4.10 UTILITIES

This section provides information on utilities within the planning area, including wastewater, storm drainage, water supply, and solid waste disposal and recycling and analyzes adoption and implementation of the Draft General Plan and GGRP relative to potential impacts on the capacity of these utilities.

4.10.1 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Wastewater

Clean Water Act and State Water Resources Control Board

With regard to wastewater, the Federal Clean Water Act (CWA) and regulations set forth by the California Department of Health Services (DHS) and State Water Resources Control Board (SWRCB) are aimed primarily at discharges of effluent to surface waters. Title 40 of the Code of Federal Regulations (CFR) Part 503, Title 23 California Code of Regulations, and standards established by the Central Valley Regional Water Quality Control Board regulate the disposal of biosolids generated by wastewater treatment plants. Under the CWA, the Regional Water Quality Control Board administers programs related to wastewater treatment.

Storm Drainage

Clean Water Act

The CWA regulates the water quality of all discharges into waters of the United States including wetlands, perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for "any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." Section 404, Title 33, Section 1344 of the CWA in part authorizes the U.S. Army Corps of Engineers to:

- Set requirements and standards pertaining to such discharges: subparagraph (e);
- Issue permits "for the discharge of dredged or fill material into the navigable waters at specified disposal sites": subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas": subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual State or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such State or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain Federal or State projects from regulation under this Section: subparagraph (r); and

- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).

Section 401 certification is required prior to final issuance of Section 404 permits from the U.S. Army Corps of Engineers.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System Permit Program (NPDES) was established under the CWA to address municipal and industrial discharges to surface waters. This includes regulations for point-source discharges (e.g., wastewater treatment plant effluent discharges) and non-point discharges associated with stormwater. In general, NPDES permit provisions consist of discharge restrictions and limitations (including numeric and narrative) intended to protect beneficial uses of the receiving water as well as maintenance of public health and safety.

Phase 1 of the NPDES permitting program for municipal discharges of stormwater for urban areas where the population exceeds 100,000, industrial activity stormwater discharges and general construction activity discharges (disturbance of 5 acres or greater) was established in 1990. Phase 2 of NDPES (2003) addresses municipal discharges of urban areas of less than 100,000 in population as well as for construction activities that disturb one acre or greater.

National Flood Insurance Program

Citrus Heights is a participant in the National Flood Insurance Program (NFIP), a Federal program administered by the Federal Emergency Management Agency (FEMA). Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. The City is occasionally audited by the California Department of Water Resources (DWR) to insure the proper implementation of FEMA floodplain management regulations.

Water Supply

Clean Water Act

The U.S. Environmental Protection Agency established primary drinking water standards in the CWA (Section 304) and states are required to ensure that potable water for the public meets these standards. Standards for 81 individual constituents have been established under the Safe Drinking Water Act, as amended in 1986, but no constituents have been added since that time. The EPA may add additional constituents in the future.

Solid Waste Disposal and Recycling

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) was enacted in 1976 to address the enormous amount of municipal and industrial solid waste generated nationwide. After several amendments, the Act as it is currently written governs the management of solid and hazardous waste and underground storage tanks (USTs). RCRA is an amendment to the Solid Waste Disposal Act of 1965. RCRA has been amended several times, most significantly by the Hazardous and Solid Waste Amendments (HSWA) of 1984.

RCRA is a combination of the first solid waste statutes and all subsequent amendments. RCRA authorizes the EPA to regulate waste management activities. RCRA authorizes states to develop and enforce their own waste

management programs, in lieu of the federal program, if a state's waste management program is substantially equivalent to, consistent with, and no less stringent than the federal program.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

Storm Drainage

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act governs the coordination and control of water quality in the state, and includes provisions relating to non-point source pollution. This law required that the SWRCB, along with the regional boards and other appropriate state agencies and advisory groups, prepare a detailed program to implement the state's non-point source management plan on or before February 1, 2001. The law also requires that the state board, in consultation with other agencies, submit copies of prescribed state and regional board reports containing information related to non-point source pollution, on or before August 1 of each year.

State Water Resources Control Board

The SWRCB is responsible for the establishment and implementation of statewide water quality policy and delegates some of this responsibility to the nine regional water quality control boards in the state. SWRCB has established the state's nondegradation policy as well as the State Implementation Policy of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries.

Central Valley Regional Water Quality Control Board

The Regional Water Quality Control Board (RWQCB), Central Valley Region provides planning, monitoring, and enforcement techniques for surface and groundwater quality. A basin plan provides more specific information for specific waterways within the region, in terms of establishing monitoring techniques to control pollutant levels within the waterways. The RWQCB also monitors storm water quality from construction activities through an NPDES permitting process.

Central Valley Regional Water Quality Control Plan

The Central Valley Regional Water Quality Control Plan covers all the drainage basin areas for the Sacramento and San Joaquin rivers, extending approximately 400 miles from the California-Oregon border to the headwaters of the San Joaquin River. This plan describes the beneficial uses to be protected in these waterways, water quality objectives to protect those uses, and implementation measures to make sure those objectives are achieved.

Water Supply

California Water Code Section 10610 (et seq.)

California Water Code Section 10610 (et seq.) requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 AFA, must prepare an Urban Water Management Plan (UWMP). The Department of Water Resources provides guidance to urban water suppliers in the preparation and implementation of UWMPs. UWMPs must be updated at least every five years on or before December 31, in years ending in five and zero.

Senate Bill 610 and Assembly Bill 901

Senate Bill (SB) 610 and Assembly Bill (AB) 901 – Water Supply Planning were signed and became effective January 1, 2002. SB 610 amends Public Resources Code section 21151.9, requiring any EIR, negative declaration, or mitigated negative declaration for a qualifying project to include consultation with affected water supply

agencies. SB 610 also amends the following: Water Code 10656 and 10657 to restrict state funding for agencies that fail to submit their urban water management plan to the Department of Water Resources; and Water Code section 10910 to describe the water supply assessment that must be undertaken for projects referred to under Public Resource Code Section 21151.9, including an analysis of groundwater supplies. Water agencies are given 90 days from the start of consultation in which to provide a water supply assessment to the CEQA lead agency; Water Code section 10910 also specifies the circumstances under which a project for which a water supply assessment was once prepared would be required to obtain another assessment. AB 901 amended Water Code Section 10631, expanding the contents of the UWMPs to include further information on future water supply projects and programs and groundwater supplies.

Senate Bill 221

SB 221 added Government Code section 66455.3, requiring that the local water agency be sent a copy of any proposed residential subdivision of more than 500 dwelling units within 5 days of the subdivision application being accepted as complete for processing by the city or county. It added Government Code section 66473.7, establishing detailed requirements for establishing whether a "sufficient water supply" exists to support any proposed residential subdivisions of more than 500 dwellings, including any such subdivision involving a development agreement. When approving a qualifying subdivision tentative map, the city or county must include a condition requiring a sufficient water supply to be available. Proof of availability must be requested of and provided by the applicable public water system. If there is no public water system, the city or county must undertake the analysis described in section 66473.7.

Solid Waste Disposal and Recycling

Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (AB 939) requires every city and county in the state to prepare a Source Reduction and Recycling Element (SSRE) in or as part of its Solid Waste Management Plan that identifies how each jurisdiction will meet mandatory State waste diversion goals. The purpose of AB 939 is to "reduce, recycle, and re-use solid waste generated in the state to the maximum extent feasible." The term "integrated waste management" refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse effects on human health and the environment. The Act has established a waste management hierarchy, as follows: source reduction, recycling, composting, transformation, and disposal.

REGIONAL AND LOCAL PLANS, REGULATIONS, AND ORDINANCES

Wastewater

Sacramento Regional County Sanitation District and Sacramento Area Sewer District

The Sacramento Regional County Sanitation District (SRCSD) and the Sacramento Area Sewer District (SASD) are both separate political subdivisions of the State of California formed under the State of California Health and Safety Code. As such, these Districts' policies must conform to the statutes of the State Health and Safety Code. Additionally, the Districts are separately funded entities that do not depend upon Sacramento County for funding capital improvements, maintenance, or operations. User fees provide for the systems' operation and maintenance, while hookup fees provide most of the funding for new trunks and interceptors. The SRCSD requires a regional connection fee be paid to the District for any users connecting to or expanding sewer collection systems (SRCSD Ordinance No. SRCSD-0043).

Storm Drainage

Sacramento Stormwater Quality Partnership

Sacramento area public agencies, including the County of Sacramento and the Cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova, have joined together to form the Sacramento Stormwater Quality Partnership (SSQP). The agencies work together to implement the conditions of the Sacramento Municipal Separate Storm Sewer System NPDES Stormwater Permit. In addition to implementation of the permit requirements, the goals of the SSQP are to:

- educate and inform the public about urban runoff pollution,
- encourage public participation in community and clean-up events,
- work with industries and businesses to encourage pollution prevention,
- require construction activities to reduce erosion and pollution, and
- require developing projects to include pollution controls that will continue to operate after construction is complete.

The SSQP coordinates and cost-shares various major elements of its activities, including monitoring, target pollutant reduction, special studies, regional public outreach, and program evaluation. The partnership members also coordinate and cost-share selected construction/new development and commercial/industrial activities. The County and City of Sacramento generally conduct and manage the joint work and are reimbursed by the other members according to a cost-share Memorandum of Understanding (MOU).

Sacramento County Environmental Management Department

Sacramento County Environmental Management Department, Water Protection Division, currently performs routine inspection services of businesses for all the Municipal Separate Storm Sewer Systems (MS4) permittees in the region. Each of the regional agencies – Citrus Heights, Elk Grove, Folsom, Galt, the City of Sacramento, and Sacramento County – has executed an agreement to enforce best management practices for clean water. All licensed businesses are inspected under this program. The department also provides public outreach, brochures on storm water best management practices for particular industries and reporting data for submission to the state. The reporting data is transmitted to the State DWR as well as each permittee.

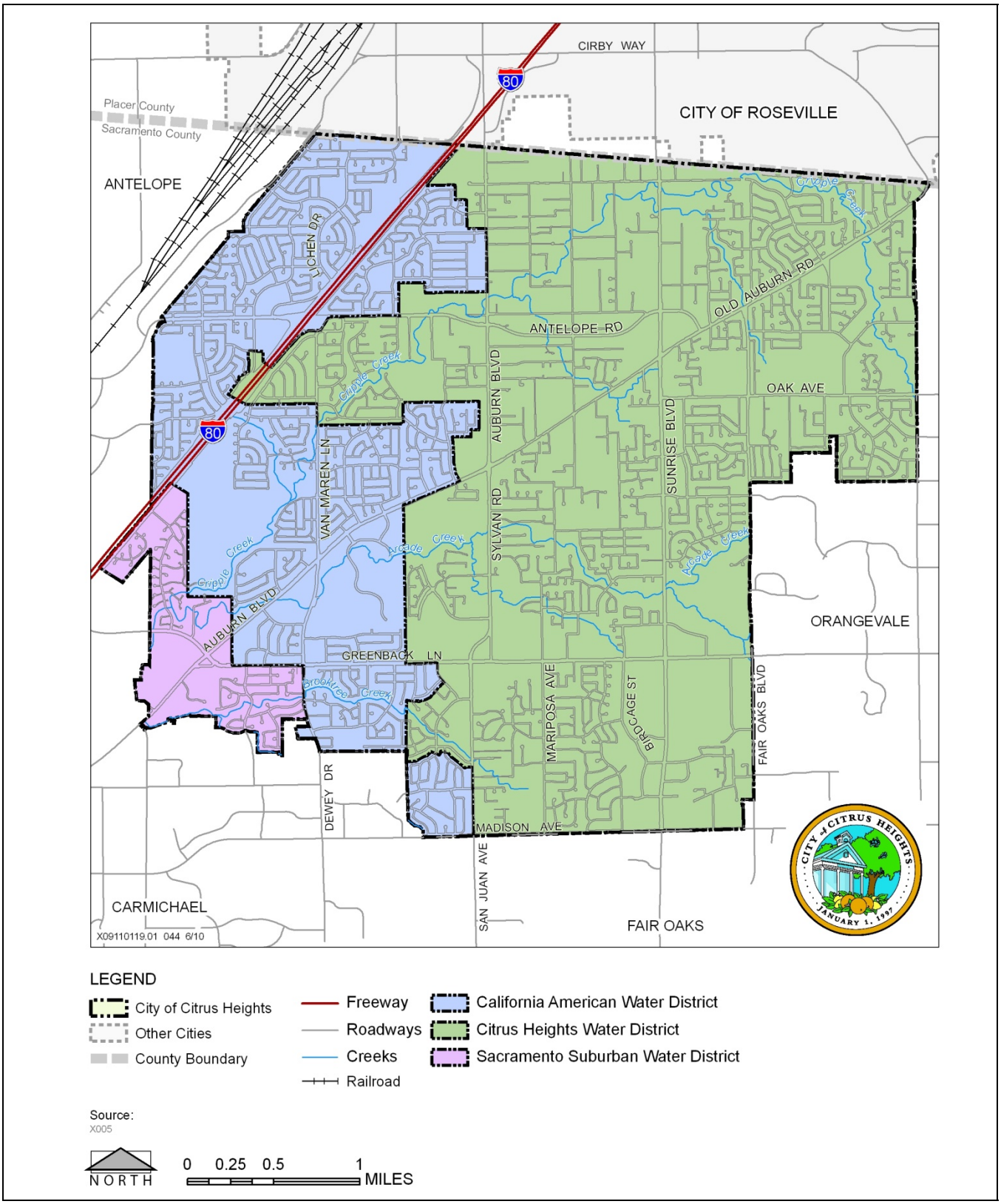
Water Supply

Citrus Heights is supplied with potable water by three separate water purveyors. The service area boundaries of the Citrus Heights Water District, California American Water Company, and Sacramento Suburban Water District are shown in Exhibit 4.10-1.

Water Forum

Initiated in 1993, the Water Forum process brought together a diverse group of stakeholders that included business and agricultural leaders, citizens' groups, environmentalists, water managers, and local governments to evaluate available water resources and the future water needs of the Sacramento metropolitan area. These stakeholders identified two coequal objectives to guide the development of the Water Forum Agreement (WFA):

- Provide a reliable and safe water supply for the region's economic health and planned development through the year 2030.
- Preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River.



Source: City of Citrus Heights, 2010

Water Districts in Citrus Heights **Exhibit 4.10-1**

After a six-year consensus-based stakeholder process, the WFA was completed. The WFA prescribes a regional conjunctive-use water program for the lower American River and the connected groundwater basin. The Water Forum also completed an EIR for the Water Forum Proposal. This document was certified by the two lead agencies (the City of Sacramento and the County) in December 1999. At the time that the City and County of Sacramento adopted the project and they and other stakeholders adopted their purveyor specific agreements (PSAs), the name was changed to the WFA because it was an agreed-to proposal by all stakeholders.

The WFA includes PSAs that define the benefits each water purveyor will receive as a stakeholder and the actions each must take to receive these benefits. PSAs for the Sacramento County Water Agency (SCWA), the City of Sacramento, and Sacramento Municipal Utility District (SMUD) also describe commitments by these entities to address issues related to wheeling and wholesaling of surface water, Central Valley Project (CVP) water transfers, and dry-year water supply in SCWA Zone 40.

The Water Forum process initiated a coordinated effort for regional water supply planning within the Sacramento region. Because of limited water supplies, the sensitive ecological values of the lower American River, and existing groundwater contamination within the Sacramento groundwater basins, purveyors and stakeholders came together and agreed to resolve longstanding conflicts through an interest-based negotiation process that led to formulation of the seven elements of the WFA and individual PSAs for each purveyor. In addition, all signatories to the WFA became members of the Water Forum successor effort, which is responsible for overseeing, monitoring, and reporting on the implementation of the WFA.

The WFA is a long-term water supply plan that addresses water supplies and demands to 2030 for existing (as of January 2000) purveyors and agencies. The WFA did not address water supplies beyond 2030 and did not account for newly incorporated cities (Elk Grove and Rancho Cordova). Rather, the WFA analysis was based on existing land use plans that were available at the time it was prepared (i.e., the 1994 County of Sacramento General Plan) and other relevant agency general plans). Since the WFA was adopted in 2000, the cities of Elk Grove and Rancho Cordova have incorporated and pursued development and implementation of long-term land use plans.

Solid Waste Disposal and Recycling

Source Reduction and Recycling Element

AB 939 mandates that all cities and counties prepare, adopt and submit planning documents to CalRecycle (formerly the California Integrated Waste Management Board), which demonstrate how cities and counties will meet the State's mandatory waste diversion goals. The required planning documents include a SSRE, a Household Hazardous Waste Element (HHWE) and a Non-disposal Facility Element (NDFE) which is subject to CalRecycle approval.

Sacramento Regional County Sanitation District and Sacramento Area Sewer District

The Sacramento Regional County Sanitation District (SRCSD) and the Sacramento Area Sewer District (SASD) are both separate political subdivisions of the State of California formed under the State of California Health and Safety Code. As such, these Districts' policies must conform to the statutes of the State Health and Safety Code. Additionally, the Districts are separately funded entities that do not depend upon Sacramento County for funding capital improvements, maintenance, or operations. User fees provide for the systems' operation and maintenance, while hookup fees provide most of the funding for new trunks and interceptors. The SRCSD requires a regional connection fee be paid to the District for any users connecting to or expanding sewer collection systems (SRCSD Ordinance No. SRCSD-0043).

4.10.2 EXISTING SETTING

WASTEWATER

Sacramento Regional County Sanitation and Sacramento Area Sewer Districts

The SRCSD provides public wastewater conveyance, treatment, and disposal in the urbanized portions of Sacramento County. SRCSD is a publicly owned wastewater agency serving over one million people in the major Sacramento Metropolitan Area through its three contributing agencies: the City of Folsom; the City of Sacramento; and SASD, of which Citrus Heights and adjacent portions of unincorporated Sacramento County are a part. Under the Master Interagency Agreement (MIA) that defines the operational, financial, and administrative responsibilities of the SRCSD, the County of Sacramento and the Contributing Agencies, SRCSD is responsible for the planning and financing of any new sewer facilities.

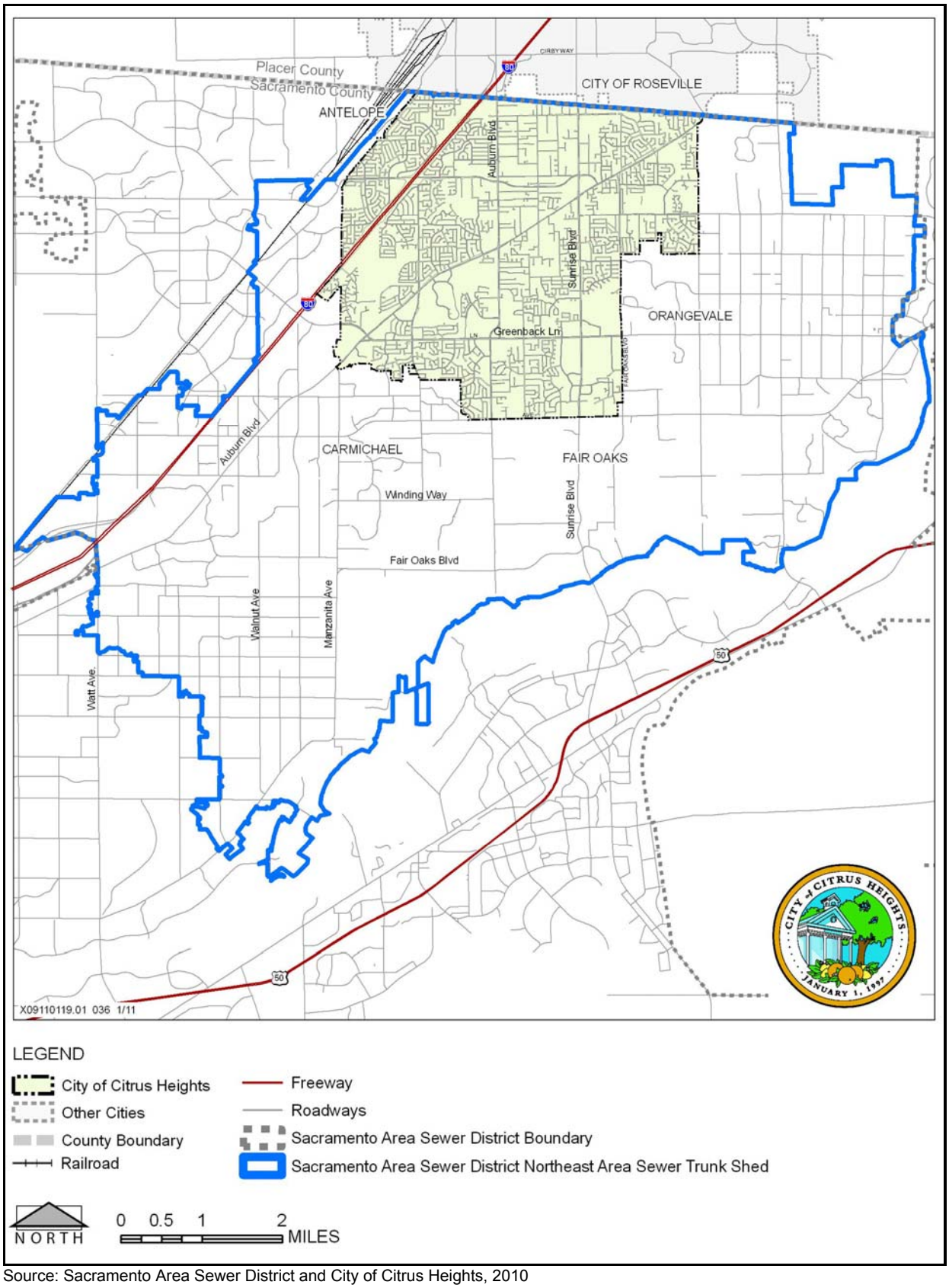
Collection System

The main SASD collection system includes over 2,800 miles of sewer pipelines ranging in size from four to 75 inches in diameter. The collection system pipelines are categorized and based on size, function and hydraulic capacity. In general, sewer collectors are pipes that receive flows from homes and businesses and are 10-inches or smaller in diameter. In contrast, trunk sewers are pipes that function as conveyance facilities to transport the collected wastewater flows to the SRCSD interceptor system and are 12-inches in diameter or larger. Interceptors are a massive system of pipes (up to 10 feet in diameter) and pump stations, which carry wastewater directly to the Sacramento Regional Wastewater Treatment Plant (SRWTP). At times of peak use, the interceptor system carries as much as 400 million gallons of wastewater per day. The existing SRCSD interceptor system consists of the Cordova (COR) Interceptor, the Folsom Interceptor Trunks (FOI) and the Northeast Interceptor Trunks (NEI). The SRWTP receives and treats an average of 150 million gallons per day (mgd) (as of 2010). The SRWTP has a permitted dry weather flow design capacity of 181 mgd. Effluent discharges from the planning area are collected and conveyed through the SASD trunk and SRCSD interceptors to the SRWTP and ultimately discharged into the Sacramento River near the unincorporated town of Freeport.

The average dry weather flow (ADWF) is the basic measure of wastewater flows, made up of the sanitary flow contributed by residential, commercial, industrial, and institutional users of the system and the extraneous infiltration/inflow water that enters the system (i.e., groundwater infiltration and rainfall inflow). The peak dry weather flow (PDWF) and the peak hour wet weather flow (PHWWF) are those highest wastewater flows occurring during their respective weather seasons. The ADWF of wastewater to the treatment plant is 150 mgd, with the PWWF reaching 312 mgd. The total projected ADWF at buildout within the Sewerage Service Area is estimated to be 350 mgd. The total projected PHWWF for a two-year design storm is approximately 833 mgd.

Citrus Heights is located in the District's Northeast System, as shown in Exhibit 4.10-2. The Northeast System is the largest of the sewer trunk systems in the SASD, totaling approximately 552,000 feet of pipeline ranging in size from 12" to 75" diameter sewers. The Mission Trunk Sewer extends north from the Northeast Siphons along Mission Avenue to Arcade Creek. There are also two major branches of the Mission Trunk Sewer, the first extending east from Whitney to Madison Avenue, and the second following Arcade Creek to Antelope Road and then extending east to Oak Avenue. Many smaller trunk sewers in the Northeast System follow alignments along creeks.

The SRCSD is responsible for financing new interceptor sewers, which are designed to carry 10 mgd of sanitary sewage or more. SASD is responsible for construction of new trunk sewer facilities within its current boundaries and unincorporated areas of the County that it could potentially annex (because of increased urbanization). Trunk sewer facilities are those that carry between one mgd and 10 mgd of flow. Because both special districts serve Citrus Heights, the City has one voting member on both the SRCSD and the Sacramento Area Sewer District Board of Directors.



Source: Sacramento Area Sewer District and City of Citrus Heights, 2010

Sacramento Area Sewer District Map **Exhibit 4.10-2**

Wastewater Treatment Plant

The SRWTP provides wastewater treatment for the district, including Citrus Heights. Design capacity for wastewater treatment at the SRWTP is currently at 181 mgd, with plans to expand the facility to accommodate future growth. The current SRWTP facilities serve over one million residents within approximately a 368-square mile area.

The SRWTP is a secondary treatment facility which conducts raw influent and effluent pumping, primary clarification, secondary treatment with the high-purity oxygen activated sludge process, cryogenic oxygen production, disinfection, dissolved air flotation sludge thickening, and anaerobic sludge digestion. Currently, treated wastewater flows are dechlorinated and discharged into the Sacramento River, while digested sludge is pumped to on-site solids storage basins (SSBs) and ultimately to on-site dedicated land disposal (DLD) facilities.

Table 4.10-1 below provides population-based flow projections through 2020. These exhibits were developed in 2008, for the *SRWTP 2020 Master Plan.* As of 2010, the current average flow is 150 mgd, which is less than projected due to changes in the region's growth and water conservation efforts. The SRWTP service area population grew from approximately 893,800 in 1985 to approximately 1,209,500 in 2000.

Table 4.10-1
Wastewater Flow Projections – Sacramento Regional Wastewater Treatment Plant (2000-2020)

Year	Average Dry Weather Flow (ADWF)	Average Day Maximum Month (ADMMF)	Peak Hour 2-Year Storm (PHWWF)
2000	154	220	312
2005	174	247	334
2010	196	279	362
2015	210	299	392
2020	218	311	408
Build-out	350	450	833

Source: Sacramento Regional Wastewater Treatment Plant, 2020 Master Plan Update, May 2008

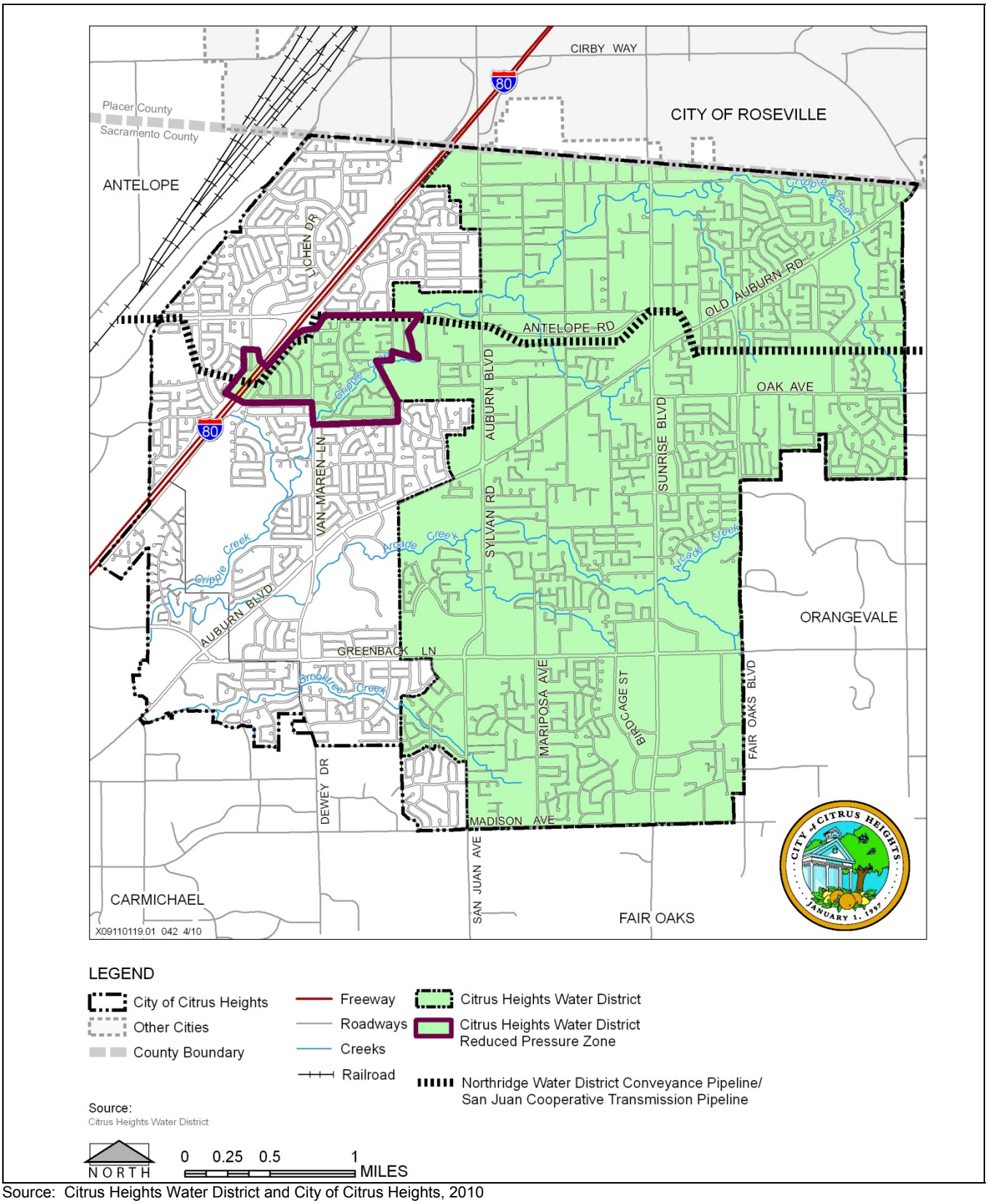
The SRWTP is currently undergoing planning efforts to install a water reclamation program to provide "gray" water to agriculture and major landscaped areas. Once the program is fully developed and operational, the SRWTP can deliver reclaimed water to water districts within the region for use at parks, schools, golf courses, and cemeteries.

WATER SUPPLY

Citrus Heights is supplied with potable water by three separate water purveyors. The service area boundaries of the Citrus Heights Water District, California American Water Company, and Sacramento Suburban Water District are shown in Exhibit 4.10-2.

Citrus Heights Water District

The Citrus Heights Water District (CHWD) was formed on October 25, 1920, and is one of the oldest public agencies in the City. The CHWD encompasses the eastern two-thirds of the City as illustrated in Exhibit 4.10-3. CHWD's service population is approximately 66,000. The estimated distribution of water in the CHWD includes 71% to single-family residential consumers and 9% to commercial and business users. Unaccounted-for water, which constitutes an estimated 5% of water use, is that amount which is not metered resulting from leaks, meter



Source: Citrus Heights Water District and City of Citrus Heights, 2010

Citrus Heights Water District **Exhibit 4.10-3**

inaccuracies, fire protection, system flushing, and some construction uses, while all other uses include public facilities and institutional users.

CHWD is currently at 85%-90%of projected build-out. CHWD build-out, as estimated by the Sacramento City-County Office of Metropolitan Water Planning (CCOMWP), will be in 2024, supporting a population of 70,148 residents and 28,034 dwelling units. The projected CHWD build-out average annual water demand without additional conservation is 18,744 acre-feet, or an average of 239 gallons per person per day (gpcpd). With anticipated water conservation savings, projected normal year water demand at build-out is 17,800 acre-feet (227 gpcpd).

Water Supply and Distribution

The CHWD is one of five water distribution agencies in the northeast region of Sacramento County and south Placer County that are supplied surface water by the San Juan Water District (SJWD). Overall, the CHWD has been supplied by SJWD with between 17,000 to 20,500 acre-feet of surface water annually between 1998 and 2008. This comprises approximately 35% of SJWD's surface water delivery. The SJWD supplies the distribution districts with surface water from Folsom Lake, after processing it through the SJWD Peterson Water Treatment Plant (WTP) facility in Granite Bay. The surface water supplied by SJWD is delivered through gravity flow from the Peterson WTP to CHWD. Because CHWD is planning for groundwater production facilities to help meet various combined-use, water shortage, emergency and peak demand projections, the need for additional surface water supplies beyond what has been historically provided by SJWD should not be required. Typically, as pressure decreases in the distribution pipeline system during peak demand conditions, CHWD wells are automatically started.

The CHWD is participatory to a Joint Powers Agreement with the cities of Citrus Heights, Folsom, and Sacramento, and Sacramento County, which grants them the authority to regulate groundwater. The Sacramento Groundwater Authority (SGA), governed by a Board of Directors made up of an appointed member of each water agency, has the ability to levy assessments. During drought years, water supply demands will need to be met by a combination of both surface water and ground water supplies. SGA is attempting to formalize combined-use agreements between surface and ground water users and suppliers. The District is also a participant in the Sacramento Area Water Forum and the Regional Water Authority (RWA).

The CHWD maintains five active wells used for peak demand, water shortages and emergency supplies. Table 4.10-2 lists the District's active wells. Four active groundwater wells are located within the planning area, with a fifth just south of the City limits. The CHWD groundwater system provides total well capacity of 6,750 gallons per minute (gpm). The firm capacity of the groundwater well system (i.e., with the largest producing well [#15] off-line) is 4,750 gpm.

Table 4.10-2
Citrus Heights Water District Well Capacity

Well Reference No.	Capacity, gpm
Well No. 1A	1,500
Well No. 8	1,550
Well No. 10	900
Well No. 11	800
Well No. 15	2,000
Total CHWD Capacity	**6,750**

Source: Bob Churchill, General Manager, Citrus Heights Water District, 2009

However, emergency water needs (in the case that CHWD's surface water supply was interrupted) are higher than existing pumping facilities can provide.

Until 1997, the CHWD's primary water transmission pipeline was a 42"/30" Transmission Main from the SJWD that was installed in 1958. In 1993, the CHWD teamed with the SJWD, Fair Oaks Water District, Orange Vale Water Company, and Northridge Water District (now Sacramento Suburban Water District) to construct a 78"/72" Cooperative Transmission Pipeline (CTP). This new transmission line, completed in 1997, creates redundancy within the water distribution system in the CHWD, and provides peak flow relief to the District's 42" Transmission Main.

The CHWD is supplied surface water from SJWD through a gravity flow transmission system. This system provides relatively high pressure throughout the District through approximately 255 miles of distribution pipelines. One reduced pressure zone has been developed in Citrus Heights and one reduced pressure zone has been developed outside of Citrus Heights. Based on static pressure available from SJWD's Hinkle Reservoir, pressure in the District varies between 60 pounds per square inch (psi) and 110 psi.

Water Conservation

In addition to pre-1914 water rights held by SJWD, the CHWD uses United States Bureau of Reclamation (USBR) water through a contract with the SJWD. The CHWD is therefore required to fully implement a Best Management Practices (BMPs) conservation plan for urban water use. The *CHWD Water System Master Plan* calculated that normal water demand at build-out would total 23,092 acre-feet per year. By utilizing the water conservation programs included within the BMPs, CHWD could save an estimated 5.1% conservation savings (944 acre-feet per year) for a total build-out demand of 17,800 acre-feet per year. A majority of the estimated conservation would be attained through system leak reduction, installation of Ultra Low Flow toilets and showers, and landscape requirements for single-family homes.

Many of the BMP programs (i.e., system audits, metering with commodity rates and conservation pricing) assume a fully metered system. By the end of 2007, all District accounts (19,541 total / 16,325 in the City) were retrofitted with water meters and billed based upon metered rates as of January 1, 2008.

Summary of Water Demand and Supply

Table 4.10-3 compares the current and projected water supply and demand for CHWD, as identified in the CHWD 2005 UWMP. The information was developed using the secure supply from Folsom Reservoir and CHWD's well production. The table indicates that future water demand will always be less than the "Pre-1914 Water Rights" and "USBR Contracts" water from Folsom Reservoir.

Table 4.10-3
Projected CHWD Water Supply and Demand Comparison: 2005 – 2010
(Acre-feet per year)

	2005	2010	2015	2020	2025
Supply Totals*	13,270	34,600	37,100	38,770	38,770
Demand Totals	19,400	20,700	20,400	20,000	20,000
Difference	11,870	13,900	16,700	18,770	18,700

Notes:
* Includes projected wholesale surface water supply and groundwater supply
Source: CHWD 2005 Urban Water Management Plan (amended 2007)

In any one dry or critically dry year, CHWD will need to carefully manage its water supply, and may need to enter into at least a Stage 2 "Water Alert".

California American Water Company

In 2001, the California American Water Company (CAW) acquired the Citizens Utilities Company of California (CUCC) and its assets, which include a number of small disjointed service areas throughout the Sacramento region. The overall service area consists of approximately 7.1 square miles. Citrus Heights is located within the Lincoln Oaks Service Area (LOSA), which consists primarily of groundwater wells and small distribution mains. The Lincoln Oaks Water Company first purchased water system properties in northeastern Sacramento County in 1957. A water supply permit was granted to the Lincoln Oaks Water Company in October of 1961 to supply domestic water to the community of Citrus Heights, and in June of 1965, the Lincoln Oaks Water Company merged with CUCC which was subsequently acquired by CAW. Exhibit 4.10-4 shows the CAW's Lincoln Oaks Service Area boundaries and well sites in relation to the City limits.

Total water production in the LOSA in 2005 was 32.8 million gallons per day (mgd), or approximately 37,000 acre-feet per year (CAW 2006). The total annual demand averaged 9.21 mgd for the last 10 years. The highest maximum month demand from 2001 through 2006 is 17.05 mgd. The maximum day production is estimated at approximately 20.46 mgd. Unaccounted-for water (i.e., water use resulting from unauthorized connections and leaks, meter inaccuracies, fire protection and training, system and street flushing, and construction uses) is assumed to be 10% of water use in the LOSA. In 2006, approximately 14,200 customers were estimated in the LOSA, with an average residential daily demand of approximately 8.34 mgd to 10.07 mgd. The 2006 residential water use was estimated to be approximately 97.6% of total water use.

Water Supply and Distribution

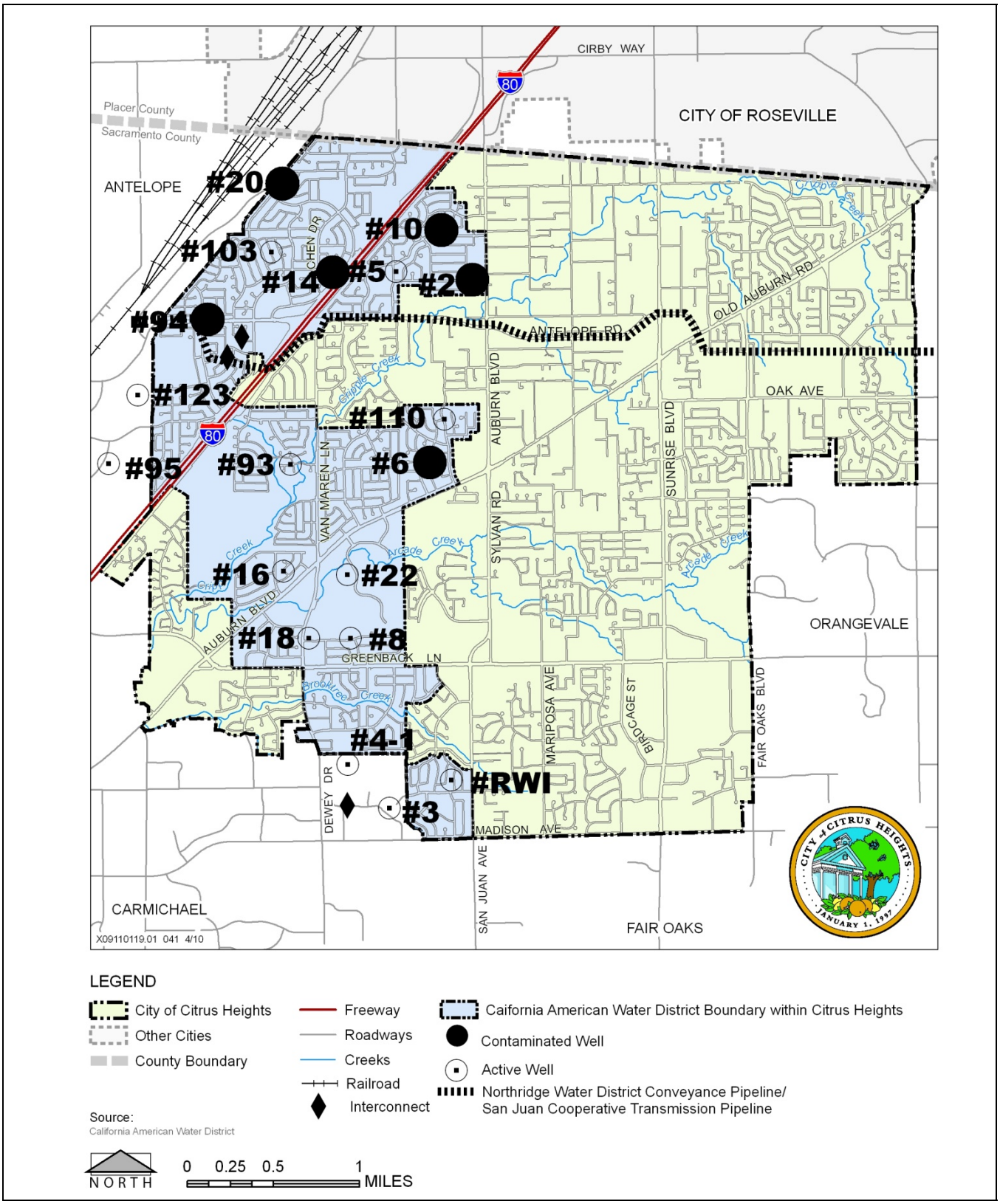
CAW obtains all of its water supply from groundwater wells distributed throughout the service area. The Lincoln Oaks water system utilizes a total of 26 groundwater wells, 17 of which are in Citrus Heights, as illustrated in Figure 4.10-4. Three of the LOSA well sites are currently off-line due to suspected organic contaminants, although they meet existing drinking water standards. During the wet season, three wells can provide 85% of the water demand, but during the high demand periods in the summer, all of the LOSA's available wellheads are used.

The wells in the LOSA have an average capacity of 900 gpm, and range in depth from 235 to 510 feet. Standing groundwater depth is 139 to 200 feet. Table 4.10-4 describes capacities of the 23 well sites in the LOSA. The CAW's water supply sources should be adequate to deliver maximum day demand, which was 9.51 mgd during the summer of 2001. However, groundwater levels are continuing to decline in the Sacramento region, and are of concern to the future provision of water services. Three of the Company's wells drilled in 1955 may have to be retired in the next few years due to water levels dropping below well pumps.

CAW maintains a gravity distribution system, using booster pumps at each wellhead. Small distribution pipelines (6" to 8") carry water to LOSA customers. This distribution system should be able to deliver the required fire flow plus maximum day demand, which was 9.51 in the summer of 2001. In 2006, a total of 14,200 water connections were identified for the Lincoln Oaks Service Area. The LOSA contained 1,841 metered connections, while the remaining 12,359 water connections were flat rate connections.

The Lincoln Oaks system consists of one pressure zone, with pressures typically ranging from 40 to 70 psi. However, Interstate 80 and the Southern Pacific Railroad tracks serve to separate the distribution system into several relatively isolated subareas. The distribution system has three pipelines which cross under Interstate 80, and one pipeline that crosses under the railroad right-of-way. CAW is currently preparing plans to construct a large booster station just outside of Citrus Heights to improve water pressure.

The capacity of the groundwater well system is summarized in Table 4.10-4.



Source: California American Water District and City of Citrus Heights, 2010

California American Water Company Lincoln Oaks Service Area **Exhibit 4.10-4**

Table 4.10-4
Lincoln Oaks Service Area Well Capacity

Well No.	Well Name	Capacity (gpm)	Year Drilled
Active Wells			
81	Andrea No. 1	1,500	1974
95	Andrea No. 2	1,800	1977
101	Cherbourg	1,300	1977
RWI	Chipping	1,000	1960
22	Crosswoods	800	1974
123	Daly	1,400	1995
80	Diablo	700	1966
74	Fort Sutter	500	1955
16	Halifax (Auburn)	500	1964
75	Hemlock	400	1955
3	Laurel Oaks	500	1957
4-1	Linda Sue	500	1955
5	Oak Berry	1,100	1958
79	Roseville Road	600	1973
77	Rushmore	500	1959
76	Shenandoah	1,000	1955
93	Twin Park	1,600	1977
18	Van Maren	900	1973
2	Oak Forest	1,000	1957
10	Sandalwood	900	1961
94	Summerplace	1,000	1977
14	Treelark	700	1964
20	Villaview	1,000	1974
Total Active Well Capacity		**21,200**	
Off-line Wells			
6	Glass Slipper	400	1959
11	Carriage	400	1973
8	Le Mans	800	1959
Total LOSA Capacity		**22,800**	

Source: California American Water Company, Lincoln Oaks Water Comprehensive Planning Study, November 2006

Table 4.10-5
Summary of CAW Northern Division Demand and Supply, Average and Wet Years: 2005 – 2020
(Acre-feet per year)

	2005	2010	2015	2020	2025
Total Supply	47,620	50,800	53,300	56,500	60,300
Projected Demand, without Conservation	47,620	50,800	53,300	56,500	60,300
Projected Demand, with Conservation	47,620	48,700	50,000	52,500	55,500
Difference, Supply less Demand with Conservation	0	2,100	3,300	4,000	4,800

Source: CAW, Northern Division, UWMP 2006-2010, June 1, 2009

Water Conservation

As part of regional efforts to conserve water, CAW participates in the Regional Water Authority Water Efficiency Program and is signatory on both the WFA and the California Urban Water Conservation Council's (CUWCC) Memorandum of Understanding (MOU). The comprehensive WFA allows the region to meet its needs in a balanced way through implementation of seven elements. These elements include detailed understandings among stakeholder organizations on how this region will deal with key issues such as groundwater management, water diversions, dry year water supplies, water conservation, and protection of the Lower American River.

Capital Improvement Program

The CAW CIP seeks to address long-term system needs. Projects are identified as either Priority A or B. Priority A designates high priority projects recommended for construction due to projected near term supply, treatment, storage, pumping, and associated transmission reinforcements. Priority B projects are recommended to enhance fire flow capacity and to provide other various improvements, and serve as a place holder for potential future projects based upon actual system growth. Priority A projects are estimated at $12,070,000 and Priority B projects are estimated at $5,769,000.

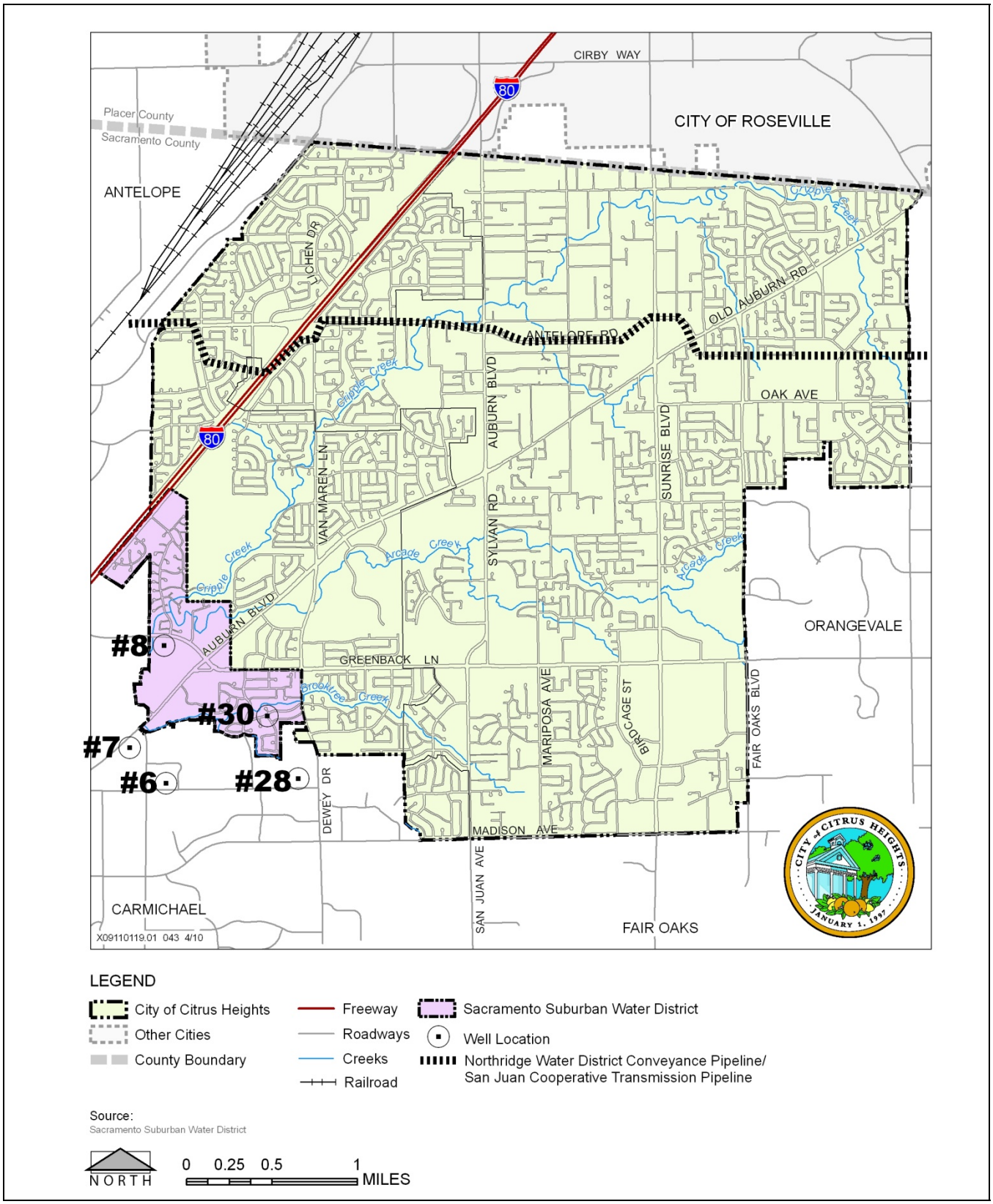
Summary of Water Demand and Supply

Table 4.10-5 summarizes the water demand and supply for the CAW Northern Division (which includes the LOSA) as of 2009, as indicated in the 2006-2010 CAW Northern Division, UWMP.

Sacramento Suburban Water District

In February 2002, the Sacramento Suburban Water District (SSWD) was formed as a result of a consolidation between the former Arcade Water District (AWD) and Northridge Water District (NWD). All water service in Citrus Heights which was provided by the former NWD is now being served by the SSWD.

The SSWD serves a population of approximately 160,000 and a service area of approximately 36 square miles in Sacramento County. Within the SSWD are four service areas: the North Service Area (NSA), the Arbors at Antelope, McClellan Business Park, and the South Service Area (SSA). Water supply for the District comes from active groundwater wells and surface water from Placer County Water Agency (PCWA) and the City of Sacramento. The SSWD's water system facilities and the service areas are shown on Exhibit 4.10-5.



Source: Sacramento Suburban Water District and City of Citrus Heights, 2010.

Sacramento Suburban Water District **Exhibit 4.10-5**

Table 4.10-6
Sacramento Suburban Water District Well Capacity

Well No.	Well Name	Capacity, gpm	Frequency of Use
15	San Martin / Bolivar	NA	Abandoned
16	Georgia / Canary	NA	Abandoned
27	Melrose / Channing	680	Active
31A	Watt / Elkhorn 1	600	Active
34	La Cienega / Melrose	410	Active
39	Thomas / Elkhorn	600	Active
44	Gilman / SMUD Station	NA	Abandoned
56A	Fairbairn / Karl	2,400	Active
57	Larchmont / Watt NA	NA	Abandoned
58	Thirty Second / Elkhorn	650	Active
59	Bainbridge/Holmes School	NA	Abandoned
59A	Bainbridge / Holmes School 2	2,950	Active
64	Galbrath / Antelope Woods	675	Active
MC10	McClellan Business Park	675	Active
MC-C1	Capehart	450	Active
MC-C2	Capehart	400	Active
MC-C3	Capehart	650	Active
N1	Evergreen	880	Active
N3	Engle	925	Active
N5	Hillsdale	850 VFD	Active
N6	Palm	1,040	Active
N7	Rosebud	1,300	Active
N8	Field	1,200	Active
N9	Cameron 1	1,300	Active
N10	Walnut	1,300	Active
N11	Diablo	NA	Abandoned
N12	St. Johns	1,350	Active
N13	Madison NA	NA	Abandoned
N14	Orange Grove	1,200	Active
N15	Cabana	1,000	Active
N17	Oakdale	1,100	Active
N18	McCloud	NA	Abandoned
N19	Larchmont	NA	Abandoned
N20	Cypress	1,300	Active
N21	Yucca	NA	Abandoned
N22	River College	1,000	Active
N23	Freeway	1,030	Active
N24	Don Julio	1,030	Active
N25	Sutter	1,900	Active

Table 4.10-6
Sacramento Suburban Water District Well Capacity

Well No.	Well Name	Capacity, gpm	Frequency of Use
N26	Monument	600	Active
N27	Jamestown	1,225	Active
N28	Oakbrook	NA	Abandoned
N29	Merrihill	1,285	Active
N30	Park Oaks	1,125	Active
N31	Barrett Meadows	750	Active
N32A	Poker 1	1,2000	Active
N32B	Poker 2	1,800	Active
N32C	Poker 3	790	Active
N33	Walerga	1,275	Active
N34	Cottage	2,000	Active
N35	Antelope	2,000	Active
N36	Verner	1,500 VFD	Active
2A	El Prado / Park Estates	995 Fluoridated	Active
3A	Kubel / Armstrong	370	Active
4B	Bell / Marconi	2,675	Active
5	Bell / El Camino	330 H	Active
7	Rubicon / Seely Park	180	Active
8	South Park / Wrendale	NA	Abandoned
9	Ravenwood / Eastern	625	Active
10	Potter / East Country Club	NA	Abandoned
12	Hernando / Santa Anita Park	540	Active
13	Calderwood / Marconi 820	820	Active
14	Marconi South / Fulton	570	Active
18	Riding Club / Ladino	840	Active
19	Balmoral / Yorktown	950	Active
20A	Watt / Arden	1,100,	Active
22	West / Becerra	650	Active
23	Marconi North / Fulton	550	Active
24	Becerra / Woodcrest	590	Active
25	Thor / Mercury	750	Active
26	Greenwood / Marconi	650	Active
28	Red Robin / Darwin	585	Active
30	Rockbridge / Keith	650	Active
32A	Eden / Root	1,905	Active
33A	Auburn / Norris	2,675	Active
35	Ulysses / Mercury	1,000	Active
37	Morse / Cottage Park	700	Active
38	Watt / Auburn	500	Active

Table 4.10-6
Sacramento Suburban Water District Well Capacity

Well No.	Well Name	Capacity, gpm	Frequency of Use
40	Auburn / Yard	675	Active
40A	Auburn/Yard	2,525	Active
41	Albatross / Iris	600	Active
42	Becerra / Marconi	NA	Abandoned
43	Edison / Traux	850	Active
45	Jamestown / Middleberry	750	Active
46	Jonas / Sierra Mills	800	Active
47	Copenhagen / Arden	885	Active
50	Columbia / Fair Oaks	500	Active
51	Sudbury / Elsdon	285 H	Active
54	North / Root	NA	Abandoned
55A	Stewart / Lynndale	2,000	Active
60	Whitney / Concetta	600	Active
63A	American River Well Field	NA	Abandoned
63B	American River Well Field	NA	Abandoned
63C	American River Well Field	NA	Abandoned
63D	American River Well Field	NA	Abandoned
63K	American River Well Field	NA	Abandoned
63L	American River Well Field	NA	Abandoned
65	Merrily / Annadale	1,250,	Active
66	Eastern / Woodside Church	1,350	Active
67	El Camino / Eastern	NA	Abandoned
68	Northrop / Dornajo	1,600	Active
69	Hillsdale / Cooper	450	Active
70	Sierra / Blackmer	350	Active
71	River Drive/Jacob	2,675	Active
72	River Walk / NETP	1,850	Active
73	River Walk / NETP East	3,500	Active
74	River Walk / NETP South	2,700	Active
75	Enterprise / Northrop	1,150	Active
76	Fulton / Fair Oaks	250	Active
77	Larch / Northrop	400	Active
Total Capacity		**98,390**	

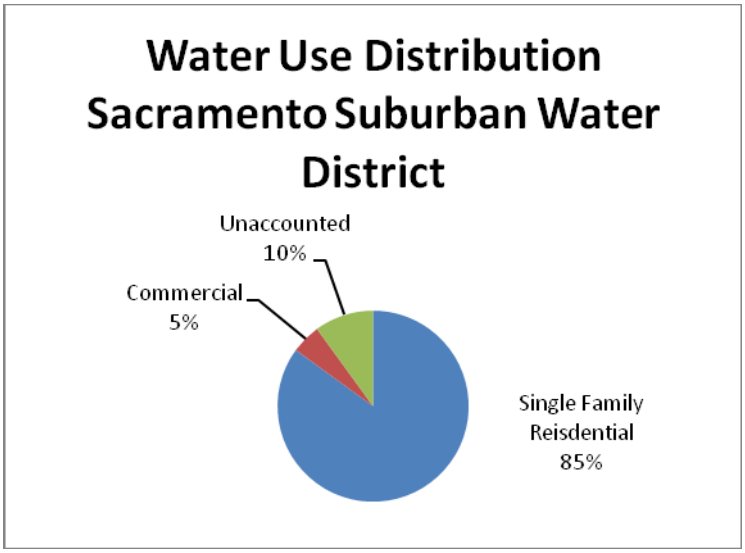
Source: Sacramento Suburban Water District System Master Plan, September 2009

Total water production for SSWD in 2008 was 38,498 acre-feet, which consisted of 23,516 acre-feet (61%) of groundwater and 14,982 acre-feet (39%) of surface water. The SSWD had 43,998 customer connections in 2007, including 37,276 single-family connections (85%). Half of the District's customers are not currently metered. The SSWD anticipates completing its metering program by 2025, the California state-mandated deadline.

Unaccounted for water use is unmetered water use such as for fire protection and training, system and street flushing, sewer cleaning, construction, system leaks, meter inaccuracies, and unauthorized connections. Since about half of the District's customers are not metered, no data is available to determine the percentage of unaccounted for water usage. For the purposes of the SSWD 2009 Water System Master Plan unauthorized water use is assumed to be approximately 10% of total water production.

Water Supply and Distribution

The SSWD's existing system is characterized as a groundwater supply and distribution system, and surface water from PCWA via Folsom Reservoir and SJWD's Peterson WTP and from the American River via the City of Sacramento's Fairbairn WTP.



Source: Sacramento Suburban Water District 2009 Master Plan

The District owns 89 active well sites throughout the region, two of which are located in Citrus Heights. Pumping capacities for SSWD's wells range from 350–3,500 gpm. Total well production capacity is 98,390 mgd. Table 4.10-6 shows well capacity data for SSWD's well sites, while each well's location is identified in Exhibit 4.10-5. The well sites located in Citrus Heights are Field #N8 and Park Oaks #30, which combined produce approximately 3,900 gpm.

The District's current surface water agreements are with PCWA, City of Sacramento, and the USBR (Section 215 CVP water). Surface water from PCWA and the USBR is diverted from Folsom Lake and treatment is provided by the Sydney N. Peterson WTP. The Peterson WTP is owned and operated by SJWD.

SJWD also supplies treated surface water from Folsom Reservoir for a group of water entities (SJWD Retail Service Area, Orange Vale Water Company, CHWD, City of Folsom-Ashland Area, and Fair Oaks Water District).

The Peterson WTP has a nominal capacity of 120 mgd. Treated water is pumped to the Hinkle Reservoir, which has 62 million gallons (mg) of storage capacity. From the Hinkle Reservoir, the potable surface water supply for the District is delivered by gravity flow through the San Juan Cooperative Transmission Pipeline (CTP) followed by the Antelope Conveyance Pipeline (ACP) (formerly referred to as the Northridge Conveyance Pipeline).

The 48-inch diameter, gravity flow ACP is constructed from the terminus of the San Juan Cooperative Transmission Pipeline at C-Bar-C Park on Oak Avenue. The District owns the total pipeline capacity of 59.2 mgd in the ACP and that same quantity of flow in the larger capacity CTP.

The SSWD has a surface water supply from the American River through a contract with the City of Sacramento, dating to 1964. Historically, only a portion of this amount has been diverted through the American River Well Field located in the SSA. The American River Well Field is not currently being used because it does not meet the requirements of the Surface Water Treatment Rule. In 2006, SSWD began receiving surface water from the City

of Sacramento. This water is treated at the City's Fairbairn WTP and delivered to the SSWD via the City's Howe Avenue transmission main to an existing interconnection located near Enterprise Drive and Northrop Avenue in the NSA.

The SSWD's distribution system consists of about 682 miles of pipeline. The distribution system ranges in size from 48-inch mains down to four-inch laterals. Pipeline material consists predominantly of asbestos cement, polyvinyl chloride (PVC), ductile iron, mortar-lined coated steel, and cast iron pipe. SSWD standards include the requirement for gridding cross connecting mains at intervals of approximately 1,300 feet with a minimum size of 12 inches. Exceptions have been made where 10-inch mains and larger exist in the grid pattern.

In addition to the groundwater aquifer, SSWD has four active storage tanks in the NSA. A five million gallon storage tank and booster pumping station, located at the Antelope reservoir site, stores both groundwater from nearby wells and treated water from the Peterson WTP to meet peak hour demands and fire flows. The maximum pumping capacity from the Antelope reservoir is approximately 10,000 gpm. Another five million gallon capacity groundwater storage reservoir and 10,000 gpm booster pump station is located near the intersection of Watt Avenue and Elkhorn Boulevard in North Highlands. There is a 150,000 gallon elevated storage tank located in the Arbors at Antelope area, and a 125,000 gallon elevated storage tank located at the District's Walnut Corporation Yard. There are two active elevated storage tanks in the McClellan Business Park. The SSA has one active storage tank which was recently constructed in 2006. It is a five million gallon storage tank and booster pumping station located at Enterprise Drive and Northrop Avenue.

Water Conservation

The SSWD has begun implementing the California Urban Water Conservation Council (CUWCC) water conservation BMPs. SSWD began implementing water conservation BMPs based on the WFA, and is moving towards implementing the CUWCC water conservation BMPs as part of their Water Forum renegotiations.

In the SSWD 2006 Water Conservation Master Plan (WCMP), Phase 1 of the technical analysis was performed on the CUWCC water conservation BMPs (Brown and Caldwell, 2006). The WCMP is a technical analysis of quantifiable urban water conservation BMPs for six large purveyors in the Sacramento region. The purpose of the technical analysis was to accurately define the benefits (water savings) and costs of the quantifiable BMPs. Quantifiable BMPs are those for which water savings estimates are available. These include water surveys, plumbing retrofits, metering, large landscape water audits, high-efficiency washing machines, and toilet rebates. Non-quantifiable BMPs are those for which water savings cannot be accurately estimated (i.e., public education and outreach). Although the Plan estimates water savings due to metering at 20%, it is assumed for this study that unmetered customers would reduce water use by 10% due to metering.

Water efficiencies gained from the natural replacement of water using fixtures will reduce unit water use in addition to the continued implementation of the BMPs. The projected demands in the District include reduced water use due to natural replacement of toilets, shower fixtures, and washing machines installed in single-family and multi-family housing units as well as commercial establishments. Natural replacement does not include water-efficient fixtures installed in new construction, or fixtures that are replaced under a rebate program. Decreased water use due to natural replacement was calculated in the Plan.

Summary of Water Demand and Supply

Table 4.10-7 summarizes the water demand and supply for the SSWD, as indicted in the 2005 SSWD UWMP.

The SSWD has enough surface and groundwater supplies to meet its own needs and still have capacity to supply water to others. The SSWD has invested in constructing groundwater and surface water supply infrastructure that has the capacity to provide a regional water supply benefit (SSWD 2009:ES10). The SSWD 2009 Water System Master Plan provides a discussion of the regional water supply needs that could be addressed by exporting water from the SSWD.

Table 4.10-7 Summary of SSWD Demand and Supply, Normal Year: 2005 – 2025 (Acre-feet per year)					
	2005	2010	2015	2020	2025
Supply Totals	63,200	81,400	85,400	85,400	85,400
Demand Totals	52,027	52,536	53,697	54,647	57,869
Difference	11,173	28,864	31,703	30,753	27,531
Source: SSWD, 2005 UWMP					

STORM DRAINAGE

American River Watershed

Citrus Heights is located in the western-most portion of the American River Watershed, which contains approximately 2,100 square miles of the western slope of the Sierra Nevada Mountain Range. Rainwater runoff flows out of the Sierra Nevada through numerous small creeks and the three higher forks of the American River. The three forks flow into Folsom Lake just east of Sacramento County, then back out as a single American River, which winds its way through the southern portion of the County before flowing into the Sacramento River to the west.

The County's American River Flood Control System (ARFCS) consists of the Folsom Dam, Nimbus Dam, an auxiliary dam at Mormon Island, eight earth-filled dikes, and four miles of levees on the north bank of the American River.

Although located within the American River Drainage Basin, the creeks within Citrus Heights feed into the County's Sacramento River Flood Control System (SRFCS). The SRFCS consists of the Fremont Weir, Sacramento Weir, Yolo Bypass Channel, and levees along the Sacramento River, Lower American River, Natomas East Main Drainage Channel, Arcade Creek, Natomas Cross Channel, and the Sacramento Bypass Channels.

FEMA prepares maps for the NFIP which delineate all areas subject to inundation of more than one foot from a 100-year interval rainfall event. Please refer to Section 4.5, "Water Resources and Water Quality," for floodplain information and maps.

Capital Improvement Projects

The Citrus Heights CIP for FY 2010–FY 2014 includes over 40 drainage improvement projects ranging from constructing and replacing storm drain pipes to relocating inlets so that new ADA ramps may be constructed. Table 4.10-8 lists all drainage capital projects as well as budget estimates for FY 2009/2010, FY 2010/2011, FY 2011/2012, FY 2012/2013 and FY 2013/2014.

SOLID WASTE

Waste Management and Recycling

The Sacramento County Waste Management and Recycling Division (SCWMRD) provides solid waste and recycling collection and disposal services to all unincorporated areas in Sacramento County. The SCWMRD provides residential services to the northern suburban portion of the County including source reduction, recycling, transformation, and land disposal. The SCWMRD also staffs the Sacramento Regional Solid Waste Authority

Table 4.10-8
Planned Citywide Drainage Improvements (FY 2009–FY 2014)

Projects for Fiscal Year 09/10	
Cleaning Bridges & Box Culverts: Clean out specified bridges and box culverts and re-align channels to maximize scouring velocities within structures. Project includes rip-rapping channels adjacent to bridges and box culverts.	$10,000
Corrugated Steel Pipe Replacement at Lauppe Lane: Replace existing 54" corrugated steel pipe under the mobile home park with reinforced concrete pipe. Extensive repaving of the mobile home park streets due to construction traffic may be necessary.	$1,200,000
Extension of 18" Storm Drain Pipe on Greenback Lane: Extend an 18" SD pipe to remove a ditch located at the approved Legends Homes project site.	$10,000
Construction of New Storm Drain Pipe on Highland Avenue: Construct new storm pipe system on Highland Avenue near Mariposa Avenue so the street may be widened in the future.	$50,000
Storm Drain Pipe Replacement on Pretty Girl Court: Replace failed system that has severe root intrusion and collapsing pipe.	$30,000
Construction of New Storm Drain Pipe on Cross Drive: Construct new storm pipe system in the location of an open ditch behind the properties on Cross Drive.	$80,000
Construction of New Drainage System on Old Auburn & Mariposa Avenue: Install new drainage system on the southwest corner	$30,000
Construction of Stock Ranch Erosion Protection: Install rock erosion protection adjacent to the Costco bridge and siltation pond to protect the ponds outfall channel from collapsing.	$25,000
Construction of Undefined Small Drainage Improvements in Citrus Heights: The account pays for unscheduled small improvements such as DIs or short lengths of pipes. This account is for quick turn-around projects that require immediate action.	$30,000
Inlet Relocations for new ADA Ramps: Relocate inlets within intersections so that new ADA ramps may be constructed at the optimal location.	$30,000
Drainage Studies & Designs at Greenback Lane and Sylvan Road: The section of pipe from Greenback Lane to the creek at Sylvan Road is collapsing and needs replacing. A study is needed to determine the size and location of the new pipe.	$50,000
Projects for FY 10/11	
Cleaning Bridges & Box Culverts: Clean out specified bridges and box culverts and re-align channels to maximize scouring velocities within structures. Project includes rip-rapping channels adjacent to bridges and box culverts.	$50,000
Corrugated Steel Pipe Replacement on Sylvan Road: Replace an existing corrugated steel pipe that is collapsing in numerous locations on Sylvan Road, from Greenback Lane to San Juan Avenue. Depending on the study, this system may be a candidate for insitu-form lining.	$1,100,000
Construction of Undefined Small Drainage Improvements in Citrus Heights: The account pays for unscheduled small improvements such as DIs or short lengths of pipes. This account is for quick turnaround projects that require immediate action.	$50,000
Inlet Relocations for new ADA Ramps: Relocates inlets within intersections so that new ADA ramps may be constructed at the optimal location.	$20,000
Drainage Studies & Designs at Birdcage Drive and Macy Plaza (Guinevere Way): The section of drainage system is inadequate.	$30,000

Table 4.10-8
Planned Citywide Drainage Improvements (FY 2009–FY 2014)

Projects for FY 11/12	
Cleaning Bridges & Box Culverts: Clean out specified bridges and box culverts and re-align channels to maximize scouring velocities within structures. Project includes rip-rapping channels adjacent to bridges and box culverts.	$70,000
Construction of Undefined City Road Improvement Project: This fund will pay for the storm drain improvements programmed within a city street Capital Improvement Project.	$70,000
Construction of Birdcage/Macy Plaza (Guinevere Way): Implement the design to remediate flooding issues.	$200,000
Construction and Replacement of Undefined Corrugated Steel Pipe: Replace an existing corrugated steel pipe that is collapsing in numerous locations.	$100,000
Replacement of Corrugated Steel Pipe at Mariposa Avenue: Replace an existing corrugated steel pipe that is collapsing in numerous locations.	$100,000
Construction of Undefined Storm Drain Pipes: Remove Open Ditches and construct new storm pipe system within the confines of the open ditch area.	$50,000
Construction of Undefined Small Drainage Improvements in Citrus Heights: The account pays for unscheduled small improvements such as DIs or short lengths of pipes. This account is for quick turnaround projects that require immediate action.	$50,000
Inlet Relocations for new ADA Ramps: Relocates inlets within intersections so that new ADA ramps may be constructed at the optimal location.	$20,000
Drainage Studies & Design for Canady Lane: Study how to fix drainage issues in this area.	$30,000
Projects for FY 12/13	
Construction of Access Ramps to Creeks/Channels: Clean out specified bridges and box culverts and re-align channels to maximize scouring velocities within structures. Project includes rip-rapping channels adjacent to bridges and box culverts.	$25,000
Auburn Boulevard Enhancement Project: This fund will pay for the storm drain improvements programmed within a city street Capital Improvement Project.	$300,000
Canady Lane Project: This fund will pay for the storm drain improvements programmed within a city street Capital Improvement Project.	$150,000
Construction of Wing Walls at Various Culverts & Bridges: Designed and constructed to increase flow velocities in culverts and ultimately reduce maintenance costs.	$150,000
Construction of Storm Drain Pipes at Undefined Open Ditch Areas: Construct new storm pipe system within the confines of the open ditch area.	$50,000
Construction of Undefined Small Drainage Improvements in Citrus Heights: The account pays for unscheduled small improvements such as DIs or short lengths of pipes. This account is for quick turnaround projects that require immediate action.	$50,000
Construction of Inlet Relocations for New ADA Ramps: Relocates inlets within intersections so that new ADA ramps may be constructed at the optimal location.	$50,000

Table 4.10-8 Planned Citywide Drainage Improvements (FY 2009–FY 2014)	
Projects for FY 13/14	
Cleaning Bridges & Box Culverts: Construct improved access points to creeks and channels.	$50,000
Construction of Access Ramps to Creeks/Channels: Clean out specified bridges and box culverts and re-align channels to maximize scouring velocities within structures. Project includes rip-rapping channels adjacent to bridges and box culverts.	$20,000
Construction of Undefined City Road Project: This fund will pay for the storm drain improvements programmed within a city street Capital Improvement Project.	$150,000
Construction of Undefined City Drainage Project: This fund will pay for the storm drain improvements programmed within a city street Capital Improvement Project.	$100,000
Construction of Wing Walls at Carious Culverts & Bridges: Designed and constructed to increase flow velocities in culverts and ultimately reduce maintenance costs.	$80,000
Construction of Undefined Corrugated Steel Pipe: Replace an existing corrugated steel pipe that is collapsing in numerous locations.	$100,000
Construction of New Storm Drain Pipe at Undefined Open Ditch Areas: Construct new storm pipe system within the confines of the open ditch area.	$100,000
Construction of Undefined Small Drainage Improvements in Citrus Heights: The account pays for unscheduled small improvements such as DIs or short lengths of pipes. This account is for quick turnaround projects that require immediate action.	$50,000
Inlet Relocations for New ADA Ramps: Relocate inlets within intersections so that new ADA ramps may be constructed at the optimal location.	$50,000

(SWA), a Joint Powers Authority, which consists of the City of Sacramento and the County of Sacramento and formerly the City of Citrus Heights and regulates the commercial solid waste collection and recycling operations in the City of Sacramento and the unincorporated areas of Sacramento County.

In 2008, the City separated from the SWA and now administers its own solid waste management system and provides disposal and diversion data in an annual report to the CIWMB, in accordance with AB 939 requirements.

Solid waste collection services in the City are generally provided by private haulers through either a contract or franchise. The City currently contracts residential solid waste collection and recycling services to Allied Waste Systems, a private waste disposal company. Residential waste collection and recycling services in the City have been provided by Allied Waste Systems since January 1, 2006. Eight commercial haulers are currently franchised to provide commercial solid waste collection and recycling service in the City.

Waste Diversion Programs

The landfill diversion mandates of AB 939 required all cities and counties in California divert 50% of the total waste generated within the boundaries of the jurisdiction from landfill disposal on an annual basis beginning in the year 2000. Solid waste may be diverted from landfill disposal through source reduction, recycling, or composting.

Source Reduction

Source reduction is at the top of the waste management hierarchy as defined in AB 939. This is due to the fact that the practice of source reduction is the most environmentally beneficial and cost effective method of reducing disposal in landfills. The City's objectives for source reduction within its boundaries include the following:

- Achieve at least 1.6% of the 50% overall diversion goal from source reduction activities;
- Reduce the use of non-recyclable materials;
- Reduce packaging products;
- Achieve a minimum of 2% diversion through source reduction programs;
- Encourage reuse and repair of materials;
- Increase public awareness of waste reduction and re-use concepts; and
- Encourage the use of products with recycled-content materials.

The targeted wastes for source materials are the following:

- Yard wastes
- Paper products
- Food wastes
- Office paper
- Pallets
- Film plastic

Currently the Sunrise Recreation and Park District (SRPD) manages all parks and open space within the City's boundaries, and the turf areas are currently managed through grasscycling. The manicured parks encompass 181.36 acres within the City limits.

Several businesses have been identified that reduce paper generation through various practices. In addition there are ten thrift stores within the planning area, including Goodwill Industries, St. Vincent DePaul and Eco Thrift. These facilities all accept or either distribute or sell various reusable items, including household goods, used clothing, furniture and appliances.

The SCWMRD has intermittently operated a Backyard Compost Program since 1991 that provides education materials and compost bins for residents. Because the City service area was part of unincorporated Sacramento County, many residents have participated in the program and manage their waste through backyard composting.

Table 4.10-9 provides a summary of the City's existing source reduction programs and the corresponding diversion tonnages for 2006.

Table 4.10-9
Non-Residential Source Reduction and Diversion Programs (2006)

Program Type	Material Type	2006 Tonnage	% of 2006 Diversion	% of 2006 Generation
Business Source reduction	Grass	210	0.32%	0.16%
Business Source reduction	Mixed materials	63	0.095%	0.05%
School Source Reduction	Grass	640	1.0&	0.49%
Government Source Reduction	Grass	1,206	1.8%	0.92%
Total		**2.118**	**3.2%**	**1.6%**

Source: Citrus Heights 2006 Waste Generation Study

Recycling

Both the residential and commercial franchisees provide recycling services within Citrus Heights. In addition, several buy-back centers and drop-off facilities are located either within or near the City that provide recycling opportunities. The City's recycling objectives include the following:

- Achieve at least 27% of the 50% overall diversion goal from recycling activities;
- Work with the residential collector to increase participation and material recycling achieved in the curbside recycling program;
- Work with the commercial franchisees to achieve a diversion rate of approximately 30%;
- Increase participation of commercial businesses and government agencies in recycling programs; and
- Work with local school districts to implement recycling opportunities at schools.

The targeted wastes for recycling are the following:

- Cardboard
- Newsprint
- Mixed paper
- California Redemption Value beverage containers
- Glass
- Plastics
- Construction and demolition materials

Government recycling activities consist of commingled material recycling at offices and construction and demolition debris recycled or reused for City road projects. Commingled recycling material is collected and processed by Allied Waste Services and document shredding is provided by a local company. In addition to the targeted materials, the City also promotes local special collection events for materials such as e-waste. In 2008, the City began requiring green waste recycling and reuse from City-contracted landscaping services for City properties and right-of-ways. If the green waste is not mulched on-site, the landscapers bring the material to City Hall's green waste bin and Allied Waste Services collects the material.

The current residential recycling programs feature every-other-week collection of commingled recyclables and green waste. In addition, Allied Waste Services operates a scheduled bulky-item pickup program and a used motor oil and filter program. The contract with Allied Waste Services requires that they recycle a minimum of 40% of all residential waste collected from City residents.

Residents currently have the choice of a 32, 64, or 96-gallon cart for garbage collection and pay a monthly fee based upon the size of the garbage cart selected. The primary objective of this program is to provide an economic incentive for customers to reduce waste and take full advantage of the commingled recycling and green waste collection programs.

In addition to the curbside recycling programs, one drop-off center and four buyback centers are located within the City. In 2006, resident recycling programs diverted 8,249 tons of material from landfill disposal, accounting for approximately 6.3% of total generation. Table 4.10-10 provides a summary of the existing government, residential and commercial recycling programs and the corresponding diversion tonnages for 2006.

Composting

Both the residential collector and commercial franchisees provide organics collection and processing services. The City's objectives for composting include the following:

Table 4.10-10 Recycling Programs and Diversion Rates (2006)				
Program Type	Material Type	2006 Tonnage	% of 2006 Diversion	% of 2006 Generation
Government Recycling				
Government Recycling	Asphalt/Inerts	3,560	5.4%	2.71%
Residential Recycling				
Curbside Recycling	Mixed	8,249	12.5%	6.28%
Drop-off Centers	Aluminum	0	0.000%	0.00%
Drop-off Centers	Glass	87	0.13%	0.07%
Drop-off Centers	PETE	0	0.001%	0.00%
Buy-Back Centers	Aluminum	154	0.2%	0.12%
Buy-Back Centers	Glass	299	0.5%	0.23%
Buy-Back Centers	PETE	103	0.2%	0.08%
Buy-Back Centers	HDPE	5	0.01%	0.00%
Buy-Back Centers	Bimetal	0	0.00%	0.00%
Commercial Recycling				
On-Site Pickup	Commingled	161	0.2%	0.12%
On-Site Pickup	OCC	3,320	5.0%	2.53%
On-Site Pickup	Mixed Paper	1,236	1.9%	0.94%
On-Site Pickup	Newspaper	120	0.18%	0.09%
On-Site Pickup	Metal	34	0.1%	0.03%
On-Site Pickup	Toner cartridges	2	0.003%	0.00%
On-Site Pickup	Plastic	260	0.39%	0.20%
On-Site Pickup	Food Waste	62	0.1%	0.05%
On-Site Pickup	Wood	250	0.4%	0.19%
On-Site Pickup	Tires	264	0.400%	0.20%
On-Site Pickup	Aluminum cans	47	0.071%	0.04%
On-Site Pickup	Shopping Carts	1	0.002%	0.00%
On-Site Pickup	Glass	126	0.19%	0.10%
On-Site Pickup	Inerts	1,103	1.67%	0.84%
Self Haul	Tires	21	0.031%	0.02%
Self Haul	Inerts	340	0.5%	0.26%
Self Haul	Wood	2,234	3.4%	1.70%
Self Haul	Reclaimed Soil	2,203	3.3%	1.68%
Self Haul	Appliance	11	0.0%	0.01%
Self Haul	Green Waste	2,201,223	0.2%	0.09%
Self Haul	Recyclables (MRF)	54	0.1%	0.04%
Alternative Daily Cover (ADC)	Mixed Materials	10,974	16.6%	8.36%
Total		**35,403**	**54%**	**27.0%**
Source: Citrus Heights 2006 Waste Generation Study				

Table 4.10-11 Composting and Biomass Programs and Diversion Rates (2006)				
Program Type	Material Type	2006 Tonnage	% of 2006 Diversion	% of 2006 Generation
Composting				
Residential Curbside Green Waste	Green Material	3,165.1	4.8%	2.41%
On-Site Green Waste Pick-up	Green Material	585	0.9%	0.45%
On-Site Green Waste Pick-up	Food Waste	352	0.5%	0.27%
Self-Haul Green and Wood Waste	Mixed	40	0.1%	0.03%
Total		**4,142.8**	**3.2%**	**3.2%**
Source: Citrus Heights 2006 Waste Generation Study				

- Achieve at least 3.2% of the 50% overall diversion goal from composting activities;
- Work with local landscaping maintenance companies to identify opportunities for organics drop-off and recycling locations within or near the City limits;
- Work with the commercial haulers to identify and implement additional organics collection and processing opportunities for the local business community;
- Encourage the use of recovered organic materials and products in the public and private sectors; and
- Encourage regional cooperation in order to bolster use of the proposed SWA GreenCycle Facility.

The targeted wastes for composting are the following:

- Residential and commercial organics
- Grass clippings and leaves
- Holiday trees

In addition to every-other-week residential green waste collection services, residential customers are also provided with an extra 90-gallon green waste container upon request and at no additional charge. Residents can also participate in seasonal collection programs for holiday trees, which can either be collected at the curb or delivered to several drop-off locations. Table 4.10-11 provides a summary of existing composting and biomass programs and the corresponding diversion tonnages for 2006.

Special Waste

Special wastes include materials that require special handling and management methods due to potential health and environmental effects. The City's objectives for handling and managing special waste include the following:

- Achieve 18.5% diversion of the 50% overall diversion goal from special wastes;
- Work with the franchisees and construction industry to increase the recovery, reuse and recycling of inert materials and wood waste;
- Encourage the promotion and use of local drop-off facilities that accept clean inert materials;

- Work with local woodworking and lumber businesses to identify opportunities for the reuse and recycling of wood waste;

- Consider the use of recycled asphalt road-base materials in new road construction projects sponsored by the City;

- Promote recycling and recovery of grease and tallow from local restaurants.

The targeted special wastes include the following:

- Rendering (grease and tallow)
- Wood waste
- Scrap metal
- Concrete, asphalt, rubble, and other inert construction and demolition debris
- Tires
- White goods

The special wastes targeted by the City are primarily handled by the commercial franchisees and self-hauled by commercial generators. Commercial franchisees reported that they use Sims Metal, Recycle America, Schnitzer, and Elder Creek Recovery and Transfer Station to recycle metals.

The commercial franchisees and self-haulers from local construction and demolition projects also recover the majority of inert materials generated within the City. The franchisees reported using a variety of facilities located in Sacramento and Placer Counties. The majority of wood waste identified as recycled in 2006 originated form construction and demolition projects.

Grease and tallow materials collected throughout the City are handled either through rendering companies or back-hauled by the parent companies. Based on the results of the Citrus Heights 2006 Solid Waste Generation Study, it appears that rendering companies are predominately used by Citrus Heights businesses. Most rendering services are provided by companies based in the greater Sacramento region.

Table 4.10-12 provides a summary of special waste programs and the corresponding diversion tonnages for 2006.

Table 4.10-12
Special Waste Programs and Diversion Rates (2006)

Program Type	Material Type	2006 Tonnage	% of 2006 Diversion	% of 2006 Generation
Special Waste Materials				
Rendering	Bone/Fat/Cooking Oil	305	0.5%	0.23%
White Goods	White Goods	26	0.0%	0.02%
Scrap Metal	Scrap Metal	528	0.8%	0.40%
Concrete/Asphalt/Rubble	Concrete Asphalt	23,500	35.6%	17.89%
Total		**24,359**	**36.9%**	**18.5%**

Source: Citrus Heights 2006 Waste Generation Study

Disposal Facilities

No existing, active, or permitted solid waste landfills or transformation facilities are located within the planning area. Beginning on January 1, 2006, all residential solid waste was tipped at the Elder Creek Transfer Station and

transferred to Forward Landfill in San Joaquin County. Commercial solid waste is disposed at a variety of locations, including Kiefer Landfill, L&D Landfill, Forward Landfill, and Western Regional Sanitary Landfill.

According to the Citrus Heights 2006 Waste Generation Study, Citrus Heights' waste as part of the SWA went to 18 landfills including Kiefer Landfill, L&D Landfill, Forward Landfill, Anderson Landfill, Potrero Hills Landfill, and Lockwood Landfill. Of the materials sent to these facilities, 10,975 tons were used as alternative daily cover (i.e., alternative materials such as processed green waste used to cover the landfill).

4.10.3 IMPACTS AND MITIGATION MEASURES

METHODOLOGY

Impacts on utility infrastructure that would result from future land uses consistent with the Draft General Plan are evaluated at a programmatic level by comparing existing infrastructure, its available capacity, and ability to serve future utility demands. Once future demands have been estimated, the analysis determines whether the increased demand would result in the need for new or expanded facilities, the construction of which could possibly result in adverse impacts on the physical environment. Policies and actions of the Draft General Plan and GGRP that would reduce these impacts are identified.

THRESHOLDS OF SIGNIFICANCE

An impact on public utilities is considered significant if the proposed project would:

- exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- 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;
- 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;
- exceed water supplies available to serve the project from existing entitlements and resources and require new or expanded entitlements;
- result in a determination by the wastewater treatment provider which serves or may serve the project that it exceeds available capacity to serve the project's projected demand, in addition to the provider's existing commitments;
- be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- fail to comply with federal, state, and local statutes and regulations related to solid waste.

IMPACT ANALYSIS

IMPACT 4.10-1 **Exceed Wastewater Treatment Requirements of the Central Valley Regional Water Quality Control Board.** *Implementation of the Draft General Plan would require upgrades to wastewater treatment infrastructure; however, the upgrades would not exceed any wastewater treatment requirements of either the CVRWQCB or the State Water Resources Control Board. This impact would be* ***less than significant****.*

The Sacramento Regional Wastewater Treatment Plant (SRWTP) is currently in the process of renewing its National Pollutant Discharge Elimination System (NPDES) permit. Effluent or treated wastewater, which is discharged from SRWTP into the Sacramento River is regulated by an NPDES discharge permit.

The permit program is administered regionally by the Central Valley Regional Water Quality Control Board (CVRWQCB). The current permit was adopted in August of 2000 and expired in August 2005. NPDES permits are generally valid for five years, and District staff has been developing information for this current renewal effort since 2001. In February of 2005, SRWTP's application for permit renewal was submitted to the CVRWQCB. The treatment plant is currently operating under an administratively extended permit, is held to that 2000 permit's requirements, and is allowed to continue operation because the application was delivered by the deadline. The CVRWQCB has stated it plans to work towards adopting a new permit for the SRWTP in the winter of 2010.

SRWTP is currently permitted to discharge secondary effluent at an Average Dry Weather Flowrate (ADWF), as measured during the summer months, of 181 mgd.

Draft General Plan Policies

The Draft General Plan includes policies that describe the City's efforts to ensure safe and efficient wastewater collection and treatment:

- **57.1:** Require new development that generates the need for new public facilities to fund its fair share of construction of those facilities.
- **57.2:** Ensure that service demands created by new development do not erode existing service levels.
- **57.3:** Ensure through the development review process that adequate public facilities and services are available to serve new development. The City shall not approve new development where existing facilities are inadequate unless:
    - The applicant can demonstrate that all necessary public facilities will be installed or adequately financed (through fees or other means); and
    - The facility improvements are consistent with applicable Facility Master Plans adopted by the City.
- **57.4:** Prepare Facility Master Plans to identify levels of service and ensure compliance with appropriate State and federal laws, to identify the best use of modern and cost-effective technologies, and ensure compatibility with current land use policy.
- **57.5:** Seek funding sources for new public facilities and services.

Conclusion

The wastewater treatment plant serving the planning area currently meets CVRWQCB treatment requirements. Draft General Plan policy and current regulations require compliance with water quality standards. There are no land uses in the Draft General Plan that would be expected to generate wastewater of such poor quality and concentration or in such amounts that future treatment systems would not be able to adequately treat according to applicable water quality standards. The impact is considered **less than significant**.

IMPACT 4.10-2 Increase the Generation of Wastewater, Requiring New or Expanded Wastewater Collection, Conveyance, and Treatment Facilities. *Future land uses consistent with the Draft General Plan would increase demand for wastewater collection, conveyance, and treatment facilities. It is anticipated that such future uses would generate wastewater in excess of the capacity of existing wastewater treatment facilities,*

necessitating the expansion of existing or construction of new wastewater facilities. Construction of such facilities could have adverse effects on the physical environment. With implementation of the Draft General Plan policies and actions and the GGRP measures and actions, this impact would be ***less than significant****.*

In 2005, SRCSD submitted a request to the CVRWQB to increase its permitted capacity from a maximum average dry weather flow of 181 million gallons per day (mgd) to a maximum of 218 mgd. The District's current average flow is about 150 mgd. In June 2010, the SRCSD announced it had dropped its formal request to increase its permitted wastewater discharge capacity at the SRWTP, citing changes in the region's growth and water conservation efforts.

The District cited several reasons for dropping the increase request, including:

- Water conservation in the Sacramento region over the last decade being effective and the amount of wastewater generated per capita having decreased.

- State legislation passed in 2009 mandating further water conservation, which could significantly reduce the amount of wastewater the region generates in the future.

SRCSD prioritized its goals to increase water recycling in the region as an element to support the comprehensive effort to promote water supply reliability and Delta sustainability. Water recycling could offset a portion of SRCSD's treated wastewater discharge. SRCSD has already identified several potential water recycling projects and is currently seeking partners and funding for those projects.

The ADWF of wastewater to the SRWTP is 150 mgd. The total projected ADWF at buildout within the SRWTP's Sewerage Service Area is estimated to be 350 mgd. Citrus Heights would contribute approximately 7% of the total or 25 mgd, assuming Citrus Heights composes approximately 7% of the Sewerage Service Area, as it does currently.

SRCSD and SASD have completed two portions of the Upper Northwest Interceptor (UNWI) project, increasing capacity for future demands on the local wastewater collection system. The Upper Northwest Interceptor Section 9 (UNWI 9) and the Northeast Area (NEA) Relief Projects 1 and 2 are a joint effort between SRCSD and Sacramento Area Sewer District. UNWI 9 consists of a new interceptor pipeline which runs along Auburn Boulevard and Old Auburn Road, from approximately Van Maren Lane east to Fair Oaks Boulevard. NEA Relief Project 1 consists of a new trunk sewer pipeline along Oak Avenue between Fair Oaks Boulevard and Hazel Avenue, and a section of pipeline along Fair Oaks Boulevard between Oak Avenue and Old Auburn Road. NEA Relief Project 2 is a new section of pipeline which runs along Old Auburn Road between Fair Oaks Boulevard and Robert Creek Court. Both UNWI 9 and NEA 2 are complete, and NEA is expected to be completed in late summer 2010.

SRCSD's 2000 Interceptor System Master Plan CIP contains 52 projects required to convey wastewater flows from existing and planned development to the SRWTP. The facilities are scheduled to be constructed by 2035, and when operational, will provide capacity for all planned development within the SRWTP's Urban Services Boundary and West Sacramento.

Potential impacts associated with the provision of wastewater treatment capacity for future land uses in the planning area include both construction-related impacts associated with specific resource areas, such as biological and cultural resources, as well as land use impacts associated with the daily functioning of new wastewater treatment infrastructure. Any impacts associated with necessary identified improvements that would be constructed to serve future land uses consistent with the Draft General Plan are analyzed at a programmatic level in each of the environmental topic areas included in this EIR. Additionally, construction-related impacts would be evaluated at a project-specific level within the context of this section's policy framework.

Draft General Plan Policies

The Draft General Plan includes policies that describe the City's efforts to ensure safe and efficient wastewater collection and treatment.

- **57.1:** Require new development that generates the need for new public facilities to fund its fair share of construction of those facilities.
- **57.2:** Ensure that service demands created by new development do not erode existing service levels.
- **57.3:** Ensure through the development review process that adequate public facilities and services are available to serve new development. The City shall not approve new development where existing facilities are inadequate unless:
    - The applicant can demonstrate that all necessary public facilities will be installed or adequately financed (through fees or other means); and
    - The facility improvements are consistent with applicable Facility Master Plans adopted by the City.
- **57.4:** Prepare Facility Master Plans to identify levels of service and ensure compliance with appropriate State and federal laws, to identify the best use of modern and cost-effective technologies, and ensure compatibility with current land use policy.
- **57.5:** Seek funding sources for new public facilities and services.

Greenhouse Gas Reduction Plan Measure and Actions

In addition to the Draft General Plan policies listed above, the GGRP includes the following measure and actions that would aid in safe and efficient wastewater collections and treatment.

Measure

- **5-2.B:** Develop an outreach program to educate residents and business owners on ways to minimize wastewater generation and reuse techniques.

Actions

5-2.B.A. Partner with SCRSD to develop focused workshops for large wastewater generators, such as multi-family and commercial uses and provide education about ways to reduce wastewater generation and reuse water.

5-2.B.B. Partner with SCRSD to provide technical assistance to community members regarding installation of fixtures that reuse wastewater.

Conclusion

By adhering to these policies, measures, and actions, the City would ensure that the wastewater infrastructure necessary to serve its projected population through buildout would be available as demand increases. Due to the extent of the needed infrastructure, environmental impacts are anticipated to occur as a result of development under the Draft General Plan, as well as the construction and operation of wastewater infrastructure required to serve future land uses consistent with the Draft General Plan. Technical sections of this EIR evaluate the programmatic effects of construction and operation of these facilities relative to specific environmental issue areas. The Draft General Plan includes policies and this EIR includes mitigation measures, where necessary, that

would reduce or avoid impacts, as noted throughout Section 4.0 of this EIR. Construction-related impacts would be evaluated at a project-specific level within the context of this section's policy framework. Therefore, impacts are considered **less than significant**. No further program-level mitigation is required.

IMPACT 4.10-3 Increase Stormwater Flows, Requiring the Construction of New or Expanded Stormwater Drainage Facilities. *The City would need to provide new and expanded stormwater drainage facilities in order to accommodate future land uses consistent with the Draft General Plan. Construction of such facilities could result in significant adverse environmental effects. However, with implementation of Draft General Plan policies and actions and GGRP measures and actions, this impact would be* ***less than significant****.*

Implementation of the Draft General Plan would result in an increase in the amount of impervious surfaces (e.g., rooftops, sidewalks, driveways, streets, parking lots), which would result in higher rates of stormwater runoff during rain events. The increased flow in stormwater would result in the need for new stormwater infrastructure to convey stormwater flows into both the American River Drainage Basin and the County's Sacramento River Flood Control System (SRFCS), as well as to prevent flooding.

The Citrus Heights CIP for FY 2010–FY 2014 includes over 40 drainage improvement projects ranging from constructing and replacing storm drain pipes to relocating inlets so that new ADA ramps may be constructed. These improvements seek to address existing issues and accommodate future land uses consistent with the Draft General Plan. In addition, new infrastructure will be needed throughout new growth areas to serve future residents and businesses.

Draft General Plan Policies and Actions

The Draft General Plan includes policies and actions designed to provide adequate stormwater infrastructure that would protect the City from flooding and water quality issues. These include:

Policies

- **49.1:** Promote drainage improvements through natural means and practices that minimize flooding.
- **49.3:** Require evaluation of potential flood hazards prior to approval of development projects.
- **49.4:** Maintain local storm drain systems to ensure capacity for maximum runoff flows.
- **49.7:** Protect buildings and property from flooding.
- **57.1:** Require new development that generates the need for new public facilities to fund its fair share of construction of those facilities.
- **57.2:** Ensure that service demands created by new development do not erode existing service levels.
- **57.3:** Ensure through the development review process that adequate public facilities and services are available to serve new development. The City shall not approve new development where existing facilities are inadequate unless:
    - The applicant can demonstrate that all necessary public facilities will be installed or adequately financed (through fees or other means); and
    - The facility improvements are consistent with applicable Facility Master Plans adopted by the City.

- **57.4:** Prepare Facility Master Plans to identify levels of service and ensure compliance with appropriate State and federal laws, to identify the best use of modern and cost-effective technologies, and ensure compatibility with current land use policy.

- **57.5:** Seek funding sources for new public facilities and services.

Actions

49.1A. Work with Sacramento County and other local, regional, state and federal agencies to develop Best Management Practices (BMPs) through stormwater management programs, and to finance, construct and plan improvements to improve health of the watershed and minimize flooding in and around the City of Citrus Heights.

49.1B. Continue working on solutions to localized flooding problems in the vicinity of Cripple and Arcade Creeks.

49.1C. Modify the storm drainage program to provide for City collection and allocation of all storm drainage fees.

49.1D. Develop a capital improvement program for storm drainage projects.

49.3B. Require new development projects to maximize on-site stormwater control measures to minimize flooding within the City.

49.4A. Continue annual maintenance of the channels, pipes and inlets of the storm drain system.

49.4B. Discourage construction activities, including grading, building, and fill within natural swale areas.

49.7A. Use storm drainage fees and/or other funding sources to assist in the raising of existing residences above the 100-year base flood elevation.

Greenhouse Gas Reduction Plan Measure and Actions

In addition to the Draft General Plan policies listed above, the GGRP includes the following measure and actions to provide adequate stormwater drainage and prevent flooding and water quality issues.

Measure

- **5-2.C:** Develop water-sensitive urban design guidelines for new construction and retrofit of existing urban environment.

Actions

5-2.C.A. Amend the Zoning Code to require new projects and substantial renovations to implement site designs that promote infiltration, reuse, and evapotranspiration of rainfall from impervious areas.

5-2.C.B. Incorporate vegetated swales and/or bioretention swales in public rights-of way (e.g., traffic islands, centers of cul-de-sacs, landscaped strips along sidewalks, bulb-outs, parking separators).

5-2.C.C. Modify City codes and ordinances to minimize impervious surfaces throughout the City.

Conclusion

Additional stormwater infrastructure required to serve new growth areas is anticipated with implementation of the Draft General Plan. General Plan policies and actions and GGRP measures and actions would minimize the physical environmental impacts that could result from construction of the improvements to existing stormwater drainage infrastructure and to new stormwater drainage infrastructure. Technical sections of this EIR evaluate at a program-level the effects of construction and operation of these facilities relative to specific environmental issue areas. The construction of stormwater infrastructure to support future land uses consistent with the Draft General Plan would contribute to impacts identified in other impact areas. Construction-related impacts would be evaluated at a project-specific level within the context of this section's policy framework. Therefore, impacts are considered **less than significant**. No further program-level mitigation is required.

IMPACT 4.10-4 Increase the Demand for Water, Creating Insufficient Water Supply Available to Serve City Residents at Buildout. *The City would need additional water supplies to meet the demand that would be created by future land uses consistent with the Draft General Plan. Provision of these water supplies would require the construction of new water supply and distribution facilities, such as groundwater wells. Construction of these facilities could potentially result in adverse impacts on the physical environment. However, with implementation of Draft General Plan policies and actions and GGRP measures and actions, this impact would be less than significant.*

New infrastructure will be needed by all three of the water providers serving the City to meet projected water demand associated with future land uses consistent with the Draft General Plan.

The *CHWD Water System Master Plan* states that to supply the CHWD solely with ground water during water shortages and emergency demands, seven new wells would be needed, with an average well capacity of 1,000 gpm. The CHWD Capital Improvement Plan anticipates construction of these seven new wells over the next 20 years. In addition, a major component of the CHWD's Capital Improvement Plan (CIP) for 2010 through 2018 entails replacing old pipelines in the transmission and distribution system. The CIP also plans for the replacement of fire hydrants to improve fire suppression flows. Installation of three of the seven planned new ground water wells are anticipated to occur during the 2010-2018 CIP planning period.

The 2006 *Lincoln Oaks System Comprehensive Planning Study* states that the CAW should attempt to secure an imported surface water supply of approximately 2,500 acre-feet per year to accommodate future build-out demand. The CAW may also consider constructing additional storage facilities in the LOSA to meet future peak hour and fire flow demands. Lincoln Oaks does not have enough water supply to meet peak hour demands in the event of a loss of one of the main groundwater wells. The 2006 Lincoln Oaks System Comprehensive Plan CIP recommends that two 1.5-million-gallon storage reservoirs be constructed in the LOSA. It must also be noted that many of the Lincoln Oaks wells are over 40 years old. The CIP recommends that a certain number of wells be inspected and rehabilitated per year, with wellhead treatment as necessary, focusing first on the oldest wells which have shallow pump settings based on groundwater levels. Some of the distribution pipelines that deliver water to LOSA customers from the wellheads are also over 40 years old and in need of replacement.

In March 2004, the SSWD Board adopted a 15-year CIP with a total of 30 projects. This 15-year CIP includes surface water conjunctive use projects, groundwater projects, rehabilitation and/or replacement of existing distribution pipeline facilities, metering of unmetered service connections to comply with the WFA, various analytical studies, and other projects. In addition, an analysis of the SSWD's capital needs for a 15-year period from 2010 through 2024 was prepared as part of the Water System Master Plan. The Plan identifies a list of capital improvement projects for supply, storage, distribution and special and potential capital needs, some of which include: additional water supply backup power, well rehabilitation/pump station improvements, installation and replacement of removed terminal units, telemetry and communication improvements, water quality/wellhead treatment, well replacement, installation of a concrete ground storage tank with a booster pump station, corrosion control and reservoir/tank/hydrotank painting/coating, upgrades and improvements, installation of pressure

sustaining valves, installation of a third McClellan intertie at 34th Street, upgrade of the McClellan distribution system pipeline, water-related street improvements, and completion of the Meter Retrofit Program.

Construction of necessary water-related infrastructure would affect the physical environment. The required improvements are anticipated to generally be constructed in rights-of-way and other already disturbed areas. The impacts of needed improvements are addressed at a programmatic level throughout this EIR. The precise effect of individual improvement projects is not knowable at this time. Environmental documentation will be prepared, as mandated by law, for improvements and construction projects associated with water delivery in the City.

Draft General Plan Policies and Actions

Although implementation of the plan would result in an increase in water demand, the Draft General Plan contains several policies and actions intended to reduce per capita water using water conservation measures. Policies and actions that would aid in reducing the City's overall water demand and therefore lessening the need for additional infrastructure and the need for new water supplies include:

Policies

- **37.1:** Implement low impact development strategies to create water-conserving landscapes.
- **37.3:** Implement water sensitive urban design techniques to promote water efficiency and protect water quality.
- **62.1:** Ensure that adequate water supply and distribution facilities are available to serve the community.
- **62.2:** Continue working with the Sacramento North Area Groundwater Management Authority to formalize combined-use agreements among regional water providers.
- **62.3:** Pursue development of emergency water supplies to anticipate a major drought or disaster.
- **62.4:** Continue working with regional water suppliers to identify and implement water conservation practices to meet a 20% reduction in per capita use by 2020.

Actions

19.1B: Utilize water conserving landscaping where appropriate.

34.2C: Adopt a landscape ordinance complying with Department of Water Resources guidelines. The City's landscape ordinance should update landscape provisions to incorporate climate-appropriate native trees and water conserving landscaping that increase infiltration rates and protect sensitive areas.

38.2C: Implement low impact development strategies such as pervious paving for trails, water conserving landscapes along the trails to enhance water quality of creeks and promote public education.

62.1A: Approve new development only if water purveyors can demonstrate an adequate water supply and delivery system.

62.4A: Require water-conserving building design and equipment in new construction.

62.4B: Adopt a landscape ordinance for new development, consistent with Department of Water Resources guidance.

62.4C: Develop water conservation education programs to promote water efficient retrofits and landscaping.

62.4D: Prepare and adopt a water conservation program.

Greenhouse Gas Reduction Plan Measures and Actions

In addition to the Draft General Plan policies and actions listed above, the GGRP includes the following measures and actions to reduce water demand using water conservation measures.

Measures

- **5-1.A:** Work with the water agencies to develop plans to implement SB 7 to achieve a 20% reduction in urban water demand by 2020.
- **5-1.B:** Continue to provide a free irrigation review program for residential and commercial buildings and implement a monitoring plan to evaluate if program users are effectively using the irrigation review report to reduce water demand by 20%.
- **5-1.C:** Adopt a landscape ordinance for new development, consistent with Department of Water Resources guidance.

Actions

5-1.A.A. Coordinate with water agencies to conduct focused public outreach that promotes water conservation practices required for a Stage 2 Water Alert scenario.

5-1.A.B. Encourage water districts to provide rebates in partnership with the Sacramento Metropolitan Utility District (SMUD) (Ultra-low Flush toilets program, High-efficiency Clothes Washer Program) to residents and businesses as an incentive to upgrade their water appliances with higher-efficiency features.

5-1.A.C. Promote availability of water-efficient products and fixtures at local stores.

5-1.B.A. Partner with the water districts to develop and promote free irrigation review programs.

5-1.B.B. Work with water districts to develop a monitoring and reporting plan as part of the irrigation review program to evaluate successful implementation of audit recommendations.

5-1.B.C. Work with water districts to expand the irrigation review program to commercial building owners.

5-1.B.D. Work with water districts to create a water waste patrol program to allow residents and businesses to report misuse and waste of irrigation water (such as watering during rains, water spilling outside landscaped areas, etc.)

5-1.B.E. Create a communitywide policy to reduce turf installation.

5-1.C.A. Conduct outreach to home and business owners to join the computerized California Irrigation Management Information System (CIMIS) for irrigation schedule analysis.

5-1.C.B. Develop a climate-appropriate native plant list to encourage residents and businesses to use low-water and low-maintenance plants in their yards.

5-1.C.C. Promote availability of water efficient and climate appropriate plants at local nurseries and home improvement stores.

Conclusion

By adhering to the policies, measures, and actions listed above, the City would reduce its overall water demand using conservation measures. Water demand would increase over current levels, however, and new infrastructure would be required. Due to the extent of the needed infrastructure, environmental impacts are expected to occur. Technical sections of this EIR evaluate the direct effects of construction and operation of these facilities related to specific environmental issue areas. The Draft General Plan includes policies and actions, and this EIR includes mitigation measures, where necessary, that would reduce or avoid impacts, as noted throughout Chapter 4 of this EIR. There is no additional significant impact beyond that considered comprehensively throughout this EIR. Therefore, the impact is considered **less than significant**. No further program-level mitigation is required.

IMPACT 4.10-5 Increase Generation of Solid Waste, Causing a Demand for Additional Landfill Capacity to Accommodate Disposal Needs. *Future land uses consistent with the Draft General Plan would allow for the development of new homes and businesses within the planning area, which would result in an increase in the amount of solid waste sent to landfills. This impact would be less than* less than significant.

Beginning on January 1, 2006, all residential solid waste in the City is tipped at the Elder Creek Transfer Station and transferred to Forward Landfill in San Joaquin County. Commercial solid waste is disposed at a variety of locations, including Kiefer Landfill, L&D Landfill, Forward Landfill, and Western Regional Sanitary Landfill.

Forward Landfill's remaining capacity is 25 million cubic yards, though it has plans to increase this capacity to 68.5 million cubic yards. With this much capacity available to serve many jurisdictions in addition to Citrus Heights, it is not likely that additional solid waste from the planning area would result in a substantial reduction in the landfill's available capacity or substantially shorten its lifespan. In addition, the Draft General Plan does not include any components that would violate any applicable federal, state, or local solid waste regulations, including the California Integrated Waste Management Board's (CIWMB) required 50% solid waste diversion rate; in fact, the Draft General Plan and GGRP include policies, measures and actions that help to ensure that these regulations are fulfilled by Citrus Heights.

Draft General Plan Policies and Actions

The Draft General Plan includes policies and actions that would help to reduce the amount of solid waste generated in the City, including providing incentives for recycling. Each of these would ensure that sufficient landfill capacity is provided at the solid waste facilities used by the City and that these facilities would accommodate future land uses consistent with the Draft General Plan. Applicable policies and actions pertaining to solid waste include the following:

Policies

- **63.1:** Continue to reduce solid waste through source reduction, curbside recycling, green waste collection, and recovery. Progress toward becoming a low-waste generating community.
- **63.2:** Continue public education programs in recycling and reuse techniques.
- **63.3:** Ensure adequate solid waste disposal facilities to provide future landfill capacity.
- **63.4:** Enable source reduction, recycling, composting and yard waste programs for homes and businesses.
- **63.5:** Develop effective and efficient recycling programs for multifamily developments and businesses.
- **63.6:** Encourage businesses and consumers to buy and use recycled products.

- **63.7:** Encourage contractors hired by the City to use recycled materials.
- **63.8:** Use recyclable material in City facilities, projects and programs to the maximum extent feasible.

Actions

63.2A. Distribute materials describing options for recycling, source reduction and composting, as well as proper disposal of construction and demolition debris and residential yard waste.

63.2B. Promote a residential composting program.

63.3A. Perform source reduction and recycling at City offices and operations.

63.4A. Provide public recognition and awards to individuals or organizations that successfully implement source reduction activities.

63.4B. Allow variable rate structures for residential, commercial and industrial waste collection.

Greenhouse Gas Reduction Plan Measures and Actions

In addition to the Draft General Plan policies and actions listed above, the GGRP includes the following measures and actions to reduce solid waste generation and delivery of waste to solid waste facilities.

Measures

- **6-1.A:** Establish a 2020 waste reduction target of 75% below 2005 levels and work with the County, neighboring cities and other organizations to create a low-waste plan and provide public education regarding low-waste strategies and implementation.
- **6-1.B:** Increase recycling and composting programs to divert waste from landfills.

Actions

6-1.A.A. Create a comprehensive source reduction plan for the community to assist residents, businesses and schools to decrease per capita waste generation.

6-1.A.B. Develop a junk-mail prevention outreach program that helps residents to voluntarily opt out of receiving junk mail.

6-1.A.C. Provide incentives (such as continue tiered rates and award programs) for increased participation in homeowner and business owner recycling programs.

6-1.A.D. Conduct waste-reduction consultations with major waste generators (businesses and multi-family) and recommend strategies to reduce waste and increase recycling while reducing business cost.

6-1.A.E. Consider the feasibility of a ban on use of plastic water bottles.

6-1.A.F. Create a comprehensive yard waste-to-mulch program and require commercial tree companies to use all tree waste as mulch.

6-1.B.A. Continue to aggressively pursue community recycling efforts by developing public awareness/outreach campaigns, promoting e-waste collection events, bulk and community clean-up projects, and distribution of recycling containers at bus stops.

6-1.B.B. Develop a communitywide hazardous waste collection and recycling program to address recycling of batteries, compact-fluorescent light (CFL) bulbs, and similar household hazardous waste.

6-1.B.C. Conduct a feasibility study to create a food-to-compost program for local businesses and residents.

6-1.B.D. Implement a construction and demolition program to require all designated recyclable materials be recycled or reused.

Conclusion

Although future land uses consistent with the Draft General Plan would increase local generation of solid waste, policies, measures, and actions would help to reduce future impacts. The combination of Draft General Plan policies and actions, GGRP measures and actions, and existing regulations related to the disposal and reduction of solid waste reduces the amount of solid waste generated locally and sent to the Forward Landfill and the various landfills that take commercial waste generated in the City.

Since it appears that there will be sufficient capacity at Forward Landfill to meet the City's needs, and because a variety of landfills are used for commercial waste, making the City's contribution to waste streams to these landfills minor, the City does not anticipate the need for new landfills or expand existing landfills. The impact is **less than significant**. No further program-level mitigation is required.

IMPACT 4.10-6 Increased Demand for Private Utility Services. *Future land uses consistent with the Draft General Plan would increase local demand for electricity, natural gas, and telecommunication services. The extension of these private utility services could potentially result in the need for the development of new or expanded facilities, the construction of which could possibly result in adverse impacts on the physical environment. This impact is considered* ***less than significant****.*

Future land uses consistent with the Draft General Plan would result in increases in demand for private utility services that are not provided by a government entity. In the planning area, this includes the provision of electricity, natural gas, and telecommunications (phone service and internet) services. In order to provide these services to residents and businesses, additional utility infrastructure would likely need to be built to accommodate the increase in demand; however, at this time, it is unclear to what extent these facilities would need to be expanded and/or built, and the locations of construction and potential environmental impacts cannot be known for certain at this time.

The Draft General Plan itself does not cause these facilities to be built; rather it provides the City with direction for growth that would ultimately result in the need for new or expanded facilities. Once the demand for new facilities has been created by new growth and assessed, locations for new facilities would be chosen and the environmental review process would evaluate the specific impacts associated with that project.

Draft General Plan Policies

The following policies would aid in reducing future impacts associated with the expansion of existing or development of new facilities to provide private utility services to future residents and businesses within the planning area:

Policies

- **64.1**: Communicate the City's major development plans with utility companies and coordinate planning of utility extensions.
- **64.3:** Promote technological improvements and upgrading of utility services in Citrus Heights.

- **64.4:** Continue to actively use the cable television system as a communications tool in providing governmental information to the viewing public.

Conclusion

Future land uses consistent with the Draft General Plan would require the extension of private utility infrastructure for electricity, natural gas, and telecommunications services, the construction of which could result in adverse significant impacts. These impacts are evaluated at a programmatic level along with all other foreseeable components of Draft General Plan implementation throughout the environmental topic sections of this EIR. The Draft General Plan includes policies and actions, and this EIR includes mitigation measures, where necessary, that would reduce or avoid impacts, as noted throughout Section 4 of this EIR. The policies identified above address potential impacts and encourage coordination between the City and utility providers. The policies would provide the opportunity to reduce potentially adverse environmental impacts that could occur as a result of construction of utility infrastructure. There is no additional significant impact beyond that considered comprehensively throughout this EIR. Therefore, the impact is considered **less than significant**. No further program-level mitigation is required.

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