212	0.064	43.5%	0.212	0.000
Sheridan	0.024	0.040	0.064	0.031	0.046	0.076	0.012	19.5%	0.036	0.054	0.091	0.027	41.7%	0.036	0.054
Sunset	0.000	0.360	0.360	0.000	1.004	1.004	0.644	178.6%	0.000	1.389	1.389	1.028	285.4%	0.000	1.389
<b>South Placer Total</b>	0.869	1.813	2.683	1.933	3.955	5.888	3.206	119.5%	3.534	6.129	9.663	6.980	260.2%	3.534	6.129
<b>Total Unincorporated</b>	4.079	6.937	11.017	6.413	10.912	17.325	6.308	57.3%	9.232	14.051	23.283	12.267	111.3%	9.232	14.051

TABLE 5-8

WASTEWATER GENERATION ESTIMATES  
 Unincorporated Placer County  
 1990, 2010, and 2040

Average Annual Flow Millions of Gallons Per Year (MG/YR)

	1990			2010			1990 to 2010 Change			2040			1990 to 2040 Change		
	Onsite	Community	Total	Onsite	Community	Total	MG/YR	Percentage	MG/YR	Percentage	MG/YR	Percentage	MG/YR	Percentage	
<b>Tahoe Basin Total</b>	0.0	846.8	846.8	0.0	1,093.0	1,093.0	246.2	29.1%	0.0	1,111.6	1,111.6	264.8	31.3%		
Alpine Meadows	0.0	21.9	21.9	0.0	23.4	23.4	1.5	6.8%	0.0	26.8	26.8	4.9	22.2%		
Martis Valley	29.2	43.1	72.3	36.5	62.7	99.2	26.9	37.3%	36.5	89.4	125.9	53.6	74.2%		
Squaw Valley	0.0	56.9	56.9	0.0	60.8	60.8	4.0	7.0%	0.0	57.9	57.9	1.0	1.7%		
<b>Sierra Resorts Total</b>	29.2	121.9	151.1	36.5	147.0	183.5	32.4	21.4%	36.5	174.1	210.6	59.5	39.4%		
Gold Run/Dutch Flat/Alta	37.7	14.6	52.3	44.5	12.6	57.1	4.8	9.1%	49.8	14.1	63.9	11.6	22.2%		
Placer East	24.5	47.5	71.9	42.3	42.3	84.5	12.6	17.6%	50.0	50.0	100.0	28.1	39.1%		
Summit	0.0	29.2	29.2	18.0	13.1	31.1	1.9	6.4%	20.8	15.0	35.8	6.6	22.6%		
<b>Sierra Total</b>	62.2	91.3	153.4	104.8	67.9	172.7	19.3	12.6%	120.6	79.1	199.7	46.3	30.2%		
Colfax CPA	100.9	0.0	100.9	121.0	13.4	134.5	33.6	33.3%	188.4	20.9	209.3	108.4	107.5%		
Foresthill	195.5	13.7	209.2	261.5	10.9	272.4	63.2	30.2%	328.0	13.7	341.6	132.5	63.3%		
Meadow Vista	143.5	0.0	143.5	171.7	19.1	190.8	47.2	32.9%	202.0	22.4	224.5	80.9	56.4%		
Weimar/Applegate/Clipper Gap	154.3	11.3	165.6	198.2	22.0	220.3	54.6	33.0%	283.9	31.5	315.4	149.8	90.4%		
<b>Lower Sierra Total</b>	594.2	25.0	619.2	752.4	65.4	817.8	198.6	32.1%	1,002.3	88.6	1,090.8	471.6	76.2%		
Auburn-Bowman	197.4	658.3	855.7	462.0	938.0	1,399.9	544.3	63.6%	569.9	1,157.1	1,727.0	871.3	101.8%		
Horseshoe Bar/Peurnyn	144.7	103.3	247.9	136.2	166.5	302.7	54.7	22.1%	164.5	201.1	365.6	117.7	47.5%		
Newcastle/Ophir	144.1	23.7	167.8	143.2	61.4	204.6	36.8	21.9%	186.3	79.8	266.1	98.3	58.6%		
<b>Auburn-Foothills Total</b>	486.1	785.3	1,271.4	741.4	1,165.8	1,907.2	635.8	50.0%	920.7	1,438.0	2,358.7	1,087.3	85.5%		
Dry Creek	45.0	16.4	61.4	271.0	271.0	541.9	480.5	782.8%	769.3	769.3	1,538.6	1,477.3	2406.3%		
Granite Bay	45.3	476.3	521.7	157.9	631.7	789.6	267.9	51.4%	181.6	726.3	907.9	386.2	74.0%		
Placer Central	164.3	23.0	187.3	201.5	157.8	359.4	172.1	91.9%	248.2	214.9	463.1	275.8	147.3%		
Placer West	53.9	0.0	53.9	63.9	0.0	63.9	10.0	18.5%	77.4	0.0	77.4	23.4	43.5%		
Sheridan	8.8	14.6	23.4	11.2	16.7	27.9	4.5	19.5%	13.2	19.9	33.1	9.8	41.7%		
Sunset	0.0	131.5	131.5	0.0	366.5	366.5	235.0	178.6%	0.0	506.9	506.9	375.4	285.4%		
<b>South Placer Total</b>	317.3	661.9	979.2	705.5	1,443.8	2,149.2	1,170.0	119.5%	1,289.8	2,237.3	3,527.0	2,547.9	260.2%		
<b>Total Unincorporated</b>	1,489.0	2,532.2	4,021.1	2,340.6	3,982.8	6,323.4	2,302.3	57.3%	3,369.8	5,128.6	8,498.5	4,477.4	111.3%		

## Tahoe Basin

The implications of the *General Plan Land Use Diagram* and population projections in the Tahoe Basin indicate a slight, but significant, increase in wastewater generation volumes within the area. Total wastewater generation is estimated to increase 29 percent by 2010 and 31 percent by 2040.

**Onsite Facilities:** With very few exceptions, individual onsite wastewater collection, treatment, and disposal facilities are prohibited in the Tahoe Basin, primarily in the interest of protecting the water quality of the lake. This policy is enforced in accordance with the Porter-Cologne Water Quality Control Act. It is highly unlikely that regulatory directives will be modified to allow significant use of onsite facilities for future development.

**Community Facilities:** The Tahoe Basin analysis area is, by regulatory mandate, entirely sewered with collected wastewaters being conveyed through a system of gravity and force mains to the Tahoe-Truckee Sanitation Agency (T-TSA) wastewater treatment and disposal facilities located in the Martis Valley in nearby Nevada County. There are two State-permitted public (collection) systems serving the portion of the Tahoe Basin analysis area located in Placer County (northwestern lake). The two community collection facilities are the North Tahoe PUD and Tahoe City PUD. Specific detailed information on the community wastewater systems serving the Tahoe Basin analysis area are described in the *Background Report*.

During the 1990 base year period, the North Tahoe PUD reported an average daily flow of 0.95 MGD whereas Tahoe City PUD reported an average daily flow of 1.08 MGD for a total average daily flow of 2.03 MGD. The estimated 2010 average daily wastewater generation volume for the Tahoe Basin analysis area is 3.00 MGD and the estimated 2040 average daily wastewater generation volume is 3.05 MGD by the end of the 2040 planning period.

The total capacity of North Tahoe PUD collection facilities is currently designed to accommodate a flow of 11.0 MGD and the Tahoe City PUD collection system has a design capacity of between 3 and 6 MGD. The main interceptor pipeline that parallels the Truckee River to the T-TSA WWTP has an estimated capacity of 7.4 MGD which is shared by the overall treatment and disposal system capacity at T-TSA. The facilities at T-TSA are designed to accommodate an average daily flow of about 2.5 MGD from Placer County.

**Specific Implications of the Land Use Diagram:** Wastewater generation and disposal impacts associated with the implementation of the *Land Use Diagram* for 2010 and 2040 specifically associated with the Tahoe Basin analysis area are expected to be minimized by the requirements of mandatory sewerage for all residential and non-residential wastewater generators. New collection system tributary lines, trunk mains and sewage lift stations may be required to accommodate the increased flow.

The T-TSA treatment plant and main interceptor line have sufficient capacity to accommodate the projected 2010 and 2040 growth in the Tahoe Basin analysis area.

## Alpine Meadows

The implications of future development estimated under the *General Plan Land Use Diagram* on the Alpine Meadows analysis area indicate a slight increase in wastewater generation volumes within the analysis area. Tables 5-7 and 5-8 indicate that a 7 percent increase in total wastewater generation would occur by 2010 and a 22 percent increase by 2040.

**Onsite Facilities:** Onsite individual wastewater collection, treatment and disposal facilities are prohibited in the Alpine Meadows analysis area where drainage is toward the Truckee River primarily in the interest of protecting the water quality of the river. This policy is enforced in accordance with the California Regional Water Quality Control Board's *North Lahontan Basin Plan*. It is highly unlikely that regulatory directives will be modified to allow the use of onsite facilities for future development.

**Community Facilities:** The Alpine Meadows analysis area is by regulatory mandate entirely sewered with collected wastewaters being conveyed through a system of gravity and force mains to the Tahoe-Truckee Sanitation Agency (T-TSA) wastewater treatment and disposal facilities located in nearby Nevada County in the Martis Valley. The facilities at T-TSA are designed to accommodate an average daily flow of about 2.5 MGD from Placer County. There is only one State-permitted public (community) system serving this analysis area; the Alpine Springs County Water District. Specific detailed information on this community wastewater facility is available in the *Background Report*.

**Specific Implications of the Land Use Diagram:** Wastewater generation and disposal impacts associated with the implementation of the *Land Use Diagram* for 2010 and 2040 are expected to be minimized by the requirements of mandatory sewerage for all residential and non-residential wastewater generators. New collection system tributary lines, trunk mains and sewage lift stations may be required to accommodate the increased flow.

The T-TSA treatment plant and interceptor line have sufficient capacity to accommodate the projected 2010 and 2040 growth in the Alpine Meadows analysis area.

### **Martis Valley**

The *General Plan Land Use Diagram* and population projections for the Martis Valley analysis area indicate an increase in wastewater generation volumes within the analysis area. The wastewater generation estimate tables indicate that a 46 percent community wastewater generation would occur by 2010, and a 108 percent increase would occur by 2040.

**Onsite Facilities:** Onsite individual wastewater collection, treatment, and disposal facilities are permitted in the Martis Valley analysis area only under exceptional circumstances. There are several existing subdivisions that rely on onsite systems.

**Community Facilities:** The Martis Valley analysis area is sewered and collected wastewaters are conveyed through a system of gravity and force mains to the Tahoe-Truckee Sanitation Agency (T-TSA) wastewater treatment and disposal facilities located in the Nevada County part of Martis Valley. There are three State-permitted public (community) systems available to serve this analysis area: the Northstar Community Services District, Truckee Sanitary District, and the Tahoe-Truckee Sanitation Agency. Currently the Northstar CSD conveys the majority of flow. Specific detailed information on these community wastewater facilities is available in the *Background Report*.

During 1990, the Northstar CSD reported an average daily flow of 0.13 gpd to the T-TSA Truckee River interceptor force main which conveys this flow to the T-TSA treatment facility. Tables 5-7 and 5-8 indicate the estimated average daily wastewater generation volume (in MGD) for the Martis Valley analysis area is 0.17 for 2010 and 0.25 for 2040.

Total facilities capacity at T-TSA is designed to accommodate the estimated future average daily flow from the Martis Valley analysis area. Some improvements will be required to the local collection system

to support the expected growth at 2010. In particular the new subdivisions proposed for the Martis Valley area will require new collection system components and connection to the existing collection system.

**Specific Implications of the Land Use Diagram:** Wastewater generation and disposal impacts associated with the implementation of the *Land Use Diagram* for 2010 and 2040 specifically associated with the Martis Valley analysis area are expected to be minimal because the majority of development will be required to rely on community facilities for residential and non-residential wastewater services. New collection system tributary lines, trunk mains and sewage lift stations may be required to accommodate the increased flow.

The T-TSA treatment plant has sufficient capacity to accommodate the projected 2010 and 2040 growth in the Martis Valley analysis area.

### Squaw Valley

Development expected under the *General Plan Land Use Diagram* in the Squaw Valley analysis area will result in an increase in wastewater generation volumes, with a 7 percent increase in community wastewater generation in 2010 and a 2 percent increase by 2040.

**Onsite Facilities:** Onsite individual wastewater collection, treatment and disposal facilities are prohibited in the Squaw Valley analysis area. This policy is enforced in accordance with the California Regional Water Quality Control Board's *North Lahontan Basin Plan*. It is highly unlikely that regulatory directives will be modified to allow the use of onsite facilities for future development.

**Community Facilities:** The Squaw Valley analysis area is, by regulatory mandate entirely sewered, and collected wastewaters are conveyed through a system of gravity and force mains to the Tahoe-Truckee Sanitation Agency (T-TSA) wastewater treatment and disposal facilities located in nearby Nevada County in the Martis Valley. There is only one State-permitted public (community) wastewater system serving this analysis area: the Squaw Valley County Water District. Specific detailed information on this community wastewater facility is available in the *Background Report*.

During the 1990 season the Squaw Valley CWD reported an average daily flow of 170,000 gpd to the T-TSA Truckee River interceptor force main which conveys this flow to the T-TSA treatment facility. Tables 5-7 and 5-8 indicate the estimated 1990 average daily wastewater generation volume for the Squaw Valley analysis area is 0.16 MGD and the estimated flow for 2010 is 0.17 MGD. This results in an estimated 6 percent increase in total flow for the analysis area. The estimated 2040 generation volume is projected at 0.16 MGD; it is higher than the 2010 estimate because of an assumed trend toward smaller household sizes.

The facilities at T-TSA are designed to accommodate the expected future average daily flow of about 2.5 MGD from the Placer County analysis areas.

**Specific Implications of the Land Use Diagram:** Wastewater generation and disposal impacts associated with the implementation of the *Land Use Diagram* for 2010 and 2040 specifically associated with the Squaw Valley analysis area are expected to be minimized by the requirements of mandatory sewerage for all residential and non-residential wastewater generators. New collection system tributary lines, trunk mains and sewage lift stations may be required to accommodate the increased flow.

The T-TSA treatment plant and interceptor line have sufficient capacity to accommodate the projected 2010 and 2040 growth in the Squaw Valley analysis area. Because the T-TSA interceptor which conveys wastewater from the Squaw Valley CWD is adequately sized, there should be no mainline collection system capacity problems experienced in conveying wastewater to the T-TSA treatment facilities.

### **Gold Run/Dutch Flat/Alta**

Development assumed under the *General Plan Land Use Diagram* for the Gold Run/Dutch Flat/Alta analysis area will result in a mild increase in wastewater generation volumes. Tables 5-7 and 5-8 show that a 9 percent increase in total wastewater generation would occur by 2010 and a 22 percent increase would occur by 2040.

**Onsite Facilities:** Onsite individual wastewater collection, treatment and disposal facilities are currently extensively used in the Gold Run/Dutch Flat/Alta analysis area. This reliance upon onsite wastewater systems is likely to remain a practical option for this area. It is highly unlikely that regulatory directives will be modified to eliminate the use of onsite facilities for future development.

**Community Facilities:** Currently the Gold Run/Dutch Flat/Alta analysis area is mostly served by onsite wastewater systems with only one permitted community facility. The one State-permitted public (community) wastewater system serving this analysis area serves the Caltrans rest-stop at Gold Run. It is not likely that additional capacity could be developed using this facility to serve the surrounding areas, so this facility is not considered available for providing future development capacity. Specific detailed information on this community wastewater facility is available in the *Background Report*.

Table 5-7 indicates the estimated 1990 average daily wastewater generation volume for the Gold Run/Dutch Flat/Alta analysis area as 0.14 MGD. The estimated 2010 generation volume for the Gold Run/Dutch Flat/Alta analysis area is 0.16 MGD. This results in an estimated 9 percent increase in flow for the analysis area.

**Specific Implications of the Land Use Diagram:** The primary wastewater generation and disposal impacts associated with development under the *Land Use Diagram* for 2010 are expected to be associated with the use of onsite disposal systems (i.e., groundwater issues, system failures, density). New community wastewater facilities may be required to serve higher density residential, commercial, office and light industrial development in this analysis area. Use of onsite systems in this analysis area will require careful evaluation on a case-by-case basis, particularly since some parts of the area have unsuitable soils and elevated groundwater.

It is expected that management of wastewater using onsite systems in this analysis area will rely on standard and alternative design methods, and that management of community wastewater flows will be restricted such that small isolated facilities will be employed. Development relying on these systems and facilities is likely to be managed and funded by private entities.

### **Placer East**

Development in the Placer East area under the *General Plan Land Use Diagram* will result in an 18 percent increase in wastewater generation volumes in 2010 and a 39 percent increase in 2040 (see Tables 5-7 and 5-8).

**Onsite Facilities:** Onsite individual wastewater collection, treatment and disposal facilities are currently extensively used in most parts of the Placer East analysis area. The exception is the area within the Truckee River Watershed and upstream of the Boca Reservoir; these areas are under the jurisdiction of the Lahontan Regional Water Quality Control Board, which prohibits the use of onsite systems, with limited exceptions. This predominant reliance on onsite wastewater systems is likely to remain a practical option for this area through 2040. It is highly unlikely that regulatory directives will be modified to eliminate the use of onsite facilities for future development.

**Community Facilities:** Currently the Placer East analysis area is served about equally by onsite wastewater systems and permitted community systems. There are five permitted community facilities serving this analysis area. There are six State-permitted public (community) wastewater system serving this analysis area: Caltrans - Whitmore Rest Stop; Placer County Service Area No. 23 - Blue Canyon; Naco West - Emigrant Gap; and the Tahoe-Truckee Sanitation Agency.

The first five existing community systems are considered small or isolated facilities and should, therefore, not be considered for providing future development capacity. It is not likely that additional capacity would be developed using these five facilities to serve the surrounding areas. The sixth system, the Tahoe-Truckee Sanitation Agency, covers a portion of the area east of the Sierra divide within its service area and has some capacity for additional connections. Specific detailed information on this community wastewater facility is available in the *Background Report*.

**Specific Implications of the Land Use Diagram:** Wastewater generation and disposal impacts associated with the implementation of the *Land Use Diagram* for 2040 specifically associated with the Placer East analysis area are expected to be associated both with the use of onsite disposal systems (i.e., groundwater issues, system failures, density) and community wastewater systems (i.e., point source discharge contamination). New community wastewater facilities will be required to serve higher density residential, commercial, office and light industrial development in this analysis area. Use of onsite systems in this analysis area will require careful evaluation on a case-by-case basis because of the presence of unsuitable soils and elevated groundwater.

It is expected that management of wastewater using onsite systems in this analysis area will rely on both standard and alternative design methods, and that management of community wastewater flows will be restricted such that small isolated facilities will be employed. Development relying on these systems and facilities is likely to be typically managed and funded by private entities.

Except under rare circumstances, new development in the Tahoe and Truckee River watersheds will not be allowed to manage wastewater through the use of onsite systems, but it is expected that adequate service capacity will be available at the T-TSA facility or another new community facility.

## **Summit**

Development estimated for the Summit analysis area under the *General Plan Land Use Diagram* will result in an increase in wastewater generation volumes. Most of this growth is expected to occur in the existing Serene Lakes subdivision.

**Onsite Facilities:** Onsite individual wastewater collection, treatment, and disposal facilities are currently allowed on isolated parcels in the Summit analysis area. It is likely that this limited use will continue in the long term and unlikely that regulatory directives will be modified to ban the use of onsite facilities.

Tables 5-7 and 5-8 indicate that the estimated 2010 wastewater generation volume expected to be managed by onsite system is negligible.

**Community Facilities:** The Summit analysis area is currently served by two State-permitted public (community) wastewater facilities: the Sierra Lakes County Water District, which conveys collected wastewater from the Serene Lakes subdivision to the Donner Summit PUD treatment plant, and the Rainco Incorporated - Cisco Grove facility which serves a small private commercial area. During 1990, the Summit community wastewater facilities reported an average daily dry weather flow of 85,000 gpd.

Because the Sierra Lakes CWD collection system is designed to serve full buildout of the subdivision, and the Rainco-Cisco Grove system is an isolated system serving a specific area, it is unlikely that these systems will be available to serve other new development. These two systems should, therefore, not be considered for providing capacity for extensive future development. Specific detailed information on these community wastewater facilities is available in the *Background Report*.

Table 5-7 indicates the estimated 1990 average daily wastewater generation volume for the Summit analysis area is 0.08 MGD. The estimated 2010 generation volume for the Summit analysis area is 0.09. This results in an estimated 6 percent increase in flow for the analysis area by 2010.

**Specific Implications of the Land Use Diagram:** Wastewater generation and disposal demand resulting from development in the Summit area under the *Land Use Diagram* for 2010 and 2040 is expected to be treated by both onsite and community facilities for all residential and non-residential wastewater generators. New collection system tributary lines, trunk mains, sewage lift stations, treatment plant and disposal systems may be required to accommodate the increased flow. It is expected that most of the population growth in this area will occur in the Serene Lakes subdivision which is served by the Sierra Lakes County Water District which has sufficient collection system capacity for full buildout. Increased capacity at the Donner Summit PUD WWTP facility (in Nevada County) which treats and disposes of Sierra Lakes CWD flows will be required.

### **Colfax Analysis Area**

Development in the Colfax area under the *General Plan Land Use Diagram* is expected to result in a significant increase in wastewater generation volumes which coincides with the projected 35.1 percent increase in population by 2010. Tables 5-7 and 5-8 show that an estimated 33 percent increase in total wastewater generation is expected in this area by 2010, with an increase of 108 percent by 2040.

**Onsite Facilities:** Onsite individual wastewater collection, treatment and disposal facilities are currently allowed in the Colfax analysis area. It is unlikely that regulatory directives will be modified to ban the use of onsite facilities for future development within this analysis area. Tables 5-7 and 5-8 indicate that the estimated 2010 wastewater generation volume expected to be managed by onsite systems is 0.33 MGD and that the estimated 2040 wastewater generation volume expected to be managed by onsite systems is 0.52 MGD. As Tables 5-7 and 5-8 indicate, it has been assumed that a part ( $\pm$  10 percent) of future generation will be managed by new or existing adjacent community facilities.

**Community Facilities:** The Colfax analysis area is currently not served by any State-permitted public (community) wastewater facilities. As noted above, however, this analysis assumes that some future wastewater generated in the area will be treated either by new community systems or by nearby community systems outside of the area.

**Specific Implications of the Land Use Diagram:** Wastewater generation and disposal demand resulting from development in the Colfax analysis area is expected to be served primarily by onsite systems. It is assumed that a small percentage of higher density growth will occur and that wastewater from this development will require new community facilities or hook-up to adjacent existing facilities. New onsite systems, collection system tributary lines, trunk mains, sewage lift stations, treatment plants and disposal systems will be required to accommodate the substantially increased flow within this analysis area.

It is expected that management of wastewater using onsite systems in this analysis area will rely on standard and alternative design methods, and that management of community wastewater flows will be restricted such that small isolated facilities will be employed. Development relying on these systems and facilities is likely to be managed and funded by private entities.

### **Foresthill**

Development in the Foresthill area under the *General Plan Land Use Diagram* could result in an increase in wastewater generation volumes that coincides with the expected steady increase in population expected.

Tables 5-7 and 5-8 indicate that a 30 percent increase in wastewater generation could occur by 2010, with a 63 percent increase by 2040.

**Onsite Facilities:** Onsite individual wastewater collection, treatment, and disposal facilities are currently extensively used in the Foresthill analysis area. This reliance on onsite wastewater systems is likely to remain a practical option for this area. It is highly unlikely that regulatory directives will be modified to eliminate the use of onsite facilities for future development.

**Community Facilities:** The Foresthill analysis area is currently served mainly by onsite wastewater systems and on a very limited basis by permitted community systems. There is only one State-permitted community facility serving this analysis area: the Sky View Terrace MHP WWTP, which is a small, isolated facility that should not be considered available for providing future development capacity. It is not likely that additional capacity would be developed using this facility to serve the surrounding areas. Specific detailed information on this community wastewater facility is available in the *Background Report*.

**Specific Implications of the Land Use Diagram:** The Foresthill analysis area will continue to rely mainly on the use of onsite wastewater systems, especially in the outlying areas. Use of community systems is expected to remain viable only in higher density residential and non-residential areas.

Problems associated with development under the *Land Use Diagram* are expected to be related to the use of onsite disposal systems (i.e., groundwater issues, system failures, density). Use of both standard and alternative onsite systems is expected. New community wastewater facilities may also be required to serve higher density residential, commercial, office and light industrial development in this analysis area. Use of onsite systems will require careful case-by-case evaluation due to the presence of unsuitable soils.

### **Meadow Vista**

Increased wastewater demand resulting from development in the Meadow Vista area under the *General Plan Land Use Diagram* is expected to be moderate (33 percent in 2010 and 56 percent in 2040). A large percentage of the expected increase in wastewater generation will be managed by onsite wastewater systems.

**Onsite Facilities:** Onsite individual wastewater collection, treatment, and disposal facilities are currently extensively used in the Meadow Vista analysis area. This reliance upon onsite wastewater systems is likely to remain a practical option for this area. It is unlikely that regulatory directives will be modified to eliminate the use of onsite facilities for future development. Elevated groundwater levels are, however, a concern in downtown Meadow Vista.

**Community Facilities:** Currently the Meadow Vista analysis area is not served by any State-permitted community wastewater facilities.

**Specific Implications of the Land Use Diagram:** Wastewater problems associated with development under the *Land Use Diagram* are expected to be mainly associated with the use of onsite disposal systems (i.e., groundwater issues, system failures, density). Use of community wastewater systems may be employed in areas of higher developmental density.

Use of onsite systems in this analysis area will require careful evaluation on a case-by-case basis due to the presence of unsuitable soils and elevated groundwater in some areas, particularly in downtown Meadow Vista.

### **Weimar/Applegate/Clipper Gap**

The *General Plan Land Use Diagram* for the Weimar/Applegate/Clipper Gap analysis area could result in a moderate increase in wastewater generation volumes. Table 5-7 indicates that a 33 percent increase in total wastewater generation volume is projected to occur within this analysis area by 2010. By 2040, the rate is expected to be approximately 90 percent higher than in 1990.

**Onsite Facilities:** Onsite individual wastewater collection, treatment, and disposal facilities are currently extensively used in the Weimar/Applegate/Clipper Gap analysis area. This reliance upon onsite wastewater systems is likely to remain a practical option for this area. It is unlikely that regulatory directives will be modified to eliminate the use of onsite facilities for future development.

**Community Facilities:** Currently the Weimar/Applegate/Clipper Gap analysis area is served mainly by onsite wastewater systems. There are only three RWQCB-permitted community wastewater facilities serving this analysis area: the Weimar Institute System, Heather Glen CSD, and the Placer County Service Area No. 24 - Applegate facility. All three of these community systems are, for the purposes of this report, considered small or isolated facilities providing limited service and are not considered appropriate for accommodating significant future development.

**Specific Implications of the Land Use Diagram:** Impacts from wastewater generation resulting from development under the *Land Use Diagram* at 2010 and 2040 are expected to mainly be identified with the use of onsite wastewater systems. General concerns associated with use of individual (onsite) systems include groundwater contamination, system failure, use density, cumulative impacts, drinking water protection, and septic sludge disposal. Use of onsite systems will require careful case-by-case evaluation due to some existing areas within this analysis area having unsuitable soils and/or elevated groundwater.

New community wastewater facilities may be required to serve higher-density residential, commercial, office, and light industrial development in this analysis area. General concerns associated with the use of community wastewater systems include point source discharge contamination, cumulative impacts, concentration of specific waste constituents, and environmental issues, sludge disposal, and odors.

## Auburn-Bowman

Development permitted under the *General Plan Land Use Diagram* in the Auburn-Bowman analysis area could result in an increase in wastewater generation volumes coinciding with an expected approximate doubling of population and large increases in non-residential development. The 2010 and 2040 wastewater generation tables indicate that a 64 percent increase in total wastewater generation volume is projected to occur by 2010 and a 102 percent increase is expected by 2040.

**Onsite Facilities:** Onsite individual wastewater collection, treatment, and disposal facilities are currently used in the Auburn-Bowman analysis area. Despite problems in isolated areas, use of onsite wastewater systems is likely to remain a practical option for this area. The tabulated calculations show that approximately one-third of total wastewater generated in the Auburn-Bowman analysis area would be managed by onsite systems by both 2010 and 2040.

**Community Facilities:** The Auburn-Bowman analysis area is currently served mainly by community wastewater facilities. There are only two RWQCB-permitted community wastewater facilities serving this analysis area. The two facilities are the CCC-Placer Energy Center and the Placer County Sewer Maintenance District No. 1.

The CCC-Placer Energy Center, is a small, isolated facility providing limited service that is unsuitable for providing future development capacity. Specific detailed information on this community wastewater facility is available in the *Background Report*.

The Placer County SMD No. 1 facility treated an average daily flow of about 1.8 MGD during 1990. Although this facility is currently at design capacity, it could be expanded to provide future development capacity.

Tables 5-7 and 5-8 indicate that approximately one-third of total wastewater generated in the Auburn-Bowman area is expected to be managed by community wastewater facilities by both 2010 and 2040.

**Specific Implications of the Land Use Diagram:** Problems associated with wastewater generation resulting from development under the *Land Use Diagram* for 2010 and 2040 will result from the use of community wastewater systems rather than onsite systems. Although community facilities will play a major role (67 percent), onsite systems will manage an estimated 33 percent of the wastewater generated in this analysis area at 2010 and 2040, respectively. Use of onsite systems in this analysis area, especially for new development, will however still require careful case-by-case evaluation due to some existing areas having unsuitable soils and/or elevated groundwater.

New community wastewater facilities will be required to serve higher density residential, commercial, office, and light industrial development in this analysis area.

It is expected that increases in wastewater generation within this analysis area associated with development during by 2010 will be handled by an expansion of the existing community facilities. Additional wastewater impacts associated with growth in this analysis area are addressed in the *Auburn/Bowman Community Plan and EIR*.

### **Horseshoe Bar/Penryn**

Development under the *General Plan Land Use Diagram* in the Horseshoe Bar/Penryn area will result in a moderate increase in wastewater generation volumes, with a 22 percent increase by 2010 and a 48 percent increase by 2040.

**Onsite Facilities:** Onsite individual wastewater collection, treatment, and disposal facilities are currently used more often than community systems in the Horseshoe Bar/Penryn analysis area. This reliance upon onsite wastewater systems is likely to remain an option for this area. The tabulated calculations indicate approximately 45 percent of total wastewater generated in the Horseshoe Bar/Penryn analysis area would be managed by onsite systems in 2010 and 2040.

**Community Facilities:** There are only two RWQCB-permitted community wastewater facilities serving this analysis area: the South Placer Municipal Utility District - Penryn, and the Placer County Department of Public Works Sewer Maintenance District No. 3.

The South Placer Municipal Utility District - Penryn managed an average daily flow of approximately 213,000 gpd in 1990 and the Placer County Department of Public Works Sewer Maintenance District No. 3 managed about 70,000 gpd. Both of these systems are capable of expansion to provide for future development capacity. Specific detailed information on these community wastewater facilities is available in the *Background Report*.

The South Placer MUD (at Penryn) transports wastewater to Roseville for treatment at the Regional plant; this process is considered viable for development at both 2010 and 2040.

**Specific Implications of the Land Use Diagram:** Impacts from wastewater generation associated with implementation of the *Land Use Diagram* for 2010 and 2040 are expected to result from both onsite wastewater systems and community facilities. Use of onsite systems in this analysis area, especially for new development, will require careful case-by-case evaluation due to the presence of elevated groundwater and the consequent potential effects on groundwater and surface water quality.

Connection to new or existing community wastewater facilities will be required to serve higher-density residential, commercial, office, and light industrial development in this analysis area, especially in areas with elevated groundwater.

### **Newcastle/Ophir**

Development estimates for the Newcastle/Ophir analysis area indicate a moderate increase in wastewater generation volumes, with increases of 22 percent by 2010 and 59 percent by 2040.

**Onsite Facilities:** Onsite systems are currently extensively used in the Newcastle/Ophir analysis area, and they are likely to remain a practical option for large lot residential development this area. It is estimated that approximately 70 percent of total wastewater generated in the Newcastle/Ophir analysis area will be managed by onsite systems in 2010 and 2040.

**Community Facilities:** The Newcastle/Ophir analysis area is served mainly by onsite wastewater systems. There are only two RWQCB-permitted community wastewater facilities serving this analysis area: the Castle City Mobile Home Park facility, which managed an average daily flow of approximately 17,000 gpd, and the Newcastle Sanitary District, which managed about 48,000 gpd of average daily flow in 1990.

## Granite Bay

Development in accordance with the *General Plan Land Use Diagram* for the Granite Bay analysis area will result in an increase in wastewater generation volumes of 51 percent by 2010 and 74 percent by 2040.

**Onsite Facilities:** Onsite individual wastewater collection, treatment, and disposal facilities are currently employed on a limited basis in the Granite Bay analysis area. This use of onsite wastewater systems is likely to remain a restricted option for this area due to the planned density of development, as well as the presence of shallow soils and elevated groundwater.

**Community Facilities:** The Granite Bay analysis area is currently served mainly by community wastewater facilities. There are two RWQCB-permitted community wastewater facilities serving this analysis area: the State Department of Parks and Recreation - Granite Bay Facility and the Placer County Sewer Maintenance District No. 2 collection system.

The State Parks and Recreation facility managed an average daily flow of about 5,000 gpd during 1990. Because it is small and isolated and provides limited service, this facility will not be available for service to future development.

The Placer County Sewer Maintenance District No. 2 collection system conveyed an average daily flow of 1.3 MGD to the Roseville Regional WWTP facility in 1990. Additional capacity can be developed by expansion of the Placer County SMD facility and the Roseville Regional Plant to serve the surrounding analysis areas. Specific detailed information on this community wastewater facility is available in the *Background Report*.

**Specific Implications of the Land Use Diagram:** Wastewater generation resulting from future development in the Granite Bay area is expected to be accommodated through the use of both onsite and community wastewater facilities. Use of onsite systems in this analysis area will be restricted to large-lot residential development and will require careful case-by-case evaluation due to the presence of unsuitable soils and/or elevated groundwater. Higher density development will require service by the County Sewer Maintenance District No. 2.

## Placer Central

Development in the Placer Central area under the *General Plan Land Use Diagram* will result in an increase in wastewater generation volumes of 92 percent by 2010 and a 147 percent by 2040.

**Onsite Facilities:** Onsite individual wastewater collection, treatment and disposal facilities are currently extensively used in the Placer Central analysis area. Reliance on onsite wastewater systems is likely to remain a practical option for this area since it is expected that there will be limited community facility capacity available. Most development for the analysis area is expected to be residential. It is unlikely that regulatory directives will be modified to eliminate the use of onsite facilities for future development.

**Community Facilities:** The Placer Central analysis area is served mainly by onsite wastewater systems rather than community wastewater facilities. There are only two RWQCB-permitted community wastewater facilities serving this analysis area: the South Sutter - Camp Far West facility and the Auburn Valley Services Corporation. Although neither of these facilities is currently operating at design capacity, they are too small and isolated to be relied upon to serve future development outside their current service

areas. Specific detailed information on these community wastewater facilities is available in the *Background Report*.

The Bickford Ranch project, which is in the Placer Central analysis area, is planned to be served by community wastewater facilities. Wastewater generated by Bickford Ranch is expected to be conveyed to a Regional WWTP. There is currently no RWQCB-permitted community wastewater facility located within the planned boundary or nearby the proposed community which could easily serve the expected volume of wastewater generated by this analysis area.

**Specific Implications of the Land Use Diagram:** Future development in the Placer Central area at both 2010 and 2040 will rely mainly on onsite wastewater systems. Use of onsite systems in this analysis area, especially for new development, will require careful case-by-case evaluation due to the presence of unsuitable soils and/or elevated groundwater. New community wastewater facilities would be required to serve higher-density development, including the Bickford Ranch project.

### Placer West

Development in the Placer West area under the *General Plan Land Use Diagram* will result in a minor increase in wastewater generation volumes, with a 19 percent by 2010 and a 42 percent increase by 2040.

**Onsite Facilities:** Onsite individual wastewater collection, treatment and disposal facilities are currently extensively used in the Placer West analysis area. This reliance upon onsite wastewater systems is likely to continue since there will be a limited increase in population and virtually no increase in non-residential development.

**Community Facilities:** Currently the Placer West analysis area is served by onsite wastewater systems rather than community wastewater facilities. There are no RWQCB-permitted community wastewater facilities serving this analysis area.

**Specific Implications of the Land Use Diagram:** Future development in the Placer West area at both 2010 and 2040 will rely on onsite wastewater systems. Use of onsite systems in this analysis area, especially for new development, will require careful case-by-case evaluation due to the presence of unsuitable soils and/or elevated groundwater. New community wastewater facilities would be required to serve higher-density development if it should occur.

### Sheridan

A 20 percent increase in wastewater generation volumes is projected for the Sheridan analysis area by 2010 and a 42 percent increase is projected by 2040.

**Onsite Facilities:** Onsite individual wastewater collection, treatment, and disposal facilities are currently employed to manage approximately the same volume of wastewater as is managed using community facilities. Use of onsite wastewater systems is likely to remain a practical option for larger parcels.

**Community Facilities:** The Sheridan analysis area is served by one RWQCB-permitted community wastewater facility: the Placer County Service Area No. 28 - Sheridan WWTP, which is currently operating at capacity. Specific detailed information on this community wastewater facility is available in the *Background Report*.

**Specific Implications of the Land Use Diagram:** Future development in the Sheridan area at both 2010 and 2040 will rely on onsite wastewater systems, since the community system serving the area has reached capacity. Use of onsite systems in this analysis area, especially for new development, will require careful case-by-case evaluation due to the presence of unsuitable soils and/or elevated groundwater. New community wastewater facilities would be required to serve higher-density development if it should occur.

### **Sunset**

The *General Plan Land Use Diagram* designates a significant amount of land in the Sunset area for commercial, office, and industrial uses and very little land for residential development. The amount of development estimated to occur in this area by 2010 and 2040 will result in increases in wastewater generation of 178 percent and 285 percent, respectively.

**Onsite Facilities:** New onsite individual wastewater collection, treatment, and disposal facilities are currently not allowed in the Sunset analysis area, so any use of onsite wastewater systems is likely to remain a very limited option for this area.

**Community Facilities:** Wastewater generated in the Sunset analysis area is conveyed through the established collection system to the Roseville Regional WWTP. There is no RWQCB-permitted community wastewater facility located within the analysis area boundary.

Since the Roseville Regional WWTP is expected to manage extensive volumes of wastewater from the City of Roseville and other areas, including the Sunset analysis area, the regional plant, or another community facility is the logical choice to manage expected increases in wastewater generated as a result of growth. Specific detailed information on the Roseville WWTP is available in the *Background Report*.

**Specific Implications of the Land Use Diagram:** Future wastewater generation resulting from development in the Sunset area at both 2010 and 2040 will be treated with community wastewater facilities. Use of onsite systems in the area, especially for new development, will be severely restricted due to density and wastewater strength considerations associated with planned development.

## **GENERAL PLAN POLICY RESPONSE**

The *Countywide General Plan* includes several policies and programs related to wastewater collection, treatment, and disposal that are intended to protect public health and water quality. Where community wastewater facilities are employed, point source discharges are of concern and, where onsite systems are used, cumulative effects on groundwater and system failures are of concern. Wastewater discharges must be carefully regulated due to their potential for elevated levels of health related biological (viruses and bacteria), organic (pesticides, herbicides, solvents) and inorganic (metals and salts) contaminants. Implementation of suitable regulatory policy and development of modern facilities employing appropriate technology will protect public and environmental health from these problems. The following policies and programs from the *Countywide General Plan* pursue these objectives:

### *Policies*

- 4.D.1. *The County shall limit the expansion of urban communities to areas where community wastewater treatment systems can be provided.*

- 4.D.2. *The County shall require proponents of new development within a sewer service area to provide written certification from the service provider that either existing services are available or needed improvements will be made prior to occupancy.*
- 4.D.3. *The County shall discourage extension of sewer service outside of city spheres of influence and community plan areas, except in limited circumstances to resolve a public health hazard resulting from existing development, or where there is a substantial overriding public benefit.*
- 4.D.4. *The County shall promote efficient water use and reduced wastewater system demand by:*
- a. *Requiring water-conserving design and equipment in new construction;*
  - b. *Encouraging retrofitting with water-conserving devices; and*
  - c. *Designing wastewater systems to minimize inflow and infiltration to the extent economically feasible.*
- 4.D.5. *The County shall encourage pretreatment of commercial and industrial wastes prior to their entering community collection and treatment systems.*
- 4.D.6. *The County shall promote functional consolidation of wastewater facilities.*
- 4.D.7. *The County shall permit on-site sewage treatment and disposal on parcels where all current regulations can be met and where parcels have the area, soils, and other characteristics that permit such disposal facilities without threatening surface or groundwater quality or posing any other health hazards.*
- 4.D.8. *The County shall require that the on-site treatment, development, operation, and maintenance of disposal systems complies with the requirements and standards of the County Division of Environmental Health.*
- 4.D.9. *The County shall require septic tank maintenance by a public entity as a condition of tentative map approval for major subdivisions in which septic tanks are to be used.*
- 4.D.10. *The County shall continue use of current technically-based criteria in review and approval of septic tank/leachfield systems for rural development.*
- 4.D.11. *The County shall facilitate extension of septic tank effluent pumping (STEP) service or conventional wastewater collection service to areas with failing on-site systems.*

#### *Program*

- 4.11. *The County shall investigate development of septage disposal facilities at one or more appropriate sites within Placer County so that disposal at out-of-county facilities is not required.*

These policies provide for new development only where it can be served by adequate wastewater treatment systems, promote water conservation to reduce the need for unnecessary wastewater facility capacity, promote improvements in existing wastewater treatment systems including improvements to areas which currently have failing onsite systems. Policies also limit new onsite sewage treatment and disposal to areas where the soils and other characteristics will allow for such facilities without threatening surface or

groundwater and where such facilities can meet all other County requirements and standards. The program promotes investigation of developing seepage disposal facilities within Placer County to minimize the effects of out-of-county disposal of such waste.

In addition, the policies and programs under Goal 4.B address funding of public facilities and services.

## **IMPACTS**

Based on the policies contained in the *Countywide General Plan Policy Document*, the impacts of the *Land Use Diagram* will be mitigated to less-than-significant levels.

## **MITIGATION MEASURES**

No mitigation measures are required other than adoption and implementation of the goals and policies of the General Plan, implementation of the community plans and specific plans as approved, and development of the appropriate funding mechanisms.

## **5.4 DRAINAGE**

### **ENVIRONMENTAL SETTING**

The *Background Report* describes major existing drainage systems and watersheds. As noted in the *Background Report*, the area of the county east of Auburn contains very few drainage improvements and sparse development with the exception of the Tahoe area. The *Countywide General Plan* does not call for significant changes in the development pattern in this part of the county.

In several areas in the western part of the county and in the Tahoe Region, growth has been and is expected to be quite significant. The impacts of this new development must be evaluated on a continuing basis as development occurs. Several drainage studies have recently been performed to evaluate impacts and recommend mitigations for new development within the major developing watersheds of western Placer County. These studies are listed below and form the basis for this analysis.

- Dry Creek Watershed Flood Control Plan, April 1992
- Placer County Water Conservation and Flood Control District
- Auburn Ravine, Coon, and Pleasant Grove Creeks, Flood Mitigation Plan, June 1993
- Auburn Bowman Drainage Plan 1993, Placer County Public Works Department
- City of Lincoln Public Facilities Element, March 1990, City of Lincoln Public Works

The drainage sheds (watersheds) referred to in this analysis are shown in Figure 5-2.

The above flood control studies identify areas of western Placer County, where increased runoff due to additional development will have significant impact on the existing drainage systems. To mitigate the impacts of increased runoff in these areas, the plans recommend extensive use of detention and retention facilities. These facilities will either "detain" runoff to reduce peak flow rates and or "retain" runoff to reduce the overall volume of flow continuing downstream in a watershed. The basic objective behind the use of these facilities is that no net increase in peak flows be generated and, whenever feasible, that no increase in volume of runoff shall occur from one property to the next due to new development. The studies also point out, however, that there are certain areas of the watersheds where using detention



actually increases the incidence of flooding downstream. In those identified areas, the studies do not recommend detention as mitigation.

Ideally, if adequate storage was available at every property to insure "no net increase," then the only major flood control facilities necessary to provide adequate protection would be those necessary to remedy existing deficiencies in the drainage systems. In actuality, this is not the case and major facilities such as regional detention facilities and upgraded channel improvements between the detention facilities will be necessary to complement available onsite or local storage.

### **Existing Drainage Deficiencies**

In both the Cross Canal and Dry Creek watersheds, several areas of existing flooding are identified due to inadequate channel capacities and undersized culverts and bridges. Although these facilities are designated for improvement or replacement primarily due to inadequacy under existing conditions, future development may require significant oversizing to handle future flows where local or regional detention facilities are not feasible, not yet built, or do not reduce future flows completely to existing levels.

### **METHODOLOGY**

Watershed analyses using computer models have been performed in the above-mentioned studies in an attempt to meet the criteria of "no net increase." The hydrologic watershed models used in these analyses, and in watershed planning generally, account for the cumulative impacts of development on flows and volumes; these drainage analyses are, therefore, inherently cumulative in nature. The use of both local and regional storage facilities are the basis of the recommended drainage improvements in all of these studies. The recommended upgrades to channel improvements such as levees, culverts, and bridge replacements in these studies are usually located at the site of existing deficiencies. Oversizing of these channel improvements where increased flow mitigation is not feasible by storage facilities must be determined on a case-by-case basis with detailed design analyses.

It is difficult to associate new flood control facilities and drainage improvements with the analysis areas used in this *EIR*. Accordingly, the impacts of development and the facilities necessary to address these impacts are instead analyzed at the watershed level to identify improvements necessary to serve the needs of the entire watershed.

To determine the impacts of development under the *Land Use Diagram* on drainage and flood control facilities, the consultants prepared estimates of the amount of impervious area that could result from this development in each of the analysis areas. These estimates were then apportioned to each of the watersheds; in some cases, this required splitting analysis areas and estimating the proportion of development located in each of the watersheds across which they were split.

### **IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM**

Table 5-9 shows the amount of impervious areas expected to result from development at 2010 and 2040 under the *Land Use Diagram*. From a basin-wide perspective, based on the percentage of impervious surface for the major sheds, increase in runoff will be insignificant for all of the sheds in Placer County with the exceptions of the Dry Creek and Cross Canal watersheds. Increase in runoff immediately downstream from any particular development project may be significant and will need to be evaluated on a case-by-case basis and assessed in the environmental review of that project.

Increase in impervious surfaces resulting from development under the *Draft Land Use Diagram* could result in the degradation of surface water quality in county streams, lakes, and reservoirs as a result of pollutants carried by stormwater runoff. Water quality degradation could also result from direct spills and illegal dumping into new drainage systems.

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) was amended to provide that the discharge of pollutants to waters of the United States from stormwater is effectively prohibited, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments to the CWA added Section 402(p), which established a framework for regulating municipal, industrial, and construction stormwater discharges under the NPDES program. In California, these permits are issued through the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB). In general, municipalities with a population of over 100,000, industries which have been identified by the Environmental Protection Agency to be a probable source of storm water pollutants, and construction projects that disturb more than five acres must obtain NPDES permits. The unincorporated Placer County population is expected to reach 100,000 population prior to 2010. When it does, the County will be required to obtain a municipal NPDES permit from the State Water Resources Control Board. The Lahontan Regional Water Quality Control Board has adopted a municipal NPDES permit for the portion of the county within the Lake Tahoe Basin.

The following paragraphs summarize the effects of development under the *Land Use Diagram* on watersheds in the eastern part of the county (Lake Tahoe, Truckee River/Martis Valley, American River North Fork, American River Middle Fork, and Bear River), the Cross Canal watersheds (Coon Creek, Markham Ravine, Auburn Ravine, Pleasant Grove Creek, and Curry Creek), and the Dry Creek watershed.

### **Eastern County**

No significant impacts were noted in the eastern watersheds and the Bear River watershed of Placer County due to minimal change in the percent of impervious area to the year 2010. Local increases in flow rates and volumes will be mitigated through local improvements based on General Plan policy to establish no net increase in runoff.

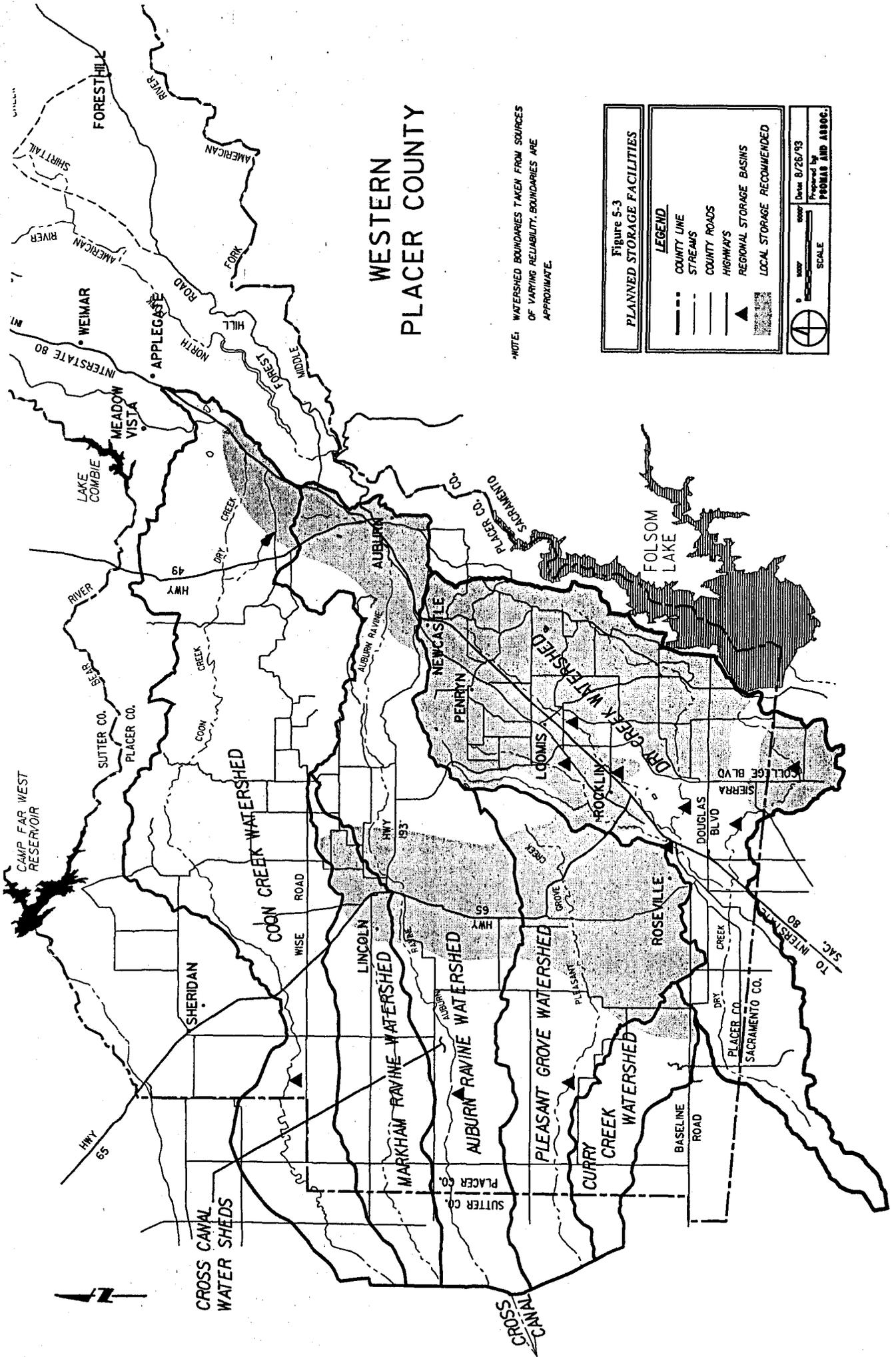
### **Cross Canal Watersheds**

The Cross Canal watersheds consist of Coon Creek, Markham Ravine, Auburn Ravine, Pleasant Grove Creek, and Curry Creek. All of these sheds will experience significant increases in runoff with the estimated 2010 development under the *General Plan*, with Pleasant Grove and Curry Creeks seeing the greatest increase. The total increase in impervious area for the Cross Canal sheds is 4.3 percent from 1990 to 6.9 percent in 2010. While the precise location and extent of local storage will depend on the location and extent of development, Figure 5-3 shows the general areas where local storage will be necessary.

The total increase in impervious area for the Cross Canal watersheds is approximately 154.7 percent from 1990 to 2040, almost all of which will occur in less than 30 percent of the total shed area. While all of the Cross Canal sheds will experience significant increases in runoff as a result of development estimated for 2040, Pleasant Grove and Curry Creeks will experience the greatest. The cities of Rocklin, Lincoln, and Roseville are within these sheds, and all call for significant development.

Auburn Ravine will also be impacted, albeit to a lesser degree, from new development, particularly in Auburn, the Newcastle/Ophir analysis area, and the Bickford Ranch area. Likewise development in

# WESTERN PLACER COUNTY



\*NOTE: WATERSHED BOUNDARIES TAKEN FROM SOURCES OF VARYING RELIABILITY. BOUNDARIES ARE APPROXIMATE.

Figure 5-3  
PLANNED STORAGE FACILITIES

**LEGEND**

- COUNTY LINE
- STREAMS
- COUNTY ROADS
- HIGHWAYS
- ▲ REGIONAL STORAGE BASINS
- ▭ LOCAL STORAGE RECOMMENDED

Scale: 1" = 1000'

North Arrow

Prepared by: POWERS AND ASSOC.

Date: 8/26/93

Lincoln will require improvements on Markham Ravine. Coon Creek, the northernmost of the Cross Canal watersheds, will be impacted mainly by new development within the Auburn-Bowman area.

**TABLE 5-9**  
**IMPERVIOUS SURFACE ACREAGE**  
**By Watershed within Unincorporated Placer County**  
**1990, 2010, and 2040**

Watershed	Approximate Watershed Area <sup>1</sup>	Impervious Acreage				Impervious Percentage of Total
		Residential <sup>2</sup>	Industrial/Commercial/Office <sup>3</sup>	Other <sup>4</sup>	Total Impervious Acreage	
<b>1990</b>						
Lake Tahoe	37,000	890	21	722	1,633	4.4%
Truckee River/Martis Valley	69,000	188	4	1,376	1,568	2.3%
American River--North Fork	245,000	570	12	4,888	5,471	2.2%
American River--Middle Fork	253,000	145	3	5,057	5,205	2.1%
Bear River	74,000	421	2	1,472	1,895	2.6%
Cross Canal Watersheds	187,000	1,190	96	3,714	5,000	2.7%
Dry Creek	47,000	1,146	23	917	2,086	4.4%
<b>Total</b>	<b>912,000</b>	<b>4,551</b>	<b>162</b>	<b>18,146</b>	<b>22,858</b>	<b>2.5%</b>
<b>2010</b>						
Lake Tahoe	37,000	1,139	33	717	1,889	5.1%
Truckee River/Martis Valley	69,000	230	5	1,375	1,610	2.3%
American River--North Fork	245,000	714	16	4,885	5,616	2.3%
American River--Middle Fork	253,000	182	3	5,056	5,242	2.1%
Bear River	74,000	538	3	1,469	2,010	2.7%
Cross Canal Watersheds	187,000	1,994	256	3,695	5,946	3.2%
Dry Creek	47,000	2,496	64	889	3,448	7.3%
<b>Total</b>	<b>912,000</b>	<b>7,292</b>	<b>381</b>	<b>18,087</b>	<b>25,760</b>	<b>2.8%</b>
<b>2040</b>						
Lake Tahoe	37,000	1,139	43	716	1,898	5.1%
Truckee River/Martis Valley	69,000	277	6	1,374	1,658	2.4%
American River--North Fork	245,000	880	21	4,882	5,782	2.4%
American River--Middle Fork	253,000	223	4	5,055	5,283	2.1%
Bear River	74,000	725	4	1,465	2,194	3.0%
Cross Canal Watersheds	187,000	2,491	343	3,683	6,518	3.5%
Dry Creek	47,000	4,835	106	841	5,783	12.3%
<b>Total</b>	<b>912,000</b>	<b>10,571</b>	<b>527</b>	<b>18,018</b>	<b>29,116</b>	<b>3.2%</b>

<sup>1</sup>Total watershed area within Placer County, including incorporated areas.

<sup>2</sup>Residential impervious area is based on 20% rural to 50% urban for single family and 70% impervious for multi-family.

<sup>3</sup>Acres of industrial/commercial/office are based on a 25% coverage for given commercial & office building space, and 20% for industrial; Impervious area for industrial/commercial/office is based on an impervious coverage from 80% to 90%.

<sup>4</sup> Includes 2% to 4% impervious in undeveloped & park areas.

Source: Psomas & Associates, September 1993; J. Laurence Mintier & Associates, July 1994.

## Dry Creek

The Dry Creek watershed is anticipated to produce the largest increase in the percentage of impervious surface between 1990 and 2010 of the watersheds analyzed. The percentage is expected to increase from 11.8 in 1990 to approximately 17.0 in 2010. The largest increases will occur in the area south of Baseline Road east of Watt Avenue and in the cities of Rocklin, Loomis and Roseville. Facilities will be necessary to store the excess runoff due to the significant increase in impervious area anticipated for the Dry Creek watershed by the year 2010. The areas where local storage will be necessary are shown in Figure 5-3.

As with development through 2010, the Dry Creek watershed will experience that largest increase in impervious surfaces by 2040 of the watersheds analyzed. The percentage of impervious surface is expected to rise from 11.8 in 1990 to approximately 22.1 in 2040. The largest increases will occur as the result of residential development in the Dry Creek-West Placer area, non-residential development in the cities of Rocklin, Loomis, and Roseville. Significant facilities will be necessary to store the excess runoff due to the increase in impervious area anticipated for the Dry Creek watershed. The Dry Creek Watershed Flood Control Plan identifies approximately 1,750 ac-ft of regional storage required for the ultimate holding capacity of the Dry Creek watershed.

### GENERAL PLAN POLICY RESPONSE

In keeping with County drainage policies and the Dry Creek, Auburn Ravine, Coon Creek, and Pleasant Grove Creek flood mitigation plans, major regional storage facilities as well as local detention will be necessary to mitigate increased runoff. Improvements to roadway and railroad crossings will also be necessary to mitigate existing deficiencies. The *Countywide General Plan* also addresses drainage concerns. The following policies and programs from the *Policy Document* address the implications of increased runoff from new development:

#### *Policies*

- 4.E.4. *The County shall ensure that new storm drainage systems are designed in conformance with the Placer County Flood Control and Water Conservation District's Stormwater Management Manual and the County Land Development Manual.*
- 4.E.5. *The County shall continue to implement and enforce its Grading Ordinance and Flood Damage Prevention Ordinance.*
- 4.E.6. *The County shall continue to support the programs and policies of the watershed flood control plans developed by the Flood Control and Water Conservation District.*
- 4.E.7. *The County shall prohibit the use of underground storm drain systems in rural and agricultural areas, unless no other feasible alternatives are available for conveyance of stormwater from new development or when necessary to mitigate flood hazards.*
- 4.E.9. *The County shall encourage good soil conservation practices in agricultural and urban areas and carefully examine the impact of proposed urban developments with regard to drainage courses.*
- 4.E.10. *The County shall strive to improve the quality of runoff from urban and suburban development through use of appropriate and feasible mitigation measures including, but not limited to,*

*artificial wetlands, grassy swales, infiltration/sedimentation basins, riparian setbacks, oil/grit separators, and other best management practices (BMPs).*

- 4.E.11. The County shall require new development to adequately mitigate increases in stormwater peak flows and/or volume. Mitigation measures should take into consideration impacts on adjoining lands in the unincorporated area and on properties in jurisdictions within and immediately adjacent to Placer County.*
- 4.E.12. The County shall encourage project designs that minimize drainage concentrations and impervious coverage and maintain, to the extent feasible, natural site drainage conditions.*
- 4.E.13. The County shall require that new development conforms with the applicable programs, policies, recommendations, and plans of the Placer County Flood Control and Water Conservation District.*
- 4.E.14. The County shall require projects that have significant impacts on the quantity and quality of surface water runoff to allocate land as necessary for the purpose of detaining post-project flows and/or for the incorporation of mitigation measures for water quality impacts related to urban runoff.*
- 4.E.15. The County shall identify and coordinate mitigation measures with responsible agencies for the control of storm sewers, monitoring of discharges, and implementation of measures to control pollutant loads in urban storm water runoff (e.g., California Regional Water Quality Control Board, Placer County Division of Environmental Health, Placer County Department of Public Works, Placer County Flood Control and Water Conservation District).*

#### *Programs*

- 4.12. The County shall prepare and adopt ordinances and programs as necessary and appropriate to implement and fund current and future watershed management, flood control, water quality protection, and water conservation plans of the Placer County Flood Control and Water Conservation District.*
- 4.13. The County shall prepare and adopt ordinances and programs as necessary and appropriate to implement required actions under state and federal stormwater quality programs.*

These policies and programs provide that new storm drainage systems Placer County will be developed according to all applicable local, state, and federal standards, and seek to minimize urban runoff through project design, good soil conservation practices, and other measures and best management practices (BMPs). Policies require that new development with significant impacts on the quantity and quality of stormwater runoff either provide land for the storm drainage detention or implement other mitigation measures.

Policies 4.E.9 and 4.E.10 require development projects to incorporate appropriate and feasible mitigation for water quality impacts. The adoption of a municipal NPDES permit for the county will include other non-development-related BMPs such as education and street and storm drain maintenance practices that will reduce surface water degradation from stormwater runoff.

Adoption of the flood mitigation plans recommending storage facilities for reduction of increased runoff will also provide appropriate facilities for treatment of stormwater and provide locations for wetland creation. The detention pond is an ideal location to settle and filter out unwanted pollutants from the stormwater, especially during low-flow and "first flush" conditions. Under the flood mitigation plan recommendations and the requirements of the County Flood Control District Stormwater Management Manual, programs to maintain current levels of vegetation, water quality, channel capacity, and channel storage will help meet goals for water quality and environmental enhancement.

## IMPACTS

The policies contained in the *Countywide General Plan Policy Document*, in combination with implementation of other flood improvement plans, will mitigate the impacts of the *Land Use Diagram* to less-than-significant levels.

## MITIGATION MEASURES

No mitigation measures are necessary.

## 5.5 SOLID WASTE

### SETTING

Existing solid waste management facilities in Placer County consist of two Class III sanitary landfills and four transfer stations.

The Western Regional Sanitary Landfill (WRSL) is located in an unincorporated area of Placer County between the cities of Roseville and Lincoln and west of Highway 65. It is owned by the Western Placer Waste Management Authority (formerly the Western Regional Sanitary Landfill Authority), which is comprised of Placer County and the cities of Lincoln, Rocklin, and Roseville, and is operated by the Western Placer Recovery Company, Inc. The WRSL serves the Auburn-Foothills, South Placer, and Lower Sierra analysis areas, with the exception of the City of Colfax. The landfill, which originally consisted of 320 acres, has recently been expanded to 800 acres. The total capacity of the WRSL is 18,970,000 tons, or 37,940,000 cubic yards. The WRSL is currently operating under a notice of order not to exceed 900 tons per day.

The Eastern Regional Landfill (ERL) is located three miles south of Truckee, west of Highway 89 in the Tahoe National Forest. Placer County recently purchased 292 acres around and including the ERL. The ERL serves the Tahoe Basin, Sierra Resorts and Sierra analysis areas, as well as the City of Colfax. The ERL also currently accepts solid waste from parts of El Dorado and Nevada Counties, currently accounting for approximately 42 percent of the landfill waste stream. The landfill area consists of 102 acres of land. The total capacity of the ERL is 1,420,000 tons, or 2,840,000 cubic yards. The ERL is currently operating under a notice of order allowing a maximum of 250 tons per day. A materials recovery facility (MRF) and a transfer station at the ERL are expected to be completed by the end of 1994; when these facilities are completed, the ERL will cease to serve as a landfill.

## METHODOLOGY

The implications of the *General Plan Land Use Diagram* on the County's solid waste facilities were analyzed by applying per capita solid waste disposal rates to the projected populations for 2010 and 2040.

The following criteria were used in this analysis to project Placer County's future solid waste disposal needs:

- The 1990 per capita generation rate was 6.40 pounds solid waste per person per day.
- There will be a 1.2 percent increase per year in the per capita waste generation rate due to more urbanization.
- Placer County will achieve a 50 percent reduction in rate of solid waste disposal by the year 2000.
- The maximum disposal rate, starting in the year 2000, will be 5 pounds per person per day.
- The same percentages of out-of-county wastes will be accepted at the two landfills as in 1990 (4 percent for WRSL and 42 percent for ERL).
- A landfill has 1,000 pounds per cubic yard of compacted refuse.

#### **IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM**

In 1990 a total of 222,240 tons of solid waste were delivered to the two Placer County landfills. This equates to approximately 6.40 pounds per person per day, with commercial and industrial uses included in the per capita figures. Projected solid waste disposal for Placer County for the years 2010, 2040, and the base year of 1990, are shown in Table 5-10.

The Integrated Waste Management Act, AB 939, requires that all local jurisdictions with solid waste programs reduce waste disposal rates by 25 percent by 1995 and by 50 percent by the year 2000. Placer County has submitted a *Draft Source Reduction and Recycling Element (SRRE)* to the Local Task Force and the California Integrated Waste Management Board for review. This SRRE identifies cost effective diversion programs for Placer County to maximize the life of the existing landfills by means of source reduction, recycling, composting and environmentally safe transformation and landfill disposal.

If the County is able to meet the goal of 50 percent reduction in disposal rates by the year 2000, then the County's solid waste disposal alone would be 1,587 tons per day. The total waste disposed of in the County would be approximately 1,757 tons per day.

The current projected closure date for the WRSL is 2047; with the above criteria, the revised projected closure date is 2050. The current projected closure date for the ERL is 2007, although, as noted above, the site will be converted to a transfer station by 1995.

By the year 2010, the WRSL permit, or notice of order, must be revised, as the average projected disposal rate, approximately 1,052 tons per day including out-of-County wastes, will exceed the existing limit of 900 tons per day. The ERL permit, or notice of order, should not need revision.

TABLE 5-10

SOLID WASTE GENERATION  
1990, 2010, and 2040

	1990		2010			2040		
	Disposal (tons)	Disposal (tons/day)	Disposal (tons)	Disposal (tons/day)	% Change from 1990	Disposal (tons)	Disposal (tons/day)	% Change from 1990
<b>Tahoe Basin Total</b>	<b>10,812</b>	<b>29.6</b>	<b>8,388</b>	<b>23.0</b>	<b>-22.4%</b>	<b>11,957</b>	<b>32.8</b>	<b>10.6%</b>
Alpine Meadows	1,037	2.8	664	1.8	-36.0%	830	2.3	-19.9%
Martis Valley	1,966	5.4	1,747	4.8	-11.1%	2,740	7.5	39.4%
Squaw Valley	2,185	6.0	1,398	3.8	-36.0%	1,744	4.8	-20.2%
<b>Sierra Resorts Total</b>	<b>5,188</b>	<b>14.2</b>	<b>3,809</b>	<b>10.4</b>	<b>-26.6%</b>	<b>5,314</b>	<b>14.6</b>	<b>2.4%</b>
Gold Run/Dutch Flat/Alta	1,257	3.4	821	2.3	-34.7%	996	2.7	-20.7%
Placer East	1,858	5.1	1,223	3.4	-34.2%	1,578	4.3	-15.1%
Summit	1,420	3.9	926	2.5	-34.8%	1,163	3.2	-18.1%
<b>Sierra Total</b>	<b>4,535</b>	<b>12.4</b>	<b>2,971</b>	<b>8.1</b>	<b>-34.5%</b>	<b>3,737</b>	<b>10.2</b>	<b>-17.6%</b>
<b>ERL - TOTAL</b> (above + City of Colfax)	<b>22,061</b>	<b>60.4</b>	<b>16,531</b>	<b>45.3</b>	<b>-25.1%</b>	<b>22,337</b>	<b>61.2</b>	<b>1.3%</b>
Colfax CPA	3,018	8.3	2,432	6.7	-19.4%	4,318	11.8	43.1%
Colfax City	1,525	4.2	1,363	3.7	-10.6%	1,329	3.6	-12.9%
Foresthill	5,726	15.7	4,613	12.6	-19.4%	6,726	18.4	17.5%
Meadow Vista	4,360	11.9	3,516	9.6	-19.4%	4,567	12.5	4.7%
Weimar/Applegate/Clipper Gap	5,027	13.8	4,054	11.1	-19.4%	6,477	17.7	28.8%
<b>Lower Sierra Total</b>	<b>19,656</b>	<b>53.9</b>	<b>15,979</b>	<b>43.8</b>	<b>-18.7%</b>	<b>23,417</b>	<b>64.2</b>	<b>19.1%</b>
Auburn-Bowman	21,158	58.0	20,026	54.9	-5.4%	29,146	79.9	37.8%
Auburn City	12,132	33.2	11,404	31.2	-6.0%	18,517	50.7	52.6%
Horseshoe Bar/Penryn	7,620	20.9	5,592	15.3	-26.6%	7,473	20.5	-1.9%
Loomis Town	6,599	18.1	5,242	14.4	-20.6%	6,809	18.7	3.2%
Newcastle/Ophir	4,527	12.4	3,425	9.4	-24.3%	4,982	13.7	10.1%
<b>Auburn -Foothills Total</b>	<b>52,037</b>	<b>142.6</b>	<b>45,689</b>	<b>125.2</b>	<b>-12.2%</b>	<b>66,928</b>	<b>183.4</b>	<b>28.6%</b>
Dry Creek/West Placer	1,358	3.7	8,737	23.9	543.2%	7,889	21.6	480.7%
Granite Bay	15,244	41.8	13,770	37.7	-9.7%	17,438	47.8	14.4%
Lincoln City	8,356	22.9	14,469	39.6	73.2%	37,533	102.8	349.2%
Placer Central	5,884	16.1	6,780	25.7	59.2%	10,577	42.5	163.5%
Placer West	1,660	4.5	1,188	3.3	-28.4%	1,578	4.3	-4.9%
Rocklin City	22,231	60.9	24,464	67.0	10.0%	50,238	137.6	126.0%
Roseville City	51,372	140.7	69,898	191.5	36.1%	95,659	262.1	86.2%
Sheridan	679	1.9	489	1.3	-27.9%	664	1.8	-2.1%
Sunset	76	0.2	52	0.1	-30.9%	83	0.2	9.4%
<b>South Placer Total</b>	<b>106,859</b>	<b>292.8</b>	<b>139,847</b>	<b>390.2</b>	<b>33.3%</b>	<b>221,659</b>	<b>620.8</b>	<b>112.0%</b>
<b>WRSL - TOTAL</b>	<b>177,027</b>	<b>485.0</b>	<b>200,151</b>	<b>555.4</b>	<b>14.5%</b>	<b>310,675</b>	<b>864.7</b>	<b>78.3%</b>
Sub-Total Cities	102,215	280.0	126,839	347.5	24.1%	210,085	575.6	105.5%
Sub-Total Unincorporated	96,873	265.4	89,843	253.2	-4.6%	122,927	350.3	32.0%
<b>TOTAL COUNTY</b>	<b>199,088</b>	<b>545.4</b>	<b>216,682</b>	<b>600.7</b>	<b>10.1%</b>	<b>333,012</b>	<b>925.9</b>	<b>69.7%</b>

NOTES:

1. Based on development estimates for 2010 and 2040 (see Chapter 2).
2. Per capita waste disposal rates in pounds per person per day: 6.40 in 1990; 3.83 in 2010; 4.55 in 2040.

## GENERAL PLAN POLICY RESPONSE

The following policies and programs address the solid waste implications of the *Land Use Diagram*.

### *Policies*

- 4.G.1. *The County shall require waste collection in all new urban and suburban development.*
- 4.G.2. *The County shall promote maximum use of solid waste source reduction, recycling, composting, and environmentally-safe transformation of wastes.*
- 4.G.3. *The County shall require discretionary permit approval for all new waste disposal facilities.*
- 4.G.4. *The County shall ensure that solid waste disposal facilities do not contaminate surface or groundwater in violation of state standards.*
- 4.G.5. *The County shall promote the siting of new solid waste collection and transfer facilities in locations as close as practical to the areas they serve.*
- 4.G.6. *The County shall ensure that landfills and transfer stations are buffered from incompatible development.*
- 4.G.7. *The County shall require that all new development complies with applicable provisions of the Placer County Integrated Waste Management Plan.*
- 4.G.8. *The County shall encourage the development of regional and community-based recycling facilities in heavy commercial and industrial areas.*
- 4.G.9. *The County shall encourage businesses to use recycled products in their manufacturing processes and consumers to buy recycled products.*
- 4.G.10. *The County shall encourage the establishment and implementation of a recycling market development zone in Placer County.*

### *Programs*

- 4.15. *The County shall develop and adopt an ordinance requiring solid waste collection in all new urban and suburban development.*
- 4.16. *The County shall monitor landfills during operation and after closure to detect groundwater contamination and gas mitigation.*
- 4.17. *The County shall cooperate with the cities of the county to study the feasibility of a methane gas recovery operation.*
- 4.18. *The County shall prepare, adopt, and regularly review and revise as necessary an Integrated Waste Management Plan.*

- 4.19. *The County shall provide incentives to businesses that use locally-recycled materials as part of their manufacturing processes. These incentives may include relaxation of development standards and/or fast-track permitting.*
- 4.20. *The County shall assist the Western Placer Waste Management Authority in the establishment of a material recovery facility at or near the Western Regional Sanitary Landfill.*

These policies and programs promote safe waste collection, reduction, and recycling and ensure the development of solid waste facilities to serve the needs of Placer County in appropriate locations and sited and designed to minimize the effects of such facilities on adjoining land uses.

In addition, the County should carry out the policies and programs in the *Draft SRRE* including source reduction, recycling, and composting, with the goal of reducing solid waste generation by 25 percent by 1995 and 50 percent by the year 2000.

### **IMPACTS**

While solid waste generation will increase due to development under the *General Plan*, there should be a decrease in the per capita generation rate due to compliance with AB 939. This affects only the existing landfills in that the revised projected lives are longer than previously projected. With successful implementation of General Plan policies, the solid waste impacts of the General Plan are less-than-significant.

### **MITIGATION MEASURES**

No mitigation measures are necessary.

## 5.6 SCHOOLS

### ENVIRONMENTAL SETTING

Development in Placer County is served by 22 school districts, 19 of which serve county residents exclusively. For each of the 19 districts entirely within the county, Table 5-11 shows the current enrollment along with 5- and 10-year enrollment projections.

**TABLE 5-11**

**INDIVIDUAL ENROLLMENT PROJECTIONS  
Placer County School Districts**

School District	Existing Enrollment 1993/94 *	Enrollment Projection 5 Year	Enrollment Projection 10 Year	10 Year Increase**
Ackerman	363	409	455	+ 92
Alta-Dutch Flat	202	222	242	40
Auburn Union	2,866	3,752	4,638	1,772
Colfax	481	698	915	434
Dry Creek	2,723	5,442	6,815	4,092
Emigrant Gap	18	23	28	10
Eureka Union	2,455	3,353	4,900	2,445
Foresthill Union	808	1,172	1,568	760
Loomis Union	1,799	2,195	2,591	792
Newcastle	309	373	437	128
Ophir	254	306	358	104
Penryn	316	433	550	234
Placer Hills Union	1,597	1,933	2,269	672
Roseville City	5,098	5,616	6,699	1,641
Rocklin Unified	3,970	5,615	11,670	7,700
Tahoe-Truckee	4,419	5,677	6,625	2,206
Western Placer	2,858	3,150	4,047	1,189
Placer High	4,428	5,617	6,806	2,378
Roseville High	4,318	5,556	6,813	2,495
<b>Total</b>	<b>39,282</b>	<b>51,542</b>	<b>68,426</b>	<b>29,184</b>

\* Based on October, 1993 CBEDs

\*\* The 10 year increase represents the number of new students projected to be added to the 1993/94 enrollment year over the next 10 year period.

Source: Placer County Office of Education, July 1994.

In addition to the districts listed in Table 5-11, three other districts (Elverta, Grant, and Center) serve development in both Placer and Sacramento Counties.

Table 5-12 shows that 12 of the county's 19 districts currently have "unhoused" students (i.e., current enrollment exceeds permanent capacity). These unhoused students are currently accommodated either in overcrowded permanent classrooms, non-classroom space, or in rented/leased portables.

**TABLE 5-12**  
**UNHOUSED STUDENT COUNT**

School District	District Capacity	District Enrollment	Unhoused <sup>1</sup>
Ackerman	280	363	83
Alta-Dutch Flat	228	202	-26
Auburn Union	1,841	2,866	1,025
Colfax	600	481	-119
Dry Creek	1,682	2,723	1,041
Emigrant Gap <sup>2</sup>	0	18	18
Eureka Union	2,015	2,455	440
Foresthill Union	552	808	256
Loomis Union	1,726	1,799	73
Newcastle	323	309	-14
Ophir	210	254	44
Penryn	360	316	-44
Placer Hills Union	1,173	1,597	424
Roseville City	6,073	5,098	-975
Rocklin Unified <sup>3</sup>	2,589	3,970	1,381
Tahoe-Truckee <sup>4</sup>	4,557	4,419	-138
Western Placer	2,963	2,858	-105
Placer High	3,205	4,428	1,223
Roseville High	4,191	4,318	127
Center Unified	4,995	4,930	-65
<b>Total</b>	<b>39,563</b>	<b>44,212</b>	<b>-467</b>

<sup>1</sup>Unhoused students represent a district's permanent capacity minus their existing enrollment. Those districts with surplus classroom space are shown as negative and those districts with overcrowded classroom space are shown as a positive. Unhoused students are housed in overcrowded classrooms, non-classroom space or in rented/leased portables.

<sup>2</sup>Emigrant Gap operates in a portable classroom

<sup>3</sup>There are currently over 400, 9-12 students from the Rocklin Unified School District being housed at Roseville and Del Oro High Schools due to the Rocklin Unification. Rocklin High School will accommodate just 9th and 10th graders in 1994/95.

<sup>4</sup>The surplus student classroom space occurs at the high school level only.

Placer County residents are also served by the Sierra Community College District. There are approximately 15,000 students at the District's main campus, Sierra College in Rocklin, which has an ultimate enrollment capacity of 23,000. In addition, the District also operates off-campus sites in Truckee, North Tahoe, Grass Valley/Nevada City, and at various high schools around the county.

**METHODOLOGY**

To assess the potential implications of development under the *General Plan Land Use Diagram*, the County, working with the Placer County Office of Education, calculated the student enrollment associated with residential development estimated through the year 2010 (see Table 2-8 in Chapter 2 of this *EIR*). These total enrollment numbers were used to determine school site needs for elementary (K-5), middle (6-8), and high schools (9-12).

**Assumptions**

Table 5-13 shows the yield rates used to prepare student enrollment estimates based on assumed residential development.

**TABLE 5-13**

**ASSUMED STUDENT YIELD RATES  
Per Dwelling Unit**

Type of Residential Unit	K-5	6-8	9-12	Community College
Single Family (SF)	.3776	.1410	.2362	.16
Multi Family (MF)	.127	.047	.0445	

Source: Placer County Office of Education, July 1994.

Table 5-14 shows assumptions regarding the number of students per school, amount of acreage needed for each campus, and per-student and per-school costs for K-5, 6-8, and 9-12 schools.

**TABLE 5-14**

**FACILITY NEEDS COSTS**

Type	Students Per School	Typical Size	Cost Per Student	Cost Per School
Elementary (K-5)	600	10 acres	\$10,606	\$6,363,600
Middle (6-8)	750	18 acres	\$14,108	\$10,581,000
High (9-12)	1,600	40 acres	\$21,071	\$33,713,600

Source: Placer County Office of Education, July 1994.

### Threshold of Significance

This *EIR* assumes that impacts to school districts are significant if development under the *General Plan* would result in an unmet demand for school facilities.

### IMPLICATIONS OF THE DRAFT LAND USE DIAGRAM

Table 5-15 shows the student enrollment demand that would result from development under the *General Plan* by regional analysis area.

**TABLE 5-15**

**STUDENT GENERATION THROUGH 2010  
by Regional Analysis Area**

Regional Analysis Area	Students by Unit Type	K-5	6-8	9-12	Total
Tahoe Basin	SF	393	146	245	784
	MF	33	12	12	57
	Total	426	158	257	841
Sierra Resort	SF	130	48	81	259
	MF	23	9	8	40
	Total	153	57	89	299
Sierra	SF	12	5	8	25
	MF	0	0	0	0
	Total	12	5	8	25
Lower Sierra	SF	632	236	395	1,263
	MF	27	10	10	47
	Total	659	246	405	1,310
Auburn-Foothills	SF	1,619	604	1,013	3,236
	MF	167	61	58	286
	Total	1,786	665	1,071	3,522
South Placer	SF	3,959	1,478	2,476	7,915
	MF	199	74	69	342
	Total	4,158	1,552	2,545	8,257
<b>TOTALS</b>		<b>7,194</b>	<b>2,683</b>	<b>4,375</b>	<b>14,254</b>

Source: Placer County Office of Education, July 1994.

In addition to the increased K-12 student enrollment, development under the *General Plan* will result in increased demand for the community college services provided by the Sierra Community College District. Assuming a per-unit student yield rate of 0.16 students per dwelling unit, residential development under the *Land Use Diagram* will result in an additional 3,000 students.

- 4.J.13. *Before a residential development, which includes a proposed general plan amendment, rezoning or other legislative review can be approved by the Planning Commission or Board of Supervisors, it shall be demonstrated to the satisfaction of the hearing body that adequate school facilities shall be provided when the need is generated by the proposed development.*

*Higher Education*

- 4.J.17. *The County shall work with Sierra College to ensure that higher education programs and facilities are available to Placer County.*

These policies call for the County to coordinate its planning efforts with local school districts to ensure that development under the *General Plan* does not result in an unmet demand for school facilities.

**IMPACTS**

Implementation of the policies listed above will ensure that future development in unincorporated Placer County does not result in unmet school facilities needs. The impacts of the *General Plan* will, therefore, result in less-than-significant impacts on schools.

**MITIGATION MEASURES**

No mitigation measures are necessary.