

## 5. Environmental Analysis

### 5.17 UTILITIES AND SERVICE SYSTEMS

#### 5.17.1 Water Service

##### 5.17.1.1 ENVIRONMENTAL SETTING

###### Regulatory Background

###### *Federal Regulations*

###### *Clean Water Act*

The Federal Clean Water Act (CWA) establishes regulatory requirements for potable water supplies including raw and treated water quality criteria. The City of Clovis would be required to monitor water quality and conform to the regulatory requirements of the CWA.

###### *Safe Drinking Water Act*

The Federal Safe Drinking Water Act (SDWA) is enforced by the EPA and sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. SDWA requires many actions to protect drinking water and its sources including rivers, lakes, and groundwater.

###### *State*

###### *Urban Water Management Planning Act*

The Urban Water Management Planning Act of 1983, California Water Code Sections 10610 et seq., requires publicly or privately owned water suppliers that provide more than 3,000 af of water annually or supply more than 3,000 customers to prepare a plan that:

- Plans for water supply and assesses reliability of each source of water over a 20-year period in 5-year increments.
- Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands, in normal, single-dry, and multiple-dry years.
- Implements conservation and the efficient use of urban water supplies. Significant new requirements for quantified demand reductions have been added by the Water Conservation Act of 2009 (Senate Bill 7 of Special Extended Session 7 [SBX7-7]), which amends the act and adds new water conservation provisions to the Water Code.

###### *Senate Bills 610 and 221, Water Supply Planning*

To assist water suppliers, cities, and counties in integrated water and land use planning, the state passed Senate Bill (SB) 610 (Chapter 643, Statutes of 2001) and SB 221 (Chapter 642, Statutes of 2001), effective January 1, 2002. SB 610 and SB 221 improve the link between information of water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 are companion measures that promote more

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collaborative planning between local water suppliers and cities and counties. Both statutes require detailed information regarding water availability to be provided to city and county decision makers prior to approval of specified large development projects. This detailed information must be included in the administrative record as the evidentiary basis for an approval action by the city or county on such projects. The statutes recognize local control and decision making regarding the availability of water for projects and the approval of projects. Under SB 610, water supply assessments (WSA) must be furnished to local governments for inclusion in any environmental documentation for certain projects subject to CEQA, as defined in Water Code Section 10912[a]. Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative verification of sufficient water supply. SB 221 is intended as a fail-safe mechanism to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs before construction begins.

The Urban Water Management Planning Act states that every urban water supplier that provides water to 3,000 or more customers or provides over 3,000 af of water annually should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple dry years. Both SB 610 and SB 221 identify the Urban Water Management Plan (UWMP) as a planning document that can be used by a water supplier to meet the standards in both statutes. Thorough and complete UWMPs are foundations for water suppliers to fulfill the specific requirements of these two statutes, and they are important source documents for cities and counties as they update their general plans. Conversely, general plans are source documents as water suppliers update the UWMPs. These planning documents are linked, and their accuracy and usefulness are interdependent.

#### *AB 3030, California Groundwater Management Act*

The Groundwater Management Act of the California Water Code (AB 3030) provides guidance for applicable local agencies to develop a voluntary Groundwater Management Plan in state-designated groundwater basins.

#### *20x2020 Water Conservation Plan*

The 20x2020 Water Conservation Plan, issued by the Department of Water Resources in 2010 pursuant to the Water Conservation Act of 2009 (SBX7-7), established a water conservation target of 20 percent reduction in water use by 2020 compared to 2005 baseline use.

#### *City of Clovis*

#### *City of Clovis Urban Water Management Plan*

The 2010 City of Clovis UWMP focuses on the City's water supply and provides guidance for efficient water supply use and conservation of water, anticipates future water supply needs, and describes actions to undertake during a drought. UWMPs are updated every five years; thus, the next UWMP is scheduled for completion in 2015.

#### *Clovis Municipal Code Chapter 6.5*

Chapter 6.5, Water System, addresses water restrictions, water conversation and waste prevention, and water fees.

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### Water Providers

The proposed General Plan Update planning boundary includes the City of Clovis, its sphere of influence (SOI), and unincorporated portions of Fresno County (non-SOI Plan Area). Together these three areas make up the Plan Area covered by the General Plan Update. The City's Public Utilities Department (PUD) delivers water to approximately 106,000 residents and is the sole municipal water purveyor in the City and SOI. The City's PUD also provides water to Tarpey Village, a small unincorporated county island with a population of 3,888 (2010 U.S. Census). In 2013, the City's PUD supplied 20,160 acre-feet of groundwater and 6,963 acre-feet of surface water (Koehn 2014). In the non-SOI Plan Area are three county service areas (CSAs) and one waterworks district (WWD) that provide water service (Koehn 2013). The applicable service boundaries and City water distribution system are shown in Figure 5.17-1, *City of Clovis Water System*.

- **Fresno WWD No. 42** is adjacent to the City's eastern boundary, between Herndon Ave. and SR-168. The district encompasses a total of 362 acres and serves 102 residential parcels. The district obtains water from 4 groundwater wells.
- **Fresno CSA No. 10** encompasses two unconnected areas east of the City—Cumorah Knolls and Mansionettes Estates, which have 74 residential parcels across approximately 211 acres. Cumorah Knolls is north of Shaw Ave. and west of Academy Ave. Mansionettes Estates is south of Herndon Ave. between De Wolf Ave. and McCall Ave. Both areas receive their water from groundwater wells. They are considered fully developed.
- **Fresno CSA No. 47** is east of the City between Shaw Ave. and Ashlan Ave. The service area spans 370 acres and distributes water to 730 residential parcels. Water is supplied from local groundwater wells. The area is fully developed, with no future growth anticipated.

Each Fresno CSA within the Plan Area is considered fully developed and uses water sources independent of the City of Clovis. Fresno WWD No.42 is supplied by groundwater wells and future growth is not anticipated. The proposed General Plan Update would not affect water supply in these service areas, so the following sections analyze the water supply of the City of Clovis's PUD only.

### Water Sources and Facilities

The City of Clovis relies upon groundwater, surface water, and recycled water for its water supply. Potable water is supplied by underground aquifers as well as the City's Surface Water Treatment Plant. The following sections describe each water source in more detail.

#### *Groundwater*

The City lies within the Kings Groundwater Subbasin, which lies within the San Joaquin Basin Hydrologic Area (see Figure 5.9-4, *Kings Groundwater Basin*). The Kings Subbasin has been identified as critically overdrafted. As of 2010, groundwater level is 144 feet below the surface in the City of Clovis, compared to 30 feet in the 1950's (UWMP, Table 5-5). Groundwater is drawn from 37 ground wells in the City, with a combined total pumping

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capacity of 50,460 gallons per minute (gpm). Two more wells are planned, which is estimated to bring an additional 3,250 gpm of capacity. As of 2010, the City obtains 18,200 afy of groundwater from these wells.

The City has determined through master planning studies that approximately 7,700 afy of natural groundwater recharge flows into the Clovis area annually. As of 2010, the City also intentionally recharges the aquifer with 8,400 afy of surface water. It is therefore estimated that the sustainable annual yield of groundwater in the service area is the sum of these sources of recharge, 16,100 afy. Despite the City's decline in groundwater use from 2007 to 2010 and plans to decrease groundwater overdraft, it is possible that groundwater use will increase in the near future due to drought conditions and resulting reduced surface water flows.

#### *Surface Water*

##### *Fresno Irrigation District*

###### *Kings River*

Surface water to the city is supplied to the City through an agreement with the Fresno Irrigation District by which the City receives a portion of FID's entitlement to Kings River Water proportional to the amount of FID land that lies within the City of Clovis. FID is a member of the Kings River Water Association which holds water rights licenses for all of the Kings River and storage rights licenses on Kings River reservoirs. FID is entitled to water based upon a prorated monthly schedule determined by the natural flow of the Kings River. FID average gross annual entitlement is 454,000 AF. As of 2010, the City holds 11,006 acres of the 198,818 acres receiving supply within the FID resulting in approximately 26,748 AF of water per year. Over the past decade, 2005, 2006 and 2010 exhibited above-average inflow, while all other years from 2000 to 2009 exhibited below-average inflow for the King's River (UWMP, Figure 5-3). The flow was significantly above average in 2011 and significantly below average due to the current drought conditions, in 2012, 2013, and 2014.

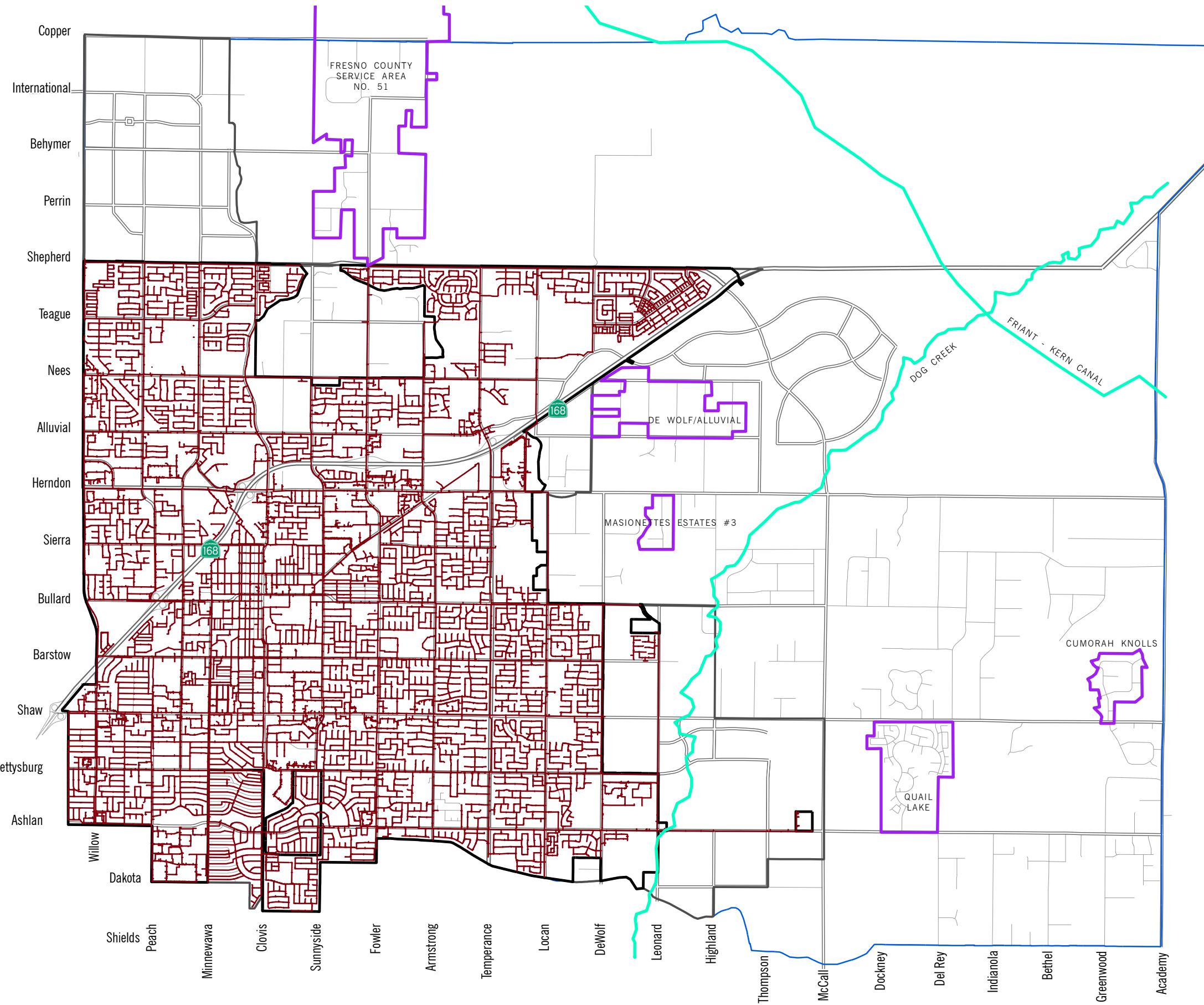
###### *Central Valley Project Water Allocation: Friant Division - Class 2*

The FID holds a contract with the United States Bureau of Reclamation for 75,000 afy of Class 2 water from the Friant Division of the Central Valley Project. Class 1 water supply is considered to be dependable in most years with shortages only in very dry years. Class 2 water is in excess of Class 1 and is therefore much less dependable. The agreement between FID and the City does not allow the City to directly receive these CVP supplies, but it has been interpreted to mean that FID will make a like amount of Kings River water available to the City for its proportional share of Class 2 CVP supplies. This agreement makes, on average, an additional 1,140 afy of Kings River water available to the City. However, in light of the current drought conditions, this allocation is likely to remain an unreliable water resource.

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Figure 5.17-1

### City of Clovis Water System



Source: City of Clovis Public Works Department, 2013



**CLOVIS**  
GENERAL PLAN

Environmental Impact Report

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THE PLANNING CENTER  
DC&E

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### ***Garfield Water District***

Some areas within the City's planned urbanized areas in the SOI and non-SOI Plan Area are not served by FID. Half of the Garfield Water District (GWD) is within these areas. The GWD holds a Class 1 CVP contract for 3,500 afy. The City expects half of this supply—the portion of the GWD within the City's SOI—to be added to the City's supply upon development. The City's UWMP considers 1,170 afy of this available for land likely to be developed.

### ***Surface Water Treatment***

Surface water is treated before delivery to customers at the Surface Water Treatment Plant (SWTP). In 2010, the SWTP produced 2.1 billion gallons (6,445af). A planned expansion of the SWTP was completed in 2014 to increase capacity to 22.5 million gallons per day (23,133 afy). The capability of the plant, however, is limited by supply.

### ***Water Banking Facilities***

Since 2006, two banking facilities have been built, Waldron Pond and Boswell Groundwater Banking Facility. The purpose of these facilities is to bank surplus water supplies, thereby making it available to the City as needed. Excess that is not withdrawn from the aquifer will restore groundwater levels in the region.

### ***Waldron Pond Banking Facility***

In 2004, the City of Clovis entered into an agreement with the FID to finance the construction of the Waldron Pond Banking Facility. Under this agreement, the City is entitled to receive up to 90 percent of the annual production of the facility in a given year. The City expects to receive 9,315 afy of water from this facility.

### ***Boswell Groundwater Banking Facility***

The City and FID made a similar agreement regarding the Boswell Groundwater Banking Facility. Under the agreement, the City funded the expansion of the existing 35-acre facility to 100 acres and the construction of three new recovery wells – all completed in 2011 – and gains access to up to 4,500 af of FID surface water (FID 2014).

### ***Wastewater and Recycled Water Supply***

#### ***Clovis Wastewater Treatment Plant***

The City constructed a wastewater treatment plant that began service in 2009. The facility produces a disinfected, tertiary-treated water supply, which is used for both landscaping and agricultural uses. In 2010 this facility produced 1,784 af of treated water for use within the City service area. Production at this facility is expected to grow to 6,273 afy by 2025.

#### ***Regional Wastewater Treatment Plant Exchange***

As of 2010, a large portion of the City of Clovis's wastewater is treated at the Fresno-Clovis Regional Wastewater Treatment Facility. Under an agreement with the FID, the City of Fresno receives approximately one acre-foot of surface water from the Kings River for each two acre-feet of reclaimed water produced by the treatment facility

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using wastewater supplied by the City. Clovis is entitled to receive a proportionate share of the exchange water which would have been 453 af in 2010.

#### Current and Projected Water Supply and Demand

##### *Current and Projected Supply*

Current and future supplies through 2035, as included in the 2010 UWMP, are shown in Table 5.17-1. The future supply projections are broken down by source and assume normal surface water entitlements from the FID. The FID Kings River water supply and the FID Class II CVP supply assume that development within the FID boundaries, southwest of the Enterprise Canal, is maximized. If City development is not completed within the FID boundaries by 2030 and instead the development occurs outside the FID boundaries, those supplies will be reduced.

**Table 5.17-1 Current and Future Potable and Nonpotable Water Supply Sources (afy)**

Water Supply Sources	2010	2015	2020	2025	2030	2035
<b>Potable Water</b>						
<i>Local Groundwater</i>						
Clovis-produced groundwater	18,200	10,212	10,662	13,727	9,252	12,542
Waldron Pond Banking Facility	9,315	9,315	9,315	9,315	9,315	9,315
Boswell Banking Facility	0	4,500	4,500	4,500	4,500	4,500
<i>Local Surface Water</i>						
FID Kings River Water	26,748	26,700	28,925	32,262	35,430	35,430
<i>Imported Surface Water</i>						
FID Class II CVP Water <sup>1</sup>	406	1,243	1,347	1,503	1,651	1,651
GWD Class I CVP Water <sup>1</sup>	0	0	585	1,170	1,170	1,170
<i>Potable Water, Subtotal</i>	<i>54,669</i>	<i>51,970</i>	<i>55,334</i>	<i>62,477</i>	<i>61,318</i>	<i>64,608</i>
<b>Nonpotable Water</b>						
<i>Recycled Water</i>						
Recycled Water (Clovis)	1,784	2,913	2,913	6,273	6,273	6,273
Regional WWTP Exchange (Fresno)	453	1,026	1,100	733	831	918
<i>Total Water Supply</i>	<i>56,906</i>	<i>55,909</i>	<i>59,347</i>	<i>69,483</i>	<i>68,422</i>	<i>71,799</i>

Source: Clovis 2011.

Notes: 1 Class I and Class II are categories of supply reliability. Class I is reliable in most years with shortages only in very dry years; Class II is less reliable.

FID = Fresno Irrigation District

CVP = Central Valley Project

GWD = Garfield Water District

WWTP = Regional Wastewater Treatment Plant (in Fresno)

##### *Current and Projected Demands*

The vast majority of water demands within the City's service area are residential. Commercial, institutional, industrial, and open space uses account for 22 percent of the total water supply. Clovis has an estimated 10-year baseline water consumption rate of 249 gallons per capita per day (gpcd).

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In 2010, total water deliveries were 23,841 acre-feet for a population of 99,519. UWMP demand projections are based on an increase in population to 188,224 in 2035. Table 5.17-2 provides the current and projected water demand through 2035.

**Table 5.17-2 Current and Projected Potable and Nonpotable Water Demands in the City, in afy**

Water Use	2005	2010	2015	2020	2025	2030	2035
Total water deliveries <sup>1</sup>	23,235	23,841	27,622	28,181	31,777	35,842	40,442
Additional water uses and losses <sup>2</sup>	11,659	9,466	10,855	10,876	12,195	12,348	12,520
<b>Total</b>	<b>34,894</b>	<b>33,307</b>	<b>38,447</b>	<b>39,057</b>	<b>43,972</b>	<b>48,190</b>	<b>52,962</b>

Source: Clovis 2011.

<sup>1</sup> The total water deliveries includes deliveries for residential, commercial, industrial, institutional, landscaping, construction, and agricultural uses.

<sup>2</sup> Other uses and losses include groundwater recharge, untreated surface water sent to the Letterman Park and Reagan Educational Center, recycled water that can be used for agriculture or landscaping in service area, and system losses.

### ***Supply and Demand Comparison***

Current and projected water supply and demands are compared below in Table 5.17-3. As shown, supply is projected to increase to 71,798 afy in 2035. Water demand is projected to increase to 52,962 afy in 2035. The City has adequate water supply to meet water demands as projected for 2035 in the 2010 UWMP.

**Table 5.17-3 Supply and Demand Comparison (Normal Year), in afy**

Water Use	2015	2020	2025	2030	2035
Total Supply	55,908	59,346	69,483	68,422	71,798
Total Demand	38,478	39,059	43,971	48,190	52,962
Difference	17,430	20,287	25,512	20,233	18,836
Difference as Percent of Supply	31%	34%	37%	30%	26%
Difference as Percent of Demand	45%	52%	58%	42%	36%

Source: Clovis 2011.

### **Water Conservation Programs**

#### ***Demand Management Measures***

A set of 14 Demand Management Measures was included in the 2005 Urban Water Management Planning Act. The City of Clovis has since implemented 13 of these measures, one not being applicable to the City's situation. The measures can be grouped into four categories.

- **Education, Surveys, and Audits:** Education programs for water surveys and audits for residential, commercial, industrial, institutional, and irrigation customers.
- **Retrofits, Replacement, and Rebates:** Low-flow showerheads and faucet aerators are available to City customers at no cost. The City also offers rebates for high-efficiency washing machines and ultra-low-flush toilets.

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- **Metering:** The City is fully metered for all customer classes, including separate meters for single-family residential.
- **Water Waste Prohibition (Clovis Municipal Code Section 6.5.513):** Contains regulations and prohibitions pertaining to irrigation water runoff and overspray waste.

#### *Water Supply Reliability*

According to the City of Clovis 2010 UWMP, single and multiple dry year supply and demand projections are provided below.

#### *Single Dry Year Supply and Demand Projections*

The single dry year projections shown in Table 5.17-4 below are based on the assumption that potable demands will increase by 6 percent in a single dry year and that recycled water use will increase by 10 percent over normal year projections. Recharge demands are not included in demand estimates for dry years but will be met with any remaining surface water supply. Groundwater pumping will be increased during dry years to compensate for the decrease in surface water supplies.

**Table 5.17-4 Supply and Demand Comparison (Single Dry Year), in afy**

Water Use	2015	2020	2025	2030	2035
Total Supply	38,236	39,808	45,443	43,915	47,924
Total Demand	31,919	32,535	37,789	42,261	47,320
Difference	6,316	7,274	7,653	1,654	604
Difference as Percent of Supply	17%	18%	17%	4%	1%
Difference as Percent of Demand	20%	22%	20%	4%	1%

Source: Clovis 2011.

#### *Multiple Dry Year Supply and Demand Projections*

The multiple-dry-year projections shown in Table 5.17-5 are based on the same assumptions as single-dry-year projections.

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**Table 5.17-5 Supply and Demand Comparison (Multiple Dry Year), in afy**

Water Use	2015	2020	2025	2030	2035
<b>Year 1</b>					
Total Supply	47,650	50,339	59,497	57,286	61,295
Total Demand	31,919	32,535	37,789	42,261	47,320
Difference	15,731	17,804	21,708	15,025	13,975
Difference as Percent of Supply	33%	35%	36%	26%	23%
Difference as Percent of Demand	49%	55%	57%	36%	30%
<b>Year 2</b>					
Total Supply	47,160	51,103	51,281	56,794	62,068
Total Demand	32,166	34,099	38,684	43,273	48,462
Difference	15,117	17,003	12,597	13,522	13,606
Difference as Percent of Supply	32%	33%	25%	24%	22%
Difference as Percent of Demand	47%	50%	33%	31%	28%
<b>Year 3</b>					
Total Supply	39,909	43,833	42,797	47,401	52,802
Total Demand	32,166	35,022	39,578	44,285	49,603
Difference	7,744	8,811	3,219	3,116	3,199
Difference as Percent of Supply	19%	20%	8%	7%	6%
Difference as Percent of Demand	24%	25%	8%	7%	6%

Source: Clovis 2011.

### Water Supply Contingency Plan

#### *Shortage Actions*

The City of Clovis UWMP provides mitigation measures for potential water shortages focused at both increasing supply and reducing demand. Methods to increase water supply in Clovis require the construction of new facilities and thus have a lead time of at least one year before production is increased. Demand reduction techniques are considered more feasible and immediate solutions to a potential water shortage.

The City's 2010 UWMP classifies water shortages in four stages and details target demand reductions and necessary actions for each stage. The stages range from Stage 1 (minimal shortage: up to 10 percent with a 10 percent demand reduction target) to Stage 4 (critical shortage: 35 to 50 percent with a 50 percent demand reduction target). Demand reduction measures are voluntary in Stage 1 and mandatory in Stages 2 through 4. Techniques to reduce demand include water surveys, leak detection, plumbing retrofitting, irrigation restrictions, information programs, specific use restrictions, new connection restrictions, plumbing code changes, development restrictions, development offset programs, rationing, and price restructuring. As of May 2014, the City is implementing Stage 2 measures.

#### *2013–2014 Drought*

In January 2014, Governor Brown declared a drought state of emergency and asked Californians to reduce water use by 20 percent. On January 15, 2014, the US Department of Agriculture designated 27 California counties

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primary natural disaster areas due to the drought, including Fresno County, (USDA 2014). Average annual rainfall at Fresno Yosemite International Airport (FYI) is 10.89 inches, but FYI received 5.68 inches of rainfall (52 percent of average) during the 2013 water year (October 2012 to September 2013). Rainfall at FYI between October 2013 and April 2014 was 4.76 inches, 46 percent of the average for that period (DWR 2014).

The FID ended water deliveries in water year 2013 on July 31 and in some areas on July 15; by contrast, water deliveries in 2010 and 2011 extended to October 31 of each year (FID 2013). FID water service in 2014 is expected to last six weeks, from June 1 to July 15, the shortest water delivery period in 37 years (FID 2014a). FID is currently storing 13,000 acre-feet of water as an emergency water supply for several small San Joaquin Valley communities that may have little to no surface water or groundwater supplies available this year (FID 2014b). The US Bureau of Reclamation, operator of the Central Valley Project—a system of reservoirs, canals, and other water conveyance infrastructure serving the Sacramento and San Joaquin Valleys—announced on February 21, 2014, that it would deliver zero water in 2014 from Millerton Reservoir on the San Joaquin River (USBR 2014). Groundwater levels in the San Joaquin Valley are forecast to hit an all-time low in 2014 (UCCHM 2014).

#### 5.17.1.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

- U-2      Would require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- U-4      Would not have sufficient water supplies available to serve the project from existing entitlements and resources, and new and/or expanded entitlements would be needed.

#### 5.17.1.3 ENVIRONMENTAL IMPACTS

##### Principles Governing CEQA Analysis of Water Supply

In *Vineyard Area Citizens for Responsible Growth, Inc., v. City of Rancho Cordova* (2007) 40 C4th 412, CR3d 821, the California Supreme Court articulated the following principles for analysis of future water supplies for development projects subject to CEQA:

- An adequate environmental impact analysis for a long-range development plan cannot be limited to the water supply for the first stage of development. While CEQA's tiering principles allow an agency to defer analysis of certain details of later phases of long-term projects until those phases are considered for approval, CEQA's disclosure requirement "is not satisfied by simply stating information will be provided in the future." 40 C4th at 441
- Future water supplies identified and analyzed in an EIR must be reasonably likely to prove available; speculative sources and unrealistic paper allocations do not provide an adequate basis for decision making under CEQA. 40 C4th at 432

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- When, despite a full analysis, “it is impossible to confidently determine that anticipated future water sources will be available,” CEQA requires some discussion of possible replacement or alternative supply sources, and of the environmental consequences of resorting to those sources. 40 C4th at 432
- An EIR for a land use plan need not demonstrate that the water supply for the project is assured through enforceable agreements with a provider and built or approved treatment and delivery facilities. To interpret CEQA as requiring firm assurances of future water supplies at early stages of the planning process would be inconsistent with the water supply statutes, which call for an assured supply only at the end of the approval process. 40 C4th at 432
- The burden of identifying likely water sources for a project varies with the stage of project approval involved, with the necessary degree of confidence in actual availability for approval of a conceptual plan being “much lower than for issuance of building permits.” 40 C4th at 434
- The “ultimate question under CEQA is not whether an EIR establishes a likely source of water, but whether it adequately addresses the reasonably foreseeable impacts of supplying water to the project.” 40 C4th 434

It should be noted that the *Vineyard* case concerned a specific development project and not a general plan update. The court in *Watsonville Pilots Ass’n vs. City of Watsonville* (2010) 183 CA4th 1059, 1092, 108 CR3d 577, held that it is not necessary for an EIR on a general plan to establish a likely source of water. Relying on the principles outlined in the California Supreme Court’s opinion in *Vineyard*, the court ruled that because general plan EIRs are conceptual, they need only address:

- The reasonably foreseeable impacts of supplying water to the project,
- Note any uncertainties that prevent identification of future water sources,
- Identify and describe alternatives,
- Discuss the environmental impacts of those alternatives.

### **Comparison of General Plan Buildout and UWMP Growth Projections**

The City of Clovis’s 2010 UWMP estimates population growth within its service area based on the 1993 Clovis General Plan. The UWMP uses the 1993 General Plan projections through year 2030 and assumes a constant 2.5 percent annual increase thereafter. Population projections may be directly compared (see Table 5.17-6 below), since the 1993 Clovis General Plan has the same Plan Area as the proposed General Plan Update.

**Table 5.17-6 General Plan Buildout and UWMP Projections**

Source	Population
Existing Conditions (2011)	115,000
UWMP Projections (2015)*	114,213
UWMP Projections (2035)*	188,224
General Plan Update Projections (2035)	184,100
General Plan Update Projections (Full Buildout)	294,300

\* Source: Clovis 2011.

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#### Water Demand Forecasts

As a result of SBX7-7, the City established a water conservation target of 20 percent reduction in water use by 2020 compared to baseline. Based on a 10 year base daily per capita water use rate of 249 gallons per capita per day (gpcd), the City has set a target use rate of 199 gpcd by 2020. The water use rate is assumed to be constant after 2020 because no further demand reduction plans currently exist. The per capita water use rates from the UWMP include all usages of potable water: residential, commercial, industrial, school, and governmental.

#### Impact Analysis

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

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**Impact 5.17-1: There are adequate planned water supplies to meet projected demand for the 2035 Scenario. Additional water supply would be required to meet the requirements of full General Plan buildup. [Threshold U-4]**

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#### *Impact Analysis:*

#### 2035 Scenario

As per population projections in Table 5.17-6, the proposed general plan update predicts a 2035 population of 184,100. This is 236 less than the estimated City population of 184,336 used in the City's 2010 UWMP. The total 2035 service area population projected in the UWMP is 188,224 which includes Tarpey Village's population of 3,888 persons. Potable water demand projections, from Table 5-17.7, show that the proposed General Plan update would result in 2035 potable water demand of 40,390 afy, slightly lower than the UWMP's anticipated demand of 40,442 afy.

**Table 5.17.7 Total Water Demand Projections – 2035 Buildout**

	UWMP (2010)	UWMP (2035)	General Plan Update (2035 Buildout)
Potable Water Demand (afy)	23,841	40,442	40,390
Additional Water Uses and System Losses (afy)	9,466	12,520	12,520 <sup>1</sup>
<b>Total Water Demand (afy)</b>	<b>33,307</b>	<b>52,962</b>	<b>52,910</b>

Source: Clovis 2011

<sup>1</sup> Additional water uses and system losses are considered to be roughly proportional to population. The estimated population at 2035 buildout of the proposed general plan is less than the UWMP projections for 2035, so additional water uses and system losses are assumed to be no greater than predicted in the UWMP.

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Additional water uses include intentional groundwater recharge, untreated surface water, and recycled water use. Intentional groundwater recharge accounts for a constant 8,400 afy of the additional water uses and would not be affected by the proposed General Plan. Recycled water use, untreated surface water use, and system losses account for the rest. All three are considered to be roughly proportional population and are thus assumed to be no greater than projected by the UWMP.

## 5. Environmental Analysis

### UTILITIES AND SERVICE SYSTEMS

Buildout of the proposed General Plan to 2035 is anticipated to increase total water demand to 52,910 afy. The City's UWMP has estimated and shown that it will be able to meet a 2035 demand of 52,962 afy. The City would have adequate water supply to meet the demand of 2035 buildout assuming that the development is maximized in the Fresno Irrigation District.

#### **Full Buildout**

Full buildout of the proposed General Plan is expected to increase population to 294,300 + 3,888 (Tarpey) or 298,188. This is an increase of 109,964 over the predicted 2035 population of 188,224 used in the City's UWMP. Portable water demand is expected to increase to 64,080 afy (see Table 5.17-8). Recycled water use is expected to increase, and system losses are assumed to be proportional to population and would thus increase substantially as well. Intentional groundwater recharge is expected to total 8,400 afy indefinitely. At full buildout, total water demand is estimated to total at least 78,695 afy.

**Table 5.17.8 Total Water Demand Projections – Full Buildout**

	UWMP (2010)	UWMP (2035)	General Plan Update (Full Buildout)
Potable Water Demand (afy)	23,841	40,442	64,080
Additional Water Uses and System Losses (afy)	9,466	12,520	14,615
<b>Total Water Demand (afy)</b>	<b>33,307</b>	<b>52,962</b>	<b>78,695</b>

Source: Clovis 2011

<sup>1</sup> Additional water uses and system losses are considered to be roughly proportional to population. The estimated population at 2035 buildout of the proposed general plan is less than the UWMP projections for 2035, so additional water uses and system losses are assumed to be no greater than predicted in the UWMP.

The City's UWMP only provides water supply projections to the year 2035. The UWMP anticipates average year supply to be 71,799 afy in 2035. Water supply at full buildout cannot be expected to exceed this amount as the City has no existing plans to increase water supply past the year 2035. The projected water supply is not sufficient to meet the demands of full buildout of the proposed General Plan.

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**Impact 5.17-2: Development pursuant to the General Plan Update would require the expansion or construction of surface water treatment facilities and water delivery systems. [Threshold U-4]**

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#### ***Impact Analysis:***

#### **2035 Scenario**

##### ***Surface Water Treatment***

The City of Clovis sources potable water from both groundwater pumping and surface water treatment. The City seeks to reduce its usage of groundwater pumping to sustainable levels, so any increase in potable water demand must be filled through surface water treatment. The City recently completed an expansion of its SWTP from its former capacity of 16,800 afy to 23,133 afy (22.5 mgd) (Koehn 2014). The City plans to expand the surface water treatment plant capacity to 37.5 MGD prior to 2030. Table 5.17-9 below shows the surface water treatment capacity necessary to fill projected potable water demand.

## 5. Environmental Analysis

### UTILITIES AND SERVICE SYSTEMS

**Table 5.17-9      Necessary Surface Water Treatment Plant Capacity, 2035 Scenario**

	Existing Conditions	2035 Scenario
Potable Water Demand (afy) <sup>1</sup>	24,735	41,097
Groundwater Pumping (afy) <sup>1</sup>	18,200	12,542
Surface Water Treatment Capacity Necessary to Meet Demand (afy) <sup>2</sup>	6,535	29,365
Current Surface Water Treatment Capacity (afy) <sup>1</sup>	23,133	23,133
Difference	+16,598	-6,232

<sup>1</sup> Source: Clovis 2011.

<sup>2</sup> Necessary surface water treatment capacity is calculated as the total demand for potable water plus losses less the amount met through groundwater pumping.

Table 5.17-9 shows that the Surface Water Treatment Plant would need to produce 29,365 afy of potable water by 2035 to meet projected demand. The recently completed expansion would not be sufficient to fully treat this demand. The planned capacity increase of the existing facility to 37.5 mgd would meet the project water demands of the 2035 Scenario.

The specific location and design of future water facilities (new or expanded) required to provide services in accordance with the proposed General Plan Update are not known at this time; therefore, it would be speculative to provide environmental analysis for construction-related impacts. Such improvements, however, would be subject to the General Plan policies; federal, state and local regulations; and applicable mitigation measures as detailed in each topical section of this Draft PEIR. Moreover, these improvements would fall within the impact significance conclusions in this Draft PEIR for construction-related impacts for implementation of the General Plan Update (e.g., construction air quality, noise, GHG, cultural resources). Therefore, construction-related impacts are concluded to be less than significant within this topical EIR section (Utilities and Service Systems). Delivery Systems

For the 2035 Scenario, additional transmission and distribution mains would be required to serve new development. Increases in densities may require upgrades in existing distribution mains. An additional pump station and storage reservoir may be required depending on the location of new development.

Water mains would generally be built in roadways. Construction of water mains involves excavation to greater depths than is required for construction of roadways. Thus, water main construction could result in impacts to buried archaeological and fossil resources. Impacts of construction of water mains would be part of the overall impacts of General Plan buildout analyzed throughout Chapter 5 of this DEIR. Impacts and mitigation measures respecting archaeological and fossil resources are described in Section 5.5, *Cultural Resources*, of this DEIR. Full Buildout

#### *Surface Water Treatment*

Necessary surface water treatment output would be substantially higher by full buildout, as shown in Table 5.17-10. An additional 30,798 afy of surface water treatment capacity would be needed to meet the projected demand. Further expansion of the SWTP or the construction of additional facilities would be required to meet demand for potable water. The current facility is expandable up to 45 MGD. An additional facility would likely be required to meet full buildout needs.

## 5. Environmental Analysis

### UTILITIES AND SERVICE SYSTEMS

**Table 5.17-10    Necessary Surface Water Treatment Plant Capacity, Full Buildout, afy**

	Existing Conditions	Full Buildout
Potable Water Demand (afy) <sup>1</sup>	23,841	66,473
Groundwater Pumping (afy) <sup>1</sup>	18,200	12,542 <sup>2</sup>
Surface Water Treatment Capacity Necessary to Meet Demand (afy) <sup>3</sup>	5,641	53,931
Current Surface Water Treatment Capacity (afy) <sup>4</sup>	23,133	23,133
<b>Difference</b>	<b>+17,492</b>	<b>-30,798</b>

<sup>1</sup> Source: Clovis 2011.  
<sup>2</sup> Forecast groundwater pumping amount for 2035, the ultimate year for which forecasts are available.  
<sup>3</sup> As of 2014.  
<sup>4</sup> Necessary surface water treatment capacity is calculated as the total demand for potable water less the amount met through groundwater pumping.

Similar to the 2035 Scenario, specific project details regarding construction and expansion of water treatment facilities are uncertain as of now. Thus, it is speculative to address potential impacts of these facilities within the scope of this programmatic EIR. However, potentially adverse impacts that may result from the expansion of facilities pursuant to buildout of the proposed land use plan would be less than significant upon the implementation of the General Plan Update's goals, policies, and actions and existing federal, state, and local regulations.

#### *Delivery Systems*

For full buildout, additional transmission and distribution mains would be required to serve new development. An additional pump station and storage reservoirs would be required for new development.

The analysis of impacts of water main construction under the 2035 Scenario above would also apply to full buildout; and would apply to ground disturbance for construction of a pump station and storage reservoirs for full buildout.

#### **5.17.1.4 RELEVANT GENERAL PLAN POLICIES**

##### **Public Facilities and Services Element**

**Goal 1:** Reliable and cost-effective infrastructure systems that permit the city to sustainably manage its diverse water resources and needs.

- **Policy 1.1 New development** - New development shall pay its fair share of public facility and infrastructure improvements.
- **Policy 1.2 Water supply** - Require that new development demonstrate contractual and actual sustainable water supplies adequate for the new development's demands.
- **Policy 1.3 Annexation** - Prior to annexation, the city must find that adequate water supply and service and wastewater treatment and disposal capacity can be provided for the proposed annexation. Existing water supplies must remain with the land and be transferred to the City upon annexation approval.

## 5. Environmental Analysis

### UTILITIES AND SERVICE SYSTEMS

- **Policy 1.4 Development-funded facilities** - The City may require developments to install onsite or offsite facilities that are in excess of a development's fair share. However, the City shall establish a funding mechanism for future development to reimburse the original development for the amount in excess of the fair share costs.
- **Policy 1.5 Recycled water** - Use recycled water to reduce the demands for new water supplies. Support the expansion of recycled water infrastructure throughout Clovis and require new development to install recycled water infrastructure where feasible.
- **Policy 1.6 Master plans** - Periodically update water, recycled water, wastewater, and stormwater master plans and require all new development to be consistent with the current master plans.
- **Policy 1.7 Groundwater** - Stabilize groundwater levels by requiring that new development water demands not exceed the sustainable groundwater supply.
- **Policy 1.8 Water facility protection** - Protect existing and future water, wastewater, and recycled water facilities from encroachment by incompatible land uses that may be allowed through discretionary land use permits or changes in land use or zoning designations.

### Open Space and Conservation Element

**Goal 3:** A built environment that conserves and protects the use and quality of water and energy resources.

- **Policy 3.3 Well water** - Prohibit the use of new private wells in new development.
- **Policy 3.4 Drought-tolerant landscaping** - Promote water conservation through the use of drought-tolerant landscaping on existing and new residential properties. Require drought-tolerant landscaping for all new commercial and industrial development and city-maintained landscaping, unless used for recreation purposes.
- **Policy 3.5 Energy and water conservation** - Encourage new development and substantial rehabilitation projects to exceed energy and water conservation and reduction standards set in the California Building Code.

### Land Use Element

- **Policy 4.3 Future Environmental Clearance** - The City shall monitor development and plan for additional environmental clearance as development levels approach those evaluated in the General Plan EIR.

#### 5.17.1.5 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

##### 2035 Scenario

Upon implementation of regulatory requirements and compliance with the proposed General Plan Update policies, the following impact would be less than significant for the 2035 Scenario: Impact 5.17-2.

## 5. Environmental Analysis UTILITIES AND SERVICE SYSTEMS

Buildout of the proposed General Plan Update would require a substantial geographic as well as capacity extension of the City's water system, including storage, conveyance, and treatment facilities. The General Plan policies listed for Impact 5.17-2 under the 2035 Scenario (Policies 1.1, 1.4, and 1.6) would mitigate this impact. Additionally, development monitoring would be implemented under General Policy 4.3, assuring that development does not occur without adequate support infrastructure.

Without mitigation, the following impact would be **potentially significant** for the 2035 Scenario:

- **Impact 5.17-1:** According to the 2010 UWMP, adequate water supply would be available for development as projected under the 2035 Scenario assuming that development is maximized within the Fresno Irrigation District boundaries. The UWMP, however, was prepared prior to more recent drought conditions throughout the state, and an update of the UWMP is pending.

With the recent expansion of the City's SWTP (completed in 2014), there is a remaining treatment capacity of approximately 17,492 acre feet/year. The City has also recently initiated its update of the infrastructure master plans, including the Master Water Plan, for which the target completion date is 2015. Compliance with proposed General Plan Update policies, including Policy 1.1 New Development, 1.4, Development Funded Facilities, and 1.6, Master Plans, would assure that water conveyance and treatment facilities are adequate to serve development under the 2035 scenario. Furthermore, compliance with the General Plan Update's goals, policies, and actions and existing federal, state, and local regulations would ensure potential construction and expansion impacts of water facilities are less than significant.

### Full Buildout

Upon implementation of regulatory requirements and compliance with the proposed General Plan Update policies, the following impact would be less than significant for Full Buildout: Impact 5.17-2.

Full buildout of the proposed General Plan Update would require a substantial geographic extension as well as capacity of the City's water system, including storage, conveyance, and treatment facilities. Nevertheless, compliance with the General Plan Update's goals, policies, and actions and existing federal, state, and local regulations would ensure potential construction and expansion impacts of future water facility construction and expansion to less than significant levels.

Without mitigation, the following impact would be **potentially significant** for Full Buildout:

- **Impact 5.17-1:** Projected water supply is inadequate to meet projected water demand for full buildout of the proposed General Plan.

## 5. Environmental Analysis

### UTILITIES AND SERVICE SYSTEMS

#### 5.17.1.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

##### Impact 5.17-1

###### *2035 Scenario and Full Buildout*

Although adequate water supplies have been identified in the 2010 UWMP for demand as projected under the 2035 Scenario, this information does not take into account recent drought conditions. Given the uncertainty of the potential ongoing severity and duration of the drought, water supply availability for the 2035 Scenario is concluded to be potentially significant. Water supplies for Full Buildout of the General Plan have not yet been identified beyond the total 2035 forecast water supplies of 71,798 afy. Considering current water supply constraints—including the record 2013–2014 California drought and the critically overdrafted status of the Kings Sub-basin—it is uncertain whether the City would be able to secure water supplies greater than those currently forecast for 2035. Therefore, impacts of full General Plan Update buildout on water supplies are **significant and unavoidable**.

#### 5.17.2 Wastewater Service

##### 5.17.2.1 ENVIRONMENTAL SETTING

###### Regulatory Setting

###### *Federal*

###### *Clean Water Act and National Pollution Elimination Discharge System*

Waste discharge requirements for discharges from publicly owned treatment works to navigable waters are addressed in National Pollution Elimination Discharge System (NPDES) regulations under the Clean Water Act. NPDES permits for such discharges in the project region are issued by the Central Valley Regional Water Quality Control Board.

###### *City of Clovis Municipal Code*

Chapter 6.4 of the City of Clovis Municipal Code addresses restrictions, fees, and development related to the City public sewer system.

Section 6.4.02 requires that buildings or structures connected to septic tanks or cesspools at the time a public sewer becomes available shall be connected to the public sewer within three years from the date when sewer becomes available. Section 6.4.03 authorizes charges for sewer connections, including charges to fund construction of sewer mains and of house branches extending from sewer mains to property lines. The amounts of such fees are set forth in the City's Master Development Fee Schedule.

###### Existing Conditions

The City of Clovis' Public Utilities Department provides wastewater collection service within the City boundary. The public sewer system serves the entire area within the City boundary, with the exception of some recently annexed areas in the northeast part of the City. These recently annexed areas have yet to receive City sewer service and currently utilize septic tanks (Koehn 2013).

## 5. Environmental Analysis UTILITIES AND SERVICE SYSTEMS

The Clovis Wastewater Collection System Master Plan describes the sewer system infrastructure within the City of Clovis and covers a service area of just over 23,500 acres. Most of the service area is within the SOI; the remainder is north and northeast of the SOI. The service area is divided into seven major areas: Herndon, Fowler, Sierra, Peach, Northwest, Northeast, and Southeast. These service areas are shown in Figure 5.17-2, *Wastewater Service Areas*. The Northeast Service Area is outside of the SOI; and, as of the publication of the Wastewater Collection System Master Plan in 2008, had not been master-planned in any detail (BCF 2008).

### *Wastewater Infrastructure*

The following sections describe the wastewater collection and treatment infrastructure serving the City of Clovis in detail.

#### ***Wastewater Collection***

The City Public Utilities Department currently operates 366 miles of sewer mains within the city (Clovis 2014). Under the Clovis Wastewater Collection System Master Plan, Herndon, Fowler, Sierra, and Peach service areas will continue to discharge to regional trunk sewers and on to the Fresno-Clovis Regional Water Reclamation Facility. The Northwest, Northeast, and Southeast service areas will discharge to the Clovis Water Reuse Facility. Major existing and planned wastewater conveyance infrastructure are mapped on Figure 5.17-3, *Major Wastewater Conveyance Infrastructure*.

The following planned trunk sewers were included in the City's Wastewater Collection System Master Plan (2008):

- In DeWolf Avenue from Bullard Avenue to SR-168 in the Northwest and Northeast Service Areas
- In Herndon Avenue from Thompson Avenue to DeWolf Avenue in the Northeast Service Area
- Northeast of the intersection of Herndon Avenue and Thompson Avenue, in the Northeast Service Area
- In Ashlan Avenue from Highland Avenue to Leonard Avenue, in the Southeast Service Area
- In Leonard Avenue from Ashlan Avenue to the Gould Canal
- In Shepherd Avenue from Willow Avenue to DeWolf Avenue (force main)
- In Herndon Avenue from Clovis to Armstrong Avenue (force main)
- In Barstow Avenue from Villa to Sunnyside Avenue (force main)

The aforementioned Master Plan also includes four planned wastewater pump stations. One of the four planned pump stations would serve the Northwest Service Area, while the other three would serve existing developed portions of the City.

#### ***Wastewater Treatment***

##### *Clovis Water Reuse Facility*

In 2009, the City of Clovis opened a Water Reuse Facility (WRF) in southeast Clovis near the intersection of Ashlan and McCall avenues. The WRF currently treats about 2.8 million gallons per day. Planned expansions of the facility will increase capacity to 8.4 mgd. The WRF currently treats wastewater from the City's Southeast Area and flow that is diverted from the Fowler Trunk Service Area. As the facility is expanded, it will serve the City's Northwest and Northeast growth areas.

## 5. Environmental Analysis

### UTILITIES AND SERVICE SYSTEMS

#### *Fresno-Clovis Regional Water Reclamation Facility*

The majority of wastewater within the City of Clovis is currently discharged to the Fresno-Clovis Regional Water Reclamation Facility (RWRF) in southwest Fresno. The RWRF is owned and operated by the City of Fresno and currently has a treatment capacity of approximately 80 mgd. By an agreement with the City of Fresno, the City of Clovis is entitled to 9.3 mgd of this capacity. This agreement also allows Clovis to acquire additional flow capacity in future sewers and treatment facilities as needed (Fresno RWMP).

#### *Wastewater Treatment Capacity*

The City of Clovis's Wastewater Master Plan provides estimates for current and projected wastewater treatment capacity. Planned treatment capacity includes expansion of the Clovis WRF to a capacity of 8.4 mgd and the purchase of an additional 2.9 mgd of treatment capacity at the Fresno RWRF. Total planned wastewater treatment capacity will increase by 8.5 mgd to a total 20.6 mgd, as shown in Table 5.17-11. Construction and financing of major sewer trunk lines, treatment capacity and recycled water transmission to serve growth is funded in the City of Clovis with development impact fees (Clovis Municipal Code Section 6.4.03)

**Table 5.17-11 Wastewater Treatment Capacity**

Treatment Facility	Currently Available Treatment Capacity(mgd)	Planned Treatment Capacity(mgd)
Clovis Water Reuse Facility	2.80	8.40
Fresno-Clovis Regional Water Reclamation Facility	9.30	12.20
<b>Total</b>	<b>12.10</b>	<b>20.60</b>

Source: Clovis Wastewater Master Plan, 2008.

#### *Wastewater Generation*

The City does not currently provide sewer service outside of the City boundary; thus, only wastewater from the City is currently treated at wastewater treatment facilities. Existing wastewater generation in the City of Clovis is estimated at about 7.0 million gallons per day based on flow metering data from June 2013 through May 2014. Based on current population of 102,188 the per person generation rate is 69 gallons per person per day. Based on the current master plan, generation rates are as shown below in Table 5.17-12. The values take into account wet weather flows and are conservative for design purposes.

**Table 5.17-12 Estimated Wastewater Generation, Existing Conditions, City of Clovis**

Area	Land Use	Population/Square Feet	Wastewater Generation, gallons per day	
			Per person/square foot <sup>1</sup>	Total
City	Single-Family Residential	80,389 population	85/person	6,833,065
	Multifamily Residential	18,942 population	95/person	1,799,490
	Nonresidential	12,600,000 square feet	0.2/square foot <sup>2</sup>	2,520,000
	<b>Total</b>	<b>Not applicable</b>	<b>Not applicable</b>	<b>11,152,555</b>

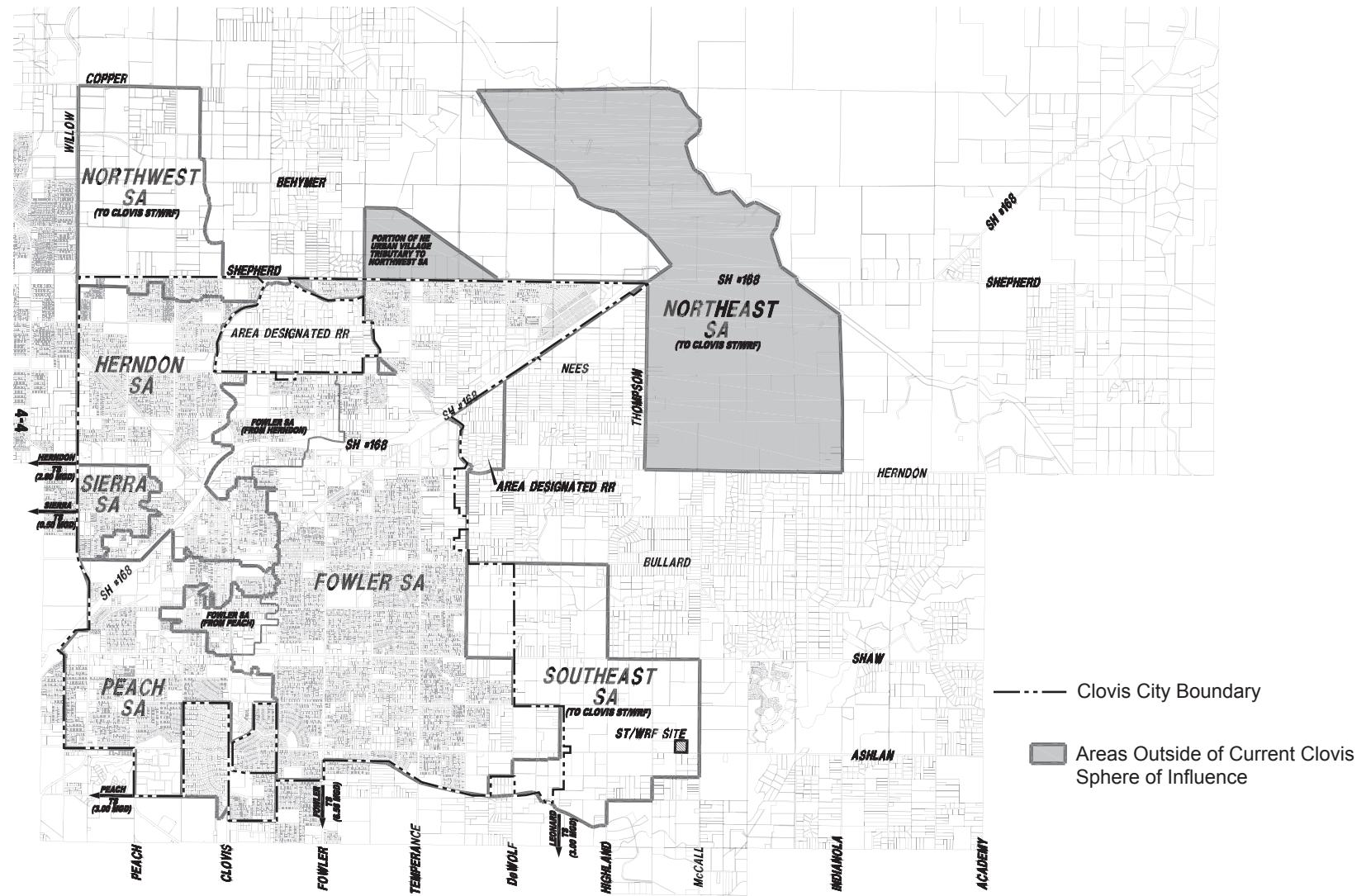
<sup>1</sup> Source: Koehn 2013.

<sup>2</sup> 0.2 gallons per square foot is the City's wastewater generation factor for commercial uses. The City's wastewater generation factor for industrial uses is 0.1 gallon per square foot; thus, the estimate here is somewhat conservative.

# Wastewater Service Areas

## 5. Environmental Analysis

Figure 5.17-2



Source: City of Clovis Wastewater Master Plan Update Phase 2: Wasterwater Collection System Master Plan, 2008.



## 5. Environmental Analysis

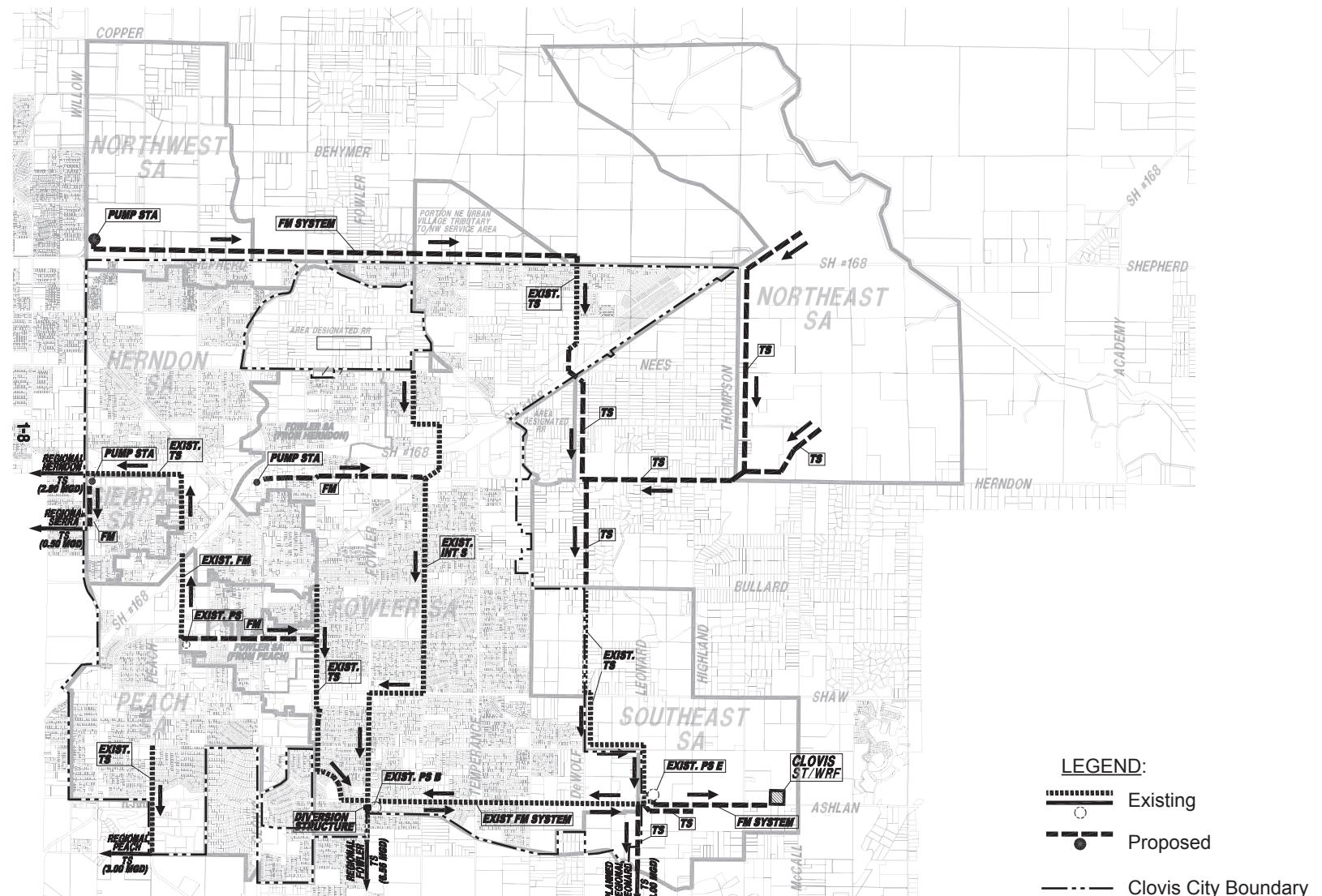
### UTILITIES AND SERVICE SYSTEMS

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# Major Wastewater Conveyance Infrastructure

## 5. Environmental Analysis

Figure 5.17-3



Source: City of Clovis Wastewater Master Plan Update Phase 2: Wasterwater Collection System Master Plan, 2008.



## Environmental Impact Report

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## 5. Environmental Analysis

### UTILITIES AND SERVICE SYSTEMS

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## 5. Environmental Analysis UTILITIES AND SERVICE SYSTEMS

### 5.17.2.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

- U-1      Would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- U-2      Would require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- U-5      Would result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

### 5.17.2.3 ENVIRONMENTAL IMPACTS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

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**Impact 5.17-3: Full buildout of the proposed General Plan would require construction of additional wastewater treatment capacity beyond currently planned expansion of the City of Clovis' water reuse facility. [Thresholds U-1, U-2 (part), and U-5]**

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#### *Impact Analysis:*

#### 2035 Scenario

The 2035 Scenario is estimated to generate about 19.7 mgd of wastewater, as shown in Table 5.17-13. Sewer service by the City Public Utilities Department would be expanded to new areas as they develop and are annexed to the City. Planned expansions of wastewater treatment facilities to 20.6 mgd, as described in the City's Wastewater Master Plan, would be sufficient to meet the wastewater generation by the 2035 Scenario.

## 5. Environmental Analysis

### UTILITIES AND SERVICE SYSTEMS

**Table 5.17-13 Estimated Wastewater Generation, 2035 Scenario**

Area	Land Use	Population/Square Feet	Wastewater Generation, gallons per day	
			Per person/square foot	Total
City	Residential	124,100 population	70.8/person <sup>1</sup>	8,786,280
	Nonresidential	30,625,000 square feet	0.18/square foot <sup>2</sup>	5,512,500
	<b>Subtotal</b>	Not applicable	Not applicable	<b>14,298,780</b>
SOI	Residential	36,100	70.8/person <sup>1</sup>	2,555,880
	Nonresidential	2,545,000 square feet	0.18/square foot <sup>2</sup>	458,100
	<b>Subtotal</b>	Not applicable	Not applicable	<b>3,013,980</b>
Non-SOI Plan Area	Residential	23,600 population	70.8/person <sup>1</sup>	1,670,880
	Nonresidential	4,240,000 square feet	0.18/square foot <sup>2</sup>	736,200
	<b>Subtotal</b>	Not applicable	Not applicable	<b>2,407,080</b>
Entire Plan Area	Residential	184,100 population	70.8/person <sup>1</sup>	13,034,280
	Nonresidential	37,410,000 square feet	0.18/square foot <sup>2</sup>	6,706,800
	<b>TOTAL</b>	Not applicable	Not applicable	<b>19,741,080</b>

<sup>1</sup> The residential wastewater generation factor, 70.8 gallons per capita per day (gpcd), uses the City's wastewater generation factors for single-family residential uses and multi-family residential uses (85 gpcd and 95 gpcd, respectively); is based on the residential unit mix of 65 percent single-family units and 35 percent multi-family units for the 2035 Scenario per General Plan Update land use designations and densities; and includes a 20 percent demand reduction per the 20x2020 Water Conservation Plan.

<sup>2</sup> 0.18 gallons per square foot is the City's wastewater generation factor for commercial uses reduced by 10 percent per the 20x2020 Water Conservation Plan.

New developments would be required to pay major facilities sewer charges by the City of Clovis, part of which would fund construction of new and/or expanded wastewater treatment facilities. New developments are required to pay for their fair share of public facility and infrastructure improvements; and may be required to install onsite or offsite facilities in excess of a development's fair share; where a development is required to install facilities exceeding its fair share, the City must establish a funding mechanism for subsequent developments to reimburse the original development for the cost exceeding its fair share costs (General Plan Update Public Facilities and Services Element Policies 1.1 and 1.4). Public Facilities and Services Element (PFSE) Policy 1.3 requires that prior to annexation, the City must find that adequate water supply and service and wastewater treatment and sewer capacities can be provided for the proposed annexation. PFSE Policy 1.6 requires the City to periodically update water, recycled water, wastewater, and stormwater master plans and requires all new development to be consistent with current master plans. Thus, impacts would be less than significant.

Similar to water treatment facilities, the specific location and design of future wastewater treatment facilities (new or expanded) required to provide services in accordance with the proposed General Plan Update are not known at this time, and therefore it would be speculative to provide environmental analysis for construction-related impacts. Improvements would also be subject to the proposed General Plan policies; federal, state and local regulations; and applicable mitigation measures as detailed in each topical section of this Draft PEIR. Moreover, these improvements would fall within the impact significance conclusions in this Draft PEIR for construction-related impacts for implementation of the General Plan Update (e.g., construction air quality, noise, GHG, cultural resources). Therefore, construction-related impacts are concluded to be less than significant within this topical EIR section (Utilities and Service Systems).

## 5. Environmental Analysis

### UTILITIES AND SERVICE SYSTEMS

#### *Full Buildout*

Full Buildout of the proposed General Plan Update is projected to generate about 30.2 million gallons of wastewater per day, as shown in Table 5.17-14. As with the estimate for 2035 Scenario, these generation factors assume a 20 percent reduction in residential wastewater generation and a 10 percent reduction in nonresidential use according to 20x2020 water conservation targets.

**Table 5.17-14    Estimated Wastewater Generation, Full Buildout**

Area	Land Use	Population/Square Feet	Wastewater Generation, gallons per day	
			Per person/square foot	Total
<b>Full Buildout</b>				
City	Residential	126,800 population	71.3/person <sup>2</sup>	9,040,840
	Nonresidential	32,300,000 square feet	0.18/square foot <sup>2</sup>	5,814,000
	<b>Subtotal</b>	Not applicable	Not applicable	<b>14,854,840</b>
SOI	Residential	61,800 population	71.3/person <sup>1</sup>	4,406,340
	Nonresidential	7,700,000 square feet	0.18/square foot <sup>2</sup>	1,386,000
	<b>Subtotal</b>	Not applicable	Not applicable	<b>5,792,340</b>
Non-SOI Plan Area	Residential	105,700 population	71.3/person <sup>1</sup>	7,536,410
	Nonresidential	11,300,000 square feet	0.18/square foot <sup>2</sup>	2,034,000
	<b>Subtotal</b>	Not applicable	Not applicable	<b>9,570,410</b>
Entire Plan Area	Residential	294,300 population	71.3/person <sup>1</sup>	20,983,590
	Nonresidential	51,300,000 square feet	0.18/square foot <sup>2</sup>	9,234,000
	<b>TOTAL</b>	Not applicable	Not applicable	<b>30,217,590</b>

<sup>1</sup> The residential wastewater generation factor, 71.3 gallons per capita per day (gpcd), uses the City's wastewater generation factors for single-family residential uses and multi-family residential uses (85 gpcd and 95 gpcd, respectively); is based on the residential unit mix of 59 percent single-family units and 41 percent multi-family units for Full Buildout per General Plan Update land use designations and densities; and includes a 20 percent demand reduction per the 20x2020 Water Conservation Plan.

<sup>2</sup> 0.18 gallons per square foot is the City's wastewater generation factor for commercial uses reduced by 10 percent per the 20x2020 Water Conservation Plan.

Future expansions to wastewater treatment facilities are planned to increase capacity by 8.5 mgd to a total of 20.6 mgd. Wastewater generation projections at full buildout exceed planned capacity; therefore, construction of new or expanded wastewater treatment facilities would be needed. As noted above, expansion of sewer system facilities is funded by development fees. Before sites for new developments can be annexed into the City, the City must determine that adequate water supply, wastewater treatment capacity, and water and wastewater conveyance capacities can be provided for the proposed annexation. All new developments must be consistent with current water, sewer, wastewater, and stormwater master plans. As stated in the 2035 analysis, construction-related impacts of future new and/or expanded wastewater facilities are unknown as of now, it would be speculative and out of the scope of this programmatic EIR to address potential impacts on the environment from future facilities. Nevertheless, improvements would also be subject to the proposed General Plan policies; federal, state and local regulations; and applicable mitigation measures as detailed in each topical section of this Draft PEIR. Moreover, these improvements would fall within the impact significance conclusions in this Draft PEIR for construction-related impacts for implementation of the General Plan Update (e.g., construction air quality, noise, GHG, cultural resources). Therefore, construction-related impacts are concluded to be less than significant within this topical EIR section (Utilities and Service Systems).

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**Impact 5.17-4** The proposed General Plan Update's 2035 and Full Buildout Scenarios, would require construction of additional city sewer mains. [Threshold U-2 (part)]

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#### *Impact Analysis:*

##### **2035 Buildout**

New sewer mains in the Northwest, Northeast, and Southeast service areas would need to be constructed prior to development. Sewer mains would generally be built in roadways. Construction of sewer mains involves excavation to greater depths than is required for construction of roadways. Thus, sewer construction could result in impacts to buried archaeological and fossil resources. Impacts of construction of sewer mains would be part of the overall impacts of General Plan buildout analyzed throughout Chapter 5 of this DEIR. Impacts and mitigation measures respecting archaeological and fossil resources are described in Section 5.5, *Cultural Resources*, of this DEIR.

##### **Full Buildout**

Full buildout of the proposed General Plan Update would involve development of about 16.1 square miles in the SOI and non-SOI Plan Area with land uses that would generate sanitary wastewater. New sewer mains would be needed north and east of the existing City boundaries to serve planned development areas in the SOI and non-SOI Plan Area. Sewer mains would generally be built in roadways. Construction of sewer mains involves excavation to greater depths than is required for construction of roadways. Thus, sewer construction could result in impacts to buried archaeological and fossil resources. Impacts of construction of sewer mains would be part of the overall impacts of General Plan buildout analyzed throughout Chapter 5 of this DEIR. Impacts and mitigation measures respecting archaeological and fossil resources are described in Section 5.5, *Cultural Resources*, of this DEIR.

#### **5.17.2.4 RELEVANT GENERAL PLAN POLICIES**

##### **Public Facilities and Services Element**

- **Policy 1.1 New development** - New development shall pay its fair share of public facility and infrastructure improvements.
- **Policy 1.3 Annexation** - Prior to annexation, the city must find that adequate water supply and service and wastewater treatment and disposal capacity can be provided for the proposed annexation. Existing water supplies must remain with the land and be transferred to the City upon annexation approval.
- **Policy 1.4 Development-funded facilities** - The City may require developments to install onsite or offsite facilities that are in excess of a development's fair share. However, the City shall establish a funding mechanism for future development to reimburse the original development for the amount in excess of the fair share costs.

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- **Policy 1.5 Recycled water** - Use recycled water to reduce the demands for new water supplies. Support the expansion of recycled water infrastructure throughout Clovis and require new development to install recycled water infrastructure where feasible.
- **Policy 1.6 Master plans** - Periodically update water, recycled water, wastewater, and stormwater master plans and require all new development to be consistent with the current master plans.

### Land Use Element

- **Policy 4.3 Future Environmental Clearance** - The City shall monitor development and plan for additional environmental clearance as development levels approach those evaluated in the General Plan EIR.

#### 5.17.2.5 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

##### 2035 Scenario and Full Buildout

Upon implementation of regulatory requirements, the following impacts would be less than significant for the 2035 Scenario and Full Buildout: 5.17-3 and 5.17-4.

#### 5.17.2.6 MITIGATION MEASURES

No mitigation measures are required.

#### 5.17.2.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

##### 2035 Scenario and Full Buildout

Wastewater service impacts would be less than significant upon compliance with regulatory requirements and proposed General Plan Update policies for both 2035 Scenario and Full Buildout.

### 5.17.3 Storm Drainage Systems

#### 5.17.3.1 ENVIRONMENTAL SETTING

The City of Clovis's permanent storm drain system is operated and maintained by the Fresno Metropolitan Flood Control District (FMFCD). The FMFCD service area includes both the City of Fresno and the City of Clovis and is divided into 163 drainage areas averaging one to two square miles each (see Figure 5.9-2, *Existing Urban Flood Control System*). The FMFCD currently owns and operates 640 miles of pipeline, 154 stormwater retention basins, and 70 pumping stations. The construction of an additional 12 retention basins is planned.

The existing storm drain system covers nearly the entire SOI plus two parts of the non-SOI Plan Area: one part in the north-central portion of the Plan Area, and the Quail Lake development.

The majority of FMFCD drainage areas drain to one of 154 retention basins, and the rest discharge directly to the San Joaquin River or irrigation canals. Water is not discharged from these basins unless necessary to meet operational criteria, but instead is allowed to percolate to groundwater.

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The FMFCD Board of Directors approves addition of new drainage areas to the urban stormwater system after the cities of Fresno or Clovis expand their SOIs to serve those expansions. Drainage service for new development is funded through development fees paid upon approval of the development. Ideally, drainage services are provided concurrent with construction of the development project. However, system construction may occasionally be delayed due to insufficient fee revenue to fund all facilities required by a development project. The provision of service can also be delayed by the lack of street improvements necessary to convey runoff from the development to the collection points. Unless the developer or the District can advance funds to cover the necessary facilities or street improvements, the developer must provide temporary on-site storage of the project's runoff until permanent service is available (FMFCD 2009).

#### 5.17.3.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

- U-3      Would require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

#### 5.17.3.3 ENVIRONMENTAL IMPACTS

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**Impact 5.17-5    Buildout of the proposed General Plan Update, in the 2035 and Full Buildout Scenarios, would require construction of additional storm drainage facilities. [Threshold U-3]**

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##### *Impact Analysis:*

##### 2035 Scenario

Implementation of the General Plan Update under the 2035 Scenario would extend development into areas currently not improved with storm drainage collection systems. Improvements would be required to collect and convey increased runoff. Minor infrastructure upgrades such as the construction of new surface conveyances and storm drains would be constructed along with individual development projects. More significant infrastructure upgrades, such as new retention basins, pumping stations, or canal discharge facilities, must be built prior to development. Construction of storm drains and retention basins would disturb substantial amounts of soil. Such disturbances could impact archaeological and paleontological resources and human remains; result in soil erosion; and generate particulate emissions due to blowing dust. Impacts and mitigation measures respecting each of these issues are identified in Sections 5.5, *Cultural Resources*; 5.6, *Geology and Soils*; and 5.3, *Air Quality*. No significant impacts would occur other than impacts already identified in other sections of Chapter 5 of this DEIR.

Each proposed development project built in accordance with the General Plan Update would require assessment of how the proposed development would affect existing and proposed storm drain systems. Necessary system improvements would be identified for each project during this assessment. In addition, policies from the General Plan Update—including Open Space and Conservation Element Policies 2.2, 3.1 and 3.2, and Public Facilities and Services Element Policy 1.1—require new development projects to pay for their fair share of public facility and infrastructure improvements and encourage new development to use low impact development techniques that

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retain or mimic natural features for stormwater management. PFSE Policy 1.6 requires the City to periodically update water, recycled water, wastewater, and stormwater master plans and requires all new development to be consistent with current master plans. These policies would reduce the potential drainage impacts of development in the Plan Area.

In addition, the specific location and design of future storm drainage systems (new or expanded) required to provide services in accordance with the proposed General Plan Update are not known at this time, and therefore, it would be speculative to provide environmental analysis for construction-related impacts. Improvements would also be subject to the proposed General Plan policies; federal, state and local regulations; and applicable mitigation measures as detailed in each topical section of this Draft PEIR. Moreover, these improvements would fall within the impact significance conclusions in this Draft PEIR for construction-related impacts for implementation of the General Plan Update (e.g., construction air quality, noise, GHG, cultural resources). Therefore, construction-related impacts are concluded to be less than significant within this topical EIR section (Utilities and Service Systems).

### Full Buildout

At ultimate buildout of the General Plan Update, about 32,751 acres of the Plan Area would be developed with residential, commercial, industrial, institutional, and roadway land uses. Similar to the 2035 Scenario, and as shown in Figure 5.9-2, *Existing Urban Flood Control Systems*, storm water collection systems would need to be extended beyond existing and planned facilities. Although pipelines are planned to collect storm water in the planned development areas in the northwest and southeast, collections systems are not currently planned in the northeast. Additional retention basins and pumping stations would be necessary to handle increased stormwater flow. The construction of new canal or groundwater discharge facilities may also be necessary.

As stated in the 2035 Scenario analysis, construction of storm drains and retention basins would disturb substantial amounts of soil, which could impact archaeological and paleontological resources and human remains; result in soil erosion; and generate particulate emissions due to blowing dust. Impacts and mitigation measures respecting each of these resources are identified in Section 5.5, *Cultural Resources*; 5.6, *Geology and Soils*; and 5.3, *Air Quality*. No significant impacts would occur other than impacts already identified in other sections of Chapter 5 of this DEIR.

#### 5.17.3.4 GENERAL PLAN POLICIES

##### Public Facilities and Services Element

- **Policy 1.1 New development** - New development shall pay its fair share of public facility and infrastructure improvements.
- **Policy 1.4 Development-funded facilities** - The City may require developments to install onsite or offsite facilities that are in excess of a development's fair share. However, the City shall establish a funding mechanism for future development to reimburse the original development for the amount in excess of the fair share costs.

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- **Policy 1.6 Master plans** - Periodically update water, recycled water, wastewater, and stormwater master plans and require all new development to be consistent with the current master plans.

#### Open Space and Conservation Element

- **Policy 2.2 New Development** - Encourage new development to incorporate on-site natural resources and low impact development techniques.
- **Policy 3.1 Stormwater Management** - Encourage the use of low impact development techniques that retain or mimic natural features for stormwater management.
- **Policy 3.2 Stormwater Pollution** - Minimize the use of non-point source pollutants and stormwater runoff.

#### Land Use Element

- **Policy 4.3 Future Environmental Clearance** - The City shall monitor development and plan for additional environmental clearance as development levels approach those evaluated in the General Plan EIR.

#### 5.17.3.5 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and compliance with proposed General Plan policies, Impact 5.17-5 would be less than significant for the 2035 Scenario and full buildout.

#### 5.17.3.6 MITIGATION MEASURES

No mitigation measures are required.

#### 5.17.3.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant for the 2035 Scenario and full buildout.

### 5.17.4 Solid Waste

#### 5.17.4.1 ENVIRONMENTAL SETTING

##### Regulatory Background

###### *State Regulations*

###### *California Integrated Waste Management Act*

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a Source Reduction and Recycling Element. AB 939 also requires all California counties to prepare and maintain Countywide Siting Elements identifying how each respective county, and cities

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therein, would safely dispose of solid wastes generated in the County – that cannot be reduced, recycled, or composted – for a 15-year planning period.

Assembly Bill 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020. Additionally, the bill mandates additional requirements for recycling of waste from commercial and multifamily residential land uses.

### ***California Solid Waste Reuse and Recycling Act of 1991***

The California Solid Waste Reuse and Recycling Access Act (AB 1327, California Public Resources Code Sections 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency relating to adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own. The intent of the act is to require development projects to include advanced planning that focuses on solid waste issues at the beginning of a project and implement an adequate recycling program for the development project.

### ***Local Plans and Regulations***

#### ***Countywide Integrated Waste Management Plan***

The Countywide Integrated Waste Management Plan (CoIWMP) is mandated by state law under AB 939. The CoIWMP provides an overview of the waste management infrastructure for Fresno County and the cities of Clovis, Coalinga, Firebaugh, Fowler, Fresno, Huron, Kerman, Kingsburg, Mendota, Orange Cove, Parlier, Reedley, San Joaquin, Sanger, and Selma. The CoIWMP provides a description of the County infrastructure and plan administration; describes the most recent countywide solid waste management practices; provides a summary of the Source Reduction and Recycling Elements, Household Hazardous Waste Elements, and Nondisposal Facility Elements for the county, and provides financing information for the CoIWMP. The city councils for Clovis, Coalinga, Fresno, Huron, Kingsburg, Parlier, Reedley, Sanger, and Selma, and the Fresno County Board of Supervisors have adopted the Fresno County CoIWMP.

#### ***City of Clovis Municipal Code***

- **Chapter 6.3, Garbage and Rubbish**, contains regulations pertaining to solid waste collection, residential greenwaste recycling, landfill liner development fees, as well as several other provisions regulating the disposal of solid waste.
- **Chapter 6.3.1, Recycling and Diversion of Construction and Demolition Debris**, regulates the disposal of construction and demolition debris and includes provisions regarding diversion requirements, waste management plans, as well as reporting requirements.
- **Section 9.24.110** contains standards for the location, design, and construction of solid waste and recyclable materials storage areas in development projects.
- **Section 9.40.160** sets forth developmental and operational standards for recycling facilities, including collection facilities and processing facilities.

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#### Existing Conditions

##### *Solid Waste Collection*

Solid waste is collected by the City Public Utilities Department. Recycling and greenwaste collection is provided under contract by Republic Services.

##### *Landfills*

Solid waste generated within the City is delivered to three landfills: City of Clovis Landfill, American Avenue Disposal Site, and Avenal Regional Landfill. Most of the solid waste goes to the City of Clovis Landfill, with only the waste hauled by City's contractors, self-hauled by homeowners and businesses, or residual waste from recycling operations going to other landfills. Of these three, Avenal Regional Landfill has the highest permitted throughput (6,000 tons per day), and American Avenue Disposal Site has the greatest remaining capacity 29,385,535 cubic yards. Table 5.17-15 provides more information on landfill capacity and closing dates.

**Table 5.17-15 Landfills**

Landfill Name	Location	Maximum Permitted Throughput, tons per day	Average Disposal, tons per day	Residual Disposal Capacity, tons per day	Remaining Capacity, cubic yards	Estimated Closing Date
City of Clovis Landfill	Clovis	2,000	178	1,822	7,740,000	2053
American Avenue Disposal Site	Kerman	2,200	1,149	1,051	29,358,535	2031
Avenal Regional Landfill	Avenal	6,000	1,040 <sup>1</sup>	4,940	26,000,000	2020
Total	Not Applicable	10,200	1,328	8,872	63,098,535	Not Applicable

Source: CalRecycle 2014a; CalRecycle 2014b; CalRecycle 2014c; Zetz 2013.

<sup>1</sup> Based on five days per week operation (250 days per year). Avenal Regional Landfill is open six days per week, Monday–Saturday; however, its Saturday hours, 6 AM to 11 AM, are much shorter than its weekday hours, 5:00 AM to 3:00 PM.

Greenwaste is disposed of at composting facilities described in Table 5.17-16, below. Construction and demolition debris is disposed of at facilities listed in Table 5.17-17, below.

Solid waste disposed of from the City of Clovis in 2012 totaled 60,131 tons (CalRecycle 2014d).

##### *Solid Waste Diversion*

As discussed above, the Integrated Waste Management Act (2000) requires all local jurisdictions to divert 50 percent of total annual solid waste tonnage to be recycled. Additionally, as discussed above, in 2008, the requirements were modified to reflect a per capita requirement, rather than tonnage. Each jurisdiction has both a per capita and per employee target diversion rate, which are calculated from the average of 50 percent of generation between base years 2003 through 2006, expressed in terms of per capita disposal. Disposal rates compared to disposal targets are one of several factors in determining a jurisdiction's compliance with AB 939; therefore, actual disposal rates at or below target disposal rates do not necessarily indicate compliance with AB 939.

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The City of Clovis's target disposal maximum rates are 4.7 pounds per capita per day and 15.5 pounds per employee per day. In 2012, the most recent year for which data are available, the actual disposal rates from Clovis were 3.3 pounds per day per resident and 12.3 pounds per day per employee – lower than target disposal rates and thus consistent with AB 939 CalRecycle 2014e).

#### *Composting Facilities*

The three greenwaste composting facilities in the Fresno-Clovis Metropolitan Area are listed in Table 5.17-16 with their maximum permitted throughput and permitted capacity. As shown, the Gallo Vineyards Compost Facility has the greatest maximum permitted throughput and the greatest permitted capacity. The Green Valley Recycling facility and West Coast Waste facility share the same maximum permitted throughput, but the Green Valley Recycling facility vastly exceeds the permitted capacity of the West Coast Waste facility.

**Table 5.17-16 Greenwaste Composters in Fresno-Clovis Area**

Facility	Location	Maximum Permitted Throughput	Permitted Capacity
Gallo Vineyards Inc. Compost Facility	Fresno	3,100 cubic yards/day	307,800 cubic yards
Green Valley Recycling	Fresno	500 tons/day	182,000 tons/year
West Coast Waste	Fresno	500 tons/day	3,500 tons

Source: CalRecycle 2014f.

#### *Construction and Demolition Debris*

Four facilities in the Fresno area, three transfer stations and one inert debris engineered fill operation,<sup>1</sup> listed below in Table 5.17-17, accept construction and demolition debris. Additionally, within the City of Clovis, construction and demolition debris disposal must adhere to Clovis Municipal Code Chapter 6.3.1.

**Table 5.17-17 Construction and Demolition Debris Facilities in Fresno-Clovis Area**

Facility	Location	Maximum Permitted Throughput	Permitted Capacity
<b>Recycling and Transfer Facilities</b>			
Rice Road Recyclery & Transfer Station	Fresno	400 tons/day	600 tons/day
Jefferson Avenue Transfer Station	Fresno	1,250 tons/day	3,500 tons/day
Cedar Avenue Recycling & Transfer Station	Fresno	3,100 tons/day	Not available
<b>Inert Debris Engineered Fill Operation</b>			
Jefferson Inert Debris Engineered Fill Operation	Fresno	50 tons/day	10,000 tons/year

Source: CalRecycle 2014f.

<sup>1</sup> An inert debris engineered fill operation disposes of fully cured asphalt, uncontaminated concrete, brick, ceramics, and clay and clay products, compacted as part of engineered fill to support improvements such as a road or building (CalRecycle 2012c).

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#### 5.17.4.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

- U-6      Would be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.
- U-7      Would not comply with federal, State, and local statutes and regulations related to solid waste.

#### 5.17.4.3 ENVIRONMENTAL IMPACTS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

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**Impact 5.14-6: Existing facilities could accommodate project-generated solid waste for the 2035 Scenario but not for Full Buildout. [Thresholds U-6 and U-7]**

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#### *Impact Analysis:*

#### **Forecast Solid Waste Generation by General Plan Buildout**

As shown in Table 5.17-18, the proposed General Plan Update is forecast to generate approximately 1.16 million pounds of solid waste per day for the 2035 scenario, and 1.74 million pounds of solid waste per day for full buildout. Net increases in estimated solid waste generation for the two scenarios compared to existing conditions (2011) are approximately 569,000 pounds per day for the 2035 scenario and 1,150,000 pounds per day for full buildout.

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**Table 5.17-18 Forecast Solid Waste Generation, 2035 and Full Buildout**

Scenario	Residential Units	Residential Solid Waste Generation (Subtotal)/Day (pounds)	Building SF	Nonresidential Solid Waste Generation (Subtotal)/Day (pounds)	Solid Waste Generation (Total) / Day (pounds)
<b>Existing Conditions (2011)</b>	<b>42,000</b>	<b>420,000</b>	<b>13,050,000</b>	<b>169,650</b>	<b>589,650</b>
City Boundary	36,500	365,000	12,600,000	163,800	528,800
SOI	2,000	20,000	200,000	2,600	22,600
Plan Areas beyond City and SOI	3,500	35,000	210,000	2,730	37,730
<b>Proposed General Plan Update (2035 Scenario)</b>	<b>67,200</b>	<b>672,000</b>	<b>37,410,000</b>	<b>486,330</b>	<b>1,158,330</b>
City Boundary	45,400	454,000	30,625,000	398,125	852,125
SOI	13,200	132,000	2,545,000	33,085	165,085
Plan Areas beyond City and SOI	8,600	86,000	4,240,000	55,120	141,120
<b>Proposed General Plan (Full Buildout - Post 2035)</b>	<b>107,100</b>	<b>1,071,000</b>	<b>51,300,000</b>	<b>666,900</b>	<b>1,737,900</b>
City Boundary	46,000	460,000	32,300,000	419,900	879,900
SOI	22,600	226,000	7,700,000	100,100	326,100
Plan Areas beyond City and SOI	38,500	385,000	11,300,000	146,900	531,900

Notes: SF = square feet

Waste generation factors are:

Residential: 10 pounds per unit per day (single-family residential use); median of 6 solid waste generation rates from CalRecycle 2010a.

Nonresidential: 0.013 pounds per square foot per day (general commercial use); median of 3 solid waste generation rates from CalRecycle 2010b.

#### *2035 Scenario*

Under this scenario the majority of development would occur in the City and SOI. The three landfills serving Clovis have residual maximum permitted throughput of 10,200 tons per day, or about 20.4 million pounds per day, as shown in Table 5.17-15. Estimated closing dates for the three landfills range from 2020 for Avenal Regional Landfill to 2053 for the Clovis Landfill. Expansion of these facilities is uncertain yet highly probable, as was the case with the Avenal facility, which had its permitted capacity increased by approximately 20 million cubic yards in 2005.<sup>2</sup> Clovis is the only municipality disposing of solid waste at the City of Clovis Landfill; solid waste from multiple jurisdictions, including Clovis, is disposed of at the other two facilities. Given that the daily capacity of the three landfills in the area exceeds the forecast daily solid waste generation by approximately 19.2 million pounds per day and that the forecast is approximately 6 percent of the daily maximum permitted throughput, it is anticipated that waste generated by the 2035 Scenario could be accommodated by existing facilities.

#### *2031 through 2035*

Two of the three landfills currently serving Clovis, the American Avenue Disposal Site and Avenal Regional Landfill, are estimated to be closed by August 31, 2031. That would leave the City of Clovis Landfill as the only one of those three landfills available to serve Clovis between 2031 and 2035. The existing remaining capacity at the City of Clovis Landfill is 7.74 million cubic yards. One cubic yard of landfilled solid waste plus soil contains an estimated 0.75 ton of solid waste. Therefore, the remaining capacity of the City of Clovis Landfill is about 5.81 million tons. At the estimated solid waste generation of about 579 tons per day for the 2035 Scenario, the

<sup>2</sup> California Integrated Waste Management Board, Resolution 2005-94.

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remaining capacity of the City of Clovis landfill would accommodate about 10,035 working days, or 38.5 years, of solid waste generation from the Plan Area. While it is assumed that part of the City of Clovis Landfill's existing capacity would be used before 2031, the landfill is forecast to have adequate capacity for solid waste generated by the 2035 Scenario between 2031 and 2035. In addition, greenwaste as well as construction and demolition debris are accommodated at separate facilities, as described above. Proposed General Plan Public Facilities and Services Element policies 2-1 through 2-6 would apply to the 2035 Scenario. Impacts would be less than significant.

#### *Full Buildout*

Full buildout of the General Plan Update is estimated to generate a net increase of about 1,148,250 pounds per day (574 tons per day), or approximately 195 percent, compared to the existing estimated disposal of 589,650 pounds per day from the Plan Area. The three landfills serving the City of Clovis have adequate residual disposal capacity to accommodate forecast solid waste generation by full General Plan buildout. However, all three landfills have estimated capacity or closing dates before 2080, when full buildout is anticipated to occur. Moreover, the estimated closing dates of the two larger of the landfills, American Avenue Disposal Site and Avenal Regional Landfill, are within the next 20 years: 2031 and 2020, respectively. All three of the landfills currently serving Clovis are estimated to be closed by 2053. In addition, the remaining capacity of the City of Clovis Landfill is relatively small (approximately 7,740,000 cubic yards) compared to the other two facilities. Therefore, growth associated with the General Plan Update buildout would be anticipated to require the expansion of existing facilities or construction of new disposal facilities. In order to comply with AB 939, the City of Clovis will be required to prepare and maintain siting elements identifying how it would safely dispose of solid wastes generated for a 15-year planning period. Further, proposed General Plan Public Facilities and Services Element Goal 2 details policies to ensure Clovis maintains a cost-effective, integrated waste management system that meets or exceeds state recycling and waste diversion mandates (e.g., AB 939) (Policies 2.1 through 2.6).

The specific location and design of future landfill facilities (new or expanded) required to provide solid waste services in accordance with the proposed General Plan Update are not known at this time, and therefore it would be speculative to provide environmental analysis for construction-related impacts. Such improvements, however, would be subject to the General Plan Policies; federal, state and local regulations; and applicable mitigation measures as detailed in each topical section of this Draft PEIR. Moreover, these improvements would fall within the impact significance conclusions in this Draft PEIR for construction-related impacts for implementation of the General Plan Update (e.g., construction air quality, noise, GHG, cultural resources). Therefore, construction-related impacts are concluded to be less than significant within this topical EIR section (Section 5.17, Utilities and Service Systems).

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**Impact 5.17-7 Projects developed pursuant to the General Plan Update would comply with regulations governing solid waste disposal and diversion. [Threshold U-7]**

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## 5. Environmental Analysis UTILITIES AND SERVICE SYSTEMS

### *Impact Analysis:*

#### 2035 Buildout and Full Buildout

The proposed General Plan Update policies would help reduce the waste stream in the Plan Area: Public Facilities and Services Element Policies 2.1, 2.2, 2.3, 2.4, 2.5, and 2.6.

These General Plan policies would help Clovis meet the state mandated diversion goals in the Integrated Waste Management Act, which is described above, by minimizing the amount of solid waste generated by residents and businesses. Additionally, solid waste disposal within the City limits would continue to be subject to the provisions of the Clovis Municipal Code Chapters 6.3 and 6.3.1 and Section 9.24.110 of the City's Development Code.

Impacts of the 2035 Scenario and of full buildout on compliance with regulations governing solid waste disposal and diversion would be less than significant.

#### 5.17.4.4 RELEVANT GENERAL PLAN POLICIES

The following are relevant policies of the General Plan Update that are designed to reduce potential impacts to fire and emergency services in Clovis. Policy number references are provided in parentheses.

#### Public Facilities and Services Element

- **Policy 2.1 Minimize landfill disposal of solid waste** - Promote solid waste source reduction, reuse, and recycling; composting; and the environmentally-safe transformation of wastes.
- **Policy 2.2 Waste diversion rate** - Meet the state's current and future waste diversion goals through the city's recycling and diversion programs.
- **Policy 2.3 Expanded recycling** - Increase recycling by commercial, industrial, and multifamily generators.
- **Policy 2.4 Green and household hazardous materials waste** - Encourage citywide participation in green waste reduction and household hazardous waste disposal programs.
- **Policy 2.5 Clovis landfill** - Maintain at least 15 years of ongoing landfill capacity.
- **Policy 2.6 Solid waste facility encroachment** - Protect existing or planned solid waste facilities from encroachment by incompatible land uses that may be allowed through discretionary land use permits or changes in land use or zoning designations.

#### 5.17.4.5 EXISTING REGULATIONS

- California Integrated Waste Management Act (AB 939)
- California Solid Waste Reuse and Recycling Act of 1991
- Countywide Integrated Waste Management Plan

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- Clovis Municipal Code
  - Chapter 6.3: Garbage and Rubbish
  - Chapter 6.3.1: Recycling and Diversion of Construction and Demolition Debris
  - Section 9.24.110: solid waste and recyclable materials storage areas
  - Section 9.40.160: Development Standards: Recycling Facilities

#### 5.17.4.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements, the following impacts would be less than significant for the 2035 Scenario and full buildout: Impact 5.17-6 and 5.17-7.

#### 5.17.4.7 MITIGATION MEASURES

No mitigation measures are required.

#### 5.17.4.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant for both the 2035 Scenario and full buildout.

### 5.17.5 Other Utilities

#### 5.17.5.1 ENVIRONMENTAL SETTING

##### Electricity

The Plan Area is in the service area of Pacific Gas & Electric (PG&E), which spans much of central and northern California from Santa Barbara and Kern counties on the south to Humboldt County (Eureka) and Shasta County (Redding) on the north. Total electricity demand in PG&E's service area in 2011 was about 107,600 gigawatt-hours (GWh); demand is forecast to rise to about 123,400 GWh by 2022 (CEC 2012). PG&E obtains electricity from conventional and renewable sources, some generated by PG&E and some generated by others (PG&E 2013). In 2012, the most recent year for which data are available, 27 percent of PG&E's electricity was generated from natural gas; 21 percent from nuclear power; 19 percent from renewable energy sources; 11 percent from large hydroelectric generators; and 21 percent from unspecified sources (PG&E 2013).<sup>3</sup>

##### *Estimated Existing Electricity Demand in the Plan Area*

Total estimated existing (2013) electricity demand in the Plan Area is about 504,570,000 kilowatt hours (kWh) per year, as shown below in Table 5.17-19.

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<sup>3</sup> Renewable sources of electricity generation are solar, wind, biomass and waste, small hydroelectric, and geothermal (PG&E 2013).

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**Table 5.17-19    Estimated Existing Electricity Demand**

Area	Population	Electricity Usage, kWh per year (Subtotal)	Building SF	Electricity Usage, kWh per year (Subtotal)	Electricity Usage, kWh per year (Total)
City Boundary	100,000	237,900,000	12,600,000	223,020,000	460,920,000
SOI	6,000	14,274,000	200,000	3,540,000	17,814,000
Non-SOI Plan Area	9,000	21,411,000	210,000	3,717,000	25,128,000
<b>Plan Area, Total</b>	<b>115,000</b>	<b>273,585,000</b>	<b>13,050,000</b>	<b>230,985,000</b>	<b>504,570,000</b>

Notes: SF = square feet

Electricity demand factors are:

Residential: 2,379 kilowatt-hours (kWh) per person per year (USDOE 2008)

Nonresidential: 17.7 kWh/square foot/year (Itron 2006)

### *Electric Generating Capacity in California*

#### *Existing*

In 2011 about 200,000 GWh of electricity were generated in California by government agencies, utilities, and commercial generators. Net imports of electricity into the state in 2011 amounted to approximately 85,000 GWh (CEC 2013).

#### *Planned and Under Construction*

**Renewable Generation:** The California Public Utilities Commission has approved contracts for roughly 7,700 MW of in-state central-station renewable generation facilities that are not yet operational; though some have begun construction, many have not. Some of these contracted facilities are not expected to be completed and go into operation.

The Governor's Office has set an overall target of 12,000 MW of renewable distributed generation by 2020. Existing programs, including rooftop solar, the Renewable Auction Mechanism, and the Solar Photovoltaic Program, have targets totaling 9,000 MW, meaning that programs totaling 3,000 MW would need to be developed. Some 3,000 MW of this 12,000 are operational (Vidaver 2013).

**Fossil Fuel Generation:** 2,030 MW of gas-fired generation is under construction as of May 2013 (Vidaver 2013).

#### *Electricity Transmission*

Electric transmission lines in the Clovis area include three north-south lines through the eastern part of the Plan Area, one of which also extends east-west through the northern part of the Plan Area, and one line extends from central Clovis eastward (CEC 2012).

#### **Natural Gas**

PG&E also supplies natural gas to the Plan Area. Total natural gas supplies available to PG&E are forecast to remain constant at 3,139 million cubic feet per day (mcf/d) between 2012 and 2030. Total demands for PG&E

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natural gas are expected to decline slightly from 2,407 mcf/d in 2012 to 2,337 mcf/d in 2030. PG&E's natural gas supplies are from the United States and Canada (CGEU 2012).

#### *Existing Estimated Natural Gas Demands in Plan Area*

Existing natural gas demands in the Plan Area are estimated at about 18.6 million therms per year, as shown below in Table 5.17-20.

Table 5.17-20    Estimated Existing Natural Gas Demand, Plan Area

Area	Population	Natural Gas Usage, therms per year (Subtotal)	Building SF	Natural Gas Usage, therms per year (Subtotal)	Natural Gas Usage, therms per year (Total)
City Boundary	100,000	13,700,000	12,600,000	2,772,000	16,472,000
SOI	6,000	822,000	200,000	44,000	866,000
Non-SOI Plan Area	9,000	1,233,000	210,000	46,200	1,279,200
Plan Area, Total	115,000	15,755,000	13,050,000	2,871,000	18,626,000

Notes: SF = square feet

Gas demand factors are:

Residential: 137 therms per person per year (USDOE 2008)

Nonresidential: 0.22 therm per square foot per year (Itron 2006)

## Telephone

Land-line telephone services are provided in the Plan Area by multiple carriers, including AT&T California and Verizon.

## Cable

Cable television and internet services are provided in the Plan Area by Comcast, AT&T, and satellite services.

## Regulatory Setting

### *California Building Code*

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission in June 1977 and are updated triennially (Title 24, Part 6, California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for new energy efficiency technologies and methods. The 2013 Building and Energy Efficiency Standards went into effect on January 1, 2014. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, known as CALGreen) was adopted as

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an optional part of the California Building Standards Code (Title 24 CCR). CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The provisions of the 2013 California Green Building Code Standards became effective on January 1, 2014.

### *2006 Appliance Efficiency Regulations*

The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and nonfederally regulated appliances.

#### **5.17.5.2 ENVIRONMENTAL IMPACTS**

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement

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**Impact 5.14-8: Existing and/or proposed facilities would be able to accommodate project-generated utility demands. [No specific threshold]**

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#### *Impact Analysis:*

#### **Electricity Demands**

Electricity demand rates used in forecasting electricity demand—footnoted in Table 5.17-19—are 2,379 kWh per person per year for residential land uses from the US Department of Energy (USDOE 2008). For nonresidential land uses, the energy use rate for large office buildings is from the California Commercial End-Use Survey—17.7 kWh per square foot per year (Itron 2006). This rate is for office buildings 30,000 square feet and larger and is the highest among rates for office buildings and retail use; it was chosen as a conservative estimate.

#### *2035 Scenario*

The net increase in forecast electricity demand of the 2035 Scenario compared to existing conditions is about 595 million kWh per year, or 595 GWh per year. Total forecast electricity demands for the 2035 Scenario are shown in Table 5.17-21. The forecast increase in electricity demand by the 2035 Scenario is well within total demands in PG&E's service area. General Plan buildout by 2035 would not require PG&E to obtain additional electricity supplies. Impacts would be less than significant.

#### *Full Buildout*

Full buildout of the General Plan Update is forecast to result in electricity demands in the Plan Area of about 1.608 billion kWh per year (shown in Table 5.17-21), a net increase of about 1.103 billion kWh per year above existing estimated electricity demand. The forecast increase in electricity demand by full buildout is well within total demands in PG&E's service area. General Plan buildout would not require PG&E to obtain additional electricity supplies. Impacts would be less than significant.

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**Table 5.17-21 Forecast Electricity Demand, General Plan Update, 2035 and Full Buildout Scenarios**

Area	Population	Electricity Usage, kWh per year (Subtotal)	Building SF	Electricity Usage, kWh per year (Subtotal)	Electricity Usage, kWh per year (Total)
<b>2035 Scenario</b>					
City Boundary	124,400	295,947,600	30,625,000	542,062,500	838,010,100
SOI	36,100	85,881,900	2,545,000	45,046,500	130,928,400
Non-SOI Plan Area	23,600	56,144,400	4,240,000	75,048,000	131,192,400
<b>Plan Area, Total</b>	<b>184,100</b>	<b>437,973,900</b>	<b>37,410,000</b>	<b>662,157,000</b>	<b>1,100,130,900</b>
<b>Full Buildout</b>					
City Boundary	126,800	301,657,200	32,300,000	571,710,000	873,367,200
SOI	61,800	147,022,200	7,700,000	136,290,000	283,312,200
Non-SOI Plan Area	105,700	251,460,300	11,300,000	200,010,000	451,470,300
<b>Plan Area, Total</b>	<b>294,300</b>	<b>700,139,700</b>	<b>51,300,000</b>	<b>908,010,000</b>	<b>1,608,149,700</b>

Notes: SF = square feet

Electricity demand factors are:

Residential: 2,379 kilowatt-hours (kWh) per person per year (USDOE 2008)

Nonresidential: 17.7 kWh/square foot/year (Itron 2006)

### Forecast Natural Gas Demands

Natural gas demand rates used in forecasting demand by General Plan buildout, shown in Table 5.17-22, are 137 therms per person per year for residential land uses according to the US Department of Energy (USDOE 2008).<sup>4</sup> For nonresidential land uses, the energy use rate for large office buildings in the California Commercial End-Use Survey is 0.22 therm per square foot per year (Itron 2006).

#### 2035 Scenario and Full Buildout

The net increase in forecast natural gas demand of the 2035 Scenario is about 14.9 million therms per year, and the net increase by full buildout is about 33 million therms per year (see Table 5.17-22 below). Total natural gas demands in PG&E's service area in 2012 and 2030 are forecast to be about 879 billion cubic feet per year and 853 billion cubic feet per year, respectively. Net increases in natural gas demands due to General Plan buildout are within the amounts that PG&E forecasts that it will supply to its customers, and General Plan buildout would not require PG&E to obtain increased natural gas supplies over its currently forecast supplies. Impacts would be less than significant for both scenarios.

<sup>4</sup> Natural gas usage is stated in DOE 2008 as 13.7 million British Thermal Units (BTU) per person per year; 1 therm is 100,000 BTU and is equivalent to about 97.1 cubic feet of natural gas.

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**Table 5.17-22 Forecast Natural Gas Demand, General Plan Update, 2035 Scenario and Full Buildout**

Area	Population	Natural Gas Usage, therms per year (Subtotal)	Building SF	Natural Gas Usage, therms per year (Subtotal)	Natural Gas Usage, therms per year (Total)
<b>2035 Scenario</b>					
City Boundary	124,400	17,042,800	30,625,000	6,737,500	23,780,300
SOI	36,100	4,945,700	2,545,000	559,900	5,505,600
Non-SOI Plan Area	23,600	3,233,200	4,240,000	932,800	4,166,000
Plan Area, Total	184,100	25,221,700	37,410,000	8,230,200	33,451,900
<b>Full Buildout</b>					
City Boundary	126,800	17,371,600	32,300,000	7,106,000	24,477,600
SOI	61,800	8,466,600	7,700,000	1,694,000	10,160,600
Non-SOI Plan Area	105,700	14,480,900	11,300,000	2,486,000	16,966,900
Plan Area, Total	294,300	40,319,100	51,300,000	11,286,000	51,605,100

Notes: SF = square feet  
Gas demand factors are:  
Residential: 137 therms per person per year (USDOE 2008)  
Nonresidential: 0.22 therm per square foot per year (Itron 2006)

### 5.17.5.3 GENERAL PLAN POLICIES

#### Open Space and Conservation Element

- **Policy 3.5 Energy and water conservation** - Encourage new development and substantial rehabilitation projects to exceed energy and water conservation and reduction standards set in the California Building Code.
- **Policy 3.6 Renewable Energy** - Promote the use of renewable and sustainable energy sources to serve public and private sector development.
- **Policy 3.7 Construction and design** - Encourage new construction to incorporate energy efficient building and site design strategies.

### 5.17.5.4 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Impacts would be less than significant for both the 2035 Scenario and full buildout.

### 5.17.5.5 MITIGATION MEASURES

No mitigation measures are required.

### 5.17.5.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant for both the 2035 Scenario and full buildout.

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