

City of Bakersfield

2010 Urban Water Management Plan

Prepared for:

City of Bakersfield
Domestic and Wholesale Water Systems

April 2014



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Section 1

PLAN PREPARATION

1.1 BACKGROUND

Section 10617. "Urban Water Supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers.

This Urban Water Management Plan (Plan) was prepared in accordance with the California Urban Water Management Planning Act (Act)¹ which was established in 1983. The Act requires every "Urban Water Supplier" to prepare and adopt a Plan, to periodically review its Plan at least once every five years and make any amendments or changes which are indicated by the review. An "Urban Water Supplier" is defined as a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. The primary objective of the Act is to direct Urban Water Suppliers to prepare a Plan that describes and evaluates sources of supply, reasonable and practical efficient uses, reclamation, and demand management activities. **The Act is directed primarily at retail water purveyors where programs can be immediately applied to the consumers. The Act also applies to wholesalers, in that water may be provided indirectly for ultimate municipal use. This Plan includes both the City of Bakersfield Domestic and Wholesale Water Systems, as briefly described in Section 1.1.1 City of Bakersfield Water Systems.** Sections 10610 through 10656 of the California Water Code, Urban Water Management Planning Act, were enacted in 1983. The Act, originally known as Assembly Bill (AB) 797, is included in Appendix A.

There have been amendments added to the Plan and some reorganization of the California Water Code sections since the City of Bakersfield's most recent 2007 Urban Water Management Plan Update and Wholesale Water System 2008 Urban Water Management Plan were prepared. The amendments, additions and changes include:

- Senate Bill (SB) 1087 – Requires reporting of water use projections for lower income households
- AB 1376 – Requires 60 days' notice, prior to a public hearing, to any City or County within which the supplier provides water supplies, that the Urban Water Supplier is reviewing its Plan and are considering changes.

¹ Water Code Sections 10610 through 10656

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- AB 1420 – Conditions state funding
- SBX7-7 – Requires 20 percent reduction in per capita water use by 2020 (Water Code Section 10608, see Appendix B).

Section 10621(a) of the California Water Code states, “Each water supplier shall update its Plan at least once every five years on or before December 31, in years ending in five and zero.” This Plan will be submitted in 2014, in part, because the City updated its most recent UWMP approximately within the last five (5) years. This Plan will still be referred to as the “2010 Plan”. This 2010 Plan combines both the retail (Domestic Water System) and wholesale (Wholesale Water System) activities of the City and is an update to both of the previously separately prepared and adopted Plans. This 2010 Plan follows California Department of Water Resources’ (DWR’s) “Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan” (Guidebook) dated March 2011 and consequently the format and order of sections proposed in DWR’s Guidebook is followed in this Plan.

1.1.1 CITY OF BAKERSFIELD WATER SYSTEMS

The City’s Domestic Water System is operated under a service contract with California Water Company (Cal Water), a California Public Utility Commission (CPUC) regulated company and is managed by the City’s Water Resources Department. The Domestic Water System serves retail customers within its service area boundaries, within a portion of the City of Bakersfield. Other water purveyors serve the retail customers within the remaining City limits. The Domestic Water System is supplied by groundwater wells (owned by the City) and by surface water treatment plants (owned by California Water Service Company and owned by Kern County Water District’s ID4). The Domestic Water System indirectly receives water from the City’s Wholesale Water System through groundwater replenishment activities and through surface water deliveries to Cal Water’s North Garden Water Treatment Plant.

The City’s Wholesale Water System consists of the Kern River surface water rights and water supply. The Wholesale Water System is operated by the City’s Water Resources Department. The Wholesale Water System provides raw Kern River water for groundwater replenishment, to Cal Water for its surface water treatment plants, to local farmers within the Kern River Canal & Irrigation Company service area, and to other local customers pursuant to pre-existing obligations.

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1.2 COORDINATION

1.2.1 COORDINATION WITH APPROPRIATE AGENCIES

Section 10620.

(d) (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

Section 10621

(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notices pursuant to this subdivision.

The City has coordinated the preparation of the Plan with the City of Bakersfield City Clerk, the County of Kern, California Water Service Company (Cal Water), Casa Loma Water Company, East Niles Community Services District, Greenfield County Water District, North of the River Municipal Water District, Oildale Mutual Water Company, Vaughn Water Company, Rosedale Rio Bravo Water Storage District, and Kern County Water Agency (KCWA) Improvement District No. 4 (ID4) (see Table 1). These agencies were invited to participate in the development of the 2010 UWMP update by providing comments. The City notified these agencies at least 60 days prior to the public hearing. A copy of the notification letter sent to these agencies is included in Appendix C. Table 1 shows the appropriate agencies that have participated in developing the City's 2010 Plan. The appropriate agencies have either 1) commented on the draft 2010 Plan, 2) attended public meetings, 3) were contacted for assistance, 4) were sent a copy of the draft 2010 Plan, 5) were sent a notice of intent to adopt the draft 2010 Plan, and/or 6) have not provided information to the draft 2010 Plan.

1.2.2 PLAN DISTRIBUTION

Section 10635(b)

The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after submission of its urban water management plan.

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The City provided a copy of the 2010 Plan to the cities, water management agencies, and relevant public agencies within its service area no later than 60 days after submission of the 2010 Plan to the DWR.

1.2.3 NOTICE OF PUBLIC HEARING

Section 10642

Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

Pursuant to Section 6066 of the Government Code, the City published notice of the public hearing through the newspaper during the weeks of April 7 and 14, 2014. A notice of public hearing was also provided to the City of Bakersfield City Clerk, the County of Kern, Cal Water, Casa Loma Water Company, East Niles Community Services District, Greenfield County Water District, North of the River Municipal Water District, Oildale Mutual Water Company, Vaughn Water Company, Rosedale Rio Bravo Water Storage District, and ID4. The City provided the draft 2010 Plan for review at the City Water Resources Department located at 1000 Buena Vista Rd, Bakersfield CA and its website. A copy of the notice of the public hearing is included in Appendix D.

1.2.4 PUBLIC PARTICIPATION

Section 10642

Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

Public notification of the hearing was made pursuant to Section 6066 of the Government Code. The City provided notice of a public hearing of the draft 2010 Plan

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by publishing a notice of public hearing through the newspaper during the weeks of April 7 and 14, 2014. In the same newspaper notice, the City indicated the draft 2010 Plan update was available for public review at the City Water Resources Department and its website, a copy of the notice is included in Appendix D. The notice of public hearing was published and distributed to also provide involvement of social, cultural, and economic community groups. The City held a public hearing at the City Water Resources Department located at 1000 Buena Vista Rd, Bakersfield CA on April 23, 2014 at 2 p.m. A summary of the public hearing presentation, the participants and the comments recorded is included in Appendix D.

1.3 PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

1.3.1 SUBMITTAL OF AMENDED PLAN

Section 10621

- c) *The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).*

The 2010 Plan was submitted to DWR as required. If DWR requires any changes to the City's Plan before DWR determines the Plan to be "complete," the City will submit an amended or revised Plan. The amended or revised Plan will undergo adoption by the City prior to submittal to DWR for final approval.

1.3.2 PLAN ADOPTION

Section 10642

After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

The City held a public hearing on April 23, 2014 at 2 p.m. Following the public hearing, the City adopted the draft Plan on April 23, 2014, as its Plan. A copy of the City's resolution adopting the Plan is provided in Appendix E.

1.3.3 PLAN IMPLEMENTATION

Section 10643

An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

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The City is committed to the implementation of the 2010 Plan in accordance with Section 10643 of the Act, including the water demand management measures (DMMs) (Section 6) and water conservation requirements of SBX7-7 (Section 3). The City continues the commitment to good water management practices and intends to significantly expand its groundwater management, including replenishment/banking and water conservation programs as budgets and staffing allow. The City's water conservation program will periodically be re-evaluated and modified to implement better methods or techniques as the new technologies arise. In addition, the City has reviewed implementation of its previously adopted Plan.

1.3.4 PLAN SUBMITTAL

Section 10644(a)

An urban water supplier shall submit to the Department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the Department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

Within 30 days after adoption of the 2010 Plan, the City submitted the 2010 Plan to DWR, the California State Library, the County of Kern, and Cal Water.

1.3.5 PUBLIC REVIEW

Section 10645

Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

Within 30 days after submittal of the 2010 Plan to DWR, the City made the 2010 Plan available for public review at its office during normal business hours and posted the 2010 Plan on its website.

Section 2

SYSTEM DESCRIPTION

2.1 SERVICE AREA PHYSICAL DESCRIPTION

Section 10631.

A plan shall be adopted in accordance with this chapter and shall do the following:

- a) Describe the service area of the supplier; including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.*

2.1.1 DESCRIPTION OF SERVICE AREA

The City of Bakersfield is located in the southern San Joaquin Valley in Kern County. The City of Bakersfield is approximately 100 miles north of the City of Los Angeles, 271 miles south of the City of Sacramento, the capital of California, 286 miles south of San Francisco, 282 miles west of Las Vegas and about 140 miles east of the Pacific Coast. The City of Bakersfield is partially surrounded by a rim of mountains. The Sierra Nevadas are located northeast of the City of Bakersfield and the southern boundary is formed by the Tehachapi Mountains.

The City of Bakersfield is the county seat and the principle metropolitan city of Kern County. The City of Bakersfield operates under a council-manager form of government, with the Water Board of the City of Bakersfield recommending, administering and implementing domestic water and Kern River water policies set by the City Council. The Domestic Water System and the Wholesale Water System are municipally-owned systems, acquired by the City of Bakersfield on December 22, 1976.

The City of Bakersfield is both a wholesaler and retailer of water in the City of Bakersfield area. The City of Bakersfield purchased Kern River water rights, land and the physical water distribution systems for the Ashe Service Area from Tenneco West (Tenneco). The City wholesales a portion of its Kern River water to two Cal Water treatment facilities, local farmers, and local water agencies. The City also owns a Domestic Water System (formally the Ashe Service Area), which is operated and maintained under contract by Cal Water. The City's Water Resources Department manages both the domestic water operation (City Domestic Water System) and the wholesale water operation (City Wholesale Water System).

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Much of the urban water demand within the City limits is satisfied through the City's Kern River deliveries to water treatment plants owned and operated by Cal Water. Cal Water serves portions of the City and unincorporated areas in Kern County, and provides water primarily to single-family residences. Cal Water owns and operates the North Garden Treatment Plant and Northeast Treatment Plant. At these treatment plants, Kern River surface water from the City's Wholesale Water System is treated and prepared for distribution to City residents.

The City Domestic Water System is a local water purveyor that serves retail customers within its service area. The City's water system is currently operated and maintained by Cal Water. The location of the City Bakersfield Domestic Water System's service area is shown on Plate 1. In addition, the City of Bakersfield boundary and other water purveyors within the City of Bakersfield are shown on Plate 2. The City Domestic Water System provides water primarily for residential uses and also for business, commercial, industrial, and public customers in, and adjacent to, the westerly portion of the City of Bakersfield area. In addition, the City Water Resources Department operates the Kern River channel and several canals through the City of Bakersfield, as well as 1,470 acres of groundwater recharge ponds (referred to as the City's 2,800 Acre Recharge Facility) along the Kern River.

2.1.2 CLIMATE

The City of Bakersfield has a moderate climate with cloudless, warm, and dry summers and mild and semi-arid winters. The average daily temperature in the City of Bakersfield ranges from 47.2°F (degrees Fahrenheit) in December to 83.1°F in July. Average daily temperature in the City of Bakersfield is shown on Table 2. There are large climatic variations in this area because of the nature of the valley, surrounding mountains, and desert areas. Average monthly precipitation within the City of Bakersfield ranges from 0 to 1.4 inches. About 90 percent of all precipitation falls from October through April. Average monthly evapotranspiration within the City of Bakersfield ranges from 1.9 inches to 6.5 inches. Historical monthly average precipitation and evapotranspiration in the City of Bakersfield is shown on Table 3. Plate 3 shows the historical and present annual rainfall within the City of Bakersfield from 1956 through 2010. As shown in Plate 3, the 54-year average annual rainfall is about 6.1 inches, classifying the area as a desert.

2.1.3 OTHER DEMOGRAPHIC FACTORS

There are no other demographic factors affecting the City's water management planning. However, new development and the associated increased population will have a proportional impact on water demand.

2.2 SERVICE AREA POPULATION

Section 10631.

A plan shall be adopted in accordance with this chapter and shall do the following:

- a) Describe the service area of the supplier; including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.*

The City of Bakersfield was among the nation's 25 fastest-growing cities between 2000 and 2008, according to estimates from the U.S. Census Bureau (Census). The City's Domestic Water System service area is shown on Plate 1. The City also provides Kern River water for groundwater replenishment and wholesales Kern River water to two Cal Water water treatment facilities, which provide potable water to customers within the City's Domestic Water System service area and Cal Water's service area. Most of the City's Domestic Water System service area is within the City limits, with a small portion outside the City limits. Cal Water's separate service area includes areas inside and outside the City limits. Plate 4 shows the location of the City of Bakersfield and the boundaries of the City's Domestic Water System and Cal Water's separate service area.

The City of Bakersfield's Planning Department estimates the City's Domestic Water System service area has a population of 130,600 people during calendar year 2010 based on Census data. The following tabulation presents the current and projected population of the City's Domestic Water System service area. As shown in the tabulation below, the population of the service area was about 130,600 in calendar year 2010 and is expected to increase about 9.0 percent to about 142,300 by 2015. It is anticipated the population of the City Domestic Water System's service area will grow an average of about 9.0 percent every five years until 2030.

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Calendar Year	Domestic Water System Service Area Population	Percent Increase
2010	130,600	--
2015	142,300	9.0
2020	154,900	8.9
2025	169,400	9.4
2030	183,900	8.6

Section 3 **SYSTEM DEMANDS**

3.1 BASELINES AND TARGETS

Section 10608.20 (e)

An urban retail water supplier shall include in its urban water management plan required pursuant to Part 2.6 (commencing with Section 10610) due in 2010 the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

In November 2009, the Water Conservation Act of 2009 (SBX7-7) was approved by the Governor, which requires all urban retail suppliers to reduce their capita water use by 20 percent by 2020. SBX7-7 affects the projections of water system demands. Section 3.1 of the Plan presents how the City's 2015 Interim Urban Water Use Target and 2020 Urban Water Use Target is calculated by following DWR's guidance document. Methodologies for calculating baseline and compliance daily urban per capita water use for the consistent implementation of the SBX7-7 are published by DWR in its February 2011 guidance document.² DWR's guidance document requirements, which are shown in italics below as a direct quote, were used by the City to determine the required water use parameters for its Domestic Water System, which are discussed in Sections 3.1.1 through 3.1.4. Section 3.5 discusses how SBX7-7 applies to the City Wholesale Water System. The City developed its baselines and targets individually and not regionally.

3.1.1 BASELINE DAILY PER CAPITA WATER USE

The Baseline Daily Per Capita Water Use is defined as the average water use, expressed in gallons per capita per day (GPCD), for a continuous, multi-year baseline period. There are two different baseline periods for calculating Baseline Daily Per Capita Water Use, as follows (CWC Sections 10608.20 and 10608.22):

The First Baseline Period

- *The first baseline period is a continuous 10- to 15-year period, and is used to calculate Baseline Per Capita Water Use per CWC Section 10608.20. The first baseline period is determined as follows:*

²California Department of Water Resources, Division of Statewide Integrated Water Management, Water Use and Efficiency Branch. *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*. February 2011.

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- *If recycled water makes up less than 10 percent of 2008 retail water delivery, use a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.*
- *If recycled water makes up 10 percent or more of 2008 retail water delivery, use a continuous 10- to 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.*

Recycled water made up less than 10 percent of the City's 2008 water deliveries. Consequently, the first baseline period consists of a continuous 10-year period can be selected between 1995 and 2010.

The Second Baseline Period

- *The second baseline period is a continuous five-year period, and is used to determine whether the 2020 per capita water use target meets the legislation's minimum water use reduction per CWC Section 10608.22. The continuous five-year period shall end no earlier than December 31, 2007, and no later than December 31, 2010.*

The second baseline period consisting of a continuous five-year period may be selected between 2003 and 2010.

Unless the urban water retailer's five-year Baseline Daily Per Capita Water Use per CWC Section 10608.12(b)(3) is 100 GPCD or less, Baseline Daily Per Capita Water Use must be calculated for both baseline periods.

Calculation of the Baseline Daily Per Capita Water Use (using both First and Second Baseline Periods) entails the following four steps:

- Step 1 Calculate gross water use for each year in the baseline period using Methodology 1 in DWR's guidance document. According to Methodology 1, gross water use is a measure of water supplied to the distribution system over 12 months and adjusted for changes in distribution system storage and deliveries to other water suppliers that pass through the distribution system. Recycled water deliveries are to be excluded from the calculation of gross water use. Water delivered through the distribution system for agricultural use may be deducted from the calculation of gross water use. Under certain conditions, industrial process water use also may be deducted from gross water use.*

The calculated gross water use, based on the City's recorded groundwater use, local surface water use, and imported water supplies, for each year in the baseline period is shown on Table 4.

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Step 2 Estimate service area population for each year in the baseline period using Methodology 2 in DWR's guidance document. To obtain an accurate estimate of GPCD, water suppliers must estimate population of the areas that they actually serve, which may or may not coincide with either their jurisdictional boundaries or with the boundaries of cities. According to Methodology 2, data published by the California Department of Finance (DOF) or the U.S. Census Bureau must serve as the foundational building block for population estimates. In some instances, data published by these two sources may be directly applicable. In other instances, additional refinements may be necessary. For example, to account for distribution areas that do not match city boundaries, customers with private sources of supply, or other unique local circumstances, water suppliers may have to supplement the above sources of data with additional local data sources such as county assessor data, building permits data, and traffic analysis zone data. These refinements are acceptable as long as they are consistently applied over time, and as long as they build upon population data sources of the DOF or the U.S Census Bureau.

The City's service area population for each year in the baseline period was calculated based on the US Census Bureau and has been refined for the City's service area.

Step 3 Calculate daily per capita water use for each year in the baseline period. Divide gross water use (determined in Step 1) by service area population (determined in Step 2).

The calculated daily per capita water use for each year in the baseline period is shown on Table 4.

Step 4 Calculate Baseline Daily Per Capita Water Use. Calculate average per capita water use by summing the values calculated in Step 3 and dividing by the number of years in the baseline period. The result is Baseline Daily Per Capita Water Use for the selected baseline period.

The average per capita water use calculated for a continuous 10-year baseline period (first baseline period) is shown on Table 4, with the highest value of 320 GPCD.

The Baseline Daily Per Capita Water Use for the City was determined to be **320 GPCD**, based on the highest value calculated for a continuous 10-year period (first baseline period) between 1995 and 2010 (see Table 4).

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3.1.2 URBAN WATER USE TARGET

Section 10608.20 (b)

An urban retail water supplier shall adopt one of the following methods for determining its urban water use target pursuant to subdivision (a):

- (1) Eighty percent of the urban retail water supplier's baseline per capita daily water use.*
- (2) The per capita daily water use that is estimated using the sum of the following performance standards:*
 - (A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.*
 - (B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.*
 - (C) For commercial, industrial, and institutional uses, a 10-percent reduction in water use from the baseline commercial, industrial, and institutional water use by 2020.*
- (3) Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's draft 20x2020 Water Conservation Plan (dated April 30, 2009). If the service area of an urban water supplier includes more than one hydrologic region, the supplier shall apportion its service area to each region based on population or area.*
- (4) A method that shall be identified and developed by the department, through a public process, and reported to the Legislature no later than December 31, 2010. The method developed by the department shall identify per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31, 2020. In developing urban daily per capita water use targets, the department shall do all of the following:*
 - (A) Consider climatic differences within the state.*
 - (B) Consider population density differences within the state.*
 - (C) Provide flexibility to communities and regions in meeting the targets.*
 - (D) Consider different levels of per capita water use according to plant water needs in different regions.*
 - (E) Consider different levels of commercial, industrial, and institutional water use in different regions of the state.*
 - (F) Avoid placing an undue hardship on communities that have implemented conservation measures or taken actions to keep per capita water use low.*

The Urban Water Use Target is determined using one of the following methods:

Method 1: Eighty percent of the urban retail water supplier's Baseline Per Capita Daily Water Use.

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Using this method, the Urban Water Use Target for the City was calculated as **256 GPCD**, based on the City's Baseline Per Capita Daily Water Use of 320 GPCD.

Method 2: Estimate using the sum of the specified three performance standards.

Due to insufficient data, this method was not considered.

Method 3: Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's 20x2020 Water Conservation Plan.³

Based on the 20x2020 Water Conservation Plan, the City's service area lies in DWR Tulare Lake Hydrologic Region, with an established Baseline Per Capita Daily Water Use of 285 GPCD and a Target Per Capita Daily Water Use of 188 GPCD. Using this method, the Urban Water Use Target for the City was calculated as **179 GPCD**.

Method 4: Water Savings (Provisional)

Due to insufficient data, this method was not considered.

From all four methods, the highest calculated Urban Water Use Target was Method 1. Consequently, the City's Urban Water Use Target was initially determined to be **256 GPCD** for 2020.

3.1.3 COMPLIANCE DAILY PER CAPITA WATER USE

Compliance Daily Per Capita Water Use is defined by DWR as the Gross Water Use during the final year of the reporting period, and reported in GPCD. The Compliance Daily Per Capita Water Use will be reported in the City's 2015 Plan (interim compliance) and 2020 Plan (final compliance).

³ California Department of Water Resources, State Water Resources Control Board, California Bay-Delta Authority, California Energy Commission, California Department of Public Health, California Public Utilities Commission, and California Air Resources Board. *20x2020 Water Conservation Plan*. February 2010.

3.1.4 MINIMUM WATER USE REDUCTION REQUIREMENT

Section 10608.22

Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.

Per CWC Section 10608.12(b)(3), the following calculation is made because the five-year Baseline Per Capita Water Use is greater than 100 GPCD. The calculation is used to determine whether the water supplier's 2015 and 2020 per capita water use targets meet the legislation's minimum water use reduction requirement per CWC Section 10608.22. The calculation entails three steps:

Step 1: Calculate Baseline Daily Per Capita Water Use using a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.

As shown in Table 4, the City's historical per capita water use was estimated. Under this step, a five-year continuous average was calculated no earlier than December 31, 2007 and no later than December 31, 2010. As shown in Table 4, these five-year continuous averages were calculated. Of these values, the highest value of **311 GPCD** was used to represent the five-year Baseline Daily per Capita Water Use (see Table 4).

Step 2: Multiply the result from Step 1 by 0.95. The 2020 per capita water use target cannot exceed this value (unless the water supplier's five-year Baseline Per Capita Water Use is 100 GPCD or less). If the 2020 target is greater than this value, reduce the target to this value.

The value calculated for 95 percent of the five-year Baseline Per Capita Water Use is **295 GPCD** (95% x 311 GPCD). The City's 2020 Urban Water Use Target was determined using Method 1 above to be 256 GPCD, which is lower than the value calculated in this step. Therefore, no adjustment is needed for the City's 2020 Urban Water Use Target of 256 GPCD.

Step 3: Set the 2015 target to mid-point between the 10- or 15-year Baseline Per Capita Water Use and the 2020 target determined in Step 2.

The City's 2015 Interim Urban Water Use Target is therefore set at **288 GPCD**, which is the mid-point between the 10-year Baseline Daily Per

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Capita Water Use of **320 GPCD** and the 2020 Urban Water Use Target of **256 GPCD**.

Summary

Following DWR's guidance document for calculating baseline and compliance daily urban per capita water use, the City's 2015 Interim Urban Water Use Target of 288 GPCD and 2020 Urban Water Use Target of 256 GPCD meet the legislation's minimum water use reduction requirement per CWC Section 10608.22.

3.2 PROGRESS REPORT

10608.40.

Urban water retail suppliers shall report to the Department on their progress in meeting their urban water use targets as part of their urban water management plans submitted pursuant to Section 10631. The data shall be reported using a standardized form developed pursuant to Section 10608.52.

The City will report to the DWR on its progress in meeting its urban water use targets, using a standardized form to be developed by the DWR, when the form becomes available.

3.3 WATER DEMANDS

3.3.1 PAST, CURRENT, AND PROJECTED WATER DEMAND

Section 10631(e)

- (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:
 - (A) Single-family residential.*
 - (B) Multifamily.*
 - (C) Commercial.*
 - (D) Industrial.*
 - (E) Institutional and governmental.*
 - (F) Landscape.*
 - (G) Sales to other agencies.*
 - (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.*
 - (I) Agricultural**
- (2) The water use projections shall be in the same five-year increments described in subdivision (a).*

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The City's water supply sources for the Domestic Water System include water produced from local groundwater basins, local surface water, and imported surface water. The City's water supply source for the Wholesale System is surface water from the Kern River. The City Domestic Water System provides water service to the following water use sectors:

- Residential (Single and Multi-Family Residential)
- Commercial/Institutional
- Industrial
- Public Administration
- Non-metered Fire Services
- Other

The City Domestic Water System's past, current, and projected customer water use, among water use sectors within its service area is shown in Table 5. As shown in Table 6, the projected water use is calculated based on the urban per capita water use target developed per SBX7-7 (see Section 3.1) and population projections (see Section 2.2). By 2015, the estimated use with a 2015 Interim Urban Water Use Target of 288 GPCD is 45,906 acre-feet. By 2020, the estimated use with a 2020 Urban Water Use Target of 256 GPCD is 44,419 acre-feet. The City estimates it will be able to meet the SBX7-7 requirements by 2020, as shown in Table 6.

The City Wholesale Water System does not have direct retail customers, therefore segregation of water sales into residential, commercial, industrial, institution and governmental uses cannot be made. However, records of water deliveries from the Wholesale Water System to its retail water contractors and other users have been recorded and are summarized on Table 7. Table 7 shows the past, current, and projected water use for the Kern River water. Table 7 shows the City's historic Kern River water obligations. These include obligations to the Kern River Canal and Irrigating Company (KRC&I) Laterals; a combination of Miller-Haggin obligations including Lake Isabella evaporation losses, Carrier Canal seepage losses, and pre-existing delivery obligations; and a long-term obligation to the Rosedale – Rio Bravo Water Storage District. More information on these Wholesale Water System delivery obligations is provided below.

The KRC&I Laterals provide irrigation water for farmland in the northwest Bakersfield area located north of the river. The farmland served by the City is located between the Beardsley and Calloway canals, south of Seventh Standard Road and north of Rosedale Highway. The Kern River water delivery obligation to the KRC&I Laterals is 5,300 acre-feet per year.

Miller-Haggin obligations refer to and include river channel and canal recharge to ensure deliveries to various historic locations described in the Miller-Haggin Agreement. Some of the pre-existing delivery obligations are from agreements assumed by the City

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upon the City's purchase of Kern River water rights in 1976. These agreements also include delivery to Kern County to maintain the Isabella Recreation Pool, and to supply Lake Ming, and Hart Park. Calculated evaporation losses from Lake Isabella and Carrier Canal seepage losses are also considered demand obligations. The total for these obligations is 20,000 acre-feet per year.

The Rosedale–Rio Bravo Water Storage District (RRBWSD) covers approximately 44,000 acres and was formed to provide groundwater recharge. The City's obligation to RRBWSD originated in 1961 when several "Canal Companies," on behalf of the Kern County Land Company (KCLC), predecessor to Tenneco and the City, entered into an agreement to provide additional water to RRBWSD to compensate for the reduction in canal seepage water losses that occurred when the concrete-lined Kern River Canal was constructed. The City assumed this obligation in 1976 with its purchase of Kern River water rights and facilities from Tenneco. The City is scheduled to deliver an average of 10,000 acre-feet per year under a water supply contract to RRBWSD (Rosedale--Rio Bravo Water Storage District, 2012).

3.3.2 PROJECTED WATER DEMAND FOR LOWER INCOME HOUSEHOLDS

Section 10631.1(a)

The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

For the Domestic Water System, water use projections for low income households make up about 29 percent of the City's projected retail water demands, as shown on Table 8. Table 8 shows the projected water use for low income households for single-family and multi-family residential housing within the City Domestic Water System's service area for the next 20 years in five year increments. The City's Wholesale Water System does not provide retail water service and therefore water use projections for low income households do not apply.

3.4 WHOLESALE WATER DEMAND PROJECTIONS

Section 10631(k)

Urban water suppliers that rely upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b),

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available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).

Section 10631(k) requires coordination to be made between the retailer and the wholesaler of estimated water use projections. The City Domestic Water System historically and currently supplies its retail customers with groundwater pumped from the Kern County sub-basin and with treated SWP water purchased from ID4 and Kern River water supplied by the City's Wholesale Water System to Cal Water's treatment plants. For the SWP wholesale water supply demands for ID4, the City Domestic Water System has provided its water use projections, as required by Section 10631(k), as shown in Table 9. For the City's Domestic Water System demands for Kern River water supplies to the Cal Water surface water treatment plants, these water use projections are included on Table 9, and addressed here under the City's Wholesale Water System water use projections. ID4 and Cal Water have also prepared Urban Water Management Plans and have provided copies of their Plans to the City. The ID4 and Cal Water Plans are incorporated by reference to the City's Plan.

3.5 WATER USE REDUCTION PLAN

10608.36.

Urban wholesale water suppliers shall include in the urban water management plans required pursuant to Part 2.6 (commencing with Section 10610) an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part.

SBX7-7 requires Urban Wholesale Water Suppliers to "...include in the urban water management plans...an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part." The City's Wholesale Water System provides Kern River water for groundwater replenishment to support the groundwater wells serving the City's Domestic Water System. The water use reductions required by SBX7-7 concurrently address the water use reductions for the City's Wholesale Water System. For this Plan, the City's Wholesale Water System has assumed its retail water contracts per capita water use will be reduced by 10 percent by 2015 and by 20 percent by 2020 in compliance with SBX7-7.

3.6 PUBLIC HEARING

10608.26(a).

In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:

- (1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.*
- (2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.*
- (3) Adopt a method, pursuant to subdivision (b) of Section 10608.20, for determining its urban water use target.*

The City held a public hearing on April 23, 2014 to accomplish the following:

1. Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.
2. Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.
3. Adopt a method, pursuant to subdivision (b) of Section 10608.20 for determining its urban water use target.

Information on the City's public hearing is included in Appendix D.

Section 4

SYSTEM SUPPLIES

4.1 WATER SOURCES

Section 10631

A plan shall be adopted in accordance with this chapter and shall do the following:

- b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).*

The City's water supply sources for the Domestic Water System include groundwater produced from the Kern County groundwater basin and treated surface water from Cal Water North Garden Water Treatment Plant and ID4's water treatment plant. The water supply source for the Wholesale Water System is surface water from the Kern River. Details on the City's sources of water supply are discussed below.

4.1.1 GROUNDWATER

The City Domestic Water System historically and currently supplies its customers water by pumping groundwater from the Kern County groundwater basin, a sub-basin of the Southern San Joaquin Valley Groundwater Basin. The City pumps groundwater from 53 active wells from the Kern County groundwater basin. These wells are located within the Kern County Basin and have a combined capacity of about 89,000 acre-feet per year; however, the City only pumps enough water to meet its annual demand. Table 10 shows the current and projected Domestic Water System groundwater supply from 2010 through 2030, in five year increments. The City pumps only enough water to meet its demand and historically the City has been able to meet the demands of its customers.

4.1.2 CAL WATER NORTH GARDEN WATER TREATMENT PLANT

In addition to groundwater supplies, the City Domestic Water System also receives treated Kern River surface water from Cal Water North Garden Water Treatment Plant. The Kern River water is supplied to the Cal Water treatment plant by the City's Wholesale Water System. In 2007, Cal Water began operation of its North Garden Water Treatment Plant. Table 10 shows the current and projected treated surface water supply from the treatment plant from 2010 through 2030, in five year increments. In 2010, the City received about 1,788 acre-feet of treated surface water supply from the treatment plant. The City projects to receive about 4,500 acre-feet per

year of treated surface water supply from the treatment plant by 2020 for the Domestic Water System.

4.1.3 KERN COUNTY WATER AGENCY IMPROVEMENT DISTRICT NO. 4

The City Domestic Water System also receives treated State Water Project water from ID4. ID4 has implemented programs to bring treated imported State Water Project water to the City of Bakersfield area. A portion of the water is treated by ID4 and distributed to the City's Domestic Water System customers. ID4 can additionally treat groundwater pumped and delivered via the Cross Valley Canal to the treatment plant as needed during a dry year. Table 10 shows the current and projected total treated water supply from ID4 from 2010 through 2030, in five year increments. In 2010, the City received about 3,446 acre-feet of treated water supply from ID4. The City projects to receive about 6,500 acre-feet per year of total treated water supply from ID4 by 2015 for the Domestic Water System.

4.1.4 LOCAL SURFACE WATER

The City Wholesale Water System's sole water supply source is surface water from the Kern River. The Kern River provides drainage for the southern Sierra Nevada Mountains and flows through the middle of the City of Bakersfield. The head waters of the Kern River are located near Mount Whitney and the river's main fork is joined by its major tributary, the South Fork, near Lake Isabella. Below Lake Isabella, the Kern River flows through the City of Bakersfield.

The City's Kern River surface water rights are known as pre-1914 appropriative water rights, which are based on "first in time, first in right". Future water supply for the City Wholesale System will continue to be solely from the Kern River. Table 11 shows the current and projected surface water supply from the Kern River from 2010 through 2030, in five year increments. In 2010, the City supplied about 219,754 acre-feet of surface water supply from the Kern River. On average, the City's Kern River water right supplies about 135,000 acre-feet per year of surface water. This number was based on a study performed in the City's Kern River Flow and Municipal Water Program Final Environmental Impact Report (Final EIR) dated June 2012, which is incorporated by reference and a copy of the table of contents can be found in Appendix F. Table 2-2 of the Final EIR shows the 135,000 acre-feet is based on the average (mean) year historic Kern River water yield from 1954 – 2010, which is also attached in Appendix F. The 135,000 acre-feet does not include water released by other water rights holders or the City because there is no guarantee the City would receive the water released in the

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future. For planning purposes, the City assumes that the Kern River water supply for 2015 through 2030 will be 135,000 acre feet per year.

4.2 GROUNDWATER

Section 10631(b)

If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

- 1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.*
- 2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.*

4.2.1 MANAGEMENT OF THE KERN COUNTY SUB-BASIN

The Kern County sub-basin is not an adjudicated basin. The City's management of its water resources for the Kern County sub-basin is based on measured and recorded recharge and banking operations. Sources of recharge to the Kern County sub-basin include precipitation and runoff, Kern River channel and canal seepage, and spreading/banking, which are discussed in detail below. The City's Wholesale Water System accurately monitors these activities on a daily basis and publishes an annual report. The City's Domestic Water System accurately records groundwater pumping and deliveries from surface water treatment plants. One of the goals of water resource management is to limit groundwater extractions to no more than the "safe yield" for the groundwater basin. "Safe yield" occurs when the amount of water pumped from the basin is less than or equal to replenishment water supply into the basin.

4.2.1.1 SOURCES OF GROUNDWATER RECHARGE

The City Domestic Water System's major water supply historically has been groundwater. Therefore, groundwater replenishment from the Kern River

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water supply plays a vital role in the reliability of the City's Domestic Water System water supply. The groundwater replenishment activities described in the following sections benefit the City's Domestic Water System, the City of Bakersfield area and the Kern County groundwater basin.

4.2.1.1.1 Captured Precipitation

It is estimated that precipitation, captured in storm water basins and percolated into the groundwater basin within the City's Domestic Water System service area, supplies approximately 1,200 acre-feet of water per year.

4.2.1.1.2 Kern River Channel and Carrier Canal

The Kern River provides drainage for the southern Sierra Nevada Mountains and flows through the middle of the City of Bakersfield. Historically, incidental groundwater replenishment from the Kern River channel and in the unlined portions of the Carrier Canal within the City's Domestic Water System service area accounts for approximately 9,800 acre-feet per year. In the future, the City projects additional supplies of Kern River water will be recharged in the Kern River Channel and the Carrier Canal in the City's Domestic Water System service area as additional supplies become available and as demands increase.

4.2.1.1.3 "2,800 Acres"

The City owns and operates the "2,800 Acres" recharge facility, which is about 6 miles long and includes old river channels, overflow lands and constructed spreading basins. It is located in and along the Kern River approximately 8 miles west of Highway 99. The City began spreading water in the "2,800 Acres" in 1978 through the use of one basin and a number of temporary embankments. Additional basins have been built, increasing the number of acres available for spreading water and recharge. Currently there are approximately 1,470 acres available for replenishment activities. The City's Kern River water replenishment in the 2,800 Acres recharge facility has averaged approximately 5,900 acre-feet per year.

4.2.1.1.4 Kern County Water Agency Improvement District No. 4 (ID4)

ID4 has implemented programs to bring imported State Water Project (SWP) water to the City of Bakersfield area. ID4 operations are based on providing imported water to the underground aquifers for groundwater replenishment and providing treated water for the City's Domestic Water System and others. ID4 is funded by ad valorem taxes and a tax levied on all groundwater pumped within the ID4 boundary. ID4 has an annual SWP Table 'A' entitlement of about 82,946 acre-feet, of which about 61 percent (about 50,597 acre-feet) has been determined to be the long-term annual reliable supply, based

on a SWP study (see Appendix G). Since 1988, ID4 has received an annual average of about 64,000 acre-feet annually from the SWP. Approximately 25 percent of ID4 is within the City Domestic Water System's service area. ID4 has indicated to the City that it will provide approximately 3,000 acre-feet of SWP water supply each year for groundwater recharge for the City Domestic Water System. In 2010, it provided 10,921 acre-feet to the City Domestic Water System for groundwater recharge.

4.2.1.1.5 Treated Wastewater from Treatment Plant No. 3

A portion of Wastewater Treatment Plant (WWTP) No. 3's denitrified secondary treated water is replenished to the basins by placing the treated effluent wastewater into storage ponds. These incidental replenishment activities are located on the southern end of the City's Domestic Water System service area. As future development occurs within the City Domestic Water System service area, the City plans to provide more secondary treated water from WWTP No. 3 as groundwater replenishment. The City projects to recharge about 9,900 acre-feet of treated effluent from WWTP No. 3 by 2030. The City does not consider the recharged treated effluent as a water supply for the City Domestic Water System service area at this time.

4.2.1.1.6 Deep Percolation from Irrigated Lands

Deep percolation into the groundwater basin occurs where lands are irrigated. It is estimated that approximately 7,400 acre-feet of water per year is replenished into the groundwater basin in the City Domestic Water System service area from irrigating parks, commercial property and residential lands, assuming an urban irrigation efficiency of 70 percent. As development continues in the City's Domestic Water System service area, the replenishment associated with irrigation of urban lands are expected to increase. The City estimates that in 2030 deep percolation from irrigated lands will be approximately 9,500 acre-feet per year within the Domestic Water System.

4.2.1.1.7 Recharge from City Water Amenities

The City has several water amenities located in City parks that use Kern River water, and incidentally replenish the groundwater basin. The Park at Riverwalk and the Truxtun Lakes both use Kern River water for replenishment. During an average/wet year, there are other minor water amenities that can also use Kern River water. The City estimates that on average, 5,000 acre-feet per year are recharged via these water amenities. The City anticipates that this level of recharge will continue in these amenities through the year 2035 and beyond.

4.2.2 DESCRIPTION OF KERN COUNTY SUB-BASIN

The City of Bakersfield is located above a series of water bearing aquifers. These water aquifers are part of the larger groundwater basin called the Southern San Joaquin Valley Groundwater Basin, which is located within the Tulare Lake Hydrologic Region. The Tulare Lake Hydrologic Region covers about 17,000 square miles and has 12 distinct groundwater basins and 7 sub-basins within the San Joaquin Valley Groundwater Basin. The City Domestic Water System is located in a sub-basin of the San Joaquin Valley Groundwater Basin called Kern County sub-basin. The location of the Kern County sub-basin is shown on Plate 5. The San Joaquin Valley Groundwater Basin is bounded on the north by the Kern County line, on the east by the Sierra Nevadas, on the west by the Coast Ranges and on the south by the San Emigdio and Tehachapi Mountains. The Kern River is the surface water feature that divides this area. The groundwater aquifers within the San Joaquin Valley Groundwater Basin are thick and are made up of unconsolidated sediments. These sediments are bordered by faults and mountain ridges and serve as effective barriers for groundwater movement. Due to the thickness of the sediment in this basin, many groundwater wells within the San Joaquin Valley Groundwater Basin exceed 1,000 feet in depth and the typical yield ranges from 300 gpm to 2,000 gpm. Additional information on the San Joaquin Valley Groundwater Basin within the Tulare Lake Hydrologic Region is located in Appendix H, in the Department of Water Resources' (DWR) California Groundwater Bulletin 118.

4.2.2.1 CALIFORNIA DEPARTMENT OF WATER RESOURCES BULLETIN 118

For more information, an excerpt of DWR's California Groundwater Bulletin 118 on the San Joaquin Valley Groundwater basin is located in Appendix H. Page 178 of Bulletin 118 states, "The Cities of Fresno, Bakersfield and Visalia have groundwater recharge programs to ensure that groundwater will continue to be a viable water supply in the future."

4.2.3 LOCATION, AMOUNT AND SUFFICIENCY OF GROUNDWATER PUMPED FOR THE PAST FIVE YEARS

Section 10631(b)(3)

A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The

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description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

The City's Domestic Water System produces groundwater from the Kern County sub-basin of the San Joaquin Valley Groundwater Basin in the Tulare Lake Hydrologic Region. The City pumps the groundwater through its 53 active wells, which are located about 4 wells every 640 acres within the City's Domestic Water System service area. The amount of groundwater the City's Domestic Water System has historically pumped from the Kern County sub-basin from 2006 to 2010 every year is shown on Table 12 and projected every five years to 2030.

As discussed in Section 4.2.1, the Kern County sub-basin is not an adjudicated basin; however, the portion of the basin where the City's service area is located is managed. The management of the groundwater water resources in the Kern County sub-basin is based on measured and recorded replenishment and banking operations. Sources of recharge to the Kern County sub-basin include precipitation and runoff, Kern River channel and canal seepage, and spreading/banking, which are discussed in detail in Section 4.2.1. The goal of the groundwater resource management is to limit groundwater extractions to no more than the "safe yield" for the groundwater basin. "Safe yield" occurs when the amount of water pumped from the basin is less than or equal to the water replenishment into the basin. To address decreasing groundwater levels, the City plans to increase its groundwater replenishment in the future and manage the groundwater in storage.

Based on planned management practices including but not limited to increased Kern River recharge, anticipated future groundwater reserves and water conservation practices, the City should be able to rely on the Kern County sub-basin for adequate customer supply over the next 20 years under single year and multiple year droughts.

4.2.4 LOCATION, AMOUNT AND SUFFICIENCY OF GROUNDWATER PROJECTED TO BE PUMPED

Section 10631(b)(4)

A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

As discussed in Section 2, the City anticipates the population of its Domestic Water System service area to increase about 9 percent every five years starting from 2020 to 2030. Even though water demands are expected to increase as a result of the

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population increase, the City anticipates using its Kern River surface water supply for groundwater replenishment to ensure sufficient groundwater supplies for the next 20 years. Groundwater is expected to be the primary source of water supply for the Domestic Water System, supported by replenishment activities, banking programs recycled water programs and water use reduction. The City expects to meet anticipated consumer demands, over the next 20 years under single year and multiple year droughts. The City's projected amount of groundwater to be pumped within its Domestic Water Service area in the next 20 years (in five year increments) is shown on Table 12. The projected pumped amounts include water use reductions per SBx7-7 from Table 4. In 2010, the City pumped about 37,976 acre-feet in its Domestic Water Service area, and by 2030 the City projects it will pump about 41,735 acre-feet of groundwater. This is an increase of less than 4,000 acre-feet over 20 years.

Based on planned management practices including but not limited to Kern River recharge, development of increased groundwater reserves and water conservation practices, the City should be able to rely on the Kern County sub-basin for adequate supply for most of its demands over the next 20 years under single year and multiple year droughts.

4.3 TRANSFER OPPORTUNITIES

Section 10631(d)

Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

The City does not have planned water exchanges or transfers on a short-term or long-term basis.

4.4 DESALINATED WATER OPPORTUNITIES

Section 10631(i)

Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

Groundwater produced from the Kern County sub-basin is low in Total Dissolved Solids (TDS) and does not require desalination. According to the 2012 Consumer Confidence Report for the City Domestic Water System service area, included in Appendix I, the average TDS value for the City Water System's wells is about 196 milligrams per liter (mg/l) and ranges from 110 mg/l to 520 mg/l, which are below the Secondary Maximum Contaminant Level of 1,000 mg/l. In addition, surface water from the Kern River is low in TDS and also does not require desalination. Therefore, the City

Domestic and Wholesale Water Systems do not have the need to desalinate any of its water supplies at this time.

4.5 RECYCLED WATER OPPORTUNITIES

4.5.1 RECYCLED WATER AND POTENTIAL FOR USE

Section 10633

The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

4.5.1.1 WASTEWATER COLLECTION, TREATMENT, AND DISPOSAL

Section 10633

- (a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.*
- (b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.*

The City currently operates two sewage treatment plants; the WWTP No. 2 and WWTP No. 3. WWTP No. 2 has a design capacity of 25 million gallons per day (MGD) with the average daily flow of about 13.9 MGD and currently serves the area east of Highway 99. The WWTP No. 2 provides primary and secondary treatment of incoming wastewater and includes storage ponds, clarifiers, solids processing facilities, trickling filters, digesters, and methane recovery and cogeneration facilities.

WWTP No. 3 was constructed in 1972 with an original capacity of about 4 MGD. As the population of the City of Bakersfield continued to grow, the treatment plant was expanded several times to accommodate growth. The current capacity of the WWTP No. 3 is 32 MGD with the average daily flow of about 17.6 MGD. The WWTP No. 3 provides primary, secondary and tertiary treatment of incoming wastewater and includes storage ponds, clarifiers, solids processing facilities, activated sludge, digesters, and methane recovery and cogeneration facilities.

Table 13 shows the amount of wastewater collected and treated from WWTP No. 3 which is located in the City Domestic Water System service area. Table 13 also

shows the amount of wastewater that meets recycled water standards, which is available for recycled water use.

4.5.2 CURRENT RECYCLED WATER USE

Section 10633

(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use

In 2010, the City used WWTP No. 3 tertiary treated water to irrigate the State Farm Sports Village, a local soccer and football complex located on the south end of the City Domestic Water System service area. The current use of tertiary treated water from WWTP No. 3 to irrigate the State Farm Sports Village is about 1,120 acre-feet per year. This water would otherwise have to be provided by the City Domestic Water System. In addition, the City's WWTP No. 3 secondary treated denitrified water is being recharged by placing the treated effluent into storage ponds. The current use of secondary treated water from WWTP No. 3 that is being recharged is about 6,645 acre-feet. In addition, the City exports about 12,000 acre-feet of recycled water outside its service area for irrigation purposes. The amount of treated effluent/recycled water used is shown in Table 14. The use of recycled water for groundwater replenishment enhances the City's ability to manage the Kern County sub-basin and help prevent groundwater levels from lowering.

4.5.3 POTENTIAL USES OF RECYCLED WATER

Section 10633

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

The current recycled water use of tertiary treated recycled water from WWTP No. 3 is about 1 MGD and the ultimate build-out for future recycled water use is about 2 MGD. The State Farm Sports Village is not at full build out and is going through another phase of expansion. The City plans to continue using recycled water to irrigate the State Farm Sports Village and increase the amount of tertiary treated recycled water use to about 2,240 acre-feet per year starting in 2020 when the State Farm Sports Village is fully expanded. The City also plans to continue using treated effluent water as groundwater recharge and increase the amount of groundwater recharged in 2015 through 2030, as shown in Table 14. The City will continue to export recycled water outside its service area for irrigation purposes. The City plans to use additional recycled

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water for other landscaped areas adjacent to the Sports Village complex. Table 14 shows potential future uses for recycled water from 2015 through 2030, in five year increments.

4.5.4 PROJECTED RECYCLED WATER USE

Section 10633

(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15 and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision

Based on the City's 2005 UWMP, the City did not plan to use recycled water in 2010 and therefore showed a projection of zero for 2010. However, in 2010, the City's actual recycled water use was about 19,765 acre-feet. Of the 19,765 acre-feet of recycled water used in 2010, about 12,000 acre-feet was used for irrigation purposes, about 6,645 acre-feet was replenished into the groundwater basin and about 1,120 acre-feet was used as irrigation for the State Farm Sports Village.

4.5.5 ENCOURAGING USE OF RECYCLED WATER

Section 10633

(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

The City provides recycled water to the State Farm Sports Village and conserves the City's other water supplies. The City is interested in pursuing additional recycled water uses within its Domestic Water System service area. As shown in Table 14, the projected recycled water use will increase by about 1,120 acre-feet by 2020.

4.5.6 OPTIMIZING RECYCLED WATER USE

Section 10633

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

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The City prepared an engineering report for the expansion of its WWTP No. 3. The report included discussion of installing a tertiary treatment system at WWTP No. 3. The treated recycled water from WWTP No. 3 will be used for irrigation on landscaped medians and irrigation at the State Farm Sports Village. Phase 1 of the State Farm Sports Village has been completed, which includes irrigating soccer fields and landscaped medians using 1 MGD of treated recycled water. Phase 2 of the State Farm Sports Village is also complete and includes irrigating football fields.

4.6 FUTURE WATER PROJECTS

Section 10631

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water uses as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

4.6.1 ADDITIONAL KERN RIVER WATER

The City acquired historic water rights on the Kern River through its purchase of Tenneco's Kern River holdings in 1976. Legal proceedings between 1996 and 2007 reviewed and considered questions regarding the potential forfeiture of appropriative Kern River water rights held by the Kern Delta Water District (Kern Delta). As a result of those proceedings, California courts concluded that Kern Delta had "forfeited" a large portion of its Kern River water rights owing to non-use. Following the conclusion of those proceedings in 2007, the California State Water Resources Control Board (SWRCB) began proceedings to assess whether the Kern River was still fully appropriated. The Kern River was originally designated as a river with Fully Appropriated Status (FAS) by SWRCB in 1964. In February 2010, SWRCB issued an order revising the status of the Kern River, finding that the river was no longer fully appropriated.

As a result of the court decisions regarding forfeited water on the Kern River and in anticipation of SWRCB's revision of the FAS of the river, the City filed an application with the SWRCB to obtain rights to surplus, unappropriated, and available water in the Kern River. The City's application to appropriate indicates that any surplus,

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unappropriated Kern River water, awarded by the SWRCB to the City will remain in the Kern River watercourse to support beneficial uses, including domestic purposes, municipal and industrial uses, protection of the public interest, environmental purposes, streamflow restoration, constructed wetlands, recreational uses, fish and wildlife restoration, underground aquifer supply, aquifer water quality enhancement, and underground water banking for drought and other emergencies. The City's application contemplates that SWRCB will determine if an anticipated supply of up to 87,000 AFY of unappropriated, surplus Kern River water will be available to the City. The City is unsure when and if the additional Kern River water will become available, but it is estimated the water will become available in about 10 to 15 years. If the water becomes available to the City, the additional amount of Kern River surface water supply would be available to the City in average, single-dry and multiple dry years.

4.6.2 CONSTRUCTION OF SIX NEW PRODUCTION WELLS

The City plans to construct six new production wells, which would provide additional groundwater supply to its Domestic Water System service area. The pumping capacity of each new production wells is about 1,200 gpm to 1,400 gpm. The City expects the new wells to be online in about three to five years. The additional amount of groundwater supply from the six production wells would be available to the City Domestic Water System in average, single-dry and multiple dry years.

Section 5
WATER SUPPLY RELIABILITY AND WATER SHORTAGE
CONTINGENCY PLANNING

5.1 WATER SUPPLY RELIABILITY

5.1.1 WATER MANAGEMENT TOOLS

Section 10620(f)

An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

This Plan describes water management tools and options used to maximize local resources and minimize the need to import water. These include Groundwater Basin Management Structure (Section 4.2), Recycled Water Opportunities (Section 4.5), Future Water Projects (Section 4.6), and DMMs (Section 6). In addition, the City Wholesale System currently delivers water to its customers pursuant to its surface water rights on the Kern River. The City's Demand Management Measures are described in Section 6.

5.1.2 SUPPLY INCONSISTENCY

Section 10631(c)(2)

For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

The City has not experienced long term water supply deficiencies and historically has been able to meet its customer demands. The following sections discuss the City's water sources that may not be available at a consistent level of use and the water demand management measures used by the City.

5.1.2.1 GROUNDWATER

As previously discussed in Section 4.2, the City's management of the groundwater supplies in the Kern County sub-basin is based on measured and recorded replenishment and banking operations. The goal of the groundwater management is to limit groundwater extractions to no more than the "safe yield" of the groundwater basin.

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The “safe yield” is the maximum quantity of water that can be continuously withdrawn from a groundwater basin without adverse effect. If the City experiences a wet year, the additional surface water is recharged into the basin and is kept there until the City experiences a dry year. Consequently, the City will have additional groundwater available to meet its demands during dry years.

Currently, the City does have some water quality issues in the groundwater that may limit the amount of water pumped from the basin, which are discussed in detail in Section 5.3.

5.1.2.2 SURFACE WATER

The City Wholesale Water System has developed contractual stages of action for delivering water to Cal Water during critically dry years. The City Wholesale Water System and Cal Water will confer and mutually agree as to when a “critically” dry year is occurring, or is about to occur, and the extent to which reductions and restrictions in the quantity of water delivered to the Cal Water treatment plant will be made. More details are discussed in Section 5.4.2.

Because of the variable nature of the Kern River surface water supply, the City has undertaken efforts to obtain additional surface water supplies through the State Water Resources Control Board water rights application process.

The City has also taken steps to alleviate surface water variability by using more of its Kern River water supply to increase recharge in the Kern River channel, and taking other steps, to create a reserve, dry year supply, as discussed in more detail in Section 5.4.1.

5.1.2.3 STATE WATER PROJECT WATER

As previously discussed in Section 4.1, the City’s Domestic Water System receives treated water from ID4. ID4 brings imported State Water Project water to the City of Bakersfield area for treatment to serve portions of the urban Bakersfield area. The DWR considers several factors, including climatic and environmental, in estimating the amount of water available to the contractors’ Table ‘A’ Entitlements. Table ‘A’ refers to a table in the Water Supply Contract between the State of California Department of Water Resources and the Kern County Water Agency, of which ID4 is a member unit agency. Table ‘A’ shows the State Water Project entitlement for KCWA. Historically during a wet year, ID 4 and the City of Bakersfield received about 80 percent of the Table ‘A’ Entitlements. If the Table ‘A’ Entitlement is less than 45 percent, the City will

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not receive water for that particular year. Typically, if the City Domestic Water System does not receive its full entitlement of 6,500 AF (acre-feet), the following are other options to deliver water:

1. (City's Preferred Option) Use its existing City groundwater wells to supply additional water directly to the City's Domestic Water System to make up for lack of State Water Project water delivered to the City's Domestic Water System from the Northwest Feeder. The Northwest Feeder is the pipeline which supplies treated surface water to the City's Domestic Water System from the ID4 Water Treatment Plant.
2. Deliver Kern River surface water to the ID4 Water Treatment Plant to treat and deliver using the Northwest Feeder pipeline.
3. The City's Domestic Water System can request ID4 water stored in the Kern Water Bank be delivered to the ID4 Plant for treatment and delivery using the Northwest Feeder. This would require the City and ID4 to enter into a Dry Year Supply agreement for that particular year.
4. The City can exchange with other Districts that have Kern River water available in Lake Isabella Reservoir for the City's recharged water to be treated at either Cal Water's North Garden water treatment plant or ID4's water treatment plant and delivered to the City's Domestic Water System.

5.2 WATER SHORTAGE CONTINGENCY PLANNING

5.2.1 CATASTROPHIC INTERRUPTION OF WATER SUPPLIES

Section 10632

(c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

During an acute and severe water shortage caused by a disaster (including, but not limited to, a regional power outage, an earthquake, or other disaster), the City will implement its Emergency Response Plan. The Emergency Response Plan addresses actions to be taken during an earthquake or other catastrophic events for its Domestic Water System, and is incorporated into this UWMP by reference and a copy of the table of contents is included in Appendix J.

It is unlikely the City Wholesale Water System's water supply will be interrupted as a result of a catastrophe. The City Wholesale Water System's supply system consists of the gravity flow of water from Isabella Reservoir into the Kern River and unlined channels and canals. The City Wholesale Water System also has pipelines that transport Kern River water to a variety of users. The City Wholesale Water System will also use the City's Emergency Response Plan.

5.2.2 MANDATORY PROHIBITIONS

Section 10632

- (d) *Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.*

The City of Bakersfield has Municipal Ordinances that address wasteful use of water and appropriate enforcement city-wide. Table 15 shows the City's mandatory prohibitions and the stages when the prohibitions become mandatory.

5.2.3 CONSUMPTION REDUCTION METHODS

Section 10632

- (e) *Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.*

The City Domestic Water System developed a four-stage water-rationing plan, with reductions of up to 50 percent (see Table 16) to be implemented during declared water shortages. The water-rationing plan includes both voluntary and mandatory rationing which are to be implemented depending on the causes, severity, and anticipated duration of the water supply shortage. The processes by which this water-rationing plan and each of its four stages are implemented are provided in Section 5.4.2 (Stages of Action in Response to Water Supply Shortages). Table 16 summarizes the City's consumption reduction methods and the corresponding stages of action when the reduction methods take effect.

The City Wholesale Water System does not provide water directly to retail customers. Consequently, the City Wholesale System is not in a position to implement/enforce consumption reduction methods at the retail level.

5.2.4 PENALTIES OR CHARGES FOR EXCESSIVE USE

Section 10632

- (f) *Penalties or charges for excessive use, where applicable.*

The City has Municipal Ordinances that include mandatory prohibitions for certain water use during water supply emergencies, as shown on Table 15. If a Stage 3 water shortage were to occur, the City of Bakersfield would adopt a city-wide ordinance

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that would require certain water reduction measures from residents within the City Domestic Water System service area. The City's Municipal Code Section 1.40.101, as shown below, indicates there are charges for violations of the Municipal Code. The following penalties and fines could be assessed city-wide:

1.40.010 Violation—Penalty.

- A. Unless otherwise expressly provided in this code, a violation of any provision of this code, or a failure to comply with any of the mandatory requirements of this code, or counseling, aiding or abetting a violation or failure to comply shall be punishable as an infraction or misdemeanor.

Any person or entity convicted of an infraction under this code where punishment is not otherwise provided in this code, shall be punished by a fine not exceeding fifty dollars for a first violation, one hundred dollars for a second violation within one year, and two hundred fifty dollars for each additional violation within one year.

Any person or entity convicted of a misdemeanor under this code where punishment is not otherwise provided in this code, shall be punished by a fine of not more than five hundred dollars, or by imprisonment in the county jail for a period not to exceed six months, or by both such fine and imprisonment.

Each such person or entity shall be guilty of a separate offense for each and every day during any portion of which any violation of any provision of this code is committed, continued, or permitted by any such person or entity and shall be punished accordingly.

- B. In addition to the penalties provided in this section, any condition caused or permitted to exist in violation of any of the provisions of this code shall be deemed a public nuisance and may be, by the city, summarily abated as such, and each day such condition continues shall be deemed a new and separate offense. This code may also be enforced by injunction issued out of the superior court upon the suit of the city or the owner or occupant of any real property affected by such violation or prospective violation. This method of enforcement shall be cumulative and in no way affect the penal provisions hereof.
- C. The City of Bakersfield shall be entitled to restitution for all expenses incurred enforcing the provisions of this code against any person or entity in violation thereof. (Ord. 3439 § 1, 1992; prior code § 10.07.010)

The City Wholesale Water System is not in a position to directly control retail water use. The City Wholesale Water System has not

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developed penalties or charges. The City Wholesale Water System is obligated to deliver a contracted amount of water to Cal Water for the City Domestic Water System.

5.2.5 REVENUE AND EXPENDITURE IMPACTS

Section 10632

(g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

The City's Domestic Water System is operated under a service contract with Cal Water. However, the Domestic Water System water rates are set by the City. The City Domestic Water System has not instituted tiered rates to encourage water conservation by its customers. As part of the rate structure, the monthly service charges generally cover the fixed cost of operation and the commodity rates are charged to compensate for the variable costs of providing water service. A copy of the City Domestic Water System current rate schedule is included as Appendix K.

The City of Bakersfield has the ability to restructure the City Domestic Water System rates on short notice through the means of Municipal Ordinances that allow the City Manager to issue Executive Orders on water rates. This method may be used, if needed, to structure rates to cover the additional costs and loss of water sales revenue incurred for enforcement and implementation of mandatory water reduction plans.

In 2010, the City Wholesale Water System charged \$81.24 per acre-foot for raw Kern River water delivered for municipal and domestic uses. Since there are no water consumption reduction programs used by the Wholesale Water System, there are also no revenue and expenditure impacts. There is a direct pass through of any costs, which should have minimal net impact on revenue compared to expenditures. A copy of the City Wholesale Water System's current rate schedule is located in Appendix K.

5.2.6 DRAFT WATER SHORTAGE CONTINGENCY RESOLUTION OR ORDINANCE

Section 10632

(h) A draft water shortage contingency resolution or ordinance.

The City of Bakersfield can adopt a Water Shortage Contingency Plan for the Domestic Water System using a City Municipal Ordinance. A copy of the City of

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Bakersfield's Domestic Water System draft water shortage contingency resolution is located in Appendix L.

5.3 WATER QUALITY

Section 10634

The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

5.3.1 GROUNDWATER

All of the City Domestic Water System wells produce groundwater from the Kern County sub-basin. Groundwater is delivered directly to the distribution system. The City Domestic Water System has reviewed historical water quality data, well locations, and perforations in an effort to generally identify areas that may be subject to elevated arsenic, 1,2,3-Trichloropropane (TCP), and other contaminant concentrations. The City Domestic Water System plotted this data on a map of its current and potential future service area in an effort to strategically site future wells. The City has some wells where wellhead treatment with granular activated carbon is used. Also, in the future, the City will evaluate methods for treating wells that have arsenic, TCP, and other contaminants. Some of the City's wells are currently temporarily off or inactive due to contaminants.

As population increases in the City Domestic Water System's service area, the City Domestic Water System will construct new municipal water supply wells and may equip existing wells with wellhead treatment. The City Domestic Water System plans to collect water quality samples from multiple depths as a pilot hole is drilled for each new well. Based on a review of depth, specific water quality data wells will be designed to produce water from "clean" zones of the groundwater basin. Through implementation of this plan, the City Domestic Water System expects groundwater quality to continue to meet all regulatory standards at least through 2030. Consequently, water quality concerns will not affect the projected water supply reliability for the Domestic Water System through 2030, as shown in Table 12.

5.3.2 SUPPLEMENTAL SURFACE WATER

The City's Domestic Water System receives water from ID4. ID4 treats State Water Project water delivered from the California Aqueduct and KCWA's Cross Valley Canal. It is expected water quality from the ID4's Plant will continue to meet all

regulatory standards at least through 2030. Consequently, the water quality of SWP water will not affect the projected supply reliability through 2030.

The City's Domestic Water System receives water from Cal Water's surface water treatment plant. Cal Water North Garden Water Treatment Plant treats Kern River water from the City's Wholesale Water System and provides the treated water to the Cal Water service areas, including the City of Bakersfield Domestic Water System service area. It is expected water quality from the North Garden Water Treatment Plant will continue to meet all regulatory standards at least through 2030. Consequently, the water quality of Kern River water delivered by the City's Wholesale Water System will not affect the projected supply reliability through 2030.

5.4 DROUGHT PLANNING

5.4.1 RELIABILITY OF SUPPLY AND VULNERABILITY TO SEASONAL OR CLIMATIC SHORTAGE

Section 10631(c)(1)

Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

- (A) An average water year.*
- (B) A single dry water year.*
- (C) Multiple dry water years.*

Climate change is expected to alter water demands. Water use in Bakersfield changes seasonally during the summer, with greater water use for landscape irrigation and water for cooling purposes. As droughts become more frequent and longer lasting, summertime temperatures will increase, higher temperatures will increase evapotranspiration rates, and overall water demand for municipal use will rise with climate change.

Locally, the City has begun to plan for and address potential climate change and how climate change may affect its water supply. The City anticipates there may be several consecutive years of low water supply years as a result of climate change. Increasing groundwater recharge will provide a buffer against potential future long-term low water supply years. In addition, the City currently uses the Kern River channel and 2,800 Acres recharge facility to recharge and store water in the aquifer. These facilities will be used to maintain and increase future groundwater storage.

Based on the Domestic Water System's historical data, during average years, single dry years and multiple dry years, groundwater production for the City's Domestic Water System supply has provided a reliable supply of water to its

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customers. The following is a summary of the average year, single dry year, and multiple dry years demands and supplies for the Domestic Water System.

Average Year – As shown on Table 17, the Domestic Water System’s estimated Average Year water use is 43,210 acre-feet. Water supply to satisfy these uses will be KCWA ID4 supplying 6,500 acre-feet of treated SWP water assuming full State Water project delivery, treated water from Cal Water North Garden Water Treatment Plant supplying 4,500 acre-feet, and from the Domestic Water System wells supplying 32,210 acre-feet, for a total Average Year water supply of 43,210 acre-feet.

Single Dry Year – As shown in Table 17, the Domestic Water System Single Dry Year water use is estimated to be 41,050 acre-feet. It is assumed the Domestic Water System would not receive any treated SWP water from ID4. However, ID4 can also receive its raw water supply from the City’s Wholesale Water System (Kern River water) and from ID4’s recovery wells located in their groundwater banking project areas. Therefore, water supply to satisfy this use will be ID4 supplying 6,500 acre-feet to the Domestic Water System, treated water from the Cal Water North Garden Water Treatment Plant supplying 2,000 acre-feet of water from the City’s Wholesale Water System (Kern River water), and groundwater from the Domestic Water System wells supplying 32,550 acre-feet for a total Single Dry Year water supply of 41,050 acre-feet.

Multiple Dry Years – As shown in Table 17, the Domestic Water System Multiple Dry Years water use is estimated to be 41,050 acre-feet. It is assumed the Domestic Water System would not receive any treated SWP water from ID4. However, ID4 can also receive its raw water supply from the City’s Wholesale Water System (Kern River water) and from ID4’s recovery wells in their groundwater banking project areas. Therefore, water supply to satisfy this use will be ID4 supplying 6,500 acre-feet of water to the Domestic Water System, treated water from Cal Water North Garden Water Treatment Plant supplying 2,000 acre-feet of water from the City’s Wholesale Water System (Kern River water), and groundwater from the Domestic Water System wells supplying 32,550 acre-feet, for a total Multiple Dry Years water supply of 41,050 acre-feet.

Based on current management practices and water supply reliability discussed in Section 4.2, the minimum water supplies available for the Domestic Water System at the end of an Average Water Year, a Single Dry Year, and Multiple Dry Years would be at least equal if not greater than the Domestic Water System’s direct customer water demands, primarily due to groundwater banking and establishment of additional groundwater reserves and maintaining sufficient storage in Lake Isabella.

5.4.2 STAGES OF ACTION IN RESPONSE TO WATER SUPPLY SHORTAGES

Section 10632

(a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

The City of Bakersfield has developed a city-wide plan of action to accomplish its reduction goals, if needed, and the contingency plan has been set up on a voluntary and incentive basis. In the event of a prolonged and severe drought, the rationing programs could be implemented as shown in Table 18. The priorities for water use of available water during a rationing plan are the following:

- Health and Safety – Interior family use and fire suppression.
- Commercial, Industrial and Governmental – Jobs and economic base.
- Landscaping – Residential and business/commercial, parks.
- New Demand – All projects.

Table 18 provides a description of the stages of action which may be triggered by a shortage in one or more of the City's Domestic Water System water supply sources, depending on the severity of the shortage and its anticipated duration.

The City Wholesale Water System has developed contractual stages of action for delivering water to Cal Water during critically dry years. The City Wholesale Water System and Cal Water will confer and mutually agree as to when a "critically" dry year is occurring, or is about to occur, and the extent to which reductions and restrictions in the quantity of water delivered to the Cal Water treatment plant will be made. Table 19 shows the City Wholesale Water System water delivery schedule to Cal Water Northeast Treatment Plant as conditions warrant during a critically dry year. Table 20 shows the City Wholesale Water System water delivery schedule to Cal Water North Garden Treatment Plant. In addition, Table 21 shows the reduction goals between a normal delivery and a critically dry delivery.

The City is working on additional programs and plans to address water supply shortages which involve the increase of groundwater reserves to provide a five year consumer supply in cases of dry and drought years, as well as the pursuit of additional, unappropriated Kern River water supplies through the City's application to appropriate.

5.4.3 THREE YEAR MINIMUM WATER SUPPLY

Section 10632

(b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

The City of Bakersfield Domestic and Wholesale Water Systems receive water supply primarily from the Kern River. The Kern River water is both delivered to Cal Water Northwest Water Treatment Plant, where it is treated and delivered to the City Domestic Water System, and is replenished to the groundwater basin using the City's unlined canals, the Kern River channel, and in the City's 2,800 Acres recharge facility. A small percentage of the City's Domestic Water System water supply comes from the State Water Project via the KCWA ID4's water treatment plant. About 80 percent of the City's Domestic Water System water supply is pumped from groundwater, and the balance is delivered from the two surface water sources (Cal Water and ID4). Because the City is able to use the underlying aquifer to store Kern River water and SWP water from ID4, the City Domestic Water System is less vulnerable to the high variability of the runoff of Kern River water and the State Water Project supply.

Hydrologic records have been kept for the Kern River watershed since 1893. The driest historic three-year sequence (multiple dry years) in the Bakersfield area occurred from 1959 to 1961. The driest year on record occurred in 1961, with a total Kern River runoff of 19 percent of average. A normal or average water year would be similar to 1963, where the total Kern River runoff was 102 percent of average. Tables 17 and 22 show the minimum water supplies needed by the City's Domestic Water System to meet potable water demands during the next three year period (multiple dry years).

Minimum water supply for three year dry period - As shown in Table 17, the Domestic Water System three-year minimum water use is estimated to be 41,050 acre-feet. It is assumed the Domestic Water System would not receive any treated SWP water from ID4. However, ID4 can also receive its raw water supply from the City's Wholesale Water System (Kern River water) and from ID4's recovery wells in their groundwater banking project areas. Therefore, water supply to satisfy these uses will be ID4 supplying 6,500 acre-feet of water to the Domestic Water System, treated water from Cal Water North Garden Water Treatment Plant supplying 2,000 acre-feet of water from the City's Wholesale Water System (Kern River water), and groundwater from the Domestic Water System wells supplying 32,550 acre-feet, for a total three-year minimum water supply of 41,050 acre-feet. This water supply estimate equates to 95% of a normal year's supply due to a reduced surface water availability.

5.4.4 WATER USE REDUCTION MEASURING MECHANISM

Section 10632

- (i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.*

The City's Domestic Water System has incorporated procedures and practices to achieve water conservation and manage the water supply. Extensive records on consumption, production and use histories are maintained. In addition, the City Wholesale Water System maintains records on its water sales.

For the Domestic Water System, new water system installations are constructed under strict standards for pressure and leak detection. A leak detection and repair program is ongoing. The City's Domestic Water System is 100 percent metered, allowing the customer knowledge of their water use, who may then adjust their consumption accordingly. The City's Domestic Water System can compare total water use from one year to the next to determine actual reductions in water use and if reduction goals are being met.

Based on monitoring water consumption and population projections (see Section 2.2), the City will be able to confirm it has met its urban per capita water use target developed per SBX7-7 (see Section 3.1) for 2015 and 2020.

5.4.4.1 METERING

The City's Domestic Water System service connections are 100 percent metered, exclusive of public fire protection services (public fire hydrants). This method of service provides accurate detail to the City and the customer of quantities used in particular situations, so both City and customers are aware of amounts of water consumed. The metering method allows the customer to be rewarded for practicing water conservation methods, through a lower monthly water bill. The Public Utilities Commission of the State of California, General Order No. 103 encourages metered volume sales unless specific authorization has been granted otherwise. Although not under the CPUC, the City of Bakersfield has adopted service standards patterned after General Order No. 103.

The City Domestic Water System has a continuing program of meter change-outs to systematically replace older meters. By changing out old meters for newer, more accurate ones, the City ensures that unaccounted losses are reduced.

5.4.5 ASSESSMENT OF THE RELIABILITY OF WATER SERVICE

Section 10635

- (a) *Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry year water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.*

As previously discussed in Section 3.1, the City Domestic Water System applied SBX7-7 to estimate the City's 2015 Interim Urban Water Use Target of 288 GPCD and the City's 2020 Urban Water Use Target of 256 GPCD. These Urban Water Use Targets were then applied to estimate the Domestic Water System projected normal year demands in 2015, 2020, 2025, and 2030, as shown on Table 6. The City Domestic and Wholesale Water Systems will continue to use groundwater, surface water, and recycled water as its future water supplies over the next 20 years. The following sections discuss the City's water service reliability assessment, which compares the City's supply and customer demand over the next 20 years during normal, dry and multiple dry years.

5.4.5.1 NORMAL WATER YEAR

As previously discussed, the City's Domestic Water System projected normal water year consumer demand over the next 20 years in five-year increments was based on the City's 2015 and 2020 Urban Water Use Targets of 288 GPCD and 256 GPCD, respectively. The City's Domestic Water System projected supply was based on the minimum supplies needed by the City to meet projected normal year customer demand, as shown on Table 6. The comparison of the City's Domestic Water System projected supply and consumer demand during a normal water year is shown on Table 23. As shown on Table 23, the Domestic Water System supply can meet customer demands during a normal water year for the next 20 years.

5.4.5.2 SINGLE-DRY YEAR

Historically when the City Domestic Water System experienced a single-dry year, the water supplies were not affected by the single-dry year and the City was able to meet its consumer demands. As shown in Table 17, during a worst case scenario for a

single-dry year, the Domestic Water System water demands ratio between normal year and single-dry year was estimated to be about 95 percent. Consequently, the Domestic Water System's projected dry year water supplies over the next 20 years were based on the ratio of 95 percent of the normal year supplies. The comparison of the projected water supply and customer demand during a single-dry year is shown on Table 24. As shown on Table 24, the Domestic Water System's water supply should be able to meet consumer demands during a single-dry year for the next 20 years.

5.4.5.3 MULTIPLE DRY YEARS

Historically, when the Domestic Water System experienced multiple dry years, the water supplies were not affected and the Domestic Water System was able to meet its consumer demands. As shown in Table 17, during a worst case scenario for multiple dry years, the Domestic Water System consumer demand ratio between normal year and multiple dry years was estimated to be about 95 percent. Consequently, the Domestic Water System projected dry year water supplies over the next 20 years were based on a ratio of 95 percent of the normal year supplies. The comparison of the projected water supply and consumer demand during multiple dry years is shown on Table 25. As shown on Table 25, the Domestic Water System water supply should meet consumer demand during multiple dry years for the next 20 years.

Section 6

DEMAND MANAGEMENT MEASURES

The City is not a member of the California Urban Water Conservation Council (CUWCC), therefore, not a signatory to the Memorandum of Understanding regarding Urban Water Conservation in California. Therefore, the City does not submit annual reports to the CUWCC for the City Domestic Water System. As a result, the City is complying with Section 6, Demand Management Measures (DMMs) as required by the Water Code.

In recent years the City and Cal Water have initiated several measures and programs to increase urban water conservation within and outside the City limits. The City is increasing urban water conservation through a combination of ordinances, municipal codes, the use of recycled water, and participation in regional water planning.

The City has established city-wide landscape standards to promote water use efficiency by encouraging landscape design to minimize watering and avoid unnecessary runoff of irrigation water. These standards are now implemented through a model water efficient landscape ordinance (Bakersfield Municipal Code, 17.04.358, amended 17.61). The City's city-wide Municipal Code prohibits water flowing across sidewalks (12.28.020), allowing irrigation water to overflow into gutters (12.28.030), and creates a duty to turnoff water before it flows into gutters (12.28.040). Wasting water under these city-wide municipal codes is enforceable by general penalty (provision 1.40.010). If wasting water is not corrected within five days, the City may discontinue service (14.04.300). The City has also adopted a city-wide Uniform Building Code, which contains water fixture efficiency measures for all new construction.

The City's city-wide water conservation measures were previously described in the 2005 UWMP update (City of Bakersfield 2007). The City implements many city-wide measures to conserve water and increase the public awareness of water conservation. One of the City's conservation measures is to provide detailed information on water use from their metered water system to customers to show inter-annual changes in consumption. Customers whose water use is metered tend to use less water than unmetered customers because the cost for metered water is adjusted based on water use. Less water used equals lower costs.

The City also closely monitors the Domestic Water System for leaks and water loss. Large landscaped city-owned areas are monitored with computer-controlled irrigation systems to minimize water use and identify leaks in the system. The City's Recreation and Parks Department, the single largest water user, continues to implement irrigation efficiency technology using Rainbird's Maxicom system. This

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master control system monitors weather conditions and water use patterns to provide for efficient park and median island irrigation as well as alerting staff to potential waterline breaks or sprinkler head breaks.

Recycled water is used within the City whenever possible to offset demands for surface and groundwater. Wastewater Treatment Plant No.3, within the City Domestic Water System service area, is producing approximately 1,120 acre-feet per year of disinfected tertiary treated water for recycled water use for irrigating purposes at the City's Sports Village (described in Section 4.5.2). When the Sports Village is completely built out, the anticipated irrigation demand of 2,240 acre-feet per year will be supplied 100 percent by recycled water.

The City also participates in the Kern County Integrated Regional Water Management Plan (IRWMP) and has an approved project that calls for metropolitan area water conservation. The City has received preliminary notification that grant funding will be awarded to provide additional water conservation measures within the metropolitan area in cooperation with other local water purveyors. In addition, the City received a letter from DWR regarding its implementation of the Urban Best Management Practices (BMPs) dated June 6, 2013 (see Appendix M). The DWR letter stated DWR reviewed the City's BMPs and found the BMPs were consistent with AB1420 and therefore, is eligible to receive water management grant or loan funds.

The City is committed to water conservation. It is the City's goal that in the near future water conservation practices available to Cal Water's customers are also available to customers within the City Domestic Water System's service area. The City directly and indirectly implements projects and demand management measures (DMM) that conserve water and increases the public's awareness of water conservation and other water-related issues. The City recognizes water conservation and DMMs are important to the reliability of water sources. As required by the Act, the City will address each of the 14 water DMMs (Section 10631 (f)) in the sections below, implemented directly by the City or indirectly through Cal Water.

6.1 DESCRIPTION OF DEMAND MANAGEMENT MEASURES

Section 10631

(f) Provide a description of the supplier's water demand management measures.

This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.

(B) Residential plumbing retrofit.

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- (C) System water audits, leak detection, and repair.*
 - (D) Metering with commodity rates for all new connections and retrofit of existing connections.*
 - (E) Large landscape conservation programs and incentives.*
 - (F) High-efficiency washing machine rebate programs.*
 - (G) Public information programs.*
 - (H) School education programs.*
 - (I) Conservation programs for commercial, industrial, and institutional accounts.*
 - (J) Wholesale agency programs.*
 - (K) Conservation pricing.*
 - (L) Water conservation coordinator.*
 - (M) Water waste prohibition.*
 - (N) Residential ultra-low-flush toilet replacement programs.*
- (2) A schedule of implementation for all water demand management measures proposed or described in the plan.*
 - (3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.*
 - (4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.*

**6.1.1 WATER SURVEY PROGRAMS FOR SINGLE-FAMILY RESIDENTIAL
AND MULTIFAMILY RESIDENTIAL CUSTOMERS[10631(F)(1)(A)]**

The City Domestic Water System is operated and maintained by Cal Water and 100 percent of its service connections are metered, exclusive of public fire protection services (public fire hydrants). Having all its service connections metered provides accurate detail to the City, and the customer, of quantities of water used year over year and allows both the City and its customers the opportunity to monitor water consumption data. The following sections are water survey programs for single-family residential and multifamily residential customers offered directly or indirectly by the City Domestic Water System.

6.1.1.1 RESIDENTIAL ASSISTANT PROGRAMS

Water Conservation Survey – Currently, the City's Domestic Water System residential customers are not eligible for the Residential Water Use Survey Program implemented by Cal Water's conservation department. However, Cal Water does meet with City customers if the customer calls regarding excessive water use at a residence or business location. The Cal Water representative will evaluate the problem and recommend a solution if the problem can be identified. Cal Water records all customer calls and site visits. The City plans to implement a formal Residential and Commercial

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Water Use Survey Program in Fiscal Year 2014/2015 when grant funds are awarded by DWR to the City. The cost of this program is known from previous analysis conducted by Cal Water.

Water Efficiency Inspections – Cal Water has computerized a billing system for the Domestic Water System that automatically audits customer’s water usage. The billing system monitors water consumption and flags unusual variations in consumption, Cal Water alerts the City about leaks in the Domestic Water System or inoperable meters. If problems exist, customers can request assistance from a Cal Water service representative. A Cal Water representative will visit the customer’s site, assess the water use, and make recommendations. If the Cal Water representative concludes the problem exists within the customer’s system, Cal Water will recommend alternatives the customer can implement to repair the problem. If the Cal Water representative concludes the problem exists within the City Domestic Water System’s service connection, the representative will make the necessary repairs. This program effectively helps identify/eliminate leaks within customer’s service connection and informs the customer of their water usage. The City plans to continue implementing this program. The water conservation savings is not available for this program. Funding and cost effective analyses are not allocated separately for this program, as it is included in a contract between Cal Water and the City of Bakersfield.

6.1.1.2 LANDSCAPE WATER SURVEY

Check irrigation systems and timers for maintenance and repairs needed – Cal Water currently performs this activity on the City Domestic Water System on an as needed basis and records all surveys conducted. The City plans to continue implementing this program. The water conservation savings is not available for this program. Funding is not allocated separately for this program, as it is included in a contract between Cal Water and the City of Bakersfield.

Develop customer irrigation schedule based on precipitation rate, local climate, irrigation system performance, and landscape conditions – The City’s Recreation and Parks Department is the biggest water user in the City Domestic Water System service area. The City’s Recreation and Parks Department is implementing a program installing smart irrigation controller systems at many of its park sites. These smart controllers will consider precipitation rate, climate, irrigation system performance, and landscape conditions. The City already has several parks with these systems and plans to have about 18 additional parks up and running with smart irrigation controllers by 2017. The City has been preliminarily awarded a grant to install the controllers at the 18 new locations within the City limits. Since all parks within the Domestic Water System service area are metered, the City Domestic Water System will compare water

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usage at the park sites before and after the program is implemented in order to evaluate the effectiveness of this program.

Provide information packet to customer; and provide customer with evaluation results and water savings recommendation – Cal Water is available to meet with Domestic Water System customers interested in water savings evaluation and recommendation. Based on these evaluations/recommendations, the customer's water usage decreases. This program is effective and works well in lowering customer's water usage. The water conservation savings is not available for this program. Funding and cost effective analysis are not allocated separately for this program, as it is included in a contract between Cal Water and the City of Bakersfield.

6.1.2 RESIDENTIAL PLUMBING RETROFIT [10631(F)(1)(B)]

The future grant that the City will receive includes funding for water conservation kits that contain water saving fixtures. The grant will also pay for vouchers and rebates for City Domestic Water System customers who purchase water saving fixtures and appliances. When the City receives the grant, the City would begin to implement the distribution of these water saving devices. It is estimated that this program would be implemented during summer 2014. The City will allocate \$30,000 as part of its fiscal year 2014-2015 budget for a rebate and voucher program. Cal Water currently implements a rebate/voucher program for its entire Bakersfield District water system, and has indicated that they could administrate the City's program for the City Domestic Water System.

In the future, the City Domestic Water System plans on distributing water conserving devices (including hose, nozzles and kitchen aerators) to customers that complete a request card with Cal Water, either at public outreach events or in Cal Water's Bakersfield District Office. Cal Water will then mail the items to the customer. The process will be the same as the process currently implemented by Cal Water for their entire Bakersfield District customers. Once implemented, this program will effectively contribute to the conservation of water by providing the City Domestic Water System's customers with alternate, water efficient plumbing retrofit devices.

In addition, the City of Bakersfield has adopted, by reference, the Uniform Building Code (UBC) sections relating to low water use plumbing fixtures installed in new construction. The City Domestic Water System periodically evaluates changes in the UBC and updates City Domestic Water System standards to reflect changes in the law. Assembly Bill No. 2355 has been incorporated into the City Building and Plumbing Codes Standards as required. A majority of the City Domestic Water System's 42,000 plus service connections were constructed in the last 25 years, and already

include/benefit from the latest in water plumbing technology, including low flow toilets and fixtures.

6.1.3 SYSTEM WATER AUDITS, LEAK DETECTION, AND REPAIR [10631(F)(1)(C)]

The goals of modern water loss control methods include both an increase in water use efficiency in the utility operations and proper economic valuation of water losses to support water loss control activities. In May 2009, the American Water Works Association (AWWA) published the 3rd Edition M36 Manual Water Audits and Loss Control Programs. This DMM will incorporate these new water loss management procedures and apply them.

6.1.3.1 CITY DOMESTIC WATER SYSTEM

The City Domestic Water System has incorporated procedures and practices to achieve water conservation and manage its water supply. Extensive records on consumption, production, and use histories are maintained. In addition, the City Domestic Water System is 100 percent metered, enabling the customer to receive information on their water use, and encourage them to adjust their consumption accordingly. Within the City Domestic Water System's service area, a leak detection and repair program is implemented through Cal Water and by the City Domestic Water System directly.

Cal Water, on behalf of the City Domestic Water System, repairs leaks within the City Domestic Water System's distribution system on a routine basis. In addition, the City Domestic Water System has a continuing program of meter change-outs to systematically replace older meters. A sampling of the old meters are then tested for accuracy to evaluate the unaccounted for losses in the system.

The City Domestic Water System closely monitors its water production and consumption to calculate the amount of "unaccountable water". Water loss can result from activities such as the installation of new water mains, difference in accuracy of meters, discharges from water facilities or water connections, street cleaning, and fire department training. If the City Domestic Water System notices any abnormally high water use, Cal Water staff will go out to identify the problem and make any necessary repairs. This program is effective in maintaining distribution systems that deliver water effectively and efficiently with the least amount of water loss. The amount of water conserved through the City Domestic Water System's program can be estimated by evaluating the average amount of "unaccounted for water". It should be noted the

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amount of City Domestic Water System "unaccounted for water" does not change significantly from year to year and is typically about 7 percent.

In addition, the City Domestic Water System has standards for water main installations within its system. These standards require pressure and leak testing before acceptance by the City Domestic Water System. The standards for pressure and leak testing are patterned after the American Water Works Association, Specification C600 and Specification C603-78. Any new water system installations are constructed under strict standards for pressure and leak detection.

The programs discussed are effective and water efficient in audits, leak detection and repairs. The water conservation savings is not available for the programs. Funding and cost effective analysis is not allocated separately for this program, as it is included in a contract between Cal Water and the City of Bakersfield.

6.1.3.2 CITY WHOLESALE WATER SYSTEM

All water diverted via the Kern River channel, or lined or unlined canals is measured by City staff. Many of the City's water transportation facilities are unlined and any water that percolates or evaporates is considered "loss" even though it is of benefit to the underlying aquifer when the percolated water is recharged. Kern River water is delivered to the City Domestic System and Cal Water by way of unlined channels and canals and water that percolates through this system benefits the groundwater supply. Detailed records of these losses are tracked and recorded on a daily basis. Intake structures and pipelines that deliver Kern River water to Cal Water's treatment plants are owned and operated by Cal Water. The City owns the 2,800 Acres recharge facility Well Field and has a distribution system that is also operated by Cal Water through contract. Water from these wells is measured at each wellhead before it is discharged into a pipeline which then discharges the water to a 10 million gallon storage tank. The water is then measured again and boosted to the distribution system. The water conservation savings is not available for the program. The cost benefit analysis is not available for this program.

6.1.4 METERING WITH COMMODITY RATES FOR ALL NEW CONNECTIONS AND RETROFIT OF EXISTING CONNECTIONS [10631(F)(1)(D)]

For consistency with California Water Code (Section 525b), this DMM refers to potable water systems. A water meter is defined as a device that measures the actual volume of water delivered to an account in conformance with the guidelines of the

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American Water Works Association. Implementation shall consist of at least the following actions:

- 1) The City requires meters for all new service connections on the City Domestic Water System, excluding fire services. All wholesale water sold to Cal Water is metered prior to and after treatment at the two water treatment plants. All wholesale water diverted for agricultural purposes and sold is measured manually using overpour or pressure methods.
- 2) Retail customers' meters are read monthly by volume of use and billed monthly. Cal Water is invoiced monthly for wholesale water delivered to their treatment plants. Kern River Canal & Irrigation Company customers that purchase Kern River water off the KRC&I laterals are billed monthly for water delivered.
 - a) All retail and wholesale customers are billed monthly.
- 3) The City Domestic Water System prepares a written plan, policy or program that includes:
 - a) Cal Water keeps an inventory of all meters on the retail water system. This inventory includes size, type, year installed, customer class served and manufacturer's warranty accuracy when new. Water meters are used to measure wholesale water delivered to Cal Water treatment plants. Manual gates are used to divert water to the City's wholesale agricultural customers and measurements are taken manually using overpour or pressure methods and flow meters.
 - b) Cal Water keeps a schedule of meter testing and repair by size, type and customer class.
- 4) It is City policy to have dedicated domestic, landscape, and fire service lines for commercial accounts.

6.1.4.1 CITY DOMESTIC WATER SYSTEM

The City Domestic Water System has a complete metered system for all customer sectors exclusive of public fire protection services and public fire hydrants. The City Domestic Water System has separate meters for each unit of single-family residential. Commercial and all institutional/governmental facilities have separate domestic, irrigation and fire services. Metered service connections provide accurate detail for the City Domestic Water System, and the customers, of the quantities of water used in particular situations, allowing both City Domestic Water System and customers to be aware of amounts of water consumed. The metering method allows the customer to be rewarded for practicing water conservation methods, through a lower monthly water bill. It is accepted industry philosophy that metering promotes conservation.

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The Public Utilities Commission of the State of California, General Order No.103 encourages metered volume sales unless specific authorization has been granted otherwise. Although not under the CPUC, the City Water System has adopted service standards patterned after General Order No.103. Currently the City Domestic Water System's water rates are on a basic system with fixed fees that vary with the size of the connection, and an additional commodity rate based on actual amount of water used. A copy of the City Domestic Water System's current rate schedule is located in Appendix K. A billing unit for the City Domestic Water System is equivalent to one hundred cubic feet, which is commonly referred to as HCF or CCF. The water conservation savings is not available for the program. The cost benefit analysis is not available for this program.

6.1.4.2 CITY WHOLESALE WATER SYSTEM

The City Wholesale Water System meters water sales to the City Domestic Water System and to Cal Water. The City Wholesale System has a rate of \$110 per acre-foot for irrigation or groundwater banking. A copy of the City Wholesale System's Rate Schedule is included as Appendix K. The water conservation savings is not available for the program. The cost benefit analysis is not available for this program.

6.1.5 LARGE LANDSCAPE CONSERVATION PROGRAMS AND INCENTIVES [10631(F)(1)(E)]

The City Domestic Water System does not directly implement a large landscape conservation program for landscaped areas within the City of Bakersfield. However, the majority of large landscape areas within the City Water System's service area are maintained by the City of Bakersfield Recreation and Parks Department. This department evaluates and reads irrigation meters seasonally to avoid water waste. As discussed previously in this Section, the City is implementing a program and installing computerized controlled irrigation systems in parks to water only when needed. In addition, the City of Bakersfield plants drought tolerant trees and shrubs in its parks. These programs help reduce the amount of water needed for outdoor water use. The water conservation savings is not available for the program. The cost benefit analysis is not available for this program.

In addition, the City Domestic Water System informs its customers about landscape water conservation. The City Domestic Water System has included "envelope stuffers" on water conservation and water saving tips in customer's monthly bills. Special emphasis for public information has been placed on outdoor water use especially during the hot and dry summer months. The City Domestic Water System

also has a continual policy of meeting with a customer when there is a display of outside waste of water noticed. The City Water System adopted water waste prohibitions and ordinances also prohibit the waste of water for outdoor use. The water conservation savings is not available for the program. The cost benefit analysis is not available for this program.

6.1.6 HIGH-EFFICIENCY WASHING MACHINE REBATE PROGRAMS [10631(F)(1)(F)]

The City Domestic Water System does not currently offer incentives for high-efficiency clothes washing machines (HECWs). The City has applied for a grant that would allow the City to offer some rebates and vouchers for HECW to customers. The City expects to implement HECW rebate programs in the next three (3) years.

6.1.7 PUBLIC INFORMATION PROGRAMS [10631(F)(1)(G)]

The City Domestic Water System has implemented public information programs in the past directly through City Domestic Water System sponsored events and through Cal Water's available programs. The City Domestic Water System's public information programs include the following:

- On the City's website, there is a "Save Our Water" link, which takes users to the www.saveourh2o.org website, where users can find information on water conservation.
- The City has budgeted for sending out bill stuffers that educate and remind customers to conserve water.
- Customer's bills show a detailed summary of water use for the current month and the bills give a consumption history for the previous 12 months.
- When grant funds become available, brochures and water saving kits would be available at business offices and may be distributed to schools and government offices.
- Public releases on water and water conservation have been distributed to the media.
- The City Domestic Water System participates in "Water Awareness Month" each May, in conjunction with the Water Association of Kern County and the American Water Works Association.
- The City participates with ID4 in school educational programs as discussed in the following Section 6.1.8.

The water conservation savings is not available for the program. The cost benefit analysis is not available for this program.

6.1.8 SCHOOL EDUCATION PROGRAMS [10631(F)(1)(H)]

The City Domestic Water System has implemented school education programs directly and in cooperation with ID4:

- The City Domestic Water System participates in “Water Awareness Month” each May. This program promotes water conservation and provides displays for local government offices and libraries to set-up.
- ID4 provides programs including classroom education, water facility tours, and radio and television ads. These programs are funded from general tax revenues derived in part from customers of the City Domestic Water System’s water system. The water conservation savings is not available for the program. The cost benefit analysis is not available for this program.

6.1.9 CONSERVATION PROGRAMS FOR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL ACCOUNTS [10631(F)(1)(I)]

A conservation program for commercial, industrial and institutional (CII) customers is implemented through Cal Water's operation and maintenance of the City Domestic Water System's water system. All CII customers within the City Domestic Water System's service area are metered and Cal Water has identified and ranked these customers according to use (commercial, industrial or institutional). If there is a leak or problem in the City Domestic Water System's distribution system, the computerized billing system will alert the City Domestic Water System by flagging all variations in water use. Also, based on customer requests, Cal Water will check for leaks. Cal Water provides information for CII customers in their water bills on water use. In addition, the City of Bakersfield has adopted the California Administrative Code, Title 24 (State Building Standards Code) relating to Energy Conservation in new building construction. The code specifically relates to energy conservation, but some of the provisions apply to the use of low-flow showerheads, lavatory faucets and sink faucets by CII customers. The Water Board of the City recently directed staff to focus the City’s water conservation efforts on the commercial, industrial, and institutional water users. The water conservation savings is not available for the program. The cost benefit analysis is not available for this program.

6.1.10 WHOLESALE AGENCY PROGRAMS [10631(F)(1)(J)]

The City Wholesale Water System's Wholesale Agency Programs include metering and commodity rates. More information is discussed in Section 6.1.4.2 under "Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections." The evaluation of the effectiveness and the estimates of existing conservation savings on water use and the effect of such savings are not readily available due to the fact that the wholesale system has always been metered with commodity rates.

6.1.11 CONSERVATION PRICING [10631(F)(1)(K)]

6.1.11.1 CITY DOMESTIC WATER SYSTEM

The City Domestic Water System water rates are not set up in a tiered structured where customers who use less water, pay less. Instead, the City Domestic Water System's water rate schedule uses two components, a monthly service charge based upon the size of the customer's connection and a commodity rate based on actual water use. A billing unit for the commodity rate is equivalent to one hundred cubic feet which is commonly referred to as HCF or CCF. A customer in the City Domestic Water System limits that has a one-inch connection is charged \$14.55 as a monthly service charge plus \$0.91/CCF, whereas a customer in the unincorporated areas with a one-inch connection is charged \$18.92 as a monthly service charge plus \$1.14/CCF. A customer in the City Domestic Water System limits with a two-inch connection is charged \$30.22 as a monthly service charge plus \$0.91/CCF, whereas a customer in the unincorporated areas with a two-inch connection is charged \$39.29 charge plus \$1.14/CCF. A copy of the City Domestic Water System's current rate schedule is located in Appendix K. The City's Domestic Water System water rate structure promotes water conservation. According to the CUWCC's Memorandum of Understanding Regarding Urban Water Conservation in California, a retail water purveyor's volumetric rate shall be deemed sufficiently consistent with the definition of conservation pricing. The City's Domestic Water System water rate structure for its domestic water users meets this criterion.

6.1.11.2 CITY WHOLESALE WATER SYSTEM

The City Wholesale Water System provides water to the City Domestic Water System and to Cal Water at the City Wholesale Water System's cost. In doing so, there

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is not an unnecessary financial burden on the City of Bakersfield residents. Conservation pricing is practiced by both the City Domestic Water System and Cal Water. These retail suppliers encourage customers to practice water conservation efforts at the retail level. More information on Cal Water's water conservation coordinator program can be found in its 2010 UWMP, and is incorporated by reference. The water conservation savings is not available for the program. The cost benefit analysis is not available for this program.

6.1.12 WATER CONSERVATION COORDINATOR [10631(F)(1)(L)]

6.1.12.1 CITY DOMESTIC WATER SYSTEM

In accordance with the operations and maintenance agreement between the City of Bakersfield and Cal Water for the City Domestic Water System, Cal Water implements a Water Conservation or Waste of Water program for the City. This program is executed by Cal Water under the direction of the Cal Water's Water Conservation Coordinator of behalf of the City of Bakersfield. Cal Water's Water Conservation Coordinator is not employed directly by the City Domestic Water System. The water conservation oversees all available conservation programs that are available to the City Domestic Water System customers through Cal Water. The current water conservation coordinator develops and implements programs within the City Domestic Water System's service area that meet the CUWCC BMP (Best Management Practices) guidelines, which coincide with many of the DMMs. For an additional cost, the City may pay Cal Water to implement some DMMs that are not currently implemented. The City has received preliminary award of grant funding to implement more DMMs and will use Cal Water's water conservation coordinator to facilitate the program. The water conservation savings is not available for the program. The cost benefit analysis is not available for this program.

6.1.12.2 CITY WHOLESALE WATER SYSTEM

The City Wholesale Water System does not directly implement a water conservation coordinator due to not having direct retail customers; however, as discussed in the previous section, Cal Water employs a water conservation coordinator who also oversees conservation programs that are available in the City Domestic Water System. The water conservation savings is not available for the program. The cost benefit analysis is not available for this program.

6.1.13 WATER WASTE PROHIBITION [10631(F)(1)(M)]

The City of Bakersfield has adopted various Municipal Code Ordinances relating to water wastage. The ordinances apply to all water utilities who supply water within the incorporated City of Bakersfield boundaries, as well as the City Domestic Water System. The water conservation savings is not available for the program. The cost benefit analysis is not available for this program. A list of these ordinances is provided and described below:

- 12.28.020 Water on sidewalks

Any person owning or having in his possession any water pipe, drain or hose and who permits the water there from to run across any sidewalk, public street or alleyway, so as to injure the same or obstruct or interfere with the free travel thereon, or who permits said water to run into or upon the surface of the street, shall be punished as set forth in general penalty provision Section 1.40.010, excepting, however, that it is not unlawful to use a reasonable amount of water to clean any sidewalk or portion thereof within the city. (Ord. 3434 § 2, 1992: prior code§ 10.07.070)

- 12.28.030 Allowing irrigation water to overflow into gutters

It is unlawful for the owner, agent or tenant of any dwelling house, apartment house, flat building or any building or premises in the city where water is used to irrigate or sprinkle the lawn or plants on or about said premises to allow the water so being used to run, or for such person to sprinkle said premises until the water floods the parking space between the sidewalk and the curb and overflows into the gutter and street. (Prior code § 8.56.010)

- 12.28.040 Duty to turn off water before it overflows into gutters

It shall be the duty of all owners, agents or tenants of dwelling houses, apartment houses, flat buildings and all such premises where water is used to irrigate or sprinkle the lawn and plants on or about said premises, to shut or turn off all water before the same runs over the curb in front of said premises and into the gutter and street. (Prior code§ 8.56.020)

- 14.04.300 Service connections, meters and customers' facilities - Water wastage

Where negligent or wasteful use of water exists on a customer's premises, seriously affecting the general service, the city may discontinue the service if such conditions are not corrected within five days after giving customer written notice of intent to do so. (Prior code § 1.46.150(g))

**6.1.14 RESIDENTIAL ULTRA-LOW FLUSH TOILET REPLACEMENT
PROGRAMS [10631(F)(1)(N)]**

The City Domestic Water System does not implement a residential ULFT program. The current code requires low flow toilets be installed in new houses. Adoption of the new Building Code in 2014 will require that existing houses comply with the low flow toilet requirements. The water conservation savings is not available for the program. The cost benefit analysis is not available for this program.

In addition, the City of Bakersfield has adopted, by reference, the Uniform Building Code sections relating to low water use plumbing fixtures installed in new construction. The City Domestic Water System periodically evaluates changes in the Code and updates City Domestic Water System standards to reflect changes in the law. The water conservation savings is not available for the program. The cost benefit analysis is not available for this program.

Section 7
COMPLETED URBAN WATER MANAGEMENT CHECKLIST

A completed Plan checklist, with page information indicating where the required element can be found within the Plan, is provided in Appendix N.

**TABLE 1
COORDINATION WITH APPROPRIATE AGENCIES**

Agencies	Participated in Developing the Plan	Commented on the Draft	Attended Public Meetings	Was Contacted for Assistance	Was Sent a Copy of the Draft Plan	Was Sent a Notice of Intent to Adopt	Not Involved/ No Information
1. City of Bakersfield City Clerk					X	X	
2. County of Kern					X	X	
3. California Water Service Company	X			X	X	X	
4. Casa Loma Water Company					X	X	
5. East Niles Community Services District					X	X	
6. Greenfield County Water District					X	X	
7. North of the River Municipal Water District					X	X	
8. Oildale Mutual Water Company					X	X	
9. Vaughn Water Company, Inc.				X	X	X	
10. Rosedale Rio Bravo Water Storage District		X			X	X	
11. Kern County Water Agency Improvement District No. 4					X	X	

Table 2
City of Bakersfield
Normal Temperature
(In °F)

	January	February	March	April	May	June	July	August	September	October	November	December
Maximum	56.3	63.5	68.3	75.7	83.8	91.6	96.9	95.4	89.4	79.5	65.3	56.1
Mimimum	39.3	43.0	46.2	49.6	56.8	63.7	69.2	68.4	63.9	54.9	44.2	38.2
Average	47.8	53.3	57.3	62.7	70.3	77.7	83.1	81.9	76.7	67.2	54.8	47.2

*Average temperature is according to www.wrh.noaa.gov

Table 3
City of Bakersfield
Average Monthly Precipitation and Evapotranspiration
(In Inches)

	January	February	March	April	May	June	July	August	September	October	November	December
Rainfall	1.15	1.18	1.38	0.41	0.2	0.08	0	0.05	0.11	0.27	0.56	0.73
Evapotranspiration	1.9	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.9

**TABLE 4
CALCULATION OF BASELINE DAILY PER CAPITA WATER USE**

Calendar Year	Water Use		Population of City of Bakersfield Domestic Water Service Area ⁽²⁾	Per Capita Water Use (gallons per capita per day)		
	Recorded Total Water Use (acre-feet) ⁽¹⁾	Calculated Gross Water Use (gallons per day) ⁽¹⁾		Calculated Daily Per Capita Water	Average Per Capita Water Use	
					10-Year Continuous ⁽³⁾	5-Year Continuous ⁽⁴⁾
1995	23,271	20,773,246	64,400	323		
1996	24,948	22,270,220	67,400	330		
1997	24,939	22,262,275	70,500	316		
1998	24,361	21,746,671	74,900	290		
1999	30,598	27,314,326	79,300	344		
2000	27,406	24,464,414	83,800	292		
2001	33,629	30,020,134	88,600	339		
2002	33,706	30,089,093	93,800	321		
2003	36,367	32,464,501	99,300	327		
2004	37,287	33,285,563	106,100	314	320	
2005	35,218	31,438,801	113,600	277	315	
2006	36,713	32,773,039	120,800	271	309	
2007	42,451	37,895,612	123,100	308	308	299
2008	47,346	42,264,994	126,000	335	313	301
2009	49,586	44,264,619	128,400	345	313	307
2010	43,211	38,573,408	130,600	295	313	311
10-Year Baseline Daily Per Capita Water Use =				<u>320</u>	gallons per capita per day. ⁽⁵⁾	
5-Year Baseline Daily Per Capita Water Use =				<u>311</u>	gallons per capita per day. ⁽⁶⁾	

⁽¹⁾ See Table 5

⁽²⁾ Source: US Census Bureau for 2000 and 2010. The other population estimates were developed using growth estimates based on new single-family residential connections. See Section 2.

⁽³⁾ Average per capita water use for first base period of 10-year continuous, ending no earlier than December 31, 2004 and no later than December 31, 2010.

⁽⁴⁾ Average per capita water use for second base period of 5-year continuous, ending no earlier than December 31, 2007 and no later than December 31, 2010.

⁽⁵⁾ Highest value calculated for a 10-year continuous period between 1995 and 2010.

⁽⁶⁾ Highest value calculated for a 5-year continuous period between 2003 and 2010.

**TABLE 5
PAST, CURRENT, AND PROJECTED METERED ACCOUNTS IN CITY'S DOMESTIC WATER SERVICE AREA**

Year	Description	Water Use Sectors								System Losses	Total ⁽¹⁾
		Single Family	Multi-Family	Commercial	Industrial	Public	Fire Service	Other	Sub Total		
2005	No. of Metered Accounts	32,297	289	1,428	19	437	--	--	34,470	598	34,470
	Metered Deliveries (AF)	25,361	1,522	5,456	773	2,108	0	0	35,220		35,819
	No. of Unmetered Accounts	--	--	--	--	--	377	96	473		473
2010	No. of Metered Accounts	37,125	374	1,839	18	537	--	46	39,939	3,100	39,939
	Metered Deliveries (AF)	27,521	1,421	6,734	457	3,496	0	482	40,110		43,210
	No. of Unmetered Accounts	--	--	--	--	--	496	--	496		496
2015	No. of Metered Accounts	39,193	395	1,941	19	567	--	49	42,164	3,295	42,164
	Metered Deliveries (AF)	29,236	1,510	7,153	486	3,714	0	513	42,610		45,906
	No. of Unmetered Accounts	--	--	--	--	--	524	--	524		524
2020	No. of Metered Accounts	42,660	430	2,113	21	617	--	53	45,894	3,190	45,894
	Metered Deliveries (AF)	28,289	1,461	6,922	470	3,593	0	494	41,228		44,419
	No. of Unmetered Accounts	--	--	--	--	--	570	--	570		570
2025	No. of Metered Accounts	46,641	470	2,310	23	675	--	58	50,176	3,488	50,176
	Metered Deliveries (AF)	30,937	1,597	7,570	514	3,930	--	541	45,089		48,577
	No. of Unmetered Accounts	--	--	--	--	--	--	--	0		0
2030	No. of Metered Accounts	50,618	510	2,507	25	732	--	63	54,454	3,509	54,454
	Metered Deliveries (AF)	33,776	1,744	8,264	561	4,290	--	591	49,227		52,735
	No. of Unmetered Accounts	--	--	--	--	--	--	--	0		0

⁽¹⁾ See Table 4 for 2005 and 2010; Projected domestic water system customer use includes Water Conservation based on Urban Water Use Target and populations, as shown in Table 6.

**TABLE 6
PAST, CURRENT AND PROJECTED CUSTOMER WATER USE
IN CITY'S DOMESTIC WATER SERVICE AREA**

Year	Population of City of Bakersfield Domestic Water Service Area	Urban Water Use Target ⁽¹⁾ (GPCD)	Total Demands (acre-feet) ⁽²⁾
2005	113,600		35,819
2010	130,600		43,210
2015	142,300	288	45,906
2020	154,900	256	44,419
2025	169,400	256	48,577
2030	183,900	256	52,735

⁽¹⁾ See Section 3.1 for urban water use target and interim urban water use

⁽²⁾ See Table 4 for 2005 to 2010; Projected retail customer water use based on Urban Water Use Target and populations.

TABLE 7
TOTAL ACTUAL AND PROJECTED WHOLESALE WATER USE OF KERN RIVER WATER (AVERAGE WATER YEARS)
(ACRE-FEET)

	2005	2010	2015	2020	2025	2030
Retail Contractors, Ag/Basic Contractors and Other						
County of Kern	1,179	1,152	1,200	1,200	1,200	1,200
Kern Valley Golf Course	176	173	175	175	175	175
California Water Service Company	13,783	21,192	32,700	34,200	59,400	59,400
Olcese Water District	750	632	1,000	1,000	1,000	1,000
California Water Service Company at Kernville	282	275	275	275	275	275
North Kern WSD (Basic Contract)	20,000	20,000	-	-	-	-
North Kern WSD (Miscellaneous)	137	518	-	-	-	-
Cawelo WD (Basic Contract)	32,000	31,251	-	-	-	-
Cawelo WD (Miscellaneous)	3,431	-	-	-	-	-
Kern-Tulare WD (Basic Contract)	23,700	26,825	-	-	-	-
Kern-Tulare WD (Miscellaneous)	1,044	-	-	-	-	-
Rag Gultch WD (Basic Contract)	3,550	-	-	-	-	-
Rag Gultch WD (Miscellaneous)	192	-	-	-	-	-
Rosedale RBWSD (Basic Contract)	20,000	14,848	10,000	10,000	10,000	10,000
Rosedale RBWSD (Miscellaneous)	28,725	54	-	-	-	-
Rosedale Ranch ID	9,140	3,219	-	-	-	-
Buena Vista WSD	2,000	-	-	-	-	-
West Kern Water District	10,000	-	-	-	-	-
County of Kern (BVARA)	4,153	-	-	-	-	-
Kern Delta Water District (Miscellaneous)	6	-	-	-	-	-
Kern River Canal & Irrigating Co. (KRC&I)	-	2,539	-	-	-	-
KRC&I - Irrigation Deliveries	4,665	2,955	5,300	5,300	5,300	5,300
KRC&I - North Garden Treatment Plant (Cal Water)	-	5,910	-	-	-	-
KRC&I - North Kern WSD at Seventh Standard Line	9,302	8,135	3,500	3,500	3,500	3,500
KRC&I - Cawelo WD at Pump Station "B"	-	-	-	-	-	-
Glen Grundeis	2	-	2	2	2	2
Michael Harvick	2	-	2	2	2	2
Guinn Construction	86	-	-	-	-	-
Sub-Total	188,305	139,678	54,154	55,654	80,854	80,854
Groundwater Recharge	54,960	66,224	73,596	72,096	46,896	46,896
System Losses	10,597	8,593	7,250	7,250	7,250	7,250
Total	253,862	214,495	135,000	135,000	135,000	135,000

TABLE 8
PROJECTED LOWER INCOME WATER CUSTOMER DEMANDS
IN CITY SERVICE AREA
(ACRE-FEET)

Year	Single Family Residential	Multi-family Residential	Total Low Income Water Customer Demands
2015	12,137	1,155	13,292
2020	10,973	1,046	12,019
2025	11,174	1,066	12,240
2030	11,426	1,088	12,515

TABLE 9
RETAIL AGENCY CUSTOMER DEMAND PROJECTIONS
PROVIDED TO WHOLESALERS
(ACRE-FEET)

Year	Kern County Water Agency Improvement District No. 4	Cal Water North Garden Treatment Plant
2010	3,446	1,788
2015	6,500	3,000
2020	6,500	4,500
2025	6,500	4,500
2030	6,500	4,500

TABLE 10
CURRENT AND PROJECTED RETAIL WATER SUPPLIES (NORMAL YEAR)
IN CITY'S DOMESTIC WATER SERVICE AREA
(ACRE-FEET)

Year	Groundwater Supplies	Cal Water	Kern County Water Agency	Total
	Kern County Basin	North Garden Treatment Plant	Improvement District No. 4	
2010	37,976	1,788	3,446	43,210
2015	36,406	3,000	6,500	45,906
2020	33,419	4,500	6,500	44,419
2025	37,577	4,500	6,500	48,577
2030	41,735	4,500	6,500	52,735

**TABLE 11
CURRENT AND PROJECTED
KERN RIVER WATER SUPPLIES
(NORMAL YEAR)
(ACRE-FEET)**

Year	Surface Water
	Kern River
2010	219,754
2015	135,000
2020	135,000
2025	135,000
2030	135,000

⁽¹⁾ See Table 7 for total projected normal year demands

TABLE 12
HISTORICAL, CURRENT AND PROJECTED VOLUME OF
GROUNDWATER PUMPED FROM KERN COUNTY SUB-BASIN
IN CITY'S DOMESTIC WATER SERVICE AREA
(ACRE-FEET)

Year	Groundwater Pumped
2006	36,713
2007	42,451
2008	45,517
2009	45,775
2010	37,976
2015	36,406
2020	33,419
2025	37,577
2030	41,735

TABLE 13
WASTEWATER COLLECTION AND TREATMENT
 (ACRE-FEET)

Type of Wastewater	2005	2010	2015	2020	2025	2030
Wastewater Collected and Treated in Service Area	16,951	19,765	20,998	20,318	22,211	24,122
Volume that Meets Recycled Water Standard	16,951	19,765	20,998	20,318	22,211	24,122

TABLE 14
CURRENT AND PROJECTED RECYCLED WATER USE
 (ACRE-FEET)

Description	2010	2015	2020	2025	2030
WWTP 3 Tertiary Water to Sports Village	1,120	1,120	2,240	2,240	2,240
WWTP 3 Secondary Water Recharged in Groundwater Basin	4,000	7,878	6,078	7,971	9,882
Export to LA Farm (outside of Service Area)	12,000	12,000	12,000	12,000	12,000
Total	17,120	20,998	20,318	22,211	24,122

**TABLE 15
MANDATORY PROHIBITIONS**

Prohibition	Stage When Prohibition becomes Mandatory
Discontinue system flushing except for water quality issues	2
Request voluntary customer reductions/Public announcements	2
Using potable water for street washing	3
Discontinue use of potable water for City lakes, spray parks, or City swimming pools	3
Request mandatory customer reductions	3
Implement drought ordinance	3
Monitor water use for compliance with reduction targets	4

TABLE 16
CONSUMPTION REDUCTION METHODS

Prohibition	Stage When Prohibition becomes Mandatory	Projected Reduction (%)
Discontinue system flushing except for water quality issues	2	11 to 20
Request voluntary customer reductions/Public announcements	2	11 to 20
Using potable water for street washing	3	21 to 35
Discontinue use of potable water for City lakes, spray parks, or City swimming pools	3	21 to 35
Request mandatory customer reductions	3	21 to 35
Implement drought ordinance	3	21 to 35
Monitor water use for compliance with reduction targets	4	36 to 50

TABLE 17
SUPPLY RELIABILITY IN CITY'S DOMESTIC WATER SERVICE AREA
BASED ON HISTORICAL CONDITIONS
(ACRE-FEET)

	Average/ Normal Year	Single Dry Year	Multiple Dry Years		
			Year 1	Year 2	Year 3
North Garden Water Treatment Plant	4,500	2,000	2,000	2,000	2,000
KCWA ID4	6,500	6,500	6,500	6,500	6,500
Groundwater Supply from Wells	32,210	32,550	32,550	32,550	32,550
Total Retail Water Supply	43,210	41,050	41,050	41,050	41,050
Percent of Normal Year Supply		95.0%	95.0%	95.0%	95.0%

TABLE 18
RATIONING STAGES TO ADDRESS WATER SUPPLY SHORTAGES

Stage No.	Water Supply Conditions	% Shortage
1	Variations in precipitation and mild droughts that may last only a year or two	0 to 10
2	Prolonged water shortages of moderate severity such as those caused by a multi-year drought	11 to 20
3	Most severe multi-year droughts, major failures in water production and distribution facilities, or by water concerns, especially in smaller isolated systems	21 to 35
4	An exceptional crisis that could be caused only by the most severe multi-year drought, natural disaster, or catastrophic failure of major water supply infrastructure. Impacts to public health and safety would be significant.	36 to 50

**TABLE 19
 PROJECTED ANNUAL DELIVERY SCHEDULES FOR CAL WATER
 NORTHEAST BAKERSFIELD TREATMENT PLANT
 FOR NORMAL, CRITICALLY DRY AND MAXIMUM DELIVERIES
 (IN ACRE-FEET)**

Year	Plant Capacity (MGD)	Normal Delivery	Critically Dry Delivery	Maximum Delivery
2009	20	2,280	4,500	22,800
2012	40	29,500	10,525	37,200
2017	60	39,600	13,825	54,000

**TABLE 20
 PROJECTED ANNUAL DELIVERY SCHEDULES FOR
 CAL WATER NORTH GARDEN TREATMENT PLANT
 FOR NORMAL, CRITICALLY DRY AND MAXIMUM DELIVERIES TO CITY OF BAKERSFIELD
 (IN ACRE-FEET)**

Year	Plant Capacity (MGD)⁽¹⁾	Normal Delivery to City	Critically Dry Delivery to City	Maximum Delivery to City
2010	4	4,500	2,000	4,500
2015	4	4,500	2,000	4,500
2020	4	4,500	2,000	4,500

⁽¹⁾ The total Plant Capacity is 8 MGD. However, the total capacity allocated to the City of Bakersfield is 4 MGD.

Table 21
Reduction Goals for Cal Water Northeast Water Treatment Plant
(Based on the delivery schedule on Table 19)

Year	Normal Delivery (AF)	Critically Dry Delivery (AF)	Reduction Goal
2002	12,000	4,500	62.5%
2009	22,800	4,500	80.3%
2012	29,500	10,525	65.3%
2017	39,600	13,825	65.1%

TABLE 22
SUPPLY RELIABILITY - THREE-YEAR ESTIMATED MINIMUM (GROUNDWATER SUPPLY)
 (ACRE-FEET PER YEAR)

Sources of Supply	Normal Year ⁽¹⁾	Multiple Dry Years		
		Year 1 ⁽²⁾	Year 2 ⁽²⁾	Year 3 ⁽²⁾
Total Retail Water Supply	32,210	32,550	32,550	32,550

⁽¹⁾ See Table 17

⁽²⁾ See Table 17 (Years 1, 2, and 3 based on 95% of Normal Year)

TABLE 23
PROJECTED NORMAL WATER YEAR SUPPLY AND DEMAND COMPARISON
 (ACRE-FEET)

	2015	2020	2025	2030
<u>Projected Normal Water Year Supply in City Service Area)</u>				
Total Supply ⁽¹⁾	45,906	44,419	48,577	52,735
<u>Projected Normal Water Year Customer Demand</u>				
Demand ⁽²⁾	45,906	44,419	48,577	52,735
<u>Projected Normal Year Supply and Customer Demand Comparison</u>				
Difference (Supply minus Demand)	0	0	0	0

⁽¹⁾ See Table 10.

⁽²⁾ See Table 6.

TABLE 24
PROJECTED SINGLE-DRY WATER YEAR SUPPLY AND DEMAND COMPARISON
(ACRE-FEET)

	2015	2020	2025	2030
<u>Projected Single-Dry Year Water Supply (in City Service Area)</u>				
Total Supply ⁽¹⁾	43,611	42,198	46,148	50,098
<u>Projected Single-Dry Year Water Customer Demand</u>				
Demand ⁽²⁾	43,611	42,198	46,148	50,098
<u>Projected Single-Dry Year Water Supply and Customer Demand Comparison</u>				
Difference (Supply minus Demand)	0	0	0	0

⁽¹⁾ 95% of Normal Water Year. See Tables 23.

⁽²⁾ 95% of Normal Water Year. See Tables 23.

TABLE 25
PROJECTED MULTIPLE-DRY YEAR WATER SUPPLY AND DEMAND COMPARISON
 (ACRE-FEET)

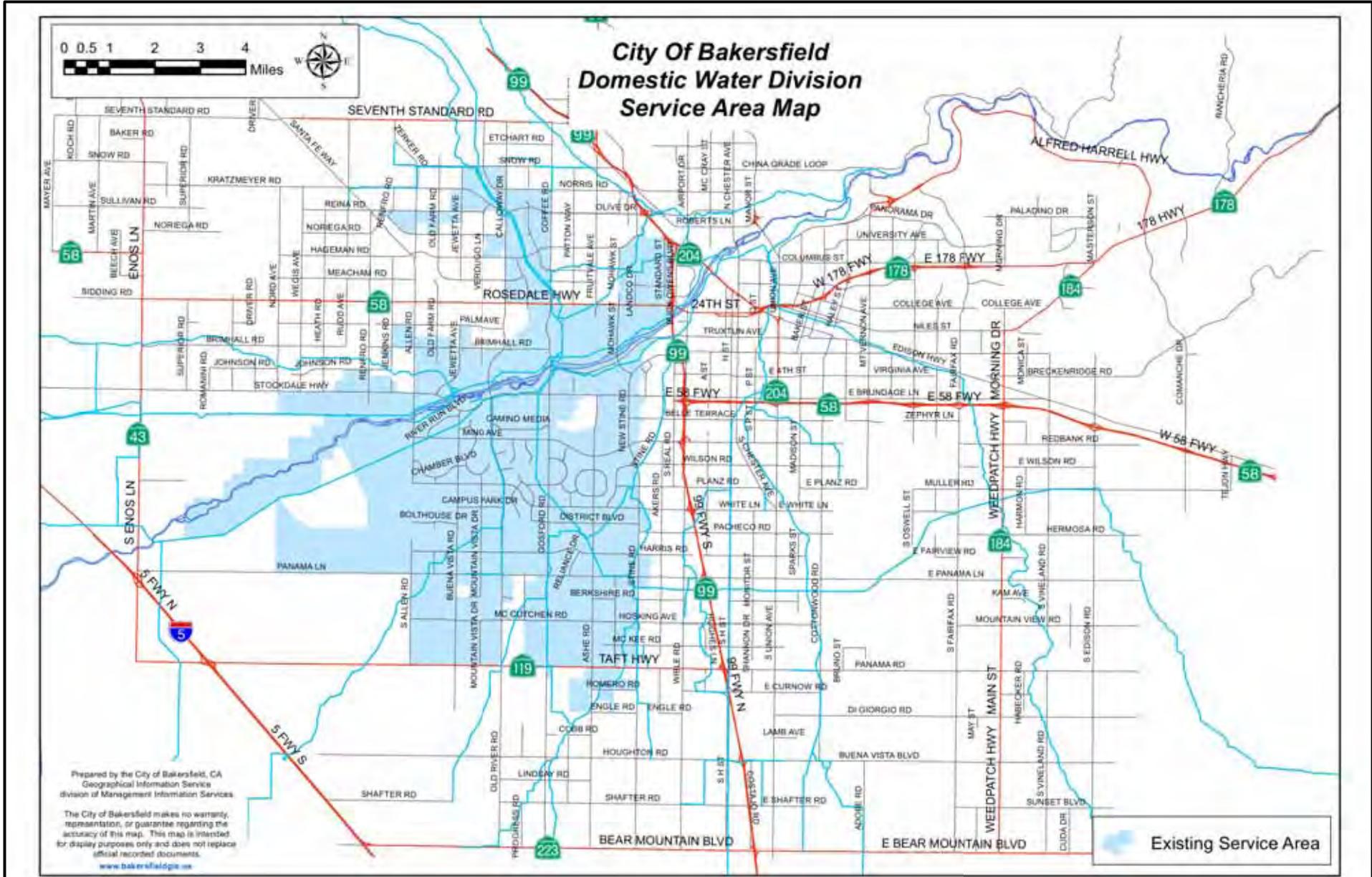
Multiple Dry Year 1	2015	2020	2025	2030
<u>Projected Multiple-Dry Year Water Supply (in City Service Area)</u> Supply ⁽¹⁾	43,611	42,198	46,148	50,098
<u>Projected Multiple-Dry Year Water Customer Demand</u> Demand ⁽²⁾	43,611	42,198	46,148	50,098
<u>Projected Multiple-Dry Year Water Supply and Customer Demand Comparison</u> Difference (Supply minus Demand)	0	0	0	0

Multiple Dry Year 2	2015	2020	2025	2030
<u>Projected Multiple-Dry Year Water Supply (in City Service Area)</u> Supply ⁽¹⁾	43,611	42,198	46,148	50,098
<u>Projected Multiple-Dry Year Water Customer Demand</u> Demand ⁽²⁾	43,611	42,198	46,148	50,098
<u>Projected Multiple-Dry Year Water Supply and Customer Demand Comparison</u> Difference (Supply minus Demand)	0	0	0	0

Multiple Dry Year 3	2015	2020	2025	2030
<u>Projected Multiple-Dry Year Water Supply (in City Service Area)</u> Supply ⁽¹⁾	43,611	42,198	46,148	50,098
<u>Projected Multiple-Dry Year Water Customer Demand</u> Demand ⁽²⁾	43,611	42,198	46,148	50,098
<u>Projected Multiple-Dry Year Water Supply and Customer Demand Comparison</u> Difference (Supply minus Demand)	0	0	0	0

⁽¹⁾ 95% of Normal Water Year. See Tables 23.

⁽²⁾ 95% of Normal Water Year. See Tables 23.



861 VILLAGE OAKS DRIVE, SUITE 100
COVINA, CALIFORNIA 91724
TEL: (818) 967-6202
FAX: (818) 331-7065

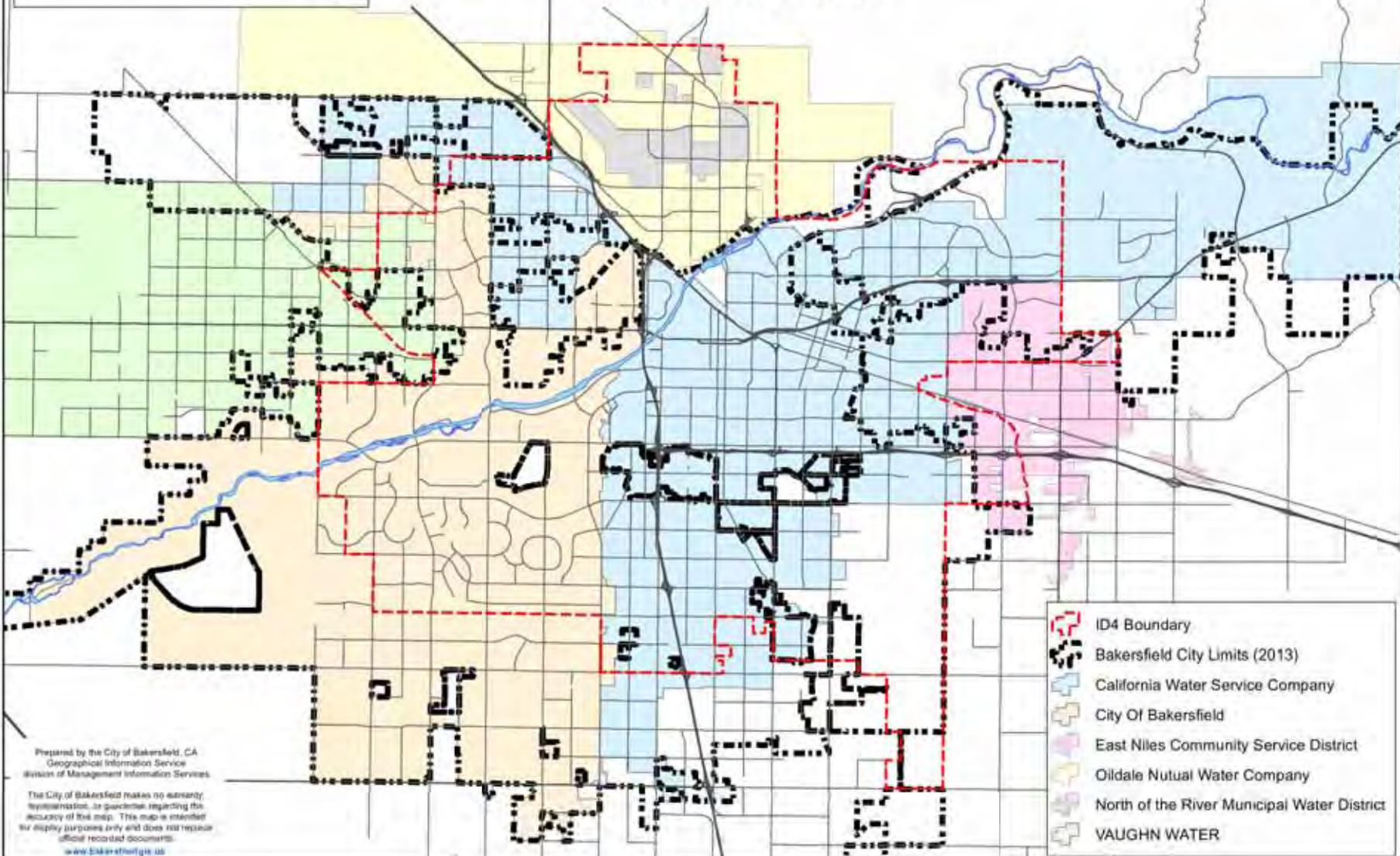
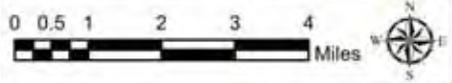
2171 E Francisco Blvd., Suite K
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2651 W Guadalupe Rd., Suite A209
Mesa Arizona 85202

CITY OF BAKERSFIELD

DOMESTIC WATER DIVISION
SERVICE AREA MAP

Metropolitan Bakersfield Municipal Water Districts



- ID4 Boundary
- Bakersfield City Limits (2013)
- California Water Service Company
- City Of Bakersfield
- East Niles Community Service District
- Olddale Nutual Water Company
- North of the River Municipal Water District
- VAUGHN WATER

Prepared by the City of Bakersfield, CA
Geographical Information Service
Division of Management Information Services

The City of Bakersfield makes no warranty, representation, or guarantee regarding the accuracy of this map. This map is intended for display purposes only and does not replace official recorded documents.

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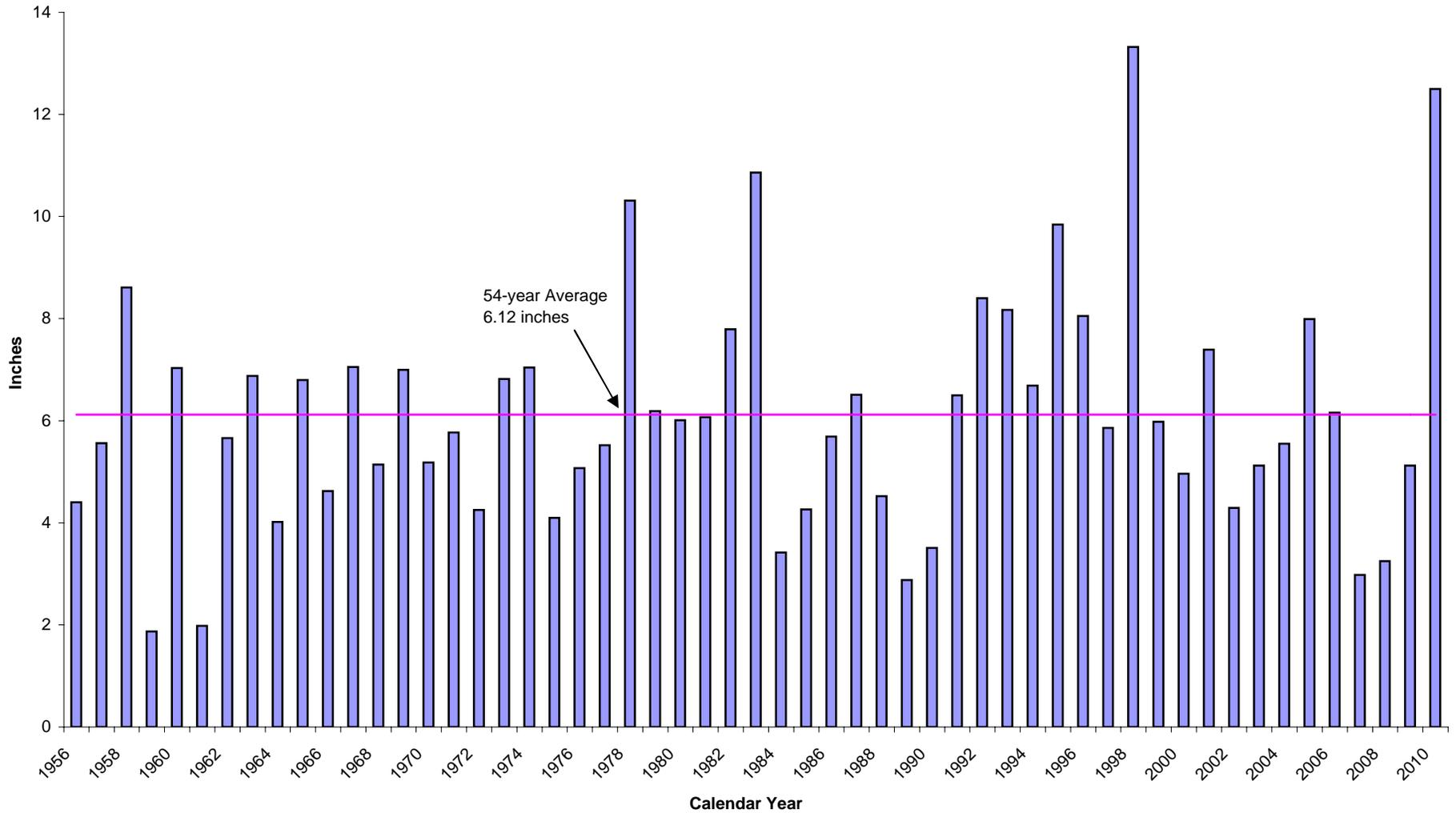
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CITY OF BAKERSFIELD

MUNICIPAL WATER DISTRICTS IN METRO BAKERSFIELD

PLATE 2



Source: National Weather Service Forecast Office, Hanford, CA Website for calendar years 1956 - 2010



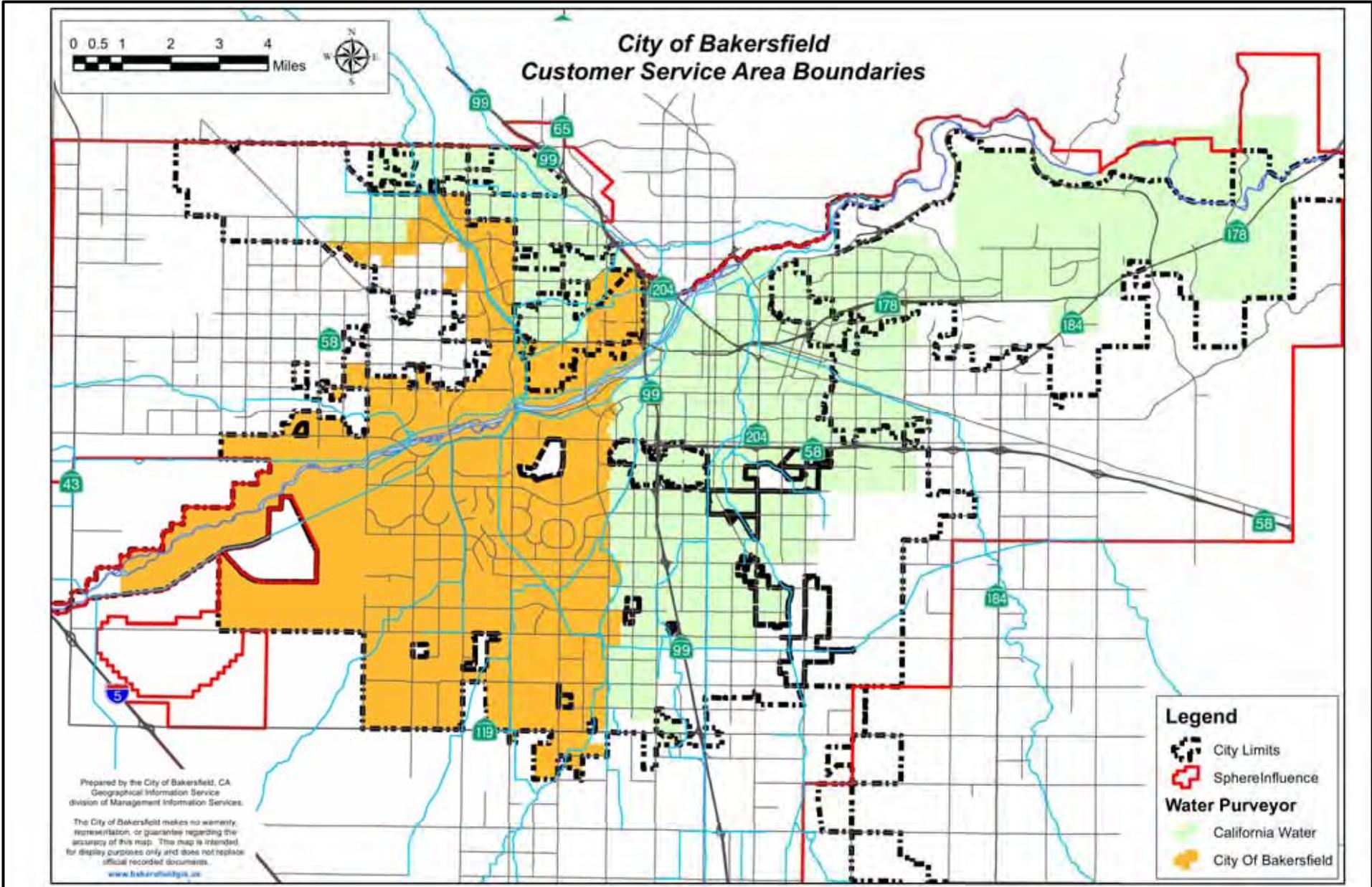
STETSON ENGINEERS INC.

Covina San Rafael Mesa, Arizona

WATER RESOURCE ENGINEERS

CITY OF BAKERSFIELD

54-YEAR ANNUAL RAINFALL

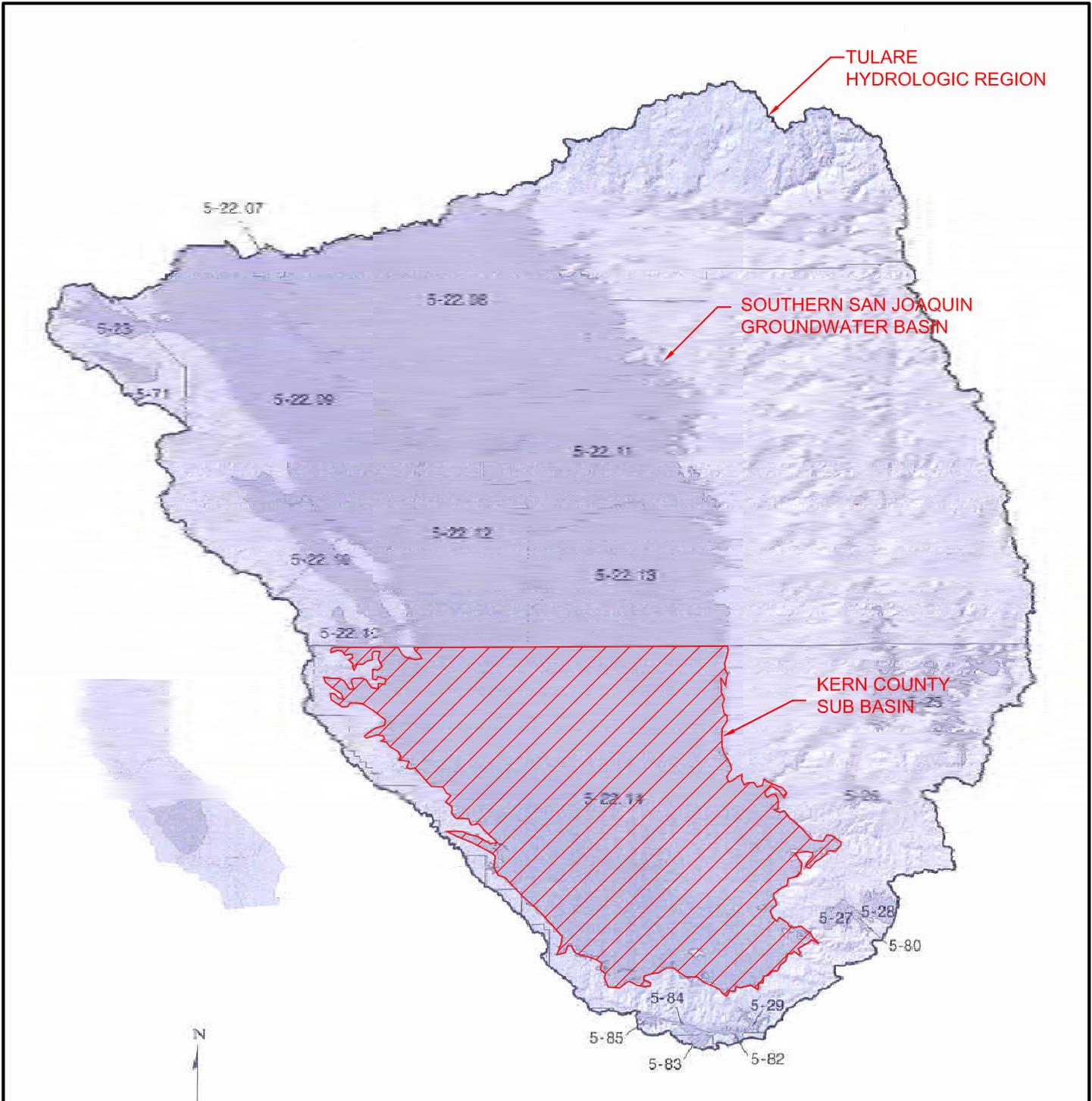


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CITY OF BAKERSFIELD

CITY OF BAKERSFIELD AND CAL WATER CUSTOMER SERVICE AREA BOUNDARIES



Legend :

-  Tulare Hydrologic Region
-  Southern San Joaquin Groundwater Basin
-  Kern County Sub-basin

Source : Department of Water Resources - Bulletin 118



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CITY OF BAKERSFIELD

GROUNDWATER BASIN

APPENDIX A

Urban Water Management Planning Act

Established: [AB 797, Klehs, 1983](#)

Amended: [AB 2661, Klehs, 1990](#)

[AB 11X, Filante, 1991](#)

[AB 1869, Speier, 1991](#)

[AB 892, Frazee, 1993](#)

[SB 1017, McCorquodale, 1994](#)

[AB 2853, Cortese, 1994](#)

[AB 1845, Cortese, 1995](#)

[SB 1011, Polanco, 1995](#)

[AB 2552, Bates, 2000](#)

[SB 553, Kelley, 2000](#)

[SB 610, Costa, 2001](#)

[AB 901, Daucher, 2001](#)

[SB 672, Machado, 2001](#)

[SB 1348, Brulte, 2002](#)

[SB 1384, Costa, 2002](#)

[SB 1518, Torlakson, 2002](#)

[AB 105, Wiggins, 2004](#)

[SB 318, Alpert, 2004](#)

[SB 1087, Florez, 2005](#)

[SBX7 7, Steinberg, 2009](#)

CALIFORNIA WATER CODE DIVISION 6 PART 2.6. URBAN WATER MANAGEMENT PLANNING

CHAPTER 1. GENERAL DECLARATION AND POLICY

10610. This part shall be known and may be cited as the "Urban Water Management Planning Act."

10610.2. (a) The Legislature finds and declares all of the following:

- (1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.
- (2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.
- (3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.

- (4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years.
- (5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.
- (6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.
- (7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.
- (8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.
- (9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.

(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

10610.4. The Legislature finds and declares that it is the policy of the state as follows:

- (a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.
- (b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.
- (c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

CHAPTER 2. DEFINITIONS

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

10611.5. "Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

10612. "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

10616. "Public agency" means any board, commission, county, city and county, city, regional agency, district, or other public entity.

10616.5. "Recycled water" means the reclamation and reuse of wastewater for beneficial use.

10617. "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

CHAPTER 3. URBAN WATER MANAGEMENT PLANS

Article 1. General Provisions

10620.

- (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).
- (b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.
- (c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.
- (d)
 - (1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.
 - (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.
- (e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.
- (f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

10621.

- (a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero.
- (b) Every urban water supplier required to prepare a plan pursuant to this part shall notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.
- (c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

Article 2. Contents of Plans

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

- (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.
- (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:
 - (1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.
 - (2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.

For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

- (3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the

past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

- (4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.
- (c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:
- (1) An average water year.
 - (2) A single dry water year.
 - (3) Multiple dry water years.

For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

- (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.
- (e)
- (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:
 - (A) Single-family residential.
 - (B) Multifamily.
 - (C) Commercial.
 - (D) Industrial.
 - (E) Institutional and governmental.
 - (F) Landscape.
 - (G) Sales to other agencies.
 - (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
 - (I) Agricultural.

- (2) The water use projections shall be in the same five-year increments described in subdivision (a).
- (f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:
 - (1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:
 - (A) Water survey programs for single-family residential and multifamily residential customers.
 - (B) Residential plumbing retrofit.
 - (C) System water audits, leak detection, and repair.
 - (D) Metering with commodity rates for all new connections and retrofit of existing connections.
 - (E) Large landscape conservation programs and incentives.
 - (F) High-efficiency washing machine rebate programs.
 - (G) Public information programs.
 - (H) School education programs.
 - (I) Conservation programs for commercial, industrial, and institutional accounts.
 - (J) Wholesale agency programs.
 - (K) Conservation pricing.
 - (L) Water conservation coordinator.
 - (M) Water waste prohibition.
 - (N) Residential ultra-low-flush toilet replacement programs.
 - (2) A schedule of implementation for all water demand management measures proposed or described in the plan.

- (3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.
 - (4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.
- (g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:
- (1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.
 - (2) Include a cost-benefit analysis, identifying total benefits and total costs.
 - (3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.
 - (4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.
- (h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

- (i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.
- (j) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council in accordance with the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).
- (k) Urban water suppliers that rely upon a wholesale agency for a source of water, shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c), including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

10631.5. The department shall take into consideration whether the urban water supplier is implementing or scheduled for implementation, the water demand management activities that the urban water supplier identified in its urban water management plan, pursuant to Section 10631, in evaluating applications for grants and loans made available pursuant to Section 79163. The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities.

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

- (a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

- (b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.
- (c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.
- (d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
- (e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.
- (f) Penalties or charges for excessive use, where applicable.
- (g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.
- (h) A draft water shortage contingency resolution or ordinance.
- (i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

- (a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.
- (b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

- (c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.
- (d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.
- (e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.
- (f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.
- (g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

Article 2.5 Water Service Reliability

10635.

- (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled

pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

- (b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.
- (c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.
- (d) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

Articl 3. Adoption and Implementation of Plans

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630).

The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

10641. An urban water supplier required to prepare a plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

10643. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

10644.

- (a) An urban water supplier shall file with the department and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be filed with the department and any city or county within which the supplier provides water supplies within 30 days after adoption.
- (b) The department shall prepare and submit to the Legislature, on or before December 31, in the years ending in six and one, a report summarizing the status of the plans adopted pursuant to this part. The report prepared by the department shall identify the outstanding elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has filed its plan with the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

10645. Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

CHAPTER 4. MISCELLANEOUS PROVISIONS

10650. Any actions or proceedings to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

- (a) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.
- (b) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 90 days after filing of the plan or amendment thereto pursuant to Section 10644 or the taking of that action.

10651. In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water

supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the State Water Resources Control Board and the Public Utilities Commission, for the preparation of water management plans or conservation plans; provided, that if the State Water Resources Control Board or the Public Utilities Commission requires additional information concerning water conservation to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan prepared to meet federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

10654. An urban water supplier may recover in its rates the costs incurred in preparing its plan and implementing the reasonable water conservation measures included in the plan. Any best water management practice that is included in the plan that is identified in the "Memorandum of Understanding Regarding Urban Water Conservation in California" is deemed to be reasonable for the purposes of this section.

10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

10656. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

10657.

- (a) The department shall take into consideration whether the urban water supplier has submitted an updated urban water management plan that is consistent with Section 10631, as amended by the act that adds this section, in determining whether the urban water supplier is eligible for funds made available pursuant to any program administered by the department.
- (b) This section shall remain in effect only until January 1, 2006, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2006, deletes or extends that date.

APPENDIX B

Water Conservation Bill of 2009

Senate Bill No. 7

CHAPTER 4

An act to amend and repeal Section 10631.5 of, to add Part 2.55 (commencing with Section 10608) to Division 6 of, and to repeal and add Part 2.8 (commencing with Section 10800) of Division 6 of, the Water Code, relating to water.

[Approved by Governor November 10, 2009. Filed with
Secretary of State November 10, 2009.]

LEGISLATIVE COUNSEL'S DIGEST

SB 7, Steinberg. Water conservation.

(1) Existing law requires the Department of Water Resources to convene an independent technical panel to provide information to the department and the Legislature on new demand management measures, technologies, and approaches. "Demand management measures" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

This bill would require the state to achieve a 20% reduction in urban per capita water use in California by December 31, 2020. The state would be required to make incremental progress towards this goal by reducing per capita water use by at least 10% on or before December 31, 2015. The bill would require each urban retail water supplier to develop urban water use targets and an interim urban water use target, in accordance with specified requirements. The bill would require agricultural water suppliers to implement efficient water management practices. The bill would require the department, in consultation with other state agencies, to develop a single standardized water use reporting form. The bill, with certain exceptions, would provide that urban retail water suppliers, on and after July 1, 2016, and agricultural water suppliers, on and after July 1, 2013, are not eligible for state water grants or loans unless they comply with the water conservation requirements established by the bill. The bill would repeal, on July 1, 2016, an existing requirement that conditions eligibility for certain water management grants or loans to an urban water supplier on the implementation of certain water demand management measures.

(2) Existing law, until January 1, 1993, and thereafter only as specified, requires certain agricultural water suppliers to prepare and adopt water management plans.

This bill would revise existing law relating to agricultural water management planning to require agricultural water suppliers to prepare and adopt agricultural water management plans with specified components on or before December 31, 2012, and update those plans on or before December

31, 2015, and on or before December 31 every 5 years thereafter. An agricultural water supplier that becomes an agricultural water supplier after December 31, 2012, would be required to prepare and adopt an agricultural water management plan within one year after becoming an agricultural water supplier. The agricultural water supplier would be required to notify each city or county within which the supplier provides water supplies with regard to the preparation or review of the plan. The bill would require the agricultural water supplier to submit copies of the plan to the department and other specified entities. The bill would provide that an agricultural water supplier is not eligible for state water grants or loans unless the supplier complies with the water management planning requirements established by the bill.

(3) The bill would take effect only if SB 1 and SB 6 of the 2009–10 7th Extraordinary Session of the Legislature are enacted and become effective.

The people of the State of California do enact as follows:

SECTION 1. Part 2.55 (commencing with Section 10608) is added to Division 6 of the Water Code, to read:

PART 2.55. SUSTAINABLE WATER USE AND DEMAND REDUCTION

CHAPTER 1. GENERAL DECLARATIONS AND POLICY

10608. The Legislature finds and declares all of the following:

(a) Water is a public resource that the California Constitution protects against waste and unreasonable use.

(b) Growing population, climate change, and the need to protect and grow California's economy while protecting and restoring our fish and wildlife habitats make it essential that the state manage its water resources as efficiently as possible.

(c) Diverse regional water supply portfolios will increase water supply reliability and reduce dependence on the Delta.

(d) Reduced water use through conservation provides significant energy and environmental benefits, and can help protect water quality, improve streamflows, and reduce greenhouse gas emissions.

(e) The success of state and local water conservation programs to increase efficiency of water use is best determined on the basis of measurable outcomes related to water use or efficiency.

(f) Improvements in technology and management practices offer the potential for increasing water efficiency in California over time, providing an essential water management tool to meet the need for water for urban, agricultural, and environmental uses.

(g) The Governor has called for a 20 percent per capita reduction in urban water use statewide by 2020.

(h) The factors used to formulate water use efficiency targets can vary significantly from location to location based on factors including weather, patterns of urban and suburban development, and past efforts to enhance water use efficiency.

(i) Per capita water use is a valid measure of a water provider's efforts to reduce urban water use within its service area. However, per capita water use is less useful for measuring relative water use efficiency between different water providers. Differences in weather, historical patterns of urban and suburban development, and density of housing in a particular location need to be considered when assessing per capita water use as a measure of efficiency.

10608.4. It is the intent of the Legislature, by the enactment of this part, to do all of the following:

(a) Require all water suppliers to increase the efficiency of use of this essential resource.

(b) Establish a framework to meet the state targets for urban water conservation identified in this part and called for by the Governor.

(c) Measure increased efficiency of urban water use on a per capita basis.

(d) Establish a method or methods for urban retail water suppliers to determine targets for achieving increased water use efficiency by the year 2020, in accordance with the Governor's goal of a 20-percent reduction.

(e) Establish consistent water use efficiency planning and implementation standards for urban water suppliers and agricultural water suppliers.

(f) Promote urban water conservation standards that are consistent with the California Urban Water Conservation Council's adopted best management practices and the requirements for demand management in Section 10631.

(g) Establish standards that recognize and provide credit to water suppliers that made substantial capital investments in urban water conservation since the drought of the early 1990s.

(h) Recognize and account for the investment of urban retail water suppliers in providing recycled water for beneficial uses.

(i) Require implementation of specified efficient water management practices for agricultural water suppliers.

(j) Support the economic productivity of California's agricultural, commercial, and industrial sectors.

(k) Advance regional water resources management.

10608.8. (a) (1) Water use efficiency measures adopted and implemented pursuant to this part or Part 2.8 (commencing with Section 10800) are water conservation measures subject to the protections provided under Section 1011.

(2) Because an urban agency is not required to meet its urban water use target until 2020 pursuant to subdivision (b) of Section 10608.24, an urban retail water supplier's failure to meet those targets shall not establish a violation of law for purposes of any state administrative or judicial proceeding prior to January 1, 2021. Nothing in this paragraph limits the use of data reported to the department or the board in litigation or an

administrative proceeding. This paragraph shall become inoperative on January 1, 2021.

(3) To the extent feasible, the department and the board shall provide for the use of water conservation reports required under this part to meet the requirements of Section 1011 for water conservation reporting.

(b) This part does not limit or otherwise affect the application of Chapter 3.5 (commencing with Section 11340), Chapter 4 (commencing with Section 11370), Chapter 4.5 (commencing with Section 11400), and Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

(c) This part does not require a reduction in the total water used in the agricultural or urban sectors, because other factors, including, but not limited to, changes in agricultural economics or population growth may have greater effects on water use. This part does not limit the economic productivity of California's agricultural, commercial, or industrial sectors.

(d) The requirements of this part do not apply to an agricultural water supplier that is a party to the Quantification Settlement Agreement, as defined in subdivision (a) of Section 1 of Chapter 617 of the Statutes of 2002, during the period within which the Quantification Settlement Agreement remains in effect. After the expiration of the Quantification Settlement Agreement, to the extent conservation water projects implemented as part of the Quantification Settlement Agreement remain in effect, the conserved water created as part of those projects shall be credited against the obligations of the agricultural water supplier pursuant to this part.

CHAPTER 2. DEFINITIONS

10608.12. Unless the context otherwise requires, the following definitions govern the construction of this part:

(a) "Agricultural water supplier" means a water supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water. "Agricultural water supplier" includes a supplier or contractor for water, regardless of the basis of right, that distributes or sells water for ultimate resale to customers. "Agricultural water supplier" does not include the department.

(b) "Base daily per capita water use" means any of the following:

(1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

(2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of

a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

(3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.

(c) "Baseline commercial, industrial, and institutional water use" means an urban retail water supplier's base daily per capita water use for commercial, industrial, and institutional users.

(d) "Commercial water user" means a water user that provides or distributes a product or service.

(e) "Compliance daily per capita water use" means the gross water use during the final year of the reporting period, reported in gallons per capita per day.

(f) "Disadvantaged community" means a community with an annual median household income that is less than 80 percent of the statewide annual median household income.

(g) "Gross water use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

(1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier.

(2) The net volume of water that the urban retail water supplier places into long-term storage.

(3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.

(4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.

(h) "Industrial water user" means a water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development.

(i) "Institutional water user" means a water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.

(j) "Interim urban water use target" means the midpoint between the urban retail water supplier's base daily per capita water use and the urban retail water supplier's urban water use target for 2020.

(k) "Locally cost effective" means that the present value of the local benefits of implementing an agricultural efficiency water management practice is greater than or equal to the present value of the local cost of implementing that measure.

(l) "Process water" means water used for producing a product or product content or water used for research and development, including, but not limited to, continuous manufacturing processes, water used for testing and maintaining equipment used in producing a product or product content, and

water used in combined heat and power facilities used in producing a product or product content. Process water does not mean incidental water uses not related to the production of a product or product content, including, but not limited to, water used for restrooms, landscaping, air conditioning, heating, kitchens, and laundry.

(m) “Recycled water” means recycled water, as defined in subdivision (n) of Section 13050, that is used to offset potable demand, including recycled water supplied for direct use and indirect potable reuse, that meets the following requirements, where applicable:

(1) For groundwater recharge, including recharge through spreading basins, water supplies that are all of the following:

- (A) Metered.
- (B) Developed through planned investment by the urban water supplier or a wastewater treatment agency.
- (C) Treated to a minimum tertiary level.
- (D) Delivered within the service area of an urban retail water supplier or its urban wholesale water supplier that helps an urban retail water supplier meet its urban water use target.

(2) For reservoir augmentation, water supplies that meet the criteria of paragraph (1) and are conveyed through a distribution system constructed specifically for recycled water.

(n) “Regional water resources management” means sources of supply resulting from watershed-based planning for sustainable local water reliability or any of the following alternative sources of water:

- (1) The capture and reuse of stormwater or rainwater.
- (2) The use of recycled water.
- (3) The desalination of brackish groundwater.
- (4) The conjunctive use of surface water and groundwater in a manner that is consistent with the safe yield of the groundwater basin.

(o) “Reporting period” means the years for which an urban retail water supplier reports compliance with the urban water use targets.

(p) “Urban retail water supplier” means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.

(q) “Urban water use target” means the urban retail water supplier’s targeted future daily per capita water use.

(r) “Urban wholesale water supplier,” means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

CHAPTER 3. URBAN RETAIL WATER SUPPLIERS

10608.16. (a) The state shall achieve a 20-percent reduction in urban per capita water use in California on or before December 31, 2020.

(b) The state shall make incremental progress towards the state target specified in subdivision (a) by reducing urban per capita water use by at least 10 percent on or before December 31, 2015.

10608.20. (a) (1) Each urban retail water supplier shall develop urban water use targets and an interim urban water use target by July 1, 2011. Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis, as provided in subdivision (a) of Section 10608.28, and may determine the targets on a fiscal year or calendar year basis.

(2) It is the intent of the Legislature that the urban water use targets described in subdivision (a) cumulatively result in a 20-percent reduction from the baseline daily per capita water use by December 31, 2020.

(b) An urban retail water supplier shall adopt one of the following methods for determining its urban water use target pursuant to subdivision (a):

(1) Eighty percent of the urban retail water supplier's baseline per capita daily water use.

(2) The per capita daily water use that is estimated using the sum of the following performance standards:

(A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.

(B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.

(C) For commercial, industrial, and institutional uses, a 10-percent reduction in water use from the baseline commercial, industrial, and institutional water use by 2020.

(3) Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's draft 20x2020 Water Conservation Plan (dated April 30, 2009). If the service area of an urban water supplier includes more than one hydrologic region, the supplier shall apportion its service area to each region based on population or area.

(4) A method that shall be identified and developed by the department, through a public process, and reported to the Legislature no later than December 31, 2010. The method developed by the department shall identify per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31, 2020. In developing urban daily per capita water use targets, the department shall do all of the following:

(A) Consider climatic differences within the state.

- (B) Consider population density differences within the state.
 - (C) Provide flexibility to communities and regions in meeting the targets.
 - (D) Consider different levels of per capita water use according to plant water needs in different regions.
 - (E) Consider different levels of commercial, industrial, and institutional water use in different regions of the state.
 - (F) Avoid placing an undue hardship on communities that have implemented conservation measures or taken actions to keep per capita water use low.
- (c) If the department adopts a regulation pursuant to paragraph (4) of subdivision (b) that results in a requirement that an urban retail water supplier achieve a reduction in daily per capita water use that is greater than 20 percent by December 31, 2020, an urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may limit its urban water use target to a reduction of not more than 20 percent by December 31, 2020, by adopting the method described in paragraph (1) of subdivision (b).
- (d) The department shall update the method described in paragraph (4) of subdivision (b) and report to the Legislature by December 31, 2014. An urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may adopt a new urban daily per capita water use target pursuant to this updated method.
- (e) An urban retail water supplier shall include in its urban water management plan required pursuant to Part 2.6 (commencing with Section 10610) due in 2010 the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.
- (f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.
- (g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).
- (h) (1) The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part, including, but not limited to, both of the following:
- (A) Methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use.
 - (B) Criteria for adjustments pursuant to subdivisions (d) and (e) of Section 10608.24.
- (2) The department shall post the methodologies and criteria developed pursuant to this subdivision on its Internet Web site, and make written copies

available, by October 1, 2010. An urban retail water supplier shall use the methods developed by the department in compliance with this part.

(i) (1) The department shall adopt regulations for implementation of the provisions relating to process water in accordance with subdivision (l) of Section 10608.12, subdivision (e) of Section 10608.24, and subdivision (d) of Section 10608.26.

(2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

(j) An urban retail water supplier shall be granted an extension to July 1, 2011, for adoption of an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) due in 2010 to allow use of technical methodologies developed by the department pursuant to paragraph (4) of subdivision (b) and subdivision (h). An urban retail water supplier that adopts an urban water management plan due in 2010 that does not use the methodologies developed by the department pursuant to subdivision (h) shall amend the plan by July 1, 2011, to comply with this part.

10608.22. Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.

10608.24. (a) Each urban retail water supplier shall meet its interim urban water use target by December 31, 2015.

(b) Each urban retail water supplier shall meet its urban water use target by December 31, 2020.

(c) An urban retail water supplier's compliance daily per capita water use shall be the measure of progress toward achievement of its urban water use target.

(d) (1) When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:

(A) Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.

(B) Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.

(C) Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.

(2) If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.

(e) When developing the urban water use target pursuant to Section 10608.20, an urban retail water supplier that has a substantial percentage of industrial water use in its service area, may exclude process water from the calculation of gross water use to avoid a disproportionate burden on another customer sector.

(f) (1) An urban retail water supplier that includes agricultural water use in an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) may include the agricultural water use in determining gross water use. An urban retail water supplier that includes agricultural water use in determining gross water use and develops its urban water use target pursuant to paragraph (2) of subdivision (b) of Section 10608.20 shall use a water efficient standard for agricultural irrigation of 100 percent of reference evapotranspiration multiplied by the crop coefficient for irrigated acres.

(2) An urban retail water supplier, that is also an agricultural water supplier, is not subject to the requirements of Chapter 4 (commencing with Section 10608.48), if the agricultural water use is incorporated into its urban water use target pursuant to paragraph (1).

10608.26. (a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:

(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.

(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.

(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20, for determining its urban water use target.

(b) In complying with this part, an urban retail water supplier may meet its urban water use target through efficiency improvements in any combination among its customer sectors. An urban retail water supplier shall avoid placing a disproportionate burden on any customer sector.

(c) For an urban retail water supplier that supplies water to a United States Department of Defense military installation, the urban retail water supplier's implementation plan for complying with this part shall consider the United States Department of Defense military installation's requirements under federal Executive Order 13423.

(d) (1) Any ordinance or resolution adopted by an urban retail water supplier after the effective date of this section shall not require existing customers as of the effective date of this section, to undertake changes in product formulation, operations, or equipment that would reduce process water use, but may provide technical assistance and financial incentives to those customers to implement efficiency measures for process water. This section shall not limit an ordinance or resolution adopted pursuant to a declaration of drought emergency by an urban retail water supplier.

(2) This part shall not be construed or enforced so as to interfere with the requirements of Chapter 4 (commencing with Section 113980) to Chapter 13 (commencing with Section 114380), inclusive, of Part 7 of Division 104 of the Health and Safety Code, or any requirement or standard for the protection of public health, public safety, or worker safety established by federal, state, or local government or recommended by recognized standard setting organizations or trade associations.

10608.28. (a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement, by any of the following:

- (1) Through an urban wholesale water supplier.
- (2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).
- (3) Through a regional water management group as defined in Section 10537.
- (4) By an integrated regional water management funding area.
- (5) By hydrologic region.
- (6) Through other appropriate geographic scales for which computation methods have been developed by the department.

(b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

10608.32. All costs incurred pursuant to this part by a water utility regulated by the Public Utilities Commission may be recoverable in rates subject to review and approval by the Public Utilities Commission, and may be recorded in a memorandum account and reviewed for reasonableness by the Public Utilities Commission.

10608.36. Urban wholesale water suppliers shall include in the urban water management plans required pursuant to Part 2.6 (commencing with Section 10610) an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part.

10608.40. Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans submitted pursuant to Section 10631. The data shall be reported using a standardized form developed pursuant to Section 10608.52.

10608.42. The department shall review the 2015 urban water management plans and report to the Legislature by December 31, 2016, on progress towards achieving a 20-percent reduction in urban water use by December 31, 2020. The report shall include recommendations on changes to water efficiency standards or urban water use targets in order to achieve

the 20-percent reduction and to reflect updated efficiency information and technology changes.

10608.43. The department, in conjunction with the California Urban Water Conservation Council, by April 1, 2010, shall convene a representative task force consisting of academic experts, urban retail water suppliers, environmental organizations, commercial water users, industrial water users, and institutional water users to develop alternative best management practices for commercial, industrial, and institutional users and an assessment of the potential statewide water use efficiency improvement in the commercial, industrial, and institutional sectors that would result from implementation of these best management practices. The taskforce, in conjunction with the department, shall submit a report to the Legislature by April 1, 2012, that shall include a review of multiple sectors within commercial, industrial, and institutional users and that shall recommend water use efficiency standards for commercial, industrial, and institutional users among various sectors of water use. The report shall include, but not be limited to, the following:

(a) Appropriate metrics for evaluating commercial, industrial, and institutional water use.

(b) Evaluation of water demands for manufacturing processes, goods, and cooling.

(c) Evaluation of public infrastructure necessary for delivery of recycled water to the commercial, industrial, and institutional sectors.

(d) Evaluation of institutional and economic barriers to increased recycled water use within the commercial, industrial, and institutional sectors.

(e) Identification of technical feasibility and cost of the best management practices to achieve more efficient water use statewide in the commercial, industrial, and institutional sectors that is consistent with the public interest and reflects past investments in water use efficiency.

10608.44. Each state agency shall reduce water use on facilities it operates to support urban retail water suppliers in meeting the target identified in Section 10608.16.

CHAPTER 4. AGRICULTURAL WATER SUPPLIERS

10608.48. (a) On or before July 31, 2012, an agricultural water supplier shall implement efficient water management practices pursuant to subdivisions (b) and (c).

(b) Agricultural water suppliers shall implement all of the following critical efficient management practices:

(1) Measure the volume of water delivered to customers with sufficient accuracy to comply with subdivision (a) of Section 531.10 and to implement paragraph (2).

(2) Adopt a pricing structure for water customers based at least in part on quantity delivered.

(c) Agricultural water suppliers shall implement additional efficient management practices, including, but not limited to, practices to accomplish all of the following, if the measures are locally cost effective and technically feasible:

(1) Facilitate alternative land use for lands with exceptionally high water duties or whose irrigation contributes to significant problems, including drainage.

(2) Facilitate use of available recycled water that otherwise would not be used beneficially, meets all health and safety criteria, and does not harm crops or soils.

(3) Facilitate the financing of capital improvements for on-farm irrigation systems.

(4) Implement an incentive pricing structure that promotes one or more of the following goals:

(A) More efficient water use at the farm level.

(B) Conjunctive use of groundwater.

(C) Appropriate increase of groundwater recharge.

(D) Reduction in problem drainage.

(E) Improved management of environmental resources.

(F) Effective management of all water sources throughout the year by adjusting seasonal pricing structures based on current conditions.

(5) Expand line or pipe distribution systems, and construct regulatory reservoirs to increase distribution system flexibility and capacity, decrease maintenance, and reduce seepage.

(6) Increase flexibility in water ordering by, and delivery to, water customers within operational limits.

(7) Construct and operate supplier spill and tailwater recovery systems.

(8) Increase planned conjunctive use of surface water and groundwater within the supplier service area.

(9) Automate canal control structures.

(10) Facilitate or promote customer pump testing and evaluation.

(11) Designate a water conservation coordinator who will develop and implement the water management plan and prepare progress reports.

(12) Provide for the availability of water management services to water users. These services may include, but are not limited to, all of the following:

(A) On-farm irrigation and drainage system evaluations.

(B) Normal year and real-time irrigation scheduling and crop evapotranspiration information.

(C) Surface water, groundwater, and drainage water quantity and quality data.

(D) Agricultural water management educational programs and materials for farmers, staff, and the public.

(13) Evaluate the policies of agencies that provide the supplier with water to identify the potential for institutional changes to allow more flexible water deliveries and storage.

(14) Evaluate and improve the efficiencies of the supplier's pumps.

(d) Agricultural water suppliers shall include in the agricultural water management plans required pursuant to Part 2.8 (commencing with Section 10800) a report on which efficient water management practices have been implemented and are planned to be implemented, an estimate of the water use efficiency improvements that have occurred since the last report, and an estimate of the water use efficiency improvements estimated to occur five and 10 years in the future. If an agricultural water supplier determines that an efficient water management practice is not locally cost effective or technically feasible, the supplier shall submit information documenting that determination.

(e) The data shall be reported using a standardized form developed pursuant to Section 10608.52.

(f) An agricultural water supplier may meet the requirements of subdivisions (d) and (e) by submitting to the department a water conservation plan submitted to the United States Bureau of Reclamation that meets the requirements described in Section 10828.

(g) On or before December 31, 2013, December 31, 2016, and December 31, 2021, the department, in consultation with the board, shall submit to the Legislature a report on the agricultural efficient water management practices that have been implemented and are planned to be implemented and an assessment of the manner in which the implementation of those efficient water management practices has affected and will affect agricultural operations, including estimated water use efficiency improvements, if any.

(h) The department may update the efficient water management practices required pursuant to subdivision (c), in consultation with the Agricultural Water Management Council, the United States Bureau of Reclamation, and the board. All efficient water management practices for agricultural water use pursuant to this chapter shall be adopted or revised by the department only after the department conducts public hearings to allow participation of the diverse geographical areas and interests of the state.

(i) (1) The department shall adopt regulations that provide for a range of options that agricultural water suppliers may use or implement to comply with the measurement requirement in paragraph (1) of subdivision (b).

(2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

CHAPTER 5. SUSTAINABLE WATER MANAGEMENT

10608.50. (a) The department, in consultation with the board, shall promote implementation of regional water resources management practices through increased incentives and removal of barriers consistent with state and federal law. Potential changes may include, but are not limited to, all of the following:

(1) Revisions to the requirements for urban and agricultural water management plans.

(2) Revisions to the requirements for integrated regional water management plans.

(3) Revisions to the eligibility for state water management grants and loans.

(4) Revisions to state or local permitting requirements that increase water supply opportunities, but do not weaken water quality protection under state and federal law.

(5) Increased funding for research, feasibility studies, and project construction.

(6) Expanding technical and educational support for local land use and water management agencies.

(b) No later than January 1, 2011, and updated as part of the California Water Plan, the department, in consultation with the board, and with public input, shall propose new statewide targets, or review and update existing statewide targets, for regional water resources management practices, including, but not limited to, recycled water, brackish groundwater desalination, and infiltration and direct use of urban stormwater runoff.

CHAPTER 6. STANDARDIZED DATA COLLECTION

10608.52. (a) The department, in consultation with the board, the California Bay-Delta Authority or its successor agency, the State Department of Public Health, and the Public Utilities Commission, shall develop a single standardized water use reporting form to meet the water use information needs of each agency, including the needs of urban water suppliers that elect to determine and report progress toward achieving targets on a regional basis as provided in subdivision (a) of Section 10608.28.

(b) At a minimum, the form shall be developed to accommodate information sufficient to assess an urban water supplier's compliance with conservation targets pursuant to Section 10608.24 and an agricultural water supplier's compliance with implementation of efficient water management practices pursuant to subdivision (a) of Section 10608.48. The form shall accommodate reporting by urban water suppliers on an individual or regional basis as provided in subdivision (a) of Section 10608.28.

CHAPTER 7. FUNDING PROVISIONS

10608.56. (a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

(b) On and after July 1, 2013, an agricultural water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

(c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for achieving the per capita reductions. The supplier may request grant or loan funds to achieve the per capita reductions to the extent the request is consistent with the eligibility requirements applicable to the water funds.

(d) Notwithstanding subdivision (b), the department shall determine that an agricultural water supplier is eligible for a water grant or loan even though the supplier is not implementing all of the efficient water management practices described in Section 10608.48, if the agricultural water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the efficient water management practices. The supplier may request grant or loan funds to implement the efficient water management practices to the extent the request is consistent with the eligibility requirements applicable to the water funds.

(e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval documentation demonstrating that its entire service area qualifies as a disadvantaged community.

(f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier in compliance with the requirements of this part and Part 2.8 (commencing with Section 10800), that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).

10608.60. (a) It is the intent of the Legislature that funds made available by Section 75026 of the Public Resources Code should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for grants to implement this part. In the allocation of funding, it is the intent of the

Legislature that the department give consideration to disadvantaged communities to assist in implementing the requirements of this part.

(b) It is the intent of the Legislature that funds made available by Section 75041 of the Public Resources Code, should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for direct expenditures to implement this part.

CHAPTER 8. QUANTIFYING AGRICULTURAL WATER USE EFFICIENCY

10608.64. The department, in consultation with the Agricultural Water Management Council, academic experts, and other stakeholders, shall develop a methodology for quantifying the efficiency of agricultural water use. Alternatives to be assessed shall include, but not be limited to, determination of efficiency levels based on crop type or irrigation system distribution uniformity. On or before December 31, 2011, the department shall report to the Legislature on a proposed methodology and a plan for implementation. The plan shall include the estimated implementation costs and the types of data needed to support the methodology. Nothing in this section authorizes the department to implement a methodology established pursuant to this section.

SEC. 2. Section 10631.5 of the Water Code is amended to read:

10631.5. (a) (1) Beginning January 1, 2009, the terms of, and eligibility for, a water management grant or loan made to an urban water supplier and awarded or administered by the department, state board, or California Bay-Delta Authority or its successor agency shall be conditioned on the implementation of the water demand management measures described in Section 10631, as determined by the department pursuant to subdivision (b).

(2) For the purposes of this section, water management grants and loans include funding for programs and projects for surface water or groundwater storage, recycling, desalination, water conservation, water supply reliability, and water supply augmentation. This section does not apply to water management projects funded by the federal American Recovery and Reinvestment Act of 2009 (Public Law 111-5).

(3) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if the urban water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the water demand management measures. The supplier may request grant or loan funds to implement the water demand management measures to the extent the request is consistent with the eligibility requirements applicable to the water management funds.

(4) (A) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if an urban water supplier submits to the department for approval documentation demonstrating that a water demand management measure is not locally cost effective. If the department determines that the documentation submitted by the urban water supplier fails to demonstrate that a water demand management measure is not locally cost effective, the department shall notify the urban water supplier and the agency administering the grant or loan program within 120 days that the documentation does not satisfy the requirements for an exemption, and include in that notification a detailed statement to support the determination.

(B) For purposes of this paragraph, “not locally cost effective” means that the present value of the local benefits of implementing a water demand management measure is less than the present value of the local costs of implementing that measure.

(b) (1) The department, in consultation with the state board and the California Bay-Delta Authority or its successor agency, and after soliciting public comment regarding eligibility requirements, shall develop eligibility requirements to implement the requirement of paragraph (1) of subdivision (a). In establishing these eligibility requirements, the department shall do both of the following:

(A) Consider the conservation measures described in the Memorandum of Understanding Regarding Urban Water Conservation in California, and alternative conservation approaches that provide equal or greater water savings.

(B) Recognize the different legal, technical, fiscal, and practical roles and responsibilities of wholesale water suppliers and retail water suppliers.

(2) (A) For the purposes of this section, the department shall determine whether an urban water supplier is implementing all of the water demand management measures described in Section 10631 based on either, or a combination, of the following:

(i) Compliance on an individual basis.

(ii) Compliance on a regional basis. Regional compliance shall require participation in a regional conservation program consisting of two or more urban water suppliers that achieves the level of conservation or water efficiency savings equivalent to the amount of conservation or savings achieved if each of the participating urban water suppliers implemented the water demand management measures. The urban water supplier administering the regional program shall provide participating urban water suppliers and the department with data to demonstrate that the regional program is consistent with this clause. The department shall review the data to determine whether the urban water suppliers in the regional program are meeting the eligibility requirements.

(B) The department may require additional information for any determination pursuant to this section.

(3) The department shall not deny eligibility to an urban water supplier in compliance with the requirements of this section that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the water demand management measures described in Section 10631.

(c) In establishing guidelines pursuant to the specific funding authorization for any water management grant or loan program subject to this section, the agency administering the grant or loan program shall include in the guidelines the eligibility requirements developed by the department pursuant to subdivision (b).

(d) Upon receipt of a water management grant or loan application by an agency administering a grant and loan program subject to this section, the agency shall request an eligibility determination from the department with respect to the requirements of this section. The department shall respond to the request within 60 days of the request.

(e) The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities. In addition, for urban water suppliers that are signatories to the Memorandum of Understanding Regarding Urban Water Conservation in California and submit biennial reports to the California Urban Water Conservation Council in accordance with the memorandum, the department may use these reports to assist in tracking the implementation of water demand management measures.

(f) This section shall remain in effect only until July 1, 2016, and as of that date is repealed, unless a later enacted statute, that is enacted before July 1, 2016, deletes or extends that date.

SEC. 3. Part 2.8 (commencing with Section 10800) of Division 6 of the Water Code is repealed.

SEC. 4. Part 2.8 (commencing with Section 10800) is added to Division 6 of the Water Code, to read:

PART 2.8. AGRICULTURAL WATER MANAGEMENT PLANNING

CHAPTER 1. GENERAL DECLARATIONS AND POLICY

10800. This part shall be known and may be cited as the Agricultural Water Management Planning Act.

10801. The Legislature finds and declares all of the following:

- (a) The waters of the state are a limited and renewable resource.
- (b) The California Constitution requires that water in the state be used in a reasonable and beneficial manner.
- (c) Urban water districts are required to adopt water management plans.

(d) The conservation of agricultural water supplies is of great statewide concern.

(e) There is a great amount of reuse of delivered water, both inside and outside the water service areas.

(f) Significant noncrop beneficial uses are associated with agricultural water use, including streamflows and wildlife habitat.

(g) Significant opportunities exist in some areas, through improved irrigation water management, to conserve water or to reduce the quantity of highly saline or toxic drainage water.

(h) Changes in water management practices should be carefully planned and implemented to minimize adverse effects on other beneficial uses currently being served.

(i) Agricultural water suppliers that receive water from the federal Central Valley Project are required by federal law to prepare and implement water conservation plans.

(j) Agricultural water users applying for a permit to appropriate water from the board are required to prepare and implement water conservation plans.

10802. The Legislature finds and declares that all of the following are the policies of the state:

(a) The conservation of water shall be pursued actively to protect both the people of the state and the state's water resources.

(b) The conservation of agricultural water supplies shall be an important criterion in public decisions with regard to water.

(c) Agricultural water suppliers shall be required to prepare water management plans to achieve conservation of water.

CHAPTER 2. DEFINITIONS

10810. Unless the context otherwise requires, the definitions set forth in this chapter govern the construction of this part.

10811. "Agricultural water management plan" or "plan" means an agricultural water management plan prepared pursuant to this part.

10812. "Agricultural water supplier" has the same meaning as defined in Section 10608.12.

10813. "Customer" means a purchaser of water from a water supplier who uses water for agricultural purposes.

10814. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of that entity.

10815. "Public agency" means any city, county, city and county, special district, or other public entity.

10816. "Urban water supplier" has the same meaning as set forth in Section 10617.

10817. “Water conservation” means the efficient management of water resources for beneficial uses, preventing waste, or accomplishing additional benefits with the same amount of water.

CHAPTER 3. AGRICULTURAL WATER MANAGEMENT PLANS

Article 1. General Provisions

10820. (a) An agricultural water supplier shall prepare and adopt an agricultural water management plan in the manner set forth in this chapter on or before December 31, 2012, and shall update that plan on December 31, 2015, and on or before December 31 every five years thereafter.

(b) Every supplier that becomes an agricultural water supplier after December 31, 2012, shall prepare and adopt an agricultural water management plan within one year after the date it has become an agricultural water supplier.

(c) A water supplier that indirectly provides water to customers for agricultural purposes shall not prepare a plan pursuant to this part without the consent of each agricultural water supplier that directly provides that water to its customers.

10821. (a) An agricultural water supplier required to prepare a plan pursuant to this part shall notify each city or county within which the supplier provides water supplies that the agricultural water supplier will be preparing the plan or reviewing the plan and considering amendments or changes to the plan. The agricultural water supplier may consult with, and obtain comments from, each city or county that receives notice pursuant to this subdivision.

(b) The amendments to, or changes in, the plan shall be adopted and submitted in the manner set forth in Article 3 (commencing with Section 10840).

Article 2. Contents of Plans

10825. (a) It is the intent of the Legislature in enacting this part to allow levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

(b) This part does not require the implementation of water conservation programs or practices that are not locally cost effective.

10826. An agricultural water management plan shall be adopted in accordance with this chapter. The plan shall do all of the following:

(a) Describe the agricultural water supplier and the service area, including all of the following:

- (1) Size of the service area.
- (2) Location of the service area and its water management facilities.
- (3) Terrain and soils.
- (4) Climate.

- (5) Operating rules and regulations.
- (6) Water delivery measurements or calculations.
- (7) Water rate schedules and billing.
- (8) Water shortage allocation policies.
- (b) Describe the quantity and quality of water resources of the agricultural water supplier, including all of the following:
 - (1) Surface water supply.
 - (2) Groundwater supply.
 - (3) Other water supplies.
 - (4) Source water quality monitoring practices.
 - (5) Water uses within the agricultural water supplier's service area, including all of the following:
 - (A) Agricultural.
 - (B) Environmental.
 - (C) Recreational.
 - (D) Municipal and industrial.
 - (E) Groundwater recharge.
 - (F) Transfers and exchanges.
 - (G) Other water uses.
 - (6) Drainage from the water supplier's service area.
 - (7) Water accounting, including all of the following:
 - (A) Quantifying the water supplier's water supplies.
 - (B) Tabulating water uses.
 - (C) Overall water budget.
 - (8) Water supply reliability.
- (c) Include an analysis, based on available information, of the effect of climate change on future water supplies.
- (d) Describe previous water management activities.
- (e) Include in the plan the water use efficiency information required pursuant to Section 10608.48.

10827. Agricultural water suppliers that are members of the Agricultural Water Management Council, and that submit water management plans to that council in accordance with the "Memorandum of Understanding Regarding Efficient Water Management Practices By Agricultural Water Suppliers In California," dated January 1, 1999, may submit the water management plans identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of Section 10826.

10828. (a) Agricultural water suppliers that are required to submit water conservation plans to the United States Bureau of Reclamation pursuant to either the Central Valley Project Improvement Act (Public Law 102-575) or the Reclamation Reform Act of 1982, or both, may submit those water conservation plans to satisfy the requirements of Section 10826, if both of the following apply:

- (1) The agricultural water supplier has adopted and submitted the water conservation plan to the United States Bureau of Reclamation within the previous four years.

(2) The United States Bureau of Reclamation has accepted the water conservation plan as adequate.

(b) This part does not require agricultural water suppliers that are required to submit water conservation plans to the United States Bureau of Reclamation pursuant to either the Central Valley Project Improvement Act (Public Law 102-575) or the Reclamation Reform Act of 1982, or both, to prepare and adopt water conservation plans according to a schedule that is different from that required by the United States Bureau of Reclamation.

10829. An agricultural water supplier may satisfy the requirements of this part by adopting an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) or by participation in areawide, regional, watershed, or basinwide water management planning if those plans meet or exceed the requirements of this part.

Article 3. Adoption and Implementation of Plans

10840. Every agricultural water supplier shall prepare its plan pursuant to Article 2 (commencing with Section 10825).

10841. Prior to adopting a plan, the agricultural water supplier shall make the proposed plan available for public inspection, and shall hold a public hearing on the plan. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned agricultural water supplier pursuant to Section 6066 of the Government Code. A privately owned agricultural water supplier shall provide an equivalent notice within its service area and shall provide a reasonably equivalent opportunity that would otherwise be afforded through a public hearing process for interested parties to provide input on the plan. After the hearing, the plan shall be adopted as prepared or as modified during or after the hearing.

10842. An agricultural water supplier shall implement the plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan, as determined by the governing body of the agricultural water supplier.

10843. (a) An agricultural water supplier shall submit to the entities identified in subdivision (b) a copy of its plan no later than 30 days after the adoption of the plan. Copies of amendments or changes to the plans shall be submitted to the entities identified in subdivision (b) within 30 days after the adoption of the amendments or changes.

(b) An agricultural water supplier shall submit a copy of its plan and amendments or changes to the plan to each of the following entities:

(1) The department.

(2) Any city, county, or city and county within which the agricultural water supplier provides water supplies.

(3) Any groundwater management entity within which jurisdiction the agricultural water supplier extracts or provides water supplies.

(4) Any urban water supplier within which jurisdiction the agricultural water supplier provides water supplies.

(5) Any city or county library within which jurisdiction the agricultural water supplier provides water supplies.

(6) The California State Library.

(7) Any local agency formation commission serving a county within which the agricultural water supplier provides water supplies.

10844. (a) Not later than 30 days after the date of adopting its plan, the agricultural water supplier shall make the plan available for public review on the agricultural water supplier's Internet Web site.

(b) An agricultural water supplier that does not have an Internet Web site shall submit to the department, not later than 30 days after the date of adopting its plan, a copy of the adopted plan in an electronic format. The department shall make the plan available for public review on the department's Internet Web site.

10845. (a) The department shall prepare and submit to the Legislature, on or before December 31, 2013, and thereafter in the years ending in six and years ending in one, a report summarizing the status of the plans adopted pursuant to this part.

(b) The report prepared by the department shall identify the outstanding elements of any plan adopted pursuant to this part. The report shall include an evaluation of the effectiveness of this part in promoting efficient agricultural water management practices and recommendations relating to proposed changes to this part, as appropriate.

(c) The department shall provide a copy of the report to each agricultural water supplier that has submitted its plan to the department. The department shall also prepare reports and provide data for any legislative hearing designed to consider the effectiveness of plans submitted pursuant to this part.

(d) This section does not authorize the department, in preparing the report, to approve, disapprove, or critique individual plans submitted pursuant to this part.

CHAPTER 4. MISCELLANEOUS PROVISIONS

10850. (a) Any action or proceeding to attack, review, set aside, void, or annul the acts or decisions of an agricultural water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(1) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.

(2) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 120 days after submitting the plan or amendments to the plan to entities in accordance with Section 10844 or the taking of that action.

(b) In an action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an agricultural water supplier, on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse

of discretion is established if the agricultural water supplier has not proceeded in a manner required by law, or if the action by the agricultural water supplier is not supported by substantial evidence.

10851. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part. This part does not exempt projects for implementation of the plan or for expanded or additional water supplies from the California Environmental Quality Act.

10852. An agricultural water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

10853. No agricultural water supplier that provides water to less than 25,000 irrigated acres, excluding recycled water, shall be required to implement the requirements of this part or Part 2.55 (commencing with Section 10608) unless sufficient funding has specifically been provided to that water supplier for these purposes.

SEC. 5. This act shall take effect only if Senate Bill 1 and Senate Bill 6 of the 2009–10 Seventh Extraordinary Session of the Legislature are enacted and become effective.

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APPENDIX C

Notification Letters



WATER RESOURCES DEPARTMENT
Art R. Chianello, P.E. • Water Resources Manager

February 21, 2014

Mary B. Bedard, County Clerk
County of Kern
1115 Truxtun Avenue
Bakersfield, CA 93301

Re: 2010 Urban Water Management Plan Review

Dear Ms. Bedard:

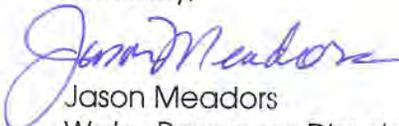
The City of Bakersfield (City) will hold a PUBLIC HEARING on April 23, 2014 at 2:00 pm for the purpose of adopting its 2010 draft Urban Water Management Plan (Plan). The Public Hearing will be held at the City of Bakersfield Water Resources Department's office located at 1000 Buena Vista Road, Bakersfield, CA 93311.

The 2010 draft Urban Water Management Plan was prepared pursuant to the "Urban Water Management Planning Act", California Water Code, Sections 10608 through 10656. The State Department of Water Resources requires every urban water supplier to prepare and adopt a Plan and periodically update that plan at least once every five years on or before December 31, in years ending in five and zero.

The City invites all interested parties and groups to attend and present their comments. A copy of the draft 2010 Plan is available at the City's office and on its website. **The deadline for the public to submit written comments on the UWMP draft document is April 11, 2014 at 5:00 pm.** Comments may be submitted by hand delivery or U.S. Mail at 1000 Buena Vista Rd., Bakersfield, CA 93311, faxed to (661) 852-2127, or emailed to jmeadors@bakersfieldcity.us.

If you have further questions or require additional information, please contact me at 661-326-3715.

Sincerely,


Jason Meadors
Water Resources Director

cc: Art Chianello



WATER RESOURCES DEPARTMENT
Art R. Chianello, P.E. • Water Resources Manager

February 21, 2014

Roberta Gafford, City Clerk

City of Bakersfield
1600 Truxtun Avenue
Bakersfield, CA 93301

Re: 2010 Urban Water Management Plan Review

Dear Ms. Gafford:

The City of Bakersfield (City) will hold a PUBLIC HEARING on April 23, 2014 at 2:00 pm for the purpose of adopting its 2010 draft Urban Water Management Plan (Plan). The Public Hearing will be held at the City of Bakersfield Water Resources Department's office located at 1000 Buena Vista Road, Bakersfield, CA 93311.

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If you have further questions or require additional information, please contact me at 661-326-3715.

Sincerely,

Jason Meadors
Water Resources Director

cc: Art Chianello



WATER RESOURCES DEPARTMENT
Art R. Chianello, P.E. • Water Resources Manager

February 21, 2014

Rudy Valles, District Manager

California Water Service Company
3725 South H Street
Bakersfield, CA 93304

Re: 2010 Urban Water Management Plan Review

Dear Mr. Valles:

The City of Bakersfield (City) will hold a PUBLIC HEARING on April 23, 2014 at 2:00 pm for the purpose of adopting its 2010 draft Urban Water Management Plan (Plan). The Public Hearing will be held at the City of Bakersfield Water Resources Department's office located at 1000 Buena Vista Road, Bakersfield, CA 93311.

The 2010 draft Urban Water Management Plan was prepared pursuant to the "Urban Water Management Planning Act", California Water Code, Sections 10608 through 10656. The State Department of Water Resources requires every urban water supplier to prepare and adopt a Plan and periodically update that plan at least once every five years on or before December 31, in years ending in five and zero.

The City invites all interested parties and groups to attend and present their comments. A copy of the draft 2010 Plan is available at the City's office and on its website. **The deadline for the public to submit written comments on the UWMP draft document is April 11, 2014 at 5:00 pm.** Comments may be submitted by hand delivery or U.S. Mail at 1000 Buena Vista Rd., Bakersfield, CA 93311, faxed to (661) 852-2127, or emailed to jmeadors@bakersfieldcity.us.

If you have further questions or require additional information, please contact me at 661-326-3715.

Sincerely,

Jason Meadors
Water Resources Director

cc: Art Chianello



WATER RESOURCES DEPARTMENT
Art R. Chianello, P.E. • Water Resources Manager

February 21, 2014

Art Rocha, President

Casa Loma Water Company
1016 Lomita Drive
Bakersfield, CA 93307

Re: 2010 Urban Water Management Plan Review

Dear Mr. Rocha:

The City of Bakersfield (City) will hold a PUBLIC HEARING on April 23, 2014 at 2:00 pm for the purpose of adopting its 2010 draft Urban Water Management Plan (Plan). The Public Hearing will be held at the City of Bakersfield Water Resources Department's office located at 1000 Buena Vista Road, Bakersfield, CA 93311.

The 2010 draft Urban Water Management Plan was prepared pursuant to the "Urban Water Management Planning Act", California Water Code, Sections 10608 through 10656. The State Department of Water Resources requires every urban water supplier to prepare and adopt a Plan and periodically update that plan at least once every five years on or before December 31, in years ending in five and zero.

The City invites all interested parties and groups to attend and present their comments. A copy of the draft 2010 Plan is available at the City's office and on its website. **The deadline for the public to submit written comments on the UWMP draft document is April 11, 2014 at 5:00 pm.** Comments may be submitted by hand delivery or U.S. Mail at 1000 Buena Vista Rd., Bakersfield, CA 93311, faxed to (661) 852-2127, or emailed to jmeadors@bakersfieldcity.us.

If you have further questions or require additional information, please contact me at 661-326-3715.

Sincerely,

A handwritten signature in blue ink that reads "Jason Meadors".

Jason Meadors
Water Resources Director

cc: Art Chianello



WATER RESOURCES DEPARTMENT
Art R. Chianello, P.E. • Water Resources Manager

February 21, 2014

Tim Ruiz, General Manager

East Niles Community Service District
1417 Vale Street
Bakersfield, CA 93306

Re: 2010 Urban Water Management Plan Review

Dear Mr. Ruiz:

The City of Bakersfield (City) will hold a PUBLIC HEARING on April 23, 2014 at 2:00 pm for the purpose of adopting its 2010 draft Urban Water Management Plan (Plan). The Public Hearing will be held at the City of Bakersfield Water Resources Department's office located at 1000 Buena Vista Road, Bakersfield, CA 93311.

The 2010 draft Urban Water Management Plan was prepared pursuant to the "Urban Water Management Planning Act", California Water Code, Sections 10608 through 10656. The State Department of Water Resources requires every urban water supplier to prepare and adopt a Plan and periodically update that plan at least once every five years on or before December 31, in years ending in five and zero.

The City invites all interested parties and groups to attend and present their comments. A copy of the draft 2010 Plan is available at the City's office and on its website. **The deadline for the public to submit written comments on the UWMP draft document is April 11, 2014 at 5:00 pm.** Comments may be submitted by hand delivery or U.S. Mail at 1000 Buena Vista Rd., Bakersfield, CA 93311, faxed to (661) 852-2127, or emailed to jmeadors@bakersfieldcity.us.

If you have further questions or require additional information, please contact me at 661-326-3715.

Sincerely,

Jason Meadors
Water Resources Director

cc: Art Chianello



WATER RESOURCES DEPARTMENT
Art R. Chianello, P.E. • Water Resources Manager

February 21, 2014

Mel Johnson, General Manager
Greenfield County Water District
551 Taft Highway
Bakersfield, CA 93307

Re: 2010 Urban Water Management Plan Review

Dear Mr. Johnson:

The City of Bakersfield (City) will hold a PUBLIC HEARING on April 23, 2014 at 2:00 pm for the purpose of adopting its 2010 draft Urban Water Management Plan (Plan). The Public Hearing will be held at the City of Bakersfield Water Resources Department's office located at 1000 Buena Vista Road, Bakersfield, CA 93311.

The 2010 draft Urban Water Management Plan was prepared pursuant to the "Urban Water Management Planning Act", California Water Code, Sections 10608 through 10656. The State Department of Water Resources requires every urban water supplier to prepare and adopt a Plan and periodically update that plan at least once every five years on or before December 31, in years ending in five and zero.

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If you have further questions or require additional information, please contact me at 661-326-3715.

Sincerely,

Jason Meadors
Water Resources Director

cc: Art Chianello



WATER RESOURCES DEPARTMENT
Art R. Chianello, P.E. • Water Resources Manager

February 21, 2014

Lorelei Oviatt, Director

Kern County Planning and Community Development
2700 M Street, Suite 100
Bakersfield, CA 93301-2370

Re: 2010 Urban Water Management Plan Review

Dear Ms. Oviatt:

The City of Bakersfield (City) will hold a PUBLIC HEARING on April 23, 2014 at 2:00 pm for the purpose of adopting its 2010 draft Urban Water Management Plan (Plan). The Public Hearing will be held at the City of Bakersfield Water Resources Department's office located at 1000 Buena Vista Road, Bakersfield, CA 93311.

The 2010 draft Urban Water Management Plan was prepared pursuant to the "Urban Water Management Planning Act", California Water Code, Sections 10608 through 10656. The State Department of Water Resources requires every urban water supplier to prepare and adopt a Plan and periodically update that plan at least once every five years on or before December 31, in years ending in five and zero.

The City invites all interested parties and groups to attend and present their comments. A copy of the draft 2010 Plan is available at the City's office and on its website. **The deadline for the public to submit written comments on the UWMP draft document is April 11, 2014 at 5:00 pm.** Comments may be submitted by hand delivery or U.S. Mail at 1000 Buena Vista Rd., Bakersfield, CA 93311, faxed to (661) 852-2127, or emailed to jmeadors@bakersfieldcity.us.

If you have further questions or require additional information, please contact me at 661-326-3715.

Sincerely,

Jason Meadors
Water Resources Director

cc: Art Chianello



WATER RESOURCES DEPARTMENT
Art R. Chianello, P.E. • Water Resources Manager

February 21, 2014

David Beard, General Manager
KCWA Improvement District 4
3200 Rio Mirada Drive
Bakersfield, CA 93308

Re: 2010 Urban Water Management Plan Review

Dear Mr. Beard:

The City of Bakersfield (City) will hold a PUBLIC HEARING on April 23, 2014 at 2:00 pm for the purpose of adopting its 2010 draft Urban Water Management Plan (Plan). The Public Hearing will be held at the City of Bakersfield Water Resources Department's office located at 1000 Buena Vista Road, Bakersfield, CA 93311.

The 2010 draft Urban Water Management Plan was prepared pursuant to the "Urban Water Management Planning Act", California Water Code, Sections 10608 through 10656. The State Department of Water Resources requires every urban water supplier to prepare and adopt a Plan and periodically update that plan at least once every five years on or before December 31, in years ending in five and zero.

The City invites all interested parties and groups to attend and present their comments. A copy of the draft 2010 Plan is available at the City's office and on its website. **The deadline for the public to submit written comments on the UWMP draft document is April 11, 2014 at 5:00 pm.** Comments may be submitted by hand delivery or U.S. Mail at 1000 Buena Vista Rd., Bakersfield, CA 93311, faxed to (661) 852-2127, or emailed to jmeadors@bakersfieldcity.us.

If you have further questions or require additional information, please contact me at 661-326-3715.

Sincerely,


Jason Meadors
Water Resources Director

cc: Art Chianello



WATER RESOURCES DEPARTMENT
Art R. Chianello, P.E. • Water Resources Manager

February 21, 2014

David Aranda, General Manager

North of the River Municipal Water District
4000 Rio Del Norte Street
Bakersfield, CA 93308

Re: 2010 Urban Water Management Plan Review

Dear Mr. Aranda:

The City of Bakersfield (City) will hold a PUBLIC HEARING on April 23, 2014 at 2:00 pm for the purpose of adopting its 2010 draft Urban Water Management Plan (Plan). The Public Hearing will be held at the City of Bakersfield Water Resources Department's office located at 1000 Buena Vista Road, Bakersfield, CA 93311.

The 2010 draft Urban Water Management Plan was prepared pursuant to the "Urban Water Management Planning Act", California Water Code, Sections 10608 through 10656. The State Department of Water Resources requires every urban water supplier to prepare and adopt a Plan and periodically update that plan at least once every five years on or before December 31, in years ending in five and zero.

The City invites all interested parties and groups to attend and present their comments. A copy of the draft 2010 Plan is available at the City's office and on its website. **The deadline for the public to submit written comments on the UWMP draft document is April 11, 2014 at 5:00 pm.** Comments may be submitted by hand delivery or U.S. Mail at 1000 Buena Vista Rd., Bakersfield, CA 93311, faxed to (661) 852-2127, or emailed to jmeadors@bakersfieldcity.us.

If you have further questions or require additional information, please contact me at 661-326-3715.

Sincerely,

Jason Meadors
Water Resources Director

cc: Art Chianello



WATER RESOURCES DEPARTMENT
Art R. Chianello, P.E. • Water Resources Manager

February 21, 2014

Douglas Nunneley, General Manager

Oildale Mutual Water Company
P. O. Box 5638
Bakersfield, CA 93308

Re: 2010 Urban Water Management Plan Review

Dear Mr. Nunneley:

The City of Bakersfield (City) will hold a PUBLIC HEARING on April 23, 2014 at 2:00 pm for the purpose of adopting its 2010 draft Urban Water Management Plan (Plan). The Public Hearing will be held at the City of Bakersfield Water Resources Department's office located at 1000 Buena Vista Road, Bakersfield, CA 93311.

The 2010 draft Urban Water Management Plan was prepared pursuant to the "Urban Water Management Planning Act", California Water Code, Sections 10608 through 10656. The State Department of Water Resources requires every urban water supplier to prepare and adopt a Plan and periodically update that plan at least once every five years on or before December 31, in years ending in five and zero.

The City invites all interested parties and groups to attend and present their comments. A copy of the draft 2010 Plan is available at the City's office and on its website. **The deadline for the public to submit written comments on the UWMP draft document is April 11, 2014 at 5:00 pm.** Comments may be submitted by hand delivery or U.S. Mail at 1000 Buena Vista Rd., Bakersfield, CA 93311, faxed to (661) 852-2127, or emailed to jmeadors@bakersfieldcity.us.

If you have further questions or require additional information, please contact me at 661-326-3715.

Sincerely,

Jason Meadors
Water Resources Director

cc: Art Chianello



WATER RESOURCES DEPARTMENT
Art R. Chianello, P.E. • Water Resources Manager

February 21, 2014

Eric Averett, General Manager

Rosedale-Rio Bravo Water Storage District
P. O. Box 20820
Bakersfield, CA 93390

Re: 2010 Urban Water Management Plan Review

Dear Mr. Averett:

The City of Bakersfield (City) will hold a PUBLIC HEARING on April 23, 2014 at 2:00 pm for the purpose of adopting its 2010 draft Urban Water Management Plan (Plan). The Public Hearing will be held at the City of Bakersfield Water Resources Department's office located at 1000 Buena Vista Road, Bakersfield, CA 93311.

The 2010 draft Urban Water Management Plan was prepared pursuant to the "Urban Water Management Planning Act", California Water Code, Sections 10608 through 10656. The State Department of Water Resources requires every urban water supplier to prepare and adopt a Plan and periodically update that plan at least once every five years on or before December 31, in years ending in five and zero.

The City invites all interested parties and groups to attend and present their comments. A copy of the draft 2010 Plan is available at the City's office and on its website. **The deadline for the public to submit written comments on the UWMP draft document is April 11, 2014 at 5:00 pm.** Comments may be submitted by hand delivery or U.S. Mail at 1000 Buena Vista Rd., Bakersfield, CA 93311, faxed to (661) 852-2127, or emailed to jmeadors@bakersfieldcity.us.

If you have further questions or require additional information, please contact me at 661-326-3715.

Sincerely,

Jason Meadors
Water Resources Director

cc: Art Chianello



WATER RESOURCES DEPARTMENT
Art R. Chianello, P.E. • Water Resources Manager

February 21, 2014

Van Grayer
Vaughn Water Company
10014 Glenn Street
Bakersfield, CA 93312

Re: 2010 Urban Water Management Plan Review

Dear Mr. Grayer:

The City of Bakersfield (City) will hold a PUBLIC HEARING on April 23, 2014 at 2:00 pm for the purpose of adopting its 2010 draft Urban Water Management Plan (Plan). The Public Hearing will be held at the City of Bakersfield Water Resources Department's office located at 1000 Buena Vista Road, Bakersfield, CA 93311.

The 2010 draft Urban Water Management Plan was prepared pursuant to the "Urban Water Management Planning Act", California Water Code, Sections 10608 through 10656. The State Department of Water Resources requires every urban water supplier to prepare and adopt a Plan and periodically update that plan at least once every five years on or before December 31, in years ending in five and zero.

The City invites all interested parties and groups to attend and present their comments. A copy of the draft 2010 Plan is available at the City's office and on its website. **The deadline for the public to submit written comments on the UWMP draft document is April 11, 2014 at 5:00 pm.** Comments may be submitted by hand delivery or U.S. Mail at 1000 Buena Vista Rd., Bakersfield, CA 93311, faxed to (661) 852-2127, or emailed to jmeadors@bakersfieldcity.us.

If you have further questions or require additional information, please contact me at 661-326-3715.

Sincerely,

Jason Meadors
Water Resources Director

cc: Art Chianello

APPENDIX D

Notice of Public Hearing



NOTICE OF PUBLIC HEARING
URBAN WATER MANAGEMENT PLANNING ACT
CALIFORNIA WATER CODE SECTION 10610, et seq.

NOTICE IS HEREBY GIVEN that a public hearing will be held before the Water Board of the City of Bakersfield on **Wednesday, April 23, 2014 at 2:00 p.m.**, or as soon thereafter as the matter may be heard in the City of Bakersfield Water Resources Department Conference Room, 1000 Buena Vista Road, Bakersfield, CA 93311 to consider adoption of its 2010 Draft Urban Water Management Plan (Plan).

The 2010 Draft Urban Water Management Plan was prepared pursuant to the "Urban Water Management Planning Act," California Water Code, Sections 10608 through 10656. The State Department of Water Resources requires every urban water supplier to prepare and adopt a Plan and periodically update that plan at least once every five years on or before December 31st in years ending in five and zero.

The City invites all interested parties and groups to attend and present their comments. A copy of the Draft 2010 Plan is available at the same location and on the City's website www.bakersfieldcity.us.

All written comments must be received on or before **April 4, 2014 at 5:00 pm.** Comments may be submitted by hand delivery or U.S. Mail at 1000 Buena Vista Road, Bakersfield, CA 93311, or faxed to (661) 852-2127; or emailed to jmeadors@bakersfieldcity.us

Dated: February 21, 2014



Art Chianello, P.E.
Water Resources Manager

Notice of Lien Sale at Public Auction

Notice is hereby given that personal property in the following units will be sold at public auction on Monday, April 21, 2014 at 11:15 AM pursuant to the California Self-Storage Facility Act. The sale will be conducted at:
 U-Haul Moving and Storage of Panama Lane
 4500 Panama Lane
 Bakersfield, California, 93313

- The items to be sold are generally described as follows: Clothing, furniture and/or other household items stored by the following persons:
 114 ESMERALDA AARGON
 140 SIKHINDER SINGH
 213 JUAN VASQUEZ
 219 ALBERTO RAZA
 237 SCYRELLA WILLIAMS
 256 ASHLEY TOMSENDD
 268 JUSTIN HANSON
 277 ANITA GONZALES
 278 ANITA GONZALES
 369 ANITA GONZALES
 372 ANITA GONZALES
 372 ANITA GONZALES
 400 KIM MARTINEZ
 412 TRAVIS BENSON
 417 KIA HAMILTON
 458 CARMEN MARTINEZ
 462 ESTELIA OCEGUEDA
 482 CHRISTY SULA
 499 RON MACALAM
 501 ELVIS MERRIEWEATHER
 571 PEGGY ROMAIN
 585 MARQUISHA RANBRINOR
 609 VICTORIA HENDERSON

April 7, 14, 2014
 13477748

THE KERN HIGH SCHOOL DISTRICT
 BID REQUEST

Notice is hereby given that sealed bids will be received by the Undersigned for Bid No. 2671 - Bridge High School Cyber Modernization Phase Three for graphic Arts. All bids must be received at the Kern High School District Office of Business Services, 5801 Sundale Avenue, Bakersfield, CA by 2:00 p.m. on Wednesday, April 30, 2014 and will be publicly opened in Conference Room E (Board Room) at that time.

The Plans and Specifications, including Standard Proposal Form, to be used for bidding on this project are available at no expense on the Kern High School District Website at www.kernhigh.org. In the event you are unable to download and/or print electronic copies, the bid documents will be available at the Kern High School District Business Services, 5801 Sundale Avenue, Bakersfield, CA 93309. No deposit required on first set of bid documents. A \$100.00 deposit is required for each additional set of bid documents and is refundable upon return of documents in 14 days after bid opening. All shipping charges must be prepaid.

State law and regulations adopted by the Office of Public School Construction required that State-funded programs have participation goals of three (3) percent for Disabled Veteran Business Enterprise (DVEB) as defined in Public Contract Code 10115.1. To be considered, DVEB participation goals as specified in the regulations.

This project is a prevailing wage project. Owner has ascertained the general prevailing rate of per diem wages in the locality in which this work is to be performed for each craft or type of worker needed to execute this contract. These rates are on file at Owner's office, and a copy may be obtained upon request, or at www.dir.ca.gov. A copy of these rates shall be posted at the job site.

It shall be mandatory upon the contractor to whom the contract is awarded (CONTRACTOR), and upon any subcontractor, to pay not less than the specified rates to all workers employed by them in the execution of the contract.

This project is subject to the requirements of Subchapter 4.5 of Chapter 8 of Title 8 of the California Code of Regulations. Contractor and all subcontractors must furnish certified payroll records to the California Department of Industrial Relations (DIR) Compliance Monitoring Unit (CMU). A limited exemption from prevailing wage does not apply. Electronic certified payroll reports must be submitted weekly to and will be monitored by the Compliance Monitoring Unit (CMU) of DIR. Construction contractors required to report payroll electronically can obtain assistance to use the service (eCPWR) by accessing the website <http://apps.dir.ca.gov/eCPWR/DAS/alloppn>.

The following notice is given as required by Labor Code Section 1771.5(b)(1): CONTRACTOR and any subcontractors are required to review and comply with the provisions of the California Labor Code, Part 7, Chapter 1, beginning with Section 1720, as more fully discussed in the Contract Documents. These sections contain specific requirements concerning for example, determination and payment of prevailing wages, retention, inspection, and auditing payroll records, use of apprentices, payment of overtime or fines which may be imposed for violations of the requirements of the chapter. Submission of a bid constitutes CONTRACTORS' representation that CONTRACTOR has thoroughly reviewed these requirements.

In order to perform the work required by this contract, contractor must possess the following type of license/certification issued by the State of California: B

The Board of Trustees of the Kern High School District reserves the right to reject all bids and/or waive any irregularities in a bid.

Kern High School District
 Scott Cole
 Assistant Superintendent, Business

Agent for Office of Public School Construction
 By: Richard J. Ruiz, Director, Business Services
 April 14, 2014
 13493863

NOTICE OF PUBLIC HEARING
 URBAN WATER MANAGEMENT PLANNING ACT
 CALIFORNIA WATER CODE SECTION 10610, et seq.

NOTICE IS HEREBY GIVEN that a public hearing will be held before the Water Board of the City of Bakersfield on Wednesday, April 23, 2014 at 2:00 p.m., or as soon thereafter as the matter may be heard in the City of Bakersfield Water Resources Department Conference Room, 1000 Buena Vista Road, Bakersfield, CA 93311 to consider adoption of its 2010 Draft Urban Water Management Plan (Plan).

The 2010 Draft Urban Water Management Plan was prepared pursuant to the "Urban Water Management Planning Act," California Water Code, Sections 10608 through 10656. The Water Department's draft Plan requires every urban water supplier to prepare and adopt a Plan and periodically update that plan at least once every five years on or before December 31st in years ending in five and zero.

The City invites all interested parties and groups to attend and present their comments. A copy of the Draft 2010 Plan is available at the same location and on the City's website www.bakersfieldca.gov.

All written comments must be received by the City of Bakersfield Water Resources Department, 1000 Buena Vista Road, Bakersfield, CA 93311 on or before the public hearing date/time indicated above. Comments may be submitted by hand delivery, U.S. Mail, FAX: (661)522-2127, or email to inquiries@bakersfieldca.gov. If you challenge the action taken on a specific project in court, you may be limited to addressing only those issues raised at the public hearing or in written correspondence delivered to the City of Bakersfield.

Dated: February 21, 2014
 April 7, 14, 2014 13476615

/s/ Art Charello
 Art Charello, P. E.
 Water Resources Manager

Notice of the Lien No. 1901 Replacement Project

On March 31, 2014, Mojave Pipeline Company, L.L.C. ("Mojave") on behalf of itself and Kern River Gas Transmission Company ("Kern River") (together the Applicants) filed an Order for Enforcement of a Federal Energy Regulatory Commission ("FERC") in District No. CP14-229-000 for enforcement of its existing Lien No. 1901 located in Kern County, California ("the Lien"). The Lien No. 1901 Replacement Project ("Project"), the proposed Project will require the replacement of two segments of pipeline totaling 1,825 feet.

Mojave maintains its principal place of business in Colorado Springs, Colorado, and is engaged in the business of transporting natural gas in the states of Arizona and California. Mojave has mailed notices to affected landowners. If you have not received such a notice, your property is not directly impacted and most likely not within the Project area. The full project description can be found in Applicants' Federal Energy Regulatory Commission application, available for review at the Telford Library, 27 Emmans Park Drive, Tall, California, 93268, or is accessible online through FERC's website at <http://www.ferc.gov>. The FERC website also provides a summary of landowner rights in FERC proceedings. Questions concerning this project may be directed to Mojave's representative, Ms. Malinda Ristner, at 1-877-598-5263.

April 14, 21, 2014
 13493197

Community Action Partnership of Kern
 NOTICE FOR PROPOSALS

Community Action Partnership of Kern ("CAPK") issues this notice and is seeking proposals for the following services/equipment:
 2014A-NRG: Replacement and/or repair of gas and electric appliances to include forced air units (FAU), wall furnaces, dual pac, water heaters, and stoves.
 2014G-NRG: Replacement and/or repair of glass windows, dual repairs, obscure bathroom glass, and glass pick-up.

Proposals Due: Before 2:00 PM on May 2, 2014.
 Any interested party may obtain the proposal packets without charge by visiting www.capk.org business and clicking on the Open RFIs link.

All proposals will be evaluated and rated according to a pre-determined set of criteria established by CAPK. CAPK's Board of Directors or their duly appointed representatives will make all binding contracting decisions. Special attention to all federally required assurances and certifications, the provision of Contract Work Hours and Safety Standards Act, the Copeland Anti-Subcontract Act (18 USC §874 and 40 USC §2752-29 CFR 3), and standards of the Federal, state and local laws and regulations pertaining to labor and employment. Offerors must include a performance bond with their proposal and provisions for Equal Employment Opportunity, Affirmative Action, Minority Business Enterprises and Subcontracting. Clean Air Act, Bay-Delta Collaborating Agencies and Delta and the Final Agreement, Utilization of Women & Minority Business Enterprises, and the Final Opportunity for Special Disabled Veterans are required. CAPK reserves the right to reject any or all proposals or to waive any informality in the proposal process.

No Withdrawal of Bid Proposals. Proposals shall not be withdrawn by any bidder for a period of sixty (60) days after the opening of Bid Proposals. During this time all bidders shall guarantee prices quoted in their respective Proposals.

Dated this 9th day of April, 2014, in the County of Kern, State of California.
 By: Jeremy T. Tobias, Executive Director

April 13, 14, 15, 16, 17, 18 & 19, 2014
 13494166

NOTICE TO CONTRACTORS

Notice Inviting Bids: County of Kern Sheriff's Office ("Owner"). Owner will receive sealed bids at the County of Kern, General Services Division of the County Administrator's Office, 1115 Truxton Avenue, Third Floor Bakersfield, California 93301, 4639 until 10:59 A.M. on May 27, 2014 for the following public work: HVAC Upgrades 1415 Truxton Ave., Phase 3

The project, consists of the removal and replacement of one (1) 550 ton centrifugal liquid chiller and water pumps, associated plumbing and electrical controls. Installation of a filtration system to the water supply shall be an alternate bid item.

Work shall be completed within one hundred (100) Working Days from the date when Contract Time commences to run.

Performance of Bidding Documents: Interested bidders shall purchase Plans, Specifications and Bid Proposal forms to be used for bidding this project by contacting the County Administrator's Office, 1100 18th Street, Bakersfield, CA 93301, or phone them at 661-327-2501. The contractor responsible for the bid to verify that all addenda has been received. Addenda will only be available by the Bid Preparation Services Co. Bid Proposals that do not contain a signed cover sheet for all addenda may, in the sole discretion of the County be rejected as non-responsive.

Instructions: Bidders shall refer to Document 00200 Instructions to Bidders for required documents and items to be submitted in a sealed envelope. Sealed proposals will be received on the date and time indicated in Paragraph 1.01, at the following location:
 Delivered in person, by courier service or by mail to the County of Kern, General Services Division of the County Administrator's Office, 1115 Truxton Avenue, Third Floor, Bakersfield, California 93301.

It is the sole responsibility of the Bidder to arrive at the General Services Division third floor main lobby at least ten (10) minutes prior to the bid receipt deadline to receive a last time stamp. The time stamp clock in the main lobby of General Services shall be the official time stamp. Any bid received at or after 11:00 A.M. will be returned unopened. Soon after 11:00 A.M. the bids will be publicly opened and read in the third floor conference room of the County Administrator's Office.

Mandatory Pre-Bid Site Visit: Owner will conduct a Mandatory Pre-Bid Conference and Site Visit at 10:30 a.m. on April 22, 2014. Interested bidders shall assemble (on foot) in the parking lot immediately north of 1150 "I" Street, Bakersfield, California 93301. In Contractors should allow additional time to be added to the start of the final crossing. Reservation of Rights: Owners specifically reserves the right to amend the final crossing, any or all bids, to re-bid, or to waive inconsequential defects in bidding not involving time, price or quality of the work.

Required Contractor's Licenses: A California "B" contractor's license is required to bid this contract. Joint ventures must secure a joint venture license prior to award of this contract.

Substitution of Securities: Owner will permit the successful bidder to substitute securities for any retention monies withheld to ensure performance of the contract, as set forth in Document 00 6290 Escrow Agreement For Security Deposits in Lieu Of Retention and incorporated herein in full by this reference. In accordance with Section 22300 of the California Public Contract Code.

Prevailing Wage Laws: Pursuant to Part 7 of Division 2 of the California Labor Code (Section 1720 et seq.) the Contractor shall pay not less than the prevailing rate of wages to workers on this project as determined by the Director of the California Department of Industrial Relations. The time stamp clock in the main lobby of the California Department of Industrial Relations, 1400 "I" Street, Bakersfield, California 93301, and open for inspection at the County of Kern, General Services Division of the County Administrator's Office, 1115 Truxton Avenue, Third Floor, Bakersfield, California 93301, and is incorporated herein by this reference.

This project may be subject to monitoring and enforcement by the Department of Industrial Relations (DIR). In addition the obligation to submit certified, full and complete copies of the DIR Compliance Monitoring Unit (CMU) at least monthly using the CMU's eCR system. Contractor will be notified by County staff prior to the start of the project if the project is subject to this requirement. Detailed information may be obtained on the State of California's Department of Industrial Relations website, www.dir.ca.gov/dlsc/cm/CML. For projects utilizing Federal Funding, each Bidder must be licensed, as required by law, at the time the bid is submitted. For projects with Federal Funding, each Contractor must be licensed at the time the Contract is awarded.

April 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 2014
 13491007

Notice of Lien Sale at Public Auction

Notice is hereby given that personal property in the following units will be sold at public auction on Monday, April 21, 2014 at 12:15 PM pursuant to the California Self-Storage Facility Act. The sale will be conducted at:

- U-Haul
 6201 White Lane
 Bakersfield, California, 93308
- The items to be sold are generally described as follows: Clothing, furniture and/or other household items stored by the following persons:
 035 YAKINA HERNANDEZ
 041 JOSE MALDONADO
 154 SHARON RANDALL
 218 ANIANA RODRIGUEZ
 239 MIKESHA WRIGHT
 275 PAULA ROBINSON
 310 BATES HERMANDEZ
 336 BRIAN HENRY
 431 PATRIK CONWELL
 438 GABRIEL PEREZ
 439 TYROBY LINDSEY
 440 TONYA CAPERS WILLIAMS
 454 PATRICK FIEBZ
 463 TROY WORTHEN
 605 MALIA ROBINSON
 613 JANEL WILLIAMS
 617 TROY WORTHEN
 692 GINALE ROBINSON
 802 GINALE ROBINSON
 865 DAZ JANNETTE

April 7, 14, 2014
 13477737

THE KERN HIGH SCHOOL DISTRICT
 BID REQUEST

Notice is hereby given that sealed bids will be received by the Undersigned for the following ABLE Special Education Campus bids:

- Bid No. 2679 - Demolition, License A and C-21
- Bid No. 2688 - Earthwork/Paving, License A
- Bid No. 2689 - Concrete/Handrails/Play Equipment/Flag Pole, License B
- Bid No. 2690 - Storm Water/Pipe Water/Plumbing, License C-34
- Bid No. 2691 - Landscape & Irrigation, License C-27
- Bid No. 2692 - Electrical, License C-10
- Bid No. 2693 - Chain Link Fence, License C-13
- Bid No. 2694 - Signage, License C-45

All bids must be received at the Kern High School District Office of Business Services, 5801 Sundale Ave., Bakersfield, California by 2:00 p.m. on Wednesday, April 30, 2014, and will be publicly opened in Conference Room E (Board Room) at that time.

Beginning on January 1, 2014, the Kern High School District will only accept bids from prequalified contractors on certain projects pursuant to public Contract Code Section 20111.5 and/or 20111.6 and AB1565 All prices and/or subcontractors must review the bid specifications to determine whether or not prequalification is required. Get you prequalification packages started at www.kernhigh.org.

A Non-Mandatory Job Walk/Pre-Bid Meeting for the purpose of acquainting prospective bidders with the requirements of the Department of Industrial Relations Compliance Monitoring Unit (CMU)/Labor Compliance Program, Disabled Veteran Business Enterprise (DVEB) Certifications mandated by the State of California, and Contractor's subcontractor Prequalification Requirements will be held on Monday, April 21, 2014 at 9 a.m. Meet at the ABLE Special Education Campus, 3700 East Belle Terrace, Bakersfield, California 93307. Prospective bidders are urged to attend.

The Plans and Specifications, including standard proposal form, to be used for bidding on this project are available at no expense on the Kern High School District Website at www.kernhigh.org. In the event you are unable to download and/or print electronic copies, the bid documents will be available at the Kern High School District Business Services, 5801 Sundale Avenue, Bakersfield, CA 93309. No deposit required on first set of bid documents. A \$100.00 deposit is required for each additional set of bid documents and is refundable upon return of documents in 14 days after bid opening. All shipping charges must be prepaid.

State law and regulations adopted by the Office of Public School Construction required that State-funded programs have participation goals of three (3) percent for Disabled Veteran Business Enterprise (DVEB) as defined in Public Contract Code 10115.1. To be considered, DVEB participation goals as specified in the regulations.

This project is a prevailing wage project. Owner has ascertained the general prevailing rate of per diem wages in the locality in which this work is to be performed for each craft or type of worker needed to execute this contract. These rates are on file at Owner's office, and a copy may be obtained upon request, or at www.dir.ca.gov. A copy of these rates shall be posted at the job site.

It shall be mandatory upon the contractor to whom the contract is awarded (CONTRACTOR), and upon any subcontractor, to pay not less than the specified rates to all workers employed by them in the execution of the contract.

This project is subject to the California Department of Industrial Relations (DIR) Compliance Monitoring Unit (CMU). A limited exemption from prevailing wage does not apply. Electronic certified payroll reports must be submitted weekly to and will be monitored by the Compliance Monitoring Unit (CMU) of DIR. Construction contractors required to report payroll electronically can obtain assistance to use the service (eCPWR) by accessing the third party, nungovernment website <http://apps.dir.ca.gov/eCPWR/DAS/alloppn>.

The following notice is given as required by Labor Code Section 1771.5(b)(1): CONTRACTOR and any subcontractors are required to review and comply with the provisions of the California Labor Code, Part 7, Chapter 1, beginning with Section 1720, as more fully discussed in the Contract Documents. These sections contain specific requirements concerning for example, determination and payment of prevailing wages, retention, inspection, and auditing payroll records, use of apprentices, payment of overtime or fines which may be imposed for violations of the requirements of the chapter. Submission of a bid constitutes CONTRACTORS' representation that CONTRACTOR has thoroughly reviewed these requirements.

In order to perform the work required by this contract, contractor must possess the following type of license/certification issued by the State of California: see above and/or waive any irregularities in a bid.

The Board of Trustees of the Kern High School District reserves the right to reject all bids and/or waive any irregularities in a bid.

Kern High School District
 Scott Cole
 Assistant Superintendent, Business

Agent for Office of Public School Construction
 By: Richard J. Ruiz
 April 14, 2014
 13495215

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WATER RESOURCES DEPARTMENT

Art R. Chianello, P.E. • Water Resources Manager

April 22, 2014

Eric Averett, General Manager
Rosedale – Rio Bravo Water Storage District
P. O. Box 20820
Bakersfield, CA 93390-0820

RE: Comments by Rosedale Rio Bravo to 2010 Urban Water Management Plan

Dear Mr. Averett:

Thank you for your April 8, 2014 letter regarding the City of Bakersfield's ("City") 2010 Urban Water Management Plan ("UWMP"). The City appreciates the input and involvement of the Rosedale-Rio Bravo Water Storage District ("Rosedale") in the process of preparing and approving the UWMP.

The City has reviewed and considered your comments and questions regarding the UWMP, and responds as follows.

With regard to Section 1.1.1, at page 1-2, you note that it would be helpful to see, in the map at Plate 2, which areas rely on groundwater and which areas receive treated surface water. We agree, but unfortunately do not have access to that information. Many City residents, moreover, receive a combination of surface water and groundwater, so it may not be possible to produce or utilize such a map.

With regard to Section 1.2.1, at page 1-3, Rosedale's comments have been and will be considered and, where appropriate, incorporated into the final draft of the UWMP considered for adoption by the City.

With regard to Section 3.1, at page 3-3, the time period discussed and addressed in the UWMP ends in 2010. Pursuant to Water Code Sections 10608.20 and 10608.22, the time period used to calculate the 10-year baseline gpcd is "a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010." Consequently, the UWMP used calendar years 1995 through 2010. The time period used to calculate the 5-year baseline gpcd is a continuous five-year period ending "no earlier than December 31, 2007, and no later than December 31, 2010." Consequently, the UWMP used calendar years 2003 through 2010. These periods and calculations are shown on Table 4 of the UWMP.

April 22, 2014

Page 2

Comments by Rosedale Rio Bravo to 2010 UWMP

With regard to Section 3.3.1, at page 3-8, based on total current and projected future demands for water within the City (and not just the portion of the City covered by the UWMP), the City cannot project or predict that it will have any surplus, or "miscellaneous," water available to sell in the future. At the same time, the City does expect to be able to continue "to meet the water service demands of those lands that are within the City limits," including lands that are also within the boundaries of Rosedale, pursuant to Agreement No. 06-235 between the City and Rosedale.

With regard to Section 4.2.1.2, at page 4-4, your comment is noted, but the UWMP was not intended or required to address groundwater pumping by entities and individuals outside of the City's domestic service area, or City limits.

With regard to Section 4.2.3, at page 4-7, the City is very aware of and concerned with current overdraft conditions in the Kern County sub-basin. In that regard, the City is undertaking and exploring efforts and potential projects to increase groundwater recharge within the basin, including through increased recharge in the Kern River channel. The City is additionally continuing to explore ways to minimize or reduce excessive and unsustainable groundwater pumping, transfers of local water supplies outside the County, and other actions which threaten to perpetuate or increase overdraft conditions. The City has also adopted a number of policies intended to preserve and protect local water supplies, and specifically local groundwater supplies. The City, moreover, typically only pumps water which it has previously recharged within City limits, and for that reason believes that the basin can continue to serve as a source of supply for City residents.

Sincerely,



Jason Meadors
Water Resources Director
City of Bakersfield

APPENDIX E

Resolution of Plan Adoption

RESOLUTION NO. 02-14WB

**A RESOLUTION OF THE WATER BOARD COMMITTEE
OF THE COUNCIL OF THE CITY OF BAKERSFIELD
ADOPTING THE
2010 URBAN WATER MANAGEMENT PLAN**

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre foot of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the City of Bakersfield is an urban supplier of water providing water to a population of over 140,000; and

WHEREAS, the Plan shall be periodically reviewed at least once every five years, and that the City shall make any amendments or changes to its plan which are indicated by the review; and

WHEREAS, the Plan must be adopted after public review and hearing, and filed with the California Department of Water Resources; and

WHEREAS, the City has therefore, prepared and circulated for public review a draft Urban Water Management Plan, and a properly noticed public hearing regarding said Plan was held by the City of Bakersfield Water Resources Department on April 23, 2014; and

WHEREAS, the City of Bakersfield did prepare and file said Plan with the California Department of Water Resources by May 23, 2014; and

NOW, THEREFORE, BE IT RESOLVED, by the City of Bakersfield Water Board as follows:

1. The 2010 Urban Water Management Plan is hereby adopted and ordered filed with the Clerk of the Water Board;

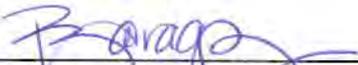
2. The Water Resources Manager is hereby authorized and directed to implement the Water Conservation Programs as set forth in the 2010 Urban Water Management Plan, which includes water shortage contingency analysis and recommendations to the City of Bakersfield Water Board regarding necessary procedures, rules, and regulations to carry out effective and equitable water conservation and water recycling programs.

3. In a water shortage, the Water Board is hereby authorized to declare a Water Shortage Emergency according to the Water Shortage Stages and Triggers indicated in the Plan, and implement necessary elements of the Plan;

-----o0o-----

I HEREBY CERTIFY that the foregoing Resolution was passed and adopted by the City of Bakersfield Water Board at a special meeting thereof held on April 23, 2014, by the following vote:

AYES: WATER BOARD MEMBER: HANSON, SMITH
NOES: WATER BOARD MEMBER: None
ABSTAIN: WATER BOARD MEMBER: None
ABSENT: WATER BOARD MEMBER: JOHNSON



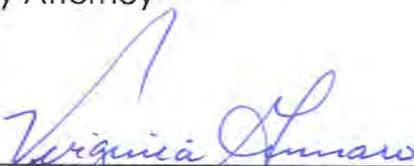
Bobbie Zaragoza, CMC, Secretary
City of Bakersfield Water Board

APPROVED April 23, 2014

By 

Harold Hanson
Chairperson of the Water Board

APPROVED AS TO FORM:
VIRGINIA GENNARO
City Attorney

By 

VIRGINIA GENNARO
City Attorney

APPENDIX F

Excerpts from “Kern River Flow and Municipal Water
Program Final Environmental Impact Report”

City of Bakersfield - Water Resources Department

Kern River Flow and Municipal Water Program

Draft Environmental Impact Report

June 2012



Dry Kern River bed looking downstream (west) from Highway 99, September 30, 2009



Kern River with streamflow, looking downstream (west) from Highway 99, May 2, 2011



Kern River Flow and Municipal Water Program Draft Environmental Impact Report

SCH# 2011021042

City of Bakersfield
Water Resources Department
1000 Buena Vista Road
Bakersfield, CA 93311

June 2012

City of Bakersfield – Water Resources Department. *Kern River Flow and Municipal Water Program—Draft Environmental Impact Report*. 2012. June. Bakersfield, CA.

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	Quantity (TAF)												Total Annual (TAF)
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
City Water Obligations													
Water Treatment Plants	0.5	1.7	1.5	1.3	1.6	2	2.1	2.1	2	1.6	1.4	1	19
Kern River Canal & Irrigating Company (KRC&I)	0.05	0.15	0.45	0.8	1.05	1.10	1.10	1.10	0.73	0.30	0.15	0.03	7
Olcese Water District	0.02	0.05	0.08	0.10	0.12	0.13	0.13	0.13	0.13	0.08	0.03	0.02	1
City Water Feature Amenities ^(c)	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	5
Miller-Haggin Obligations + Isabella Evaporation Losses, and Preexisting Delivery Obligations ^(b)	0	0	3.3	3.3	3.3	3.3	3.3	3.3	0	0	0	0	20
Long-Term Sale to Rosedale-Rio Bravo Water Storage District	3.4	3.3	3.3	0	0	0	0	0	0	0	0	0	10
<i>Current Minimum Obligations</i>	4.4	5.6	9.1	5.9	6.5	7.0	7.1	7.1	3.3	2.4	2.0	1.5	62
Kern River Water Yield (1954–2010)													
<i>City Historic Rights^(a)</i>													
Median Year	1.1	1.1	16.1	18.4	22.5	20.1	9.9	0.7	0	0	0.1	0.4	90
Average Year (mean)	1.5	1.7	17.1	19.7	28.3	25.2	14.2	5.9	0.4	0.3	0.4	1.1	116
Dry Year (25th percentile)	0.3	0.8	8.0	13.6	16.3	11.3	1.8	0	0	0	0	0	52
Wet Year (75th percentile)	1.4	1.3	24	24.8	36.4	31.9	19.9	11.4	0.9	0.7	0.8	1.1	155
<i>Kern River Canal & Irrigating Company (KRC&I) Laterals</i>													
Median Year	0	0	0	0.8	3.5	2.5	0	0	0	0	0	0	7
Average Year (mean)	1.2	1.3	0.5	2	4.7	3.7	1.1	0.3	0.2	0	0.2	1	16
Dry Year (25th percentile)	0	0	0	0.1	1.3	0.4	0	0	0	0	0	0	2
Wet Year (75th percentile)	0.7	0.5	0.8	3.4	7.2	5.8	1.6	0	0	0	0	0	20
<i>Old South Fork Right</i>													
Median Year	0.5	0.5	0	0.2	0.3	0.2	0.1	0	0	0	0.1	0.2	2
Average Year (mean)	0.4	0.4	0.1	0.2	0.3	0.3	0.2	0.1	0.2	0.2	0.2	0.3	3
Dry Year (25th percentile)	0.1	0.4	0	0.1	0.2	0.1	0	0	0	0	0	0	1
Wet Year (75th percentile)	0.6	0.6	0.1	0.3	0.3	0.3	0.2	0.1	0.5	0.3	0.4	0.6	4
<i>Total Historic City Water Yield: Sum of City Base, KRC&I Laterals, and Old South Fork Deliveries</i>													
Median Year	1.6	1.6	16.2	19.4	26.4	22.8	10	0.7	0.1	0	0.2	0.5	99
Average Year (mean)	3	3.5	17.7	21.9	33.3	29.2	15.5	6.4	0.8	0.5	0.8	2.4	135
Dry Year (25th percentile)	0.4	1.2	8	13.8	17.8	11.8	1.8	0	0	0	0	0.1	55
Wet Year (75th percentile)	2.7	2.3	24.9	28.5	44	38	21.7	11.6	1.4	1	1.2	1.7	179

Table 2-2. (continued) City of Bakersfield Current Minimum Obligations and Kern River Yields

	Quantity (TAF)												Total Annual (TAF)
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	

Notes: TAF = thousand acre-feet

(a) Water deliveries do not include water released by other rights holders or the City of Bakersfield.

(b) Miller-Haggin Obligations include river channel and canal recharge to make deliveries to first point canals below the Kern Island right and to deliver second point water and lower River water to second point undiminished during the March-August period. Preexisting delivery obligations are from agreements assumed by the City upon the City's purchase of Kern River water rights. These include agreements with Kern County for Isabella Recreation Pool, Lake Ming, and Hart Park. Other year to year miscellaneous water sales are not included in the City Existing Water Obligations.

(c) City Water Feature Amenities = Truxtun Lakes, The Park at RiverWalk, Aera Park Pond, Wilson Ponds, etc.

Note: This table is reproduced in Chapter 3, Section 3.7 "Water Supply and Groundwater Resources" as Table 3.7-1

City of Bakersfield - Water Resources Department

Kern River Flow and Municipal Water Program

Final Environmental Impact Report

September 2012



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APPENDIX G

State Water Project Study

The State Water Project

Final Delivery Reliability Report 2011

June 2012

State of California
Natural Resources Agency
Department of Water Resources



State of California

Edmund G. Brown Jr., Governor

California Natural Resources Agency

John Laird, Secretary for Natural Resources

Department of Water Resources

Mark W. Cowin, Director

Susan Sims

Chief Deputy Director

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Bay-Delta Office

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Christopher Quan, Engineer, Bay-Delta Office

Daniel Teixeira, Staff Services Analyst, Administrative and Executive Services Office

Prepared by AECOM

Director's Message

The *State Water Project Delivery Reliability Report 2011* (2011 Report) is the latest update to a biannual report that describes the existing and future conditions for State Water Project (SWP) water supply that are expected if no significant improvements are made to convey water past the Sacramento–San Joaquin Delta (Delta) or to store the more variable runoff that is expected with climate change.

This report is presented in a different format than previous versions. The four previous reports were written for a dual audience—both the general public and those interested in a greater level of technical detail, such as the SWP contractors. By contrast, this report is written primarily with the public in mind. As a result, it not only provides updated information about the SWP's water delivery reliability, but is also designed to educate Californians about the SWP and its operations. This report presents a concise description of the historical events leading to the construction of the SWP and describes the SWP's facilities and operations. It then defines and explains the concept of water delivery reliability and the types of SWP water available to contractors, and describes various factors that affect the reliability of water deliveries. Because of the public interest in water project pumping from the Delta and the dependence of SWP water supply on Delta pumping, a new chapter has been added that focuses specifically on SWP pumping (exports) at the Harvey O. Banks Pumping Plant in the Delta.

The 2011 Report shows that the SWP continues to be subject to reductions in deliveries similar to those contained in the *State Water Project Delivery Reliability Report 2009* (2009 Report), caused by the operational restrictions of biological opinions (BOs) issued in December 2008 and June 2009 by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) to govern SWP and Central Valley Project operations. Federal court decisions have remanded the BOs to USFWS and NMFS for further review and analysis. We expect that the current BOs will be replaced sometime in the future. The operational rules defined in the 2008 and 2009 BOs, however, continue to be legally required and are the rules used for the analyses supporting the 2011 Report.

The following “Summary” includes key findings of the analyses in the 2011 Report. A technical addendum is also available which provides detail on the assumptions of the analyses and the results for the 2011 Report. The results of the studies, as presented in this report and the technical addendum, are designed to assist water planners and managers in updating their water management and infrastructure development plans. These results emphasize the need for local agencies to develop a resilient and robust water supply, and a distribution and management system to maximize the efficient use of our variable supply. They also illustrate the urgent need to improve the method of conveying water past the Delta in a more sustainable manner that meets the dual goals of increasing water delivery reliability and improving conditions for endangered and threatened fish species.

Mark Cowin
Director
California Department of Water Resources
June 2012

Summary



This report is intended to inform the public about key factors important to the operation of the SWP and the reliability of its water deliveries.

California faces a future of increased population growth coupled with the potential for water shortages and pressures on the Delta. For many SWP water contractors, water provided by the SWP is a major component of all the water supplies available to them. SWP contractors include cities, counties, urban water agencies, and agricultural irrigation districts. These local utilities and other public and private entities provide the water that Californians use at home and work every day and that helps to nourish the state's bountiful crops. Thus, the availability of water to the SWP becomes a planning issue that ultimately affects the amount of water that local residents and communities can use.

The availability of these water supplies may be highly variable. A wet water year may be followed by a dry or even critical year. Knowing the probability that they will receive a certain amount of SWP water in a given year—whether it be a wet water year, a critical year, or somewhere in between—

gives contractors a better sense of the degree to which they may need to implement increased conservation measures or plan for new facilities.

The Delta is the key to the SWP's ability to deliver water to its agricultural and urban contractors. All but three of the 29 SWP contractors receive water deliveries from the Delta (pumped by either the Harvey O. Banks or Barker Slough Pumping Plant).

Yet the Delta faces numerous challenges to its long-term sustainability. Among these are continued subsidence of Delta islands, many of which are already below sea level, and the related threat of a catastrophic levee failure as water pressure increases on fragile levees. Climate change poses the threat of increased variability in floods and droughts, and sea level rise complicates efforts to manage salinity levels and preserve water quality in the Delta so that the water remains suitable for urban and agricultural uses.

Protection of endangered and threatened fish species, such as the delta smelt, is also an important factor of concern for the

Delta. Ongoing regulatory restrictions, such as those imposed by federal biological opinions on the effects of SWP and CVP operations on these species, also contribute to the challenge of determining the SWP's water delivery reliability.

The analyses in this report factor in all of the regulations governing SWP operations in the Delta and upstream, and assumptions about water uses in the upstream watersheds.

Modeling was conducted that considered the amounts of water that SWP contractors use and the amounts of water they choose to hold for use in a subsequent year.

Many of the same specific challenges to SWP operations described in the *State Water Project Delivery Reliability Report 2009* (2009 Report) remain in 2011. Most notably, the effects on SWP pumping caused by issuance of the 2008 and 2009 federal biological opinions, which were reflected in the 2009 Report, continue to affect SWP delivery reliability today. The analyses in this report factor in climate change and the effects of sea level rise on water quality, but do not incorporate the probability of catastrophic levee failure. The resulting differences between the 2009 and 2011 Reports can be attributed primarily to updates in the modeling assumptions and inputs.

As noted in the discussion of SWP exports in Chapter 5 of this report, Delta exports (that is, SWP water of various types pumped by and transferred to contractors from the Banks Pumping Plant) have decreased since 2005, although the bulk of the change occurred by 2009

as the federal BOs went into effect, restricting operations. These effects are also reflected in the SWP delivery estimates provided in Chapters 6 and 7 of this report. Chapters 6 and 7 characterize the SWP's water delivery reliability under existing conditions and future conditions, respectively. The following are a few of the key points from Chapters 5, 6, and 7:

- Estimates of average annual SWP exports under conditions that exist for 2011 are 2,607 thousand acre-feet (taf), 350 taf or 12% less than the estimate under 2005 conditions.
- The estimated average annual SWP exports decrease from 2,607 taf/year to 2,521 taf/year (86 taf/year or about 3%) between the existing- and future-conditions scenarios.
- The estimates in this report for Table A water supply deliveries are not significantly different from those in the 2009 Report. The average annual delivery estimated for existing conditions (2,524 taf/year) is 2% greater, and the estimated amount for future conditions (2,466 taf/year) is 1% less than the corresponding estimates in the 2009 Report.
- The likelihood of SWP Article 21 deliveries (supplemental deliveries to Table A water) being equal to or less than 20 taf/year has increased relative to that estimated in the 2009 Report. However, both this report and the 2009 Report show a high likelihood that Article 21 water deliveries will be equal to or less than 20 taf/year, ranging between 71% and 78% for both existing and future conditions.

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APPENDIX H

Excerpts from “Department of Water Resources’
California Groundwater Bulletin 118 on the San
Joaquin Valley Groundwater Basin”



BULLETIN 118 · UPDATE 2003

CALIFORNIA'S GROUNDWATER

Cover photograph:

A typical agricultural well with the water discharge pipe and the electric motor that drives the pump.

Inset photograph:

Groundwater recharge ponds in the Upper Coachella Valley near the Whitewater River that use local and imported water. Recharge ponds are also called spreading basins or recharge basins.



State of California
The Resources Agency
Department of Water Resources

CALIFORNIA'S GROUNDWATER

BULLETIN 118 *Update 2003*

October 2003

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If you need this publication in an alternate form, contact the Department's Office of Water Education at 1-800-272-8869.

Foreword

Groundwater is one of California's greatest natural resources. In an average year, groundwater meets about 30 percent of California's urban and agricultural water demands. In drought years, this percentage increases to more than 40 percent. In 1995, an estimated 13 million Californians, nearly 43 percent of the State's population, were served by groundwater. The demand on groundwater will increase significantly as California's population grows to a projected 46 million by the year 2020. In many basins, our ability to optimally use groundwater is affected by overdraft and water quality impacts, or limited by a lack of data, management, and coordination between agencies.

Over the last few years, California voters and the Legislature have provided significant funding to local agencies for conjunctive use projects, groundwater recharge facilities, groundwater monitoring, and groundwater basin management activities under Proposition 13 and the Local Groundwater Management Assistance Act of 2000. Most recently, the 2002 passage of Proposition 50 will result in additional resources to continue recent progress toward sustaining our groundwater resources through local agency efforts. We are beginning to see significant benefits from these investments.

The State Legislature recognizes the need for groundwater data in making sound local management decisions. In 1999, the Legislature approved funding and directed the Department of Water Resources (DWR) to update the inventory of groundwater basins contained in Bulletin 118 (1975), *California's Ground Water* and Bulletin 118-80 (1980), *Ground Water Basins in California*. In 2001, the Legislature passed AB 599, requiring the State Water Resources Control Board to establish a comprehensive monitoring program to assess groundwater quality in each groundwater basin in the State and to increase coordination among agencies that collect groundwater contamination information. In 2002, the Legislature passed SB 1938, which contains new requirements for local agency groundwater management plans to be eligible for public funds for groundwater projects.

Effective management of groundwater basins is essential because groundwater will play a key role in meeting California's water needs. DWR is committed to assisting local agencies statewide in developing and implementing effective, locally planned and controlled groundwater management programs. DWR is also committed to federal and State interagency efforts and to partnerships with local agencies to coordinate and expand data monitoring activities that will provide necessary information for more effective groundwater management. Coordinated data collection at all levels of government and local planning and management will help to ensure that groundwater continues to serve the needs of Californians.



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- California Department of Pesticide Regulation
- California Department of Toxic Substances Control
- California Department of Health Services
- California State Water Resources Control Board
- California Regional Water Quality Control Boards
- United States Geological Survey
- United States Bureau of Reclamation

We also wish to thank numerous reviewers who provided valuable comments on the April 2003 public review draft of this bulletin.

Acronyms and abbreviations

AB	Assembly Bill
BMO	Basin management objective
CAS	California Aquifer Susceptibility
CVP	Central Valley Project
DBCP	Dibromochloropropane
DCE	Dichloroethylene
DHS	California Department of Health Services
 DPR	California Department of Pesticide Regulation
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
DWSAP	Drinking Water Source Assessment Program
EDB	Ethylene dibromide
EC	Electrical conductivity
EMWD	Eastern Municipal Water District
EWMP	Efficient water management
EPA	U.S. Environmental Protection Agency
ESA	Federal Endangered Species Act
ET	Evapotranspiration
ETAW	Evapotranspiration of applied water
EWA	Environmental Water Account
GAMA	Groundwater Ambient Monitoring and Assessment
GIS	Geographic information system
GMA	Groundwater Management Agency
gpm	Gallons per minute
GRID	Groundwater Resources Information Database
GRIST	Groundwater Resources Information Sharing Team
H & S	Health and Safety Code
HR	Hydrologic region
ISI	Integrated Storage Investigations
ITF	Interagency Task Force
JPA	Joint powers agreement
maf	Million acre-feet
MCL	Maximum contaminant level
mg/L	Milligrams per liter
MOU	Memorandum of understanding
MTBE	Methyl tertiary-butyl ether
OCWD	Orange County Water District
PAC	Public Advisory Committee
PCE	Tetrachloroethylene
PCA	Possible contaminating activity
PPIC	Public Policy Institute of California
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SGA	Sacramento Groundwater Authority
SVOC	Semi-volatile organic compound
SVWD	Scotts Valley Water District
SWRCB	State Water Resources Control Board

taf Thousand acre-feet
TCE Trichloroethylene
TDS Total dissolved solids
UWMP Urban water management plan
USACE U.S. Army Corps of Engineers
USBR U.S. Bureau of Reclamation
USC United States Code
USGS U.S. Geological Survey
VOC Volatile organic compound
WQCP Water Quality Control Plan

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San Joaquin River Hydrologic Region

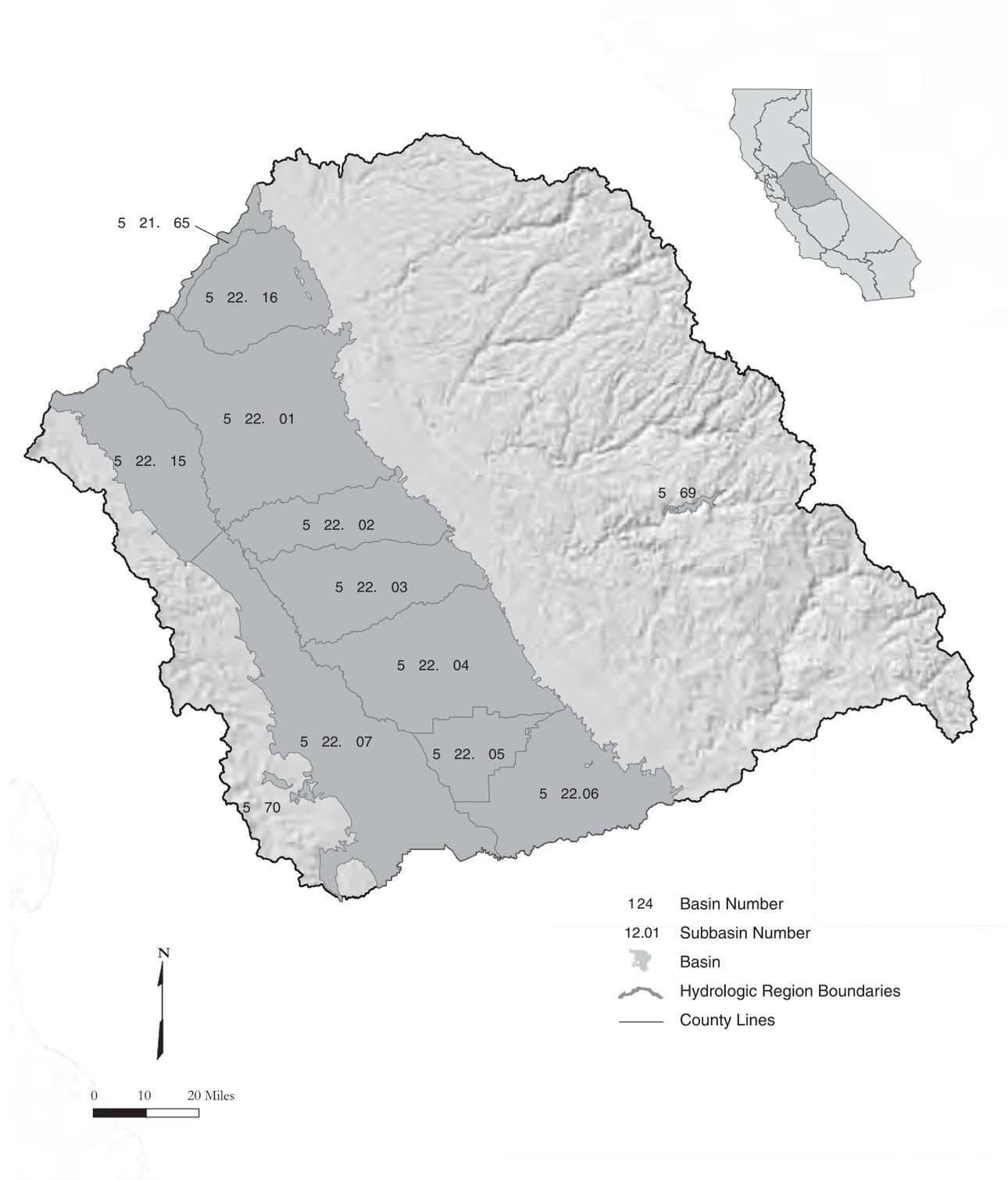


Figure 35 San Joaquin River Hydrologic Region

Basins and Subbasins of the San Joaquin River Hydrologic Region

Basin/subbasin	Basin name
5-22	San Joaquin Valley
5-22.01	Eastern San Joaquin
5-22.02	Modesto
5-22.03	Turlock
5-22.04	Merced
5-22.05	Chowchilla
5-22.06	Madera
5-22.07	Delta-Mendota
5-22.15	Tracy
5-22.16	Cosumnes
5-69	Yosemite Valley
5-70	Los Banos Creek Valley

Description of the Region

The San Joaquin River HR covers approximately 9.7 million acres (15,200 square miles) and includes all of Calaveras, Tuolumne, Mariposa, Madera, San Joaquin, and Stanislaus counties, most of Merced and Amador counties, and parts of Alpine, Fresno, Alameda, Contra Costa, Sacramento, El Dorado, and San Benito counties (Figure 35). The region corresponds to a portion near the middle of RWQCB 5. Significant geographic features include the northern half of the San Joaquin Valley, the southern part of the Sacramento-San Joaquin Delta, the Sierra Nevada and Diablo Range. The region is home to about 1.6 million people (DWR 1998). Major population centers include Merced, Modesto, and Stockton. The Merced area is entirely dependent on groundwater for its supply, as will be the new University of California at Merced campus.

Groundwater Development

The region contains two entire groundwater basins and part of the San Joaquin Valley Groundwater Basin, which continues south into the Tulare Lake HR. The San Joaquin Valley Groundwater Basin is divided into nine subbasins in this region. The basins underlie 3.73 million acres (5,830 square miles) or about 38 percent of the entire HR area.

The region is heavily groundwater reliant. Within the region groundwater accounts for about 30 percent of the annual supply used for agricultural and urban purposes. Groundwater use in the region accounts for about 18 percent of statewide groundwater use for agricultural and urban needs. Groundwater use in the region accounts for 5 percent of the State's overall supply from all sources for agricultural and urban uses (DWR 1998).

The aquifers are generally quite thick in the San Joaquin Valley subbasins, with groundwater wells commonly extending to depths of up to 800 feet. Aquifers include unconsolidated alluvium and consolidated rocks with unconfined and confined groundwater conditions. Typical well yields in the San Joaquin Valley range from 300 to 2,000 gpm with yields of 5,000 gpm possible. The region's only significant basin located outside of San Joaquin Valley is Yosemite Valley. Yosemite Valley Basin supplies water to Yosemite National Park and has substantial well yields.

Conjunctive Use

Since near the beginning of the region's agricultural development, groundwater has been used conjunctively with surface water to meet water needs. Groundwater was and is used when and where surface water is unable to fully meet demands either in time or area. For several decades, this situation was more of an incidental conjunctive use than a formal one. Historical groundwater use has resulted in some land subsidence in the southwest portion of the region.

Groundwater Quality

In general, groundwater quality throughout the region is suitable for most urban and agricultural uses with only local impairments. The primary constituents of concern are TDS, nitrate, boron, chloride, and organic compounds. The Yosemite Valley Groundwater Basin has exceptionally high quality groundwater.

Areas of high TDS content are primarily along the west side of the San Joaquin Valley and in the trough of the valley. The high TDS content of west-side groundwater is due to recharge of streamflow originating from marine sediments in the Coast Range. High TDS content in the trough of the valley is the result of concentration of salts due to evaporation and poor drainage. Nitrates may occur naturally or as a result of disposal of human and animal waste products and fertilizer. Boron and chloride are likely a result of concentration from evaporation near the valley trough. Organic contaminants can be broken into two categories, agricultural and industrial. Agricultural pesticides and herbicides have been detected in groundwater throughout the region, but primarily along the east side of the San Joaquin Valley where soil permeability is higher and depth to groundwater is shallower. The most notable agricultural contaminant is dibromochloropropane (DBCP), a now-banned soil fumigant and known carcinogen once used extensively on grapes and cotton. Industrial organic contaminants include TCE, dichloroethylene (DCE), and other solvents. They are found in groundwater near airports, industrial areas, and landfills.

Water Quality in Public Supply Wells

From 1994 through 2000, 689 public supply water wells were sampled in 10 of the 11 basins and subbasins in the San Joaquin River HR. Samples analyzed indicate that 523 wells, or 76 percent, met the state primary MCLs for drinking water. One-hundred-sixty-six wells, or 24 percent, have constituents that exceed one or more MCL. Figure 36 shows the percentages of each contaminant group that exceeded MCLs in the 166 wells.

Table 28 lists the three most frequently occurring contaminants in each of the six contaminant groups and shows the number of wells in the HR that exceeded the MCL for those contaminants.

Changes from Bulletin 118-80

The subbasins of the San Joaquin Valley, which were delineated as part of the 118-80 update, are given their first numeric designation in this report. Additionally, the Cosumnes Subbasin has been added to the subbasins within the San Joaquin River HR. It is worth noting that the southern portion of the South American Subbasin of the Sacramento Valley Groundwater Basin is also included as part of this HR. The subbasin names and numbers within the region are listed in Table 29.

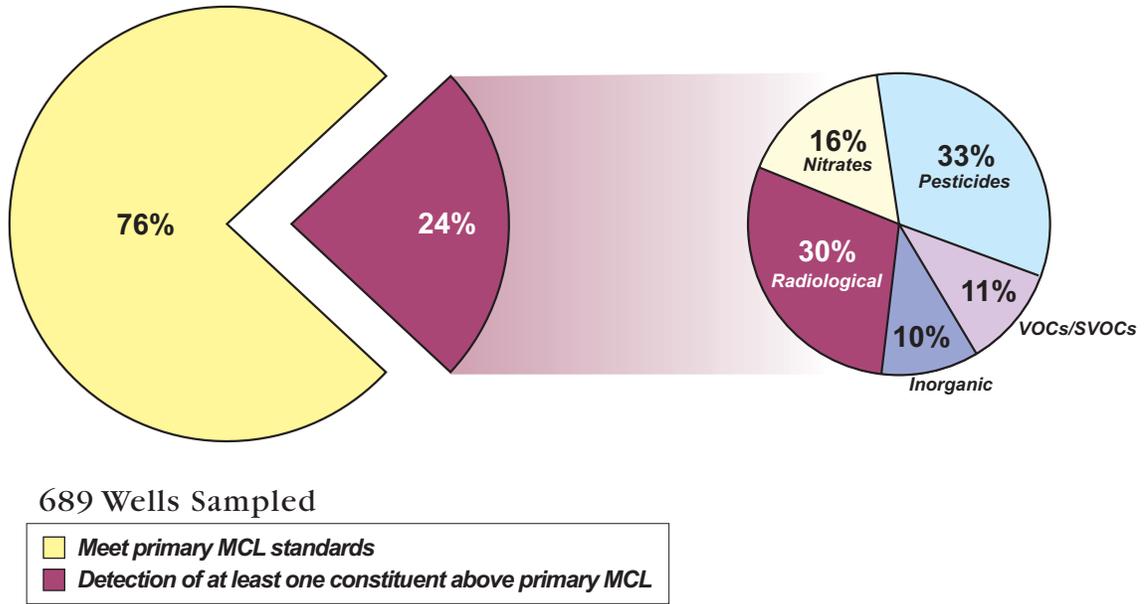


Figure 36 MCL exceedances in public supply wells in the San Joaquin River Hydrologic Region

Table 28 Most frequently occurring contaminants by contaminant group in the San Joaquin River Hydrologic Region

Contaminant group	Contaminant - # of wells	Contaminant - # of wells	Contaminant - # of wells
Inorganics – Primary	Aluminum – 4	Arsenic – 4	4 tied at 2 exceedances
Inorganics – Secondary	Manganese – 123	Iron – 102	TDS – 9
Radiological	Uranium – 33	Gross Alpha – 26	Radium 228 – 6
Nitrates	Nitrate (as NO ₃) – 23	Nitrate + Nitrite – 6	Nitrate Nitrogen (NO ₃ -N) – 3
Pesticides	DBCP – 44	Di(2-Ethylhexyl)phthalate – 11	EDB – 6
VOCs	PCE – 8	Dichloromethane – 3	TCE – 3

DBCP = Dibromochloropropane
 EDB = Ethylenedibromide
 PCE = Tetrachloroethylene
 TCE = Trichloroethylene
 VOC = Volatile Organic Compound
 SVOC = Semivolatile Organic Compound

Table 29 Modifications since Bulletin 118-80 of groundwater basins and subbasins in San Joaquin Hydrologic Region

Subbasin name	New number	Old number
Eastern San Joaquin	5-22.01	5-22
Modesto	5-22.02	5-22
Turlock	5-22.03	5-22
Merced	5-22.04	5-22
Chowchilla	5-22.05	5-22
Madera	5-22.06	5-22
Delta-Mendota	5-22.07	5-22
Tracy	5-22.15	5-22
Cosumnes	5-22.16	5-22

Table 30 San Joaquin River Hydrologic Region groundwater data

Basin/Subbasin	Basin Name	Area (acres)	Groundwater Budget Type	Well Yields (gpm)		Types of Monitoring			TDS (mg/L)	
				Maximum	Average	Levels	Quality	Title 22	Average	Range
5-22	SAN JOAQUIN VALLEY									
5-22.01	EASTERN SAN JOAQUIN	707,000	A	1,500	-	345	69	540	310	30 - 1,632
5-22.02	MODESTO	247,000	B	4,500	1000-2000	230	15	209	60-500	200-8300
5-22.03	TURLOCK	347,000	B	4,500	1000-2000	307	0	163	200-500	100-8300
5-22.04	MERCED	491,000	B	4,450	1500-1900	378	0	142	200-400	100-3600
5-22.05	CHOWCHILLA	159,000	B	4,750	750-2000	203	0	28	200-500	120-6400
5-22.06	MADERA	394,000	B	4,750	750-2000	378	0	127	200-400	100-6400
5-22.07	DELTA-MENDOTA	747,000	B	5,000	800-2000	816	0	120	770	210-86,000
5-22.15	TRACY	345,000	C	3,000	500-3,000	18	14	183	1,190	210-7,800
5-22.16	COSUMNES	281,000	A	1,500	-	75	13	72	218	140-438
5-69	YOSEMITE VALLEY	7,500	C	1,200	900	0	0	3	54	43-73
5-70	LOS BANOS CREEK VALLEY	4,840	C	-	-	0	0	0	-	-

gpm - gallons per minute
 mg/L - milligram per liter
 TDS -total dissolved solids

APPENDIX I

2012 Consumer Confidence Report



2012 Water Quality Report

Bakersfield District

The City of Bakersfield's
Domestic Water System



Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.





2012 Water Quality Report Bakersfield District

The City of Bakersfield's
Domestic Water System

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Why Does My Water Do That?
Why Does My Water Smell Like That?
Should I Buy a Home Filtration Unit?
What Gives Tap Water Its Flavor?
Why Does Cal Water Flush Water?
What's the Deal With Fluoride?
How Hard Is My Water?



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IN THE NEWS

Q & A

CBK

California Water Service Company (Cal Water) and the City of Bakersfield's Water Resources Department are committed to improving the quality of life in the community we serve by providing a reliable supply of high-quality water, participating actively in our community, and operating in a way that demonstrates our respect for the environment.

"Improving the quality of life" may seem like a tall order for a water utility, but imagine how different life would be if you had to carry the water you needed from the source to your home... if there wasn't a hydrant nearby to protect you from fire... if your tap went dry whenever the weather did.

Most importantly, imagine how your life would be affected if the water wasn't tested and treated to make sure it was safe to drink. That's where this report comes in, because it shows how your water compares to state and federal water quality standards. **We are pleased to confirm that your water met or surpassed all primary water quality standards in this reporting period.** This report also provides additional information about the steps we take to protect your health and safety and answers questions you may have about your water quality.

We are making this report available online to save paper; however, it has been designed in a way that makes it easy for you to print at home. Or, if you prefer, you may call us to request a hard copy. Also, contact us by phone or through [our web site](#) if you have any questions, suggestions, or concerns. As always, we ask you to review bill inserts and our website for important information about your water and announcements about any water-related events or meetings.

Water doesn't magically appear when you turn on the tap. It takes a dedicated team of professionals and a well-maintained system to make it happen. That's what we do, and we take our responsibility for doing it very seriously. Because we are committed to improving the quality of life in the communities we serve.

Sincerely,

Rudy Valles, Jr.
Cal Water District Manager
Bakersfield District

Art Chianello
Water Resources Manager
City of Bakersfield





Your Water System

Cal Water began providing high-quality water utility services for the City of Bakersfield Domestic Water System in 1976. In partnership with the City of Bakersfield, we meet our customers' needs using a combination of local groundwater produced by 51 active wells (treated where necessary to improve taste and odor), surface water from the Kern River (treated with highly advanced membrane filtration), and water purchased from the Kern County Water Agency.

Cal Water proactively maintains and upgrades the city's facilities to ensure a reliable, high-quality supply. Together, we are evaluating treatment technologies to bring wells back online, and we are constructing four new wells.

If you have any questions, suggestions, or concerns, please contact our local Customer Center, either by phone or through the contact link at www.calwater.com.

Inside the Water Quality Laboratory

Water professionals collect samples from throughout the water system for testing at our state-of-the-art water quality laboratory, which is certified through the stringent Environmental Laboratory Accreditation Program. Scientists, chemists, and microbiologists test the water for more than 140 contaminants with equipment so sensitive it can detect levels as low as one part per trillion.

Water quality results are entered into our Laboratory Information Management System (LIMS), a sophisticated software program that enables us to react quickly to changes in water quality and analyze water quality trends in order to plan effectively for future needs.



One part per trillion is equivalent to one square inch in 250 square miles, three seconds in 100,000 years, or one drop of water in 20 Olympic-size pools.





Types of Treatment

We don't take a "one-size-fits-all" approach to water treatment; rather, we work diligently to identify the best, most cost-effective treatment required for each water source. In some areas, we operate very sophisticated facilities, including microfiltration, advanced oxidation, and ultraviolet units; in other areas, we use very simple, straightforward treatment techniques, such as granular-activated carbon filtration. Surface water sources, such as lakes and reservoirs, typically require more complex treatment because they are exposed to the natural environment. Treatment for water from groundwater wells varies.

The Disinfection Process

All of our water, whether it comes from surface water or groundwater sources, is disinfected to protect you from waterborne diseases. Disinfection of drinking water has made many once-common diseases, like typhoid and cholera, a thing of the past in the United States and other developed countries.

Chlorine is a common disinfectant used to treat the water. If you detect a chlorine taste or smell in your water, try refrigerating it before drinking.

Protecting Our Water

We have a program in place to ensure that protective backflow devices are installed at certain properties to prevent contaminants from the property from flowing back into the water system. To determine whether a backflow prevention assembly is required, we assess how water is used and pipes are configured.

But protecting our water is everyone's business. Anything that goes onto lawns, down storm drains, or into the trash can impact the water supply. So please, use lawn and garden fertilizers judiciously. Take unused medication to your doctor, pharmacy, or community take-back program for safe disposal. And properly dispose of antifreeze, oil, and any other chemical you use in the garage or around the house.





Key Definitions

Maximum Contaminant Level (MCL)

The highest level of a contaminant that is allowed in drinking water. Primary MCLs protect public health and are set as close to the PHGs (or MCLGs) as are economically and technologically feasible. Secondary MCLs relate to the odor, taste, and appearance of drinking water.

Exceeded Standard

Out of compliance with a primary MCL, a secondary MCL, or an action level, as determined by the California Department of Public Health. For some compounds, compliance is determined by averaging the results for one source over a year.

Regulatory Action Level (AL)

The concentration of a contaminant which, if exceeded, triggers treatment or other required action by the water provider.

Maximum Contaminant Level Goal (MCLG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the United States Environmental Protection Agency (USEPA).

Maximum Residual Disinfectant Level (MRDL)

The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG)

The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Notification Level (NL)

A health-based advisory level for an unregulated contaminant in drinking water. It is used by the California Department of Public Health to provide guidance to drinking water systems.

Primary Drinking Water Standard (PDWS)

MCLs and MRDLs for contaminants that affect health, along with their monitoring, reporting, and water treatment requirements.

Public Health Goal (PHG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment without regard to cost or available detection and treatment technologies.

Treatment Technique (TT)

A required process intended to reduce the level of a contaminant in drinking water.





2012 Water Quality Table

Cal Water tests your water for more than 140 regulated contaminants and dozens of unregulated contaminants. **This table lists only those contaminants that were detected.**

In the table, water quality test results are divided into two main sections: "Primary Drinking Water Standards" and "Secondary Drinking Water Standards and Unregulated Compounds." Primary standards protect public health by limiting the levels of certain constituents in drinking water. Secondary standards are set for substances that don't impact health but could affect the water's taste, odor, or appearance. Some unregulated substances (hardness and sodium, for example) are included for your information.

Primary Drinking Water Standards								
Radiological	Year Tested	Unit	MCL (SMCL)	PHG (MCLG)	Exceeded Standard?	Range	Average	Source of Substance
Gross alpha particle activity	2003-2012	pCi/L	15	(0)	No	ND-16	1.5	Erosion of natural deposits
Radium 226	2003-2012	pCi/L	5	0.05 (0)	No	ND-1	0.0	Erosion of natural deposits
Radium 228	2003-2012	pCi/L	5	0.019 (0)	No	ND-2.6	0.2	Erosion of natural deposits
Uranium	2003-2012	pCi/L	20	0.43	No	ND-18	2.2	Erosion of natural deposits
Inorganic Chemicals	Year Tested	Unit	MCL (SMCL)	PHG (MCLG)	Exceeded Standard?	Range	Average	Source of Substance
Arsenic ¹	2010-2012	ppb	10	0.004	No	ND-9.8	3.7	Erosion of natural deposits; runoff from orchards; glass and electronics production waste
Barium	2010-2012	ppm	1	2	No	ND-0.14	0.0	Discharges of oil-drilling waste and from metal refineries; erosion of natural deposits
Fluoride	2010-2012	ppm	2	1	No	ND-0.7	0.2	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Nickel ²	2010-2012	ppb	100	12	No	ND-130	2.8	Erosion of natural deposits; discharge from metal factories
Nitrate (as nitrate)	2012	ppm	45	45	No	ND-21.7	10.2	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits

¹While your drinking water meets the federal and state standards for arsenic, it does contain low levels of arsenic. The arsenic standards balance the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The USEPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects, such as skin damage and circulatory problems.

²The standard for nickel was not exceeded because compliance is based on the average of samples collected from the same source. Nickel was detected above the MCL value in one of 53 samples.

Table Key

µS/cm = measure of specific conductance
 n/a = not applicable
 ND = not detected

NTU = nephelometric turbidity unit
 pCi/L = picoCuries per liter (measure of radioactivity)
 ppm = parts per million (milligrams per liter)

ppb = parts per billion (micrograms per liter)
 ppt = parts per trillion (nanograms per liter)
 SMCL = secondary maximum contaminant level





	Year Tested	Unit	MCL (SMCL)	PHG (MCLG)	Exceeded Standard?	Highest Level	Lowest Monthly Percent	Source of Substance
Turbidity (surface water requiring filtration) ³	2012	NTU	TT=0.1	n/a	No	0.05	100%	Soil runoff
Turbidity (purchased surface water) ³	2012	NTU	TT=0.3	n/a	No	0.11	100%	Soil runoff
Organic Chemicals	Year Tested	Unit	MCL (SMCL)	PHG (MCLG)	Exceeded Standard?	Range	Average	Source of Substance
Dibromochloropropane (DBCP)	2010-2012	ppt	200	(0)	No	ND-90	3.4	Banned nematocide that may still be present in soil due to runoff/leaching from former use on soybeans, cotton, vineyards, tomatoes, and tree fruit
1,1-Dichloroethane	2010-2012	ppb	5	3	No	ND-0.6	0.0	Extraction and degreasing solvent used in manufacture of pharmaceuticals and stone, clay, and glass products
cis-1,2-Dichloroethylene	2010-2012	ppb	6	(70)	No	ND-0.9	0.0	Discharge from industrial chemical factories; major biodegradation product of TCE and PCE groundwater contamination
1,2-Dichloropropane	2010-2012	ppb	5	0.5	No	ND-0.5	0.1	Discharge from industrial chemical factories; primary component of some fumigants
Tetrachloroethylene (PCE)	2010-2012	ppb	5	0.06	No	ND-0.7	0.0	Discharge from factories, dry cleaners, and auto shops (metal degreaser)
Disinfection Byproducts	Year Tested	Unit	MCL (SMCL)	PHG (MCLG)	Exceeded Standard?	Range	Highest Annual Average	Source of Substance
Total haloacetic acids ⁴	2012	ppb	60	n/a	No	0.5-71.7	20.3	Byproduct of drinking water chlorination
Total trihalomethanes	2012	ppb	80	n/a	No	ND-31	17	Byproduct of drinking water chlorination
Disinfectant and DBP Precursor	Year Tested	Unit	MRDL	MRDLG	Exceeded Standard?	Range	Average	Source of Substance
Chlorine	2012	ppm	4	4	No	ND-2.0	1.2	Drinking water disinfectant added for treatment
Total organic carbon (treated surface water) ⁵	2012	ppm	n/a	n/a	n/a	0.5-2.1	1.5	Various natural and manmade sources

³For surface water systems, the treatment technique dictates that the turbidity level of filtered water meets certain criteria in 95% of the measurements taken and shall not exceed 1 NTU at any time. Cal Water's surface water supply is treated through membranes where the treatment technique requires the filtered water be less than or equal to 0.1 NTU in 95% of measurements taken. The Kern County Water Agency's surface water is treated through conventional filtration where the treatment technique requires the filtered water be less than or equal to 0.3 NTU in 95% of measurements taken. Turbidity is a measurement of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

⁴Exceeding this MCL value did not result in exceeding the standard, because this is determined by the average of samples collected. Haloacetic acids (HAAs) form when

source water containing high levels of organic matter reacts with chlorine used to disinfect filtered water to ensure that it is safe to drink.

⁵Total organic carbon (TOC) has no health effects; however, TOC provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). The treatment technique dictates that a removal ratio of 1 or higher must be achieved. Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects such as liver, kidney, or nervous system problems, and may lead to an increased risk of cancer. Concerns regarding disinfection byproducts are based upon exposure over many years.

Table Key

µS/cm = measure of specific conductance
n/a = not applicable
ND = not detected

NTU = nephelometric turbidity unit
pCi/L = picoCuries per liter (measure of radioactivity)
ppm = parts per million (milligrams per liter)

ppb = parts per billion (micrograms per liter)
ppt = parts per trillion (nanograms per liter)
SMCL = secondary maximum contaminant level





Microbiological	Year Tested	Unit	MCL (SMCL)	PHG (MCLG)	Exceeded Standard?	Highest Monthly	Source of Substance	
Total coliform (systems with >40 samples/month)	2012	positive samples	5%	(0)	No	0.76%	Naturally present in the environment	
Other Regulated Substances								
Metals	Year Tested	Unit	AL	PHG (MCLG)	Exceeded Standard?	90th Percentile	Samples > AL	Source of Substance
Copper	2010	ppm	1.3	0.3	No	0.14	0 of 50	Internal corrosion of household plumbing systems
Secondary Drinking Water Standards and Unregulated Compounds								
Inorganic Chemicals	Year Tested	Unit	SMCL	PHG (MCLG)	Exceeded Standard?	Range	Average	Source of Substance
Aluminum	2010-2012	ppm	1 (0.2)	0.6	No	ND-0.2	0.1	Residue from some surface water treatment processes
Boron	2010-2012	ppm	NL=1	n/a	No	ND-0.14	0.0	Erosion of natural deposits
Calcium	2010-2012	ppm	n/a	n/a	No	2-67	27	Erosion of natural deposits
Chloride	2010-2012	ppm	500	n/a	No	7-99	25	Erosion of natural deposits; seawater influence
Chromium 6	2010-2012	ppb	n/a	0.02	No	ND-2.6	0.6	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Foaming agents [MBAS]	2010-2012	ppb	500	n/a	No	ND-56	1	Municipal and industrial waste discharges
Hardness	2010-2012	ppm	n/a	n/a	No	5-170	76	Erosion of natural deposits
Iron ⁶	2010-2012	ppb	300	n/a	No	ND-730	28	Leaching from natural deposits; industrial waste
Magnesium	2010-2012	ppm	n/a	n/a	No	ND-6	2.0	Erosion of natural deposits
Odor ⁷	2010-2012	Units	3	n/a	Yes	ND-17	1	Naturally occurring organic matter
pH	2010-2012	Units	n/a	n/a	No	6.1-9.2	7.8	Inherent characteristic of water
Sodium	2010-2012	ppm	n/a	n/a	No	20-100	34	Erosion of natural deposits; seawater influence
Specific conductance	2010-2012	µS/cm	1600	n/a	No	170-840	316	Erosion of natural deposits; seawater influence
Sulfate	2010-2012	ppm	500	n/a	No	ND-220	35	Runoff/leaching from natural deposits; industrial waste
Total dissolved solids	2010-2012	ppm	1000	n/a	No	110-520	196	Runoff/leaching from natural deposits
Turbidity (groundwater)	2010-2012	NTU	5	n/a	No	ND-0.5	0.1	Soil runoff

⁶The standard for iron was not exceeded because compliance is based on the average of samples collected from the same source. Iron was detected in two of 86 well samples at levels that exceed the SMCL value. These two wells' samples were collected when the wells were not active, and the high iron detections represent stagnant water standing in the casing and not the water supplied to our consumers. Iron's SMCL was set to protect you against unpleasant aesthetic effects, such as color, taste, odor, and the staining of plumbing fixtures and laundry. Exceeding this SMCL does not pose a health risk.

⁷One of 51 active wells has odor above the SMCL, but this well only supplies a small industrial portion of the system, so most customer are not impacted. There are no health effects associated with odor.

Table Key

µS/cm = measure of specific conductance
 n/a = not applicable
 ND = not detected

NTU = nephelometric turbidity unit
 pCi/L = picoCuries per liter (measure of radioactivity)
 ppm = parts per million (milligrams per liter)

ppb = parts per billion (micrograms per liter)
 ppt = parts per trillion (nanograms per liter)
 SMCL = secondary maximum contaminant level





Disinfection Byproducts	Year Tested	Unit	NL	PHG (MCLG)	Exceeded Standard?	Range	Highest Annual Average	Source of Substance
Chlorate	2012	ppb	800	n/a	No	ND-181	n/a	Byproduct of drinking water chlorination
Organic Chemicals	Year Tested	Unit	NL	PHG (MCLG)	Exceeded Standard?	Range	Highest Annual Average	Source of Substance
1,2,3-Trichloropropane (TCP) ⁸	2010-2012	ppt	5	0.7	Yes	ND-370	60	Impurity in some pesticides that may still be present in soil

⁸Currently, there is no MCL for TCP. There is a notification level because TCP is a constituent of interest. As recommended by CDPH, Cal Water is conducting extensive monitoring and investigating acceptable treatment methods. Laboratory studies

indicate that some people who use water containing TCP in excess of the notification level over many years may have an increased risk of cancer.



We conduct more than 380,000 water quality tests each year.

Table Key

$\mu\text{S}/\text{cm}$ = measure of specific conductance
 n/a = not applicable
 ND = not detected

NTU = nephelometric turbidity unit
 pCi/L = picoCuries per liter (measure of radioactivity)
 ppm = parts per million (milligrams per liter)

ppb = parts per billion (micrograms per liter)
 ppt = parts per trillion (nanograms per liter)
 SMCL = secondary maximum contaminant level





Possible Contaminants

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the United States Environmental Protection Agency (USEPA) Safe Drinking Water Hotline at (800) 426-4791.

The sources of drinking water (both tap and bottled) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.

Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA and the California Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in bottled water, which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised people, such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, those with HIV/AIDS or other immune system disorders; some elderly people, and infants; can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water. USEPA/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.





About Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water comes primarily from materials and components associated with service lines and home plumbing.

The water delivered by Cal Water to your meter meets all water quality standards, but your home plumbing can affect water quality. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking.

If you are concerned about lead in your water, you may wish to have your water tested by a private lab. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

DWSAPP

By the end of 2002, Cal Water had submitted to the California Department of Public Health a Drinking Water Source Assessment and Protection Program (DWSAPP) report for each water source in the water system. The DWSAPP report identifies possible sources of contamination to aid in prioritizing cleanup and pollution prevention efforts. All reports are available for viewing or copying at our Customer Center.

The water sources in the City of Bakersfield system are considered most vulnerable to agriculture, stormwater, wastewater, surface water (streams, lakes, rivers), lumbering industries/retailers, wood treatment, paper production, metal plating/fabrication, photo processing, electrical/electronic manufacturing, large equipment storage yards, above- and underground storage tanks, drinking water treatment plants, parking lots/malls, research laboratories, high-density housing, wells (water supply, agricultural, oil, gas, geothermal), known contaminant plumes, parks, utility stations (maintenance areas), chemical/petroleum industries, chemical/pesticide/fertilizer/petroleum storage, existing and historic gas stations, dry cleaners, dredging, automobile repair shops, artificial recharge projects (spreading basins), sewer collection systems, storm drain discharge points, and high-density septic systems.





In the News

News stories about water quality can raise more questions than they answer, mainly because the news media can dedicate only so much time and space to each story, even though the subject matter can be quite complex. During the past year, we've seen stories about pharmaceuticals, chromium 6, and total trihalomethanes.

Pharmaceuticals

A recent study detected trace amounts of pharmaceuticals in some water sources throughout the country. According to one source, at the levels detected, a person would have to drink "more than 4.4 million gallons of treated municipal effluent to accidentally ingest the equivalent of one over-the-counter headache tablet."* More research needs to be done to determine whether such miniscule amounts of these substances in drinking water can affect public health, but in the meantime, Cal Water encourages you to take unused medicines to your doctor, pharmacy, or local take-back program to keep them out of water supplies.

Chromium 6

Chromium 6 occurs naturally in many water sources. It is also used to produce stainless steel and textile dyes, preserve wood, and tan leather, among other things. Currently, there is no water quality standard for chromium 6; however, there is a standard for

*Staff Report, California Regional Water Quality Control Board Santa Ana Region, March 22, 2013.

total chromium. (Chromium 6 is a subset of total chromium, so chromium 6 levels are always lower than total chromium levels.)

The California Department of Public Health (CDPH) is determining the standard by balancing the current understanding of the health effects with the cost for treatment, and is expected to establish a draft standard for chromium 6 in 2013. Cal Water has been collaborating with the Water Research Foundation on a pilot study to test various treatment methods and assess costs in preparation for meeting the new standard.

Total Trihalomethanes

Although drinking water disinfection is critical to protecting the public from serious waterborne illnesses and Cal Water is required to maintain adequate levels of disinfectant in the water system, the process can result in the formation of disinfection byproducts, such as total trihalomethanes, or TTHMs. The United States Environmental Protection Agency (USEPA) and CDPH limit the level of TTHMs that can be present in water, because when consumed at certain levels over long periods of time, they can pose health risks. The key is to remove harmful bacteria through disinfection without creating disinfection byproducts at levels that could pose health risks. So, to limit the formation of disinfection byproducts, Cal Water treats surface water to remove organic matter that can cause TTHMs to form, flushes mains and cleans storage tanks, and operates the system to reduce the amount of time that water is stored in storage tanks.



Q & A

Why Does My Water Look Like That?

Why does it look like it has sand in it?

Dirt or sand can occur naturally in groundwater sources; it can also get into water lines during repairs. Cal Water flushes water lines to help remove sediment, but if it makes its way into your home plumbing, you should let the water run until it clears. The same goes for faucets that haven't been used for a while, which allows rust or residue from the pipes to collect.

Why does it look milky?

Milky or cloudy water is generally caused by harmless air bubbles. If the water is allowed to sit, the air will dissipate and the water will clear.

Why does it seem to be colored?

Minerals can give the water a slight color. Secondary standards are set for substances that can affect the aesthetic qualities of the water but do not pose a health risk.

Color can also be related to your home plumbing. For example, galvanized pipes or pipes that are corroded due to changes in water quality caused by water softeners can change the appearance of your water.

Why Does My Water Do That?

Why does it leave spots on my dishes?

Spots are caused by minerals in hard water that remain after the water has evaporated. They can be minimized by a dishwasher rinse agent and removed with vinegar.

Why does it make my coffee look oily?

Oily-looking coffee usually occurs when the coffee maker needs to be cleaned. Try running vinegar and water through it as directed by the manufacturer.

Why Does My Water Smell Like That?

Why does it smell like chlorine?

Chlorine is used to remove harmful bacteria from the water. Try refrigerating a pitcher of water to reduce the chlorine odor.

Why does it smell bad?

Your water should not smell bad. If the odor is in your hot water only, your water heater may need to be adjusted, flushed, or repaired according to manufacturer directions. If the odor is in both the hot and cold water, please call our Customer Center so that we may investigate.





Should I Buy a Home Filtration Unit?

Home water treatment units are often used to improve the aesthetic qualities of the water, but according to the United States Environmental Protection Agency, they are rarely necessary for health reasons. If you choose to install a home treatment unit, be sure to follow the manufacturer's maintenance instructions, because improperly maintained units can cause water quality problems. For example, bacteria can grow in carbon filters that are not replaced as recommended.

What Gives Tap Water Its Flavor?

Why does the taste of my water change from time to time?

Sometimes we provide water from a different source because of seasonal changes in supply or operational needs. Naturally occurring minerals can give the water a distinct flavor.

Why Does Cal Water Flush Water From Fire Hydrants?

"Flushing" is a procedure in which certain fire hydrants are opened under controlled conditions to remove minerals and sediment from the water lines. Fire hydrants are also opened occasionally in order to ensure that they are operating properly. Flushing may seem wasteful, but it is an important and necessary activity that is endorsed by the American Water Works Association and conducted in accordance with guidelines set by the California Department of Public Health. If flushing is being conducted in your service area, you may notice a temporary decrease in water pressure. If you notice any discoloration or sediment in the water after flushing has occurred, allow water to run from your outside hose bib until it clears.



What's the Deal With Fluoride?

State law requires Cal Water to add fluoride to drinking water if public funding is available to pay for it, and it is a practice endorsed by the American Medical Association and the American Dental Association to prevent tooth decay. In this area, low levels of fluoride occur naturally, but Cal Water doesn't add any to the water supply. Show the table in this report to your dentist to see if he or she recommends giving your children fluoride supplements.

More information about fluoridation, oral health, and current issues can be found on the CDPH web site at www.cdph.ca.gov/certlic/drinkingwater/Pages/Fluoridation.aspx. For general information on water fluoridation, visit us online at www.calwater.com.

How Hard Is My Water?

Water's "hardness" is a measure of the amount of minerals (generally calcium and magnesium) it contains. Water is considered soft if its hardness is less than 75 parts per million (ppm), moderately hard at 75 to 150 ppm, hard at 150 to 300 ppm, and very hard at 300 ppm or higher.

The current water quality table for your service area shows an average hardness of 76 ppm.

Hard water is generally not a health concern, but it can have an impact on how well soap lathers and is significant for some industrial and manufacturing processes. Hard water may also lead to mineral buildup in pipes or water heaters.

Some people with hard water opt to buy a water softener for aesthetic reasons. However, some water softeners add salt to the water, and this can cause problems at wastewater treatment plants. In addition, people on low-sodium diets should be aware that some water softeners increase the sodium content of the water.





For More Information, Visit
www.calwater.com

Thanks for taking the time to learn more
about your water quality! Even more
information awaits you at www.calwater.com.

Visit our web site to get information about
your account, water use history, water rates,
and water system. Hope to see you soon!



APPENDIX J

Excerpts from “Emergency Response Plan”



Emergency Response Plan

City of Bakersfield

Bakersfield, California

June, 2004

Updated May 2008

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APPENDIX K

City Water System and Wholesale System Current Rate Schedule

City of Bakersfield
 Water Resources Department Domestic Water Division
 Ashe, Fairhaven and Riverlakes Ranch Service Areas

Schedule of Rates

General Metered Service	Current Rates	
	Within City Limits	Fairhaven & Unincorporated Areas

Quantity Rates:

Per 100 cubic ft/month	\$ 0.91	\$ 1.14
------------------------	----------------	----------------

Monthly Readiness-To-Serve Charge:

5/8" x 3/4" Service	\$ 9.55	\$ 12.42
1" Service	\$ 14.55	\$ 18.92
1-1/2" Service	\$ 22.20	\$ 28.86
2" Service	\$ 30.22	\$ 39.29
3" Service	\$ 55.85	\$ 72.60
4" Service	\$ 81.18	\$ 105.53
6" Service	\$ 145.89	\$ 189.66
8" Service	\$ 224.27	\$ 291.55
10" Service	\$ 309.13	\$ 401.87

Reconnection Fees	
Collect @ Door	\$15.00
Reconnection	\$25.00
After Hours	\$65.00
Cage & Lock	\$30.00
NSF	\$10.00

Monthly Private Fire Protection Service Charge:

1-1/2" Connection	\$ 9.01	\$ 11.72
2" Connection	\$ 12.02	\$ 15.62
3" Connection	\$ 18.03	\$ 23.43
4" Connection	\$ 24.03	\$ 31.25
6" Connection	\$ 36.04	\$ 46.85
8" Connection	\$ 48.06	\$ 62.47
10" Connection	\$ 60.07	\$ 78.10
12" Connection	\$ 72.09	\$ 93.72

"Monthly Readiness-To-Serve Charge" is applied to all services and any quantity of water used is an additional charge computed at the quantity rate.

Conditions of service remain the same.

CITY OF BAKERSFIELD WATER RESOURCES DEPARTMENT

AGRICULTURAL WATER ENTERPRISE

2013 WATER PRICE AND SAND SALE SCHEDULE

The following recommended water prices reflect the current water supply conditions occurring throughout the San Joaquin Valley. The rate for Kern River Canal & Irrigating Co. irrigation water (item 2) is established substantially in accordance with Public Utility Commission guidelines. These water rates become effective on April 1, 2013.

<u>Type of Water</u>	<u>2013 Water Year</u>
1) Surplus Water For irrigation or groundwater banking.....	\$110.00 per acre-foot
2) Kern River Canal & Irrigating Company.....	\$30.70 per acre-foot
*3) Use of City Water Wells in 2800 Acres	
Well Head Fee.....	\$40.00 per acre-foot
Water Production Fee.....	\$110.00 per acre-foot

*Plus power costs associated with operation of 2800 Acre water wells, when applicable.

Note: To encourage maximum use within the Kern River groundwater basin, water price in category number 1 may be reduced during periods of mandatory flood control release and/or encroachment into the flood control storage space at Isabella Reservoir.

For sand sales from City-owned river channel properties, the following rate would remain in effect until conditions warranted changes:

<u>ITEM</u>	<u>PRICE</u>
1) Sand Removal Sales.....	\$ 0.50 per cubic yard (plus sales tax when applicable)

APPENDIX L

City of Bakersfield's Water Shortage Contingency
Ordinance

RESOLUTION 13 – XX (Draft)

**RESOLUTION OF THE COUNCIL OF THE CITY OF BAKERSFIELD
TO DECLARE A WATER SHORTAGE EMERGENCY**

Pursuant to California Water Code Section 350 et seq., the Council of the City of Bakersfield shall conduct a noticed public hearing to establish the criteria for declaring a water shortage emergency.

WHEREAS, the City of Bakersfield Water System serves approximately 43,000 acre-feet of water to customers in its service area;

The City system is capable of producing by groundwater extraction and treated surface water deliveries from water treatment plants all water needed to serve its customers;

The demand for water and water service is not expected to lessen;

It is determined that when the amount of water supply available to the City system for service to its customers falls below the prescribed amounts set forth in the "Water Shortage Contingency Plan", as prepared by the City of Bakersfield in response to Assembly Bill No. 11 (September 13, 1991), then the City shall declare that the water supply will not be adequate to meet the ordinary demands and requirements of water consumers in the City system.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Bakersfield hereby directs the City Manager and the Water Resources Manager to determine the appropriate State of Reduction and implement the City's Water Shortage Contingency Plan.

s/b

MAYOR & COUNCIL OF THE CITY OF BAKERSFIELD

APPENDIX M

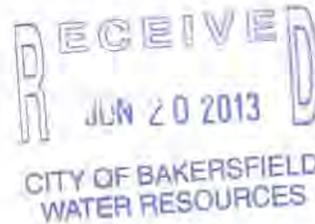
DWR Letter Dated June 6, 2013 on BMPs

DEPARTMENT OF WATER RESOURCES

1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791



June 6, 2013



Mr. Art Chianello
Water Resource Manager
City of Bakersfield
Water Resource Department
1000 Buena Vista Road
Bakersfield, California 93311

Dear Mr. Chainello:

The Department of Water Resources (DWR) has reviewed the City of Bakersfield's Self-Certification Statement – Table 1 submitted on March 26, 2013, regarding implementation of the Urban Best Management Practices (BMPs).

The purpose of DWR's review is to determine the City of Bakersfield's eligibility to receive water management grant or loan funds. DWR has followed the *AB 1420 Compliance Requirements* dated January 1, 2009. For detailed information, please visit <http://www.water.ca.gov/wateruseefficiency/finance/>.

Based on DWR's review of the information in Table 1, the City of Bakersfield has and is currently implementing the BMPs consistent with AB 1420 and, therefore, is eligible to receive water management grant or loan funds.

DWR reserves the right to request additional information and documentation, including reports from the City of Bakersfield to substantiate the accuracy of the information provided in Table 1. DWR may reverse or modify its eligibility determination and notify you and the funding agency if inaccuracies are found in the supporting documentation or in Table 1.

If you have any questions, please contact me at (916) 651-7034 or Betsy Vail at (916) 651-9667.

Sincerely,

A handwritten signature in blue ink, appearing to read "Peter Brostrom".

Peter Brostrom
Urban Water Unit
Water Use and Efficiency Branch

APPENDIX N

Completed UWMP Checklist

Table I-2 Urban Water Management Plan checklist, organized by subject

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
PLAN PREPARATION				
4	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	10620(d)(2)		Sec 1.2.1; p 1-3; Table 1; Appendix C
6	Notify, at least 60 days prior to the public hearing on the plan required by Section 10642, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Any city or county receiving the notice may be consulted and provide comments.	10621(b)		Sec 1.2.1; p 1-3; Appendix C
7	Provide supporting documentation that the UWMP or any amendments to, or changes in, have been adopted as described in Section 10640 et seq.	10621(c)		Sec 1.3.1; p 1-5; Appendix E
54	Provide supporting documentation that the urban water management plan has been or will be provided to any city or county within which it provides water, no later than 60 days after the submission of this urban water management plan.	10635(b)		Sec 1.2.2; p 1-3, 1-4
55	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	10642		Sec 1.2.3, 1.2.4; p 1-4, 1-5
56	Provide supporting documentation that the urban water supplier made the plan available for public inspection and held a public hearing about the plan. For public agencies, the hearing notice is to be provided pursuant to Section 6066 of the Government Code. The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water. Privately-owned water suppliers shall provide an equivalent notice within its service area.	10642		Sec 1.2.3, 1.2.4; p 1-4, 1-5; Appendix D
57	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642		Sec 1.3.2; p 1-5; Appendix E
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		Sec 1.3.3; p 1-5, 1-6

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
59	Provide supporting documentation that, in addition to submittal to DWR, the urban water supplier has submitted this UWMP to the California State Library and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. This also includes amendments or changes.	10644(a)		Sec 1.3.4; p 1-6
60	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the urban water supplier has or will make the plan available for public review during normal business hours	10645		Sec 1.3.5; p 1-6
SYSTEM DESCRIPTION				
8	Describe the water supplier service area.	10631(a)		Sec 2.1.1; p 2-1 – 2-3
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)		Sec 2.1.2, 2.1.3; p 2-2, 2-3; Tables 2, 3
10	Indicate the current population of the service area	10631(a)	Provide the most recent population data possible. Use the method described in “Baseline Daily Per Capita Water Use.” See Section M.	Sec 2.2; p 2-3, 2-4
11	Provide population projections for 2015, 2020, 2025, and 2030, based on data from State, regional, or local service area population projections.	10631(a)	2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	p 2-4
12	Describe other demographic factors affecting the supplier’s water management planning.	10631(a)		Sec 2.1.3; p 2-3
SYSTEM DEMANDS				
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)		Sec 3.1; p 3-1 – 3-7; Table 4

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
2	<i>Wholesalers:</i> Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. <i>Retailers:</i> Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	Retailers and wholesalers have slightly different requirements	Sec 3.5; p 3-10, Sec 3.6, p 3-11
3	Report progress in meeting urban water use targets using the standardized form.	10608.40		Sec 3.2; p 3-7
25	Quantify past, current, and projected water use, identifying the uses among water use sectors, for the following: (A) single-family residential, (B) multifamily, (C) commercial, (D) industrial, (E) institutional and governmental, (F) landscape, (G) sales to other agencies, (H) saline water intrusion barriers, groundwater recharge, conjunctive use, and (I) agriculture.	10631(e)(1)	Consider 'past' to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	Sec 3.3.1; p 3-8, 3-9; Tables 5, 6, 7
33	Provide documentation that either the retail agency provided the wholesale agency with water use projections for at least 20 years, if the UWMP agency is a retail agency, OR, if a wholesale agency, it provided its urban retail customers with future planned and existing water source available to it from the wholesale agency during the required water-year types	10631(k)	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	Sec 3-4; p 3-9, 3-10; Table 9
34	Include projected water use for single-family and multifamily residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)		Sec 3.3.2; p 3-9; Table 8
SYSTEM SUPPLIES				
13	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, and 2030.	10631(b)	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided.	Sec 4.1; p 4-1 – 4-3; Tables 10, 11
14	Indicate whether groundwater is an existing or planned source of water available to the supplier. If yes, then complete 15 through 21 of the UWMP Checklist. If no, then indicate "not applicable" in lines 15 through 21 under the UWMP location column.	10631(b)	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	Sec 4.2; p 4-3 – 4-8

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
15	Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)		Sec 4.2.1; p 4-3 – 4-6
16	Describe the groundwater basin.	10631(b)(2)		Sec 4.2; p 4-6
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		Sec 4.2.1; p 4-3
18	Describe the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. If the basin is not adjudicated, indicate “not applicable” in the UWMP location column.	10631(b)(2)		Not Applicable
19	For groundwater basins that are not adjudicated, provide information as to whether DWR has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition. If the basin is adjudicated, indicate “not applicable” in the UWMP location column.	10631(b)(2)		Sec 4.2.2.1; p 4-6; Appendix H
20	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	10631(b)(3)		Sec 4.2.3; p 4-6, 4-7; Table 12
21	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	10631(b)(4)	Provide projections for 2015, 2020, 2025, and 2030.	Sec 4.2.4; p 4-7, 4-8; Table 12
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		Sec 4.3; p 4-8
30	Include a detailed description of all water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years, excluding demand management programs addressed in (f)(1). Include specific projects, describe water supply impacts, and provide a timeline for each project.	10631(h)		Sec 4.6; p 4-12, 4-13
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater.	10631(i)		Sec 4.4; p 4-8, 4-9
44	Provide information on recycled water and its potential for use as a water source in the service area of the urban water supplier. Coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	10633		Sec 4.5; p 4-9 – 4-12

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
45	Describe the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)		Sec 4.5.1.1; p 4-9, 4-10; Table 13
46	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)		Sec 4.5.1.1; p 4-9, 4-10; Table 13
47	Describe the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)		Sec 4.5.2; p 4-10; Table 14
48	Describe and quantify the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)		Sec 4.5.3; p 4-10, 4-11; Table 14
49	The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	10633(e)		Sec 4.5.4; p 4-11
50	Describe the actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.	10633(f)		Sec 4.5.5; p 4-11
51	Provide a plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)		Sec 4.5.6; p 4-11, 4-12
WATER SHORTAGE RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING ^b				
5	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)		Sec 5.1.1; p 5-1
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage and provide data for (A) an average water year, (B) a single dry water year, and (C) multiple dry water years.	10631(c)(1)		Sec 5.4.1; p 5-8, 5-9; Table 17
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)		Sec 5.1.2; p 5-1 – 5-3

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
35	Provide an urban water shortage contingency analysis that specifies stages of action, including up to a 50-percent water supply reduction, and an outline of specific water supply conditions at each stage	10632(a)		Sec 5.4.2; p 5-10; Tables 18, 19, 20, 21
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)		Sec 5.4.3; p 5-11; Tables 17, 22
37	Identify actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.	10632(c)		Sec 5.2.1; p 5-3; Appendix J
38	Identify additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)		Sec 5.2.2; p 5-4; Table 15
39	Specify consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)		Sec 5.2.3; p 5-4; Table 16
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Sec 5.2.4; p 5-4 – 5-6
41	Provide an analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)		Sec 5.2.5; p 5-6; Appendix K
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Sec. 5.2.6; p 5-6, 5-7; Appendix L
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		Sec 5.4.4; p 5-12
52	Provide information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments, and the manner in which water quality affects water management strategies and supply reliability	10634	For years 2010, 2015, 2020, 2025, and 2030	Sec 5.3; p 5-7; Table 12

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
53	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. Base the assessment on the information compiled under Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)		Sec 5.4.5; p 5-13 – 5-14; Tables 23, 24, 25
DEMAND MANAGEMENT MEASURES				
26	Describe how each water demand management measures is being implemented or scheduled for implementation. Use the list provided.	10631(f)(1)	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	Sec 6.1; p 6-1 – 6-15; Appendix M
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)		Sec 6.1; p 6-1 – 6-15
28	Provide an estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the ability to further reduce demand.	10631(f)(4)		Sec 6.1; p 6-1 – 6-15
29	Evaluate each water demand management measure that is not currently being implemented or scheduled for implementation. The evaluation should include economic and non-economic factors, cost-benefit analysis, available funding, and the water suppliers' legal authority to implement the work.	10631(g)	See 10631(g) for additional wording.	Sec 6.1.14; p 6-15
32	Include the annual reports submitted to meet the Section 6.2 requirements, if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	Sec 6.1; p 6-1 (not member of CUWCC)

a The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

b The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.