

DRAFT

GREENFIELD COUNTY WATER DISTRICT

**2020 URBAN WATER
MANAGEMENT PLAN**

APRIL 2021



DRAFT

2020 URBAN WATER MANAGEMENT PLAN

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ACRONYMS AND ABBREVIATIONS

Act	Urban Water Management Planning Act of 1983
AF	acre-feet
AL	Regulatory Action Level
District	Greenfield County Water District
cf	cubic feet
CII	Commercial, Industrial, and Institutional
CWC	California Water Code
DBCP	dibromo-chloropropane
DMMs	Demand Management Measures
DBE	dibromoethane
GCWD	Greenfield County Water District
GPCD	Gallons per Capita per Day
GSA	Groundwater Sustainability Agency
Guidebook	<i>2020 Guidebook for Urban Water Suppliers</i>
HAA5	haloacetic acids
I-5	Interstate 5
KDWD	Kern-Delta Water District
MCL	maximum contaminant level
MG	million gallons
MGD	million gallons per day
mg/L	milligrams per liter
mph	miles per hour
PWS	Public Water System
QK	Quad Knopf, Inc.
RAA	running annual average
SB	Senate Bill
SGMA	Sustainable Groundwater Management Act
SR	State Route
SWRCB	State Water Resources Control Board
TDS	total dissolved solids
TTHM	trihalomethanes
UWMP	Urban Water Management Plan
WDR	Waste Discharge Requirements
WSCP	water shortage contingency plan
WSIHIST	DWR's Chronological Reconstructed Sacramento and San Joaquin Valley Water Year Hydrologic Classification Indices 1995 to 2015
WWTP	wastewater treatment plant
°F	degrees Fahrenheit

SECTION 1 - INTRODUCTION AND LAY DESCRIPTION

1.1 - Overview

This document presents the 2020 Urban Water Management Plan (UWMP) for the Greenfield County Water District (GCWD or District) as required by the Urban Water Management Planning Act of 1983 (Act). It was prepared in cooperation with GCWD staff to address the requirements in California Water Code Division 6, Part 2.6, sections 10610 through 10656. Throughout this 2020 UWMP is italicized text quoting specific requirements of the Act. The quoted text precedes sections relevant to a specific portion of the Act to serve as an aid to the reader. A copy of the Act is included as Appendix A. Section 1 describes the general background and purpose of an UWMP, previous GCWD plans, as well as this 2020 UWMP's organization and contents.

In 2020, the GCWD had 3,273 service connections, which surpasses the 3,000-customer's (or service connection's) threshold that is required to prepare and submit an UWMP (see below for more information).

1.2 - Background and Purpose

Water Code section 10617 defines an "urban water supplier" as a public or private supplier, 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. If qualified as an urban water supplier, a public or private supplier is required to create or update an UWMP every five years and submit it to the Department of Water Resources (DWR) for review and approval. The purpose of the Act to ensure that urban water suppliers are adequately planning.

An UWMP is a planning tool that was created to help generally guide the actions of urban water suppliers in successfully preparing for potential water supply disruptions and issues. It provides a framework for long-term water planning and informs the public of a supplier's long-term resource planning to ensure adequate water supplies for existing and future demands. An UWMP is not a substitute for project-specific planning documents, nor was it intended to be so mandated by the State Legislature DWR.

The Act requires that an UWMP include historic, current, and future supplies and demands for water; address conservation measures, describe potential supply deficiencies during drought conditions and the ability to mitigate these conditions; compare total projected water use and supply sources over 20 years in 5-year increments for a single-dry water year and for 5dry water years; and include provisions for recycled water use, demand management measures, and a water shortage contingency plan.

To assist urban water suppliers in preparing UWMP's DWR developed the *2020 Guidebook for Urban Water Suppliers* (Guidebook). The Guidebook is updated every five years to address any changes in State legislation (such as SB X7-7) and all requirements of the the Act. The 2020 Guidebook reflects new legislation, provides information to the public

regarding water suppliers and water management programs, and provides a framework for minimizing the negative effects of potential water shortages. Additionally, the Guidebook provides a general layout for how UWMPs could be organized. This 2020 UWMP largely utilizes the Guidebook's layout.

1.3 - Lay Description

Based on the results of this UWMP, the District has a reliable water supply and is not vulnerable to seasonal and climatic shortages. There is no current need to supplement or replace the existing groundwater source available to the District with alternative sources or water demand management measures.

As shown in the table below from Section 7 of this UWMP, future water supplies are anticipated to not only meet, but exceed demands in normal year conditions through year 2040.

DRAFT Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison (MG)					
	2025	2030	2035	2040	2045 (Opt)
Supply totals (autofill from Table 6-9)	3,349	3,349	3,349	3,349	3,349
Demand totals (autofill from Table 4-3)	2,704	2,844	2,984	3,130	3,281
Difference	645	505	365	219	68

1.4 - Document Organization and Contents

The content and format of this 2020 UWMP is designed to meet the requirements of the Guidebook dated August 2020 and contains the following sections:

Section 1 – UWMP Introduction and Lay Description: This section provides an overview of the Act and CWC requirements, document organization, and a discussion of the importance and extent of the District's water management planning efforts.

Section 2 – Plan Preparation: This section provides information on the UWMP development process, including coordination and outreach efforts.

Section 3 – System Description: This section provides a detailed description of the District's current water system.

Section 4 – Customer Water Use: This section describes and quantifies the current and projected water uses within the District’s service area.

Section 5 – Conservation Target Compliance: This section describes the methods used for calculating the District’s baseline and target water consumption. It will describe whether the District has met the 20-percent conservation mandate by 2020.

Section 6 – System Supplies: This section describes and quantifies the current and projected sources of water available to the District.

Section 7 – Water Supply Reliability: This section describes the reliability of the District water supply and projects that reliability for 20 years. Such reliability is projected for normal, single-dry, and multiple-dry years.

Section 8 – Water Shortage Contingency Planning: This section provides the District’s staged plan for dealing with water shortages, including a catastrophic supply interruption.

Section 9 – Demand Management Measures: This section describes the District’s efforts to promote conservation and to reduce demand on its water supply and specifically addresses several demand management measures.

Section 10 – Plan Adoption, Submittal, and Implementation: This section describes the steps to be taken to adopt and submit the 2020 UWMP and to make it publicly available. It also includes a discussion of the District’s plan for implementation of the 2020 UWMP.

SECTION 2 - PLAN PREPARATION

2.1 - Basis for Preparing a Plan

2.1.1 - OVERVIEW

CWC 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.

CWC 10620(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.

CWC 10621(a). Each urban water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update.

The District currently supplies approximately 2,564 acre-feet (AF) of water per year and maintains 3,273 service connections, which is above the 3,000-connection threshold identified in CWC Section 10617.

This 2020 UWMP has been prepared by Quad Knopf, Inc. a California corporation, dba QK, as an independent contractor to the District. Accordingly, and as set forth herein, this 2020 UWMP has been prepared in accordance with the Act, SB X7-7, and the technical guidance documentation prepared and published by DWR.

2.1.2 - PUBLIC WATER SYSTEMS

California Health and Safety Code section 116275(h) defines a "Public Water System" (PWS) as a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year. PWS's are regulated by the State Water Resources Control Board (SWRCB), Division of Drinking Water.

PWS data reported to the SWRCB is used to determine whether a retail supplier has reached the UWMP reporting threshold of 3,000 or more connections or 3,000 acre-feet of water supplied DWR. Table 2-1 describes the District's PWS information and, as noted above, the District currently supplies water to over 3,273 connections. The District is not a wholesale water supplier.

Table 2-1 Retail Only: Public Water Systems

DRAFT Submittal Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 (MG)
1510024	Greenfield County Water District	3,273	835
TOTAL		3,273	835

2.2 - Regional Planning

The District is not involved in any regional water planning efforts nor will it be involved in developing a cooperative 2020 UWMP or Regional UWMP or Regional Plan.

2.3 - Individual Planning and Compliance

This 2020 UWMP is intended to address those aspects of the Act and SB X7-7, which are under the control of the District, specifically water supply and water use. The District is undertaking individual reporting to address all requirements for applicable uses served within the District’s service area (see Table 2-2).

Table 2-2: Plan Identification

DRAFT Submittal Table 2-2: Plan Identification		
Select Only One	Type of Plan	Name of RUWMP or Regional Alliance <i>if applicable</i> <i>drop down list</i>
<input checked="" type="checkbox"/>	Individual UWMP	
	<input type="checkbox"/> Water Supplier is also a member of a RUWMP	
	<input type="checkbox"/> Water Supplier is also a member of a Regional Alliance	
<input type="checkbox"/>	Regional Urban Water Management Plan (RUWMP)	

2.4 - Calendar Year and Units of Measure

As shown in Table 2-3, the District is a retailer that reports on a calendar year basis and uses million gallons MG as the unit of measure when reporting water volumes. This 2020 UWMP includes water use and planning data for calendar years.

Table 2-3: Agency Identification

DRAFT Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
<input type="checkbox"/>	Supplier is a wholesaler
<input checked="" type="checkbox"/>	Supplier is a retailer
Fiscal or Calendar Year (select one)	
<input checked="" type="checkbox"/>	UWMP Tables are in calendar years
<input type="checkbox"/>	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP (select from drop down)	
Unit	MG

2.5 - Coordination and Outreach

CWC 10620(d)(2). 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.

CWC 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 District 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.

While preparing this 2020 UWMP, the District coordinated its efforts with relevant local agencies to ensure that the data and issues are presented accurately and encouraged public involvement in full compliance with CWC 10642.

2.5.1 - COORDINATION WITHIN THE DISTRICT

The preparation of this 2020 UWMP was coordinated with all appropriate District staff. Draft copies of the 2020 UWMP were made available to District staff for comment and revision prior to adoption.

2.5.2 - WHOLESALE AND RETAIL COORDINATION

Prior to and during the development of this 2020 UWMP, the District worked with the Kern-Delta Water District (KDWD) on several future water projects. The District and the KDWD draw their water supply from the same groundwater basin. The District water supply is produced solely from District-owned groundwater wells within the Kern County Subbasin (Groundwater Basin 5-22.14) as defined in DWR Bulletin 118 (Update 2003) (DWR, 2003) (see *Section 6.2 – Groundwater* for more information). Thus, the continued coordination with KDWD was important while preparing this UWMP. As shown in Table 2-4, the District purchases raw-seepage water from the Kern Island Canal and Central Canal. On average, 3,287 acre-feet from KDWD per year of such water is purchased from KDWD, and this water is then pumped from the ground using GCWD-owned wells or “banked” for future use.

Table 2-4 Retail: Water Supplier Information Exchange

DRAFT Submittal Table 2-4 Retail: Water Supplier Information Exchange
The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name <i>(Add additional rows as needed)</i>
Kern-Delta Water District
NOTES: GCWD purchases seepage water from KDWD from the Kern Island and Central Canals.

2.5.3 - COORDINATION WITH OTHER AGENCIES AND THE COMMUNITY

Being that a portion of the District’s sphere of influence is within the Bakersfield City limits, this UWMP was developed in coordination with the City of Bakersfield. Also, the GCWD coordinated with the County of Kern in the preparation of this 2020 UWMP. The GCWD has met the 60-day local agency notification requirement of CWC Section 10621(b).

2.5.4 - NOTICE TO CITIES AND COUNTIES

CWC 10620 (d)(3) 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.

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...

The District's 2020 UWMP will be available for the public, KDWD, City of Bakersfield, and Kern County for a 60-day review prior to the UWMP public hearing from April 13, 2021 through June 14, 2021. Written comments on the draft 2020 UWMP must be postmarked by June 14, 2021. Submit written comments to:

Greenfield County Water District
551 Taft Highway
Bakersfield, CA 93307

Copies of the draft 2020 UWMP will be available for review at the District's main office. See *Section 10 – Plan Adoption, Submittal, and Implementation* for more information on notifications to the public, cities, and counties.

SECTION 3 - SYSTEM DESCRIPTION

3.1 - Service Area

10631(a). Describe the service area of the supplier.

Established in 1955 by the Kern County Board of Supervisors, the GCWD is located within the census-designated place of Greenfield, which is located approximately 7 miles south of Metropolitan Bakersfield (see Figure 3-1). The District is classified as a special district within Kern County. A special district is one which is self-governing and has the authority to provide services to a specific area. Therefore, the District operates under its own Board of Directors and sets its own budget. Like most of the Bakersfield area, the District supplies water from the subterranean reserve of groundwater within the Kern County Subbasin (see *Section 6 – System Supplies*). The District does not produce or supply raw or recycled water and solely supplies potable groundwater.

The District service area is 3.35 square miles of which 2.07 square miles is developed with urban land uses such as residential, commercial, and schools (see Figure 3-2). The remaining undeveloped area is primarily farmland; however, the District has no agricultural customers and does not supply water to the undeveloped area.

The District's sphere of influence is bound by the Arvin-Edison Intake Canal (north), Cottonwood Road (east), Di Giorgio Road (south), and State Route (SR) 99 (west) (see Figure 3-2). Total land within the District's sphere of influence is 6.12 square miles.

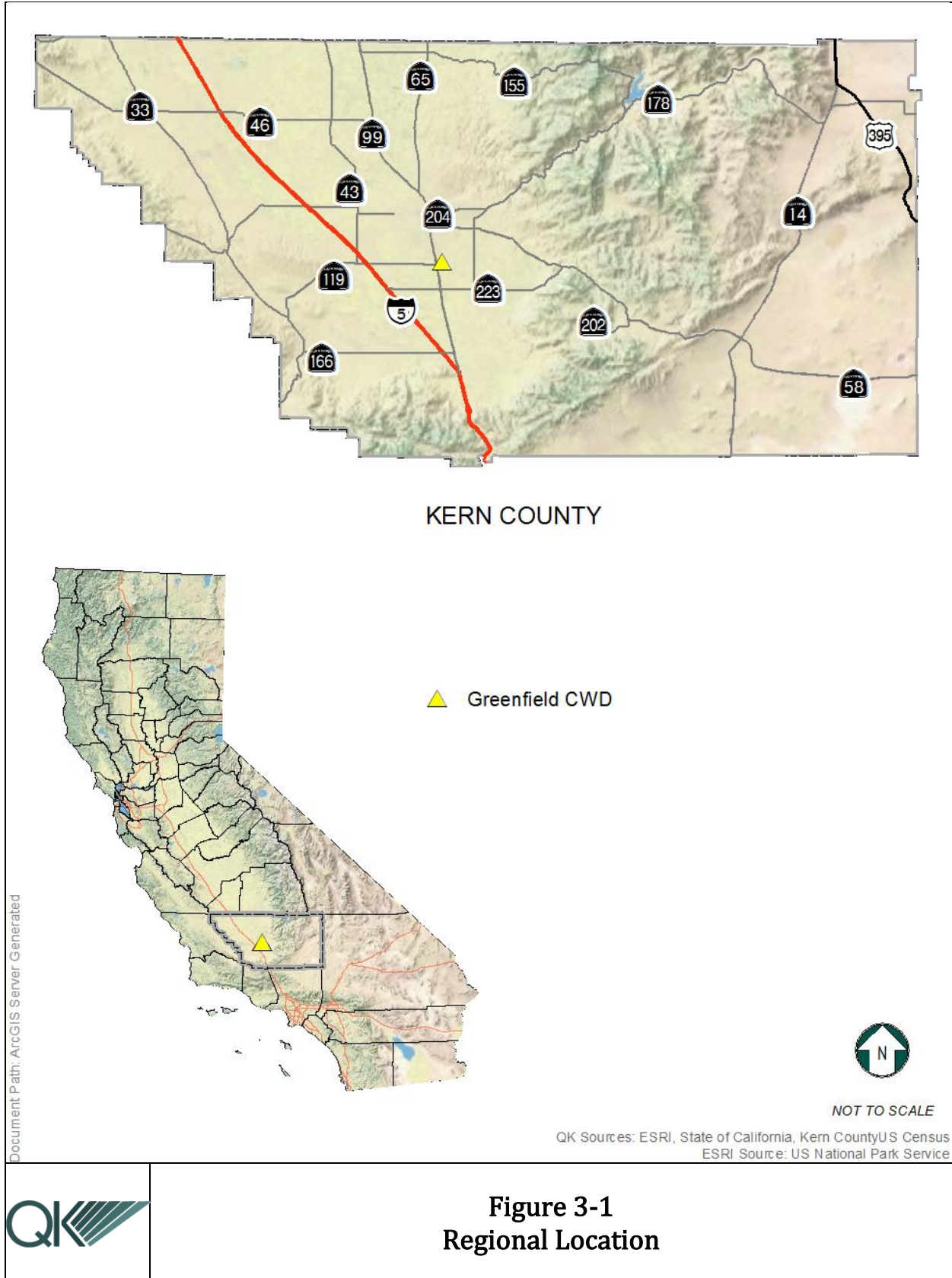
3.2 - System

The District currently has a service population of approximately 10,801 people (see *Section 3.4 – Service Area Population and Demographics*). In 2020, approximately 2,564 acre-feet of water was delivered to an estimated 3,273 water service connections of which approximately 3,166 (97%) are residential services. The remainder are for commercial and industrial uses.

The District currently utilizes local groundwater as its sole source of water supply. Groundwater is extracted by seven wells located within the District's sphere of influence. The seven wells include the Bannock, Dublin, McKee, Taft, Panama, Berkshire and East Berkshire sites (see Figure 3-3). The Panama well is a standby well. The Taft and Panama well sites are in the southern portion of the service area, the McKee and Dublin well sites are located roughly in the middle of the District, and the Berkshire, East Berkshire and Bannock groundwater wells are located at the northern border of the service area. All seven wells are crucial to meet the demands of District customers. In addition to production wells, the District has six storage tanks: the Panama and Taft sites contain one storage tank each, while the Dublin and Berkshire sites each contain two storage tanks each.

Recently, the District has been undergoing issues that require immediate attention, including dry, outdated wells and elevated levels of arsenic in the water supply. Due to the current

drought and high-volume pumping by other adjacent agricultural interests, the static and pumping water levels of the Panama well has dropped significantly.



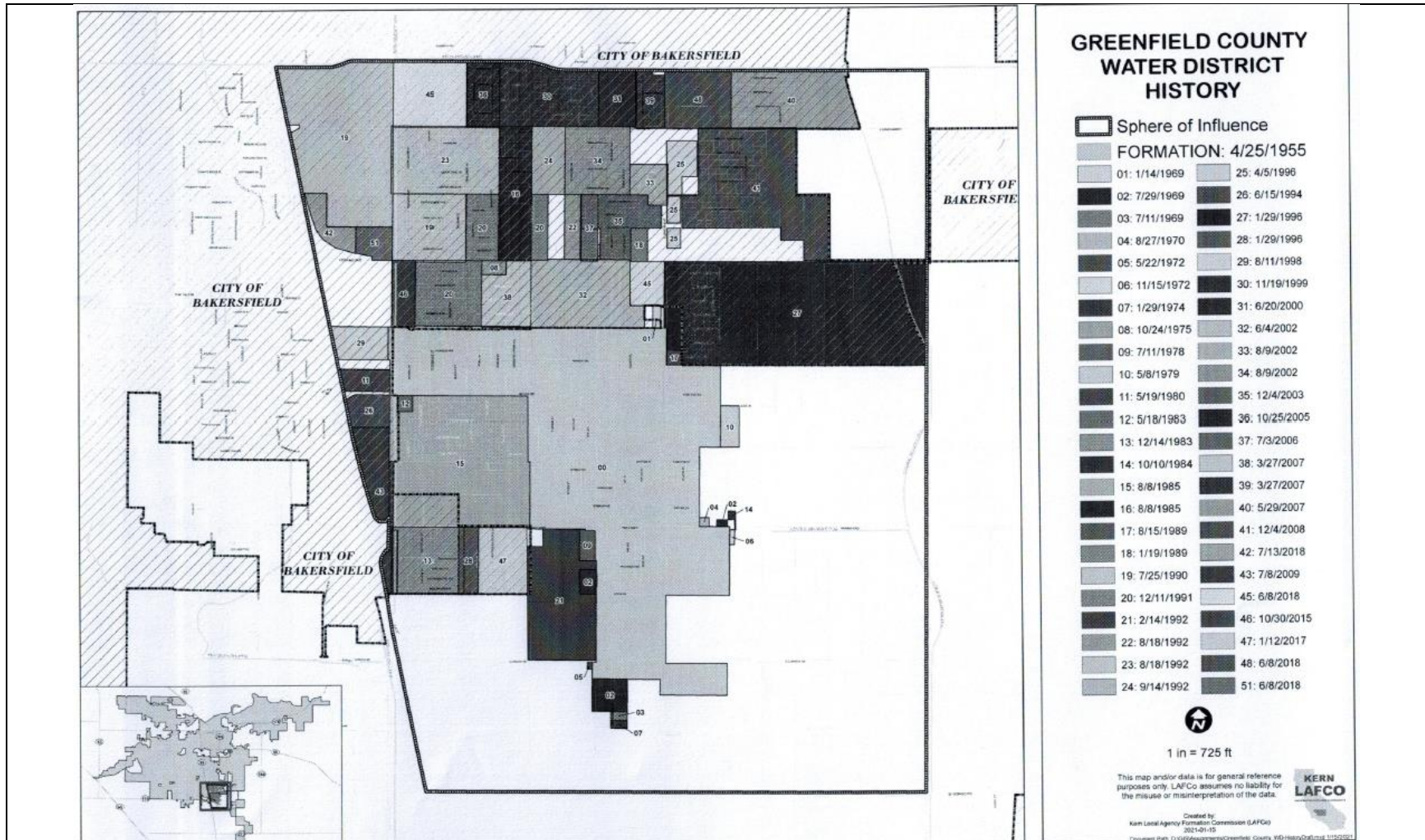
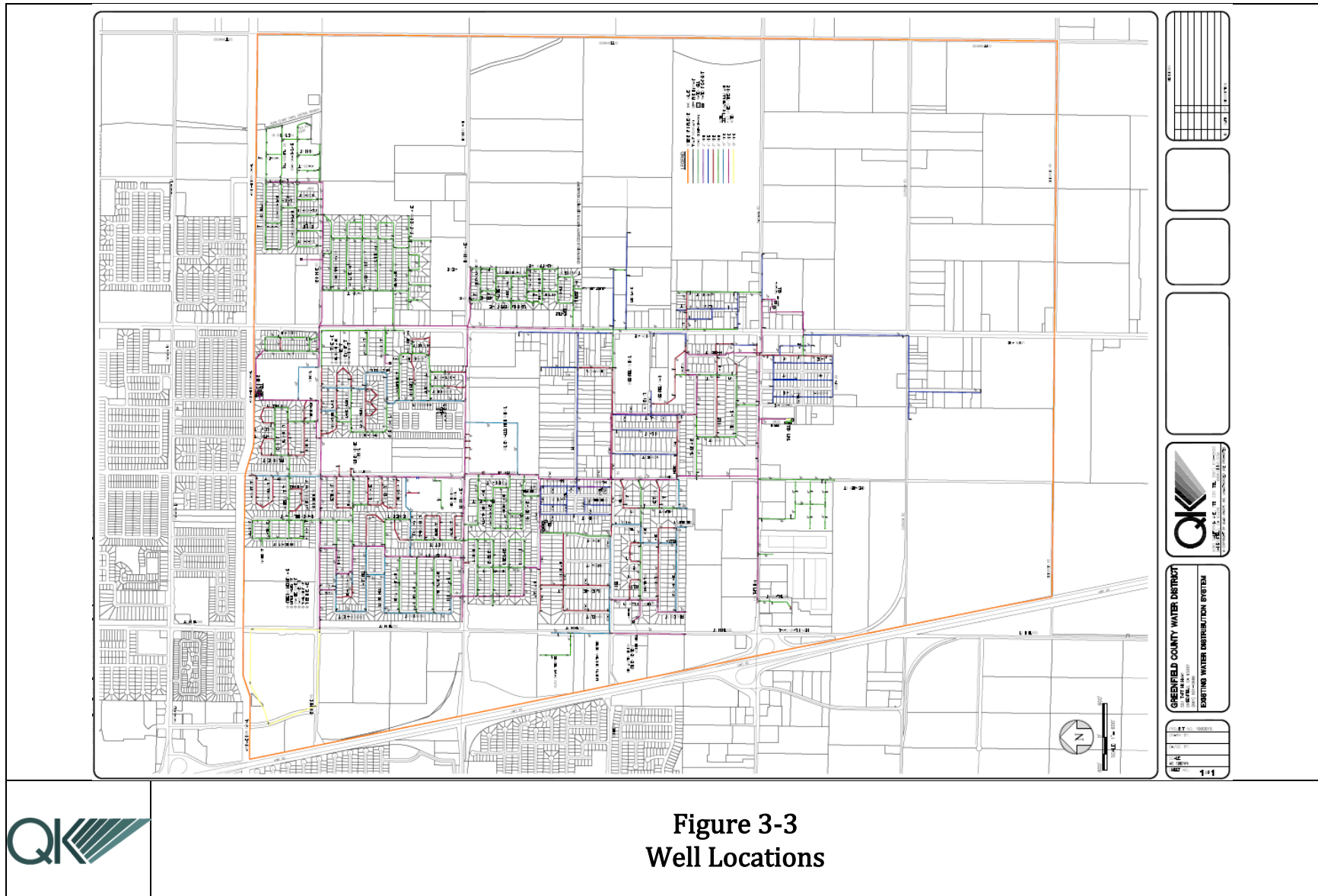


Figure 3-2
Service Area



3.3 - Climate

10631(a). Describe the climate of the service area of the supplier.

The climate within the service area is characteristic of that of the Southern San Joaquin Valley. The summer climate is hot and dry, while winters are cool and periodically humid. Mean daily maximum temperatures range from a low of approximately 40 degrees Fahrenheit (°F) in February to a high of about 82°F in July. Rainfall is concentrated during the six months from October to May. December and January typically experience heavy fog, mostly nocturnal, caused when moist cool air is trapped in the valley by high pressure systems. In extreme cases, this fog may last continuously for two or three weeks. Its depth is usually less than 3,000 feet.

The Valley area is subject to characteristic seasonal air flows. During the summer, air currents from the Pacific Ocean enter the Valley through the San Francisco Bay and Delta region and are forced down the valley. These air movements are primarily to the southeast at velocities of 6 to 10 miles per hour (mph). During the winter, cold air flowing off the surrounding mountains results in currents toward the northwest and velocities ranging from 0 to 5 mph. These airflows result in extensive horizontal mixing of air masses in the Valley. However, vertical dispersion is constrained by temperature inversions, an increase in air temperature in a stable atmospheric layer, which may occur throughout the year.

Climatic data within the service area is summarized as follows:

Bakersfield Airport Climate Summary (1937 to 2016)

Month	Average Maximum Temperature (degree Fahrenheit)	Average Minimum Temperature (degrees Fahrenheit)	Average Total Precipitation (inches)
January	57.4	38.5	1.04
February	63.6	42.1	1.16
March	69.0	45.4	1.12
April	75.7	49.7	0.67
May	84.2	56.6	0.21
June	92.1	63.3	0.07
July	98.6	69.2	0.01
August	96.7	67.7	0.04
September	91.0	63.1	0.10
October	80.5	54.0	0.30
November	67.3	44.1	0.59
December	57.8	38.5	0.85
Annual	77.8	52.7	6.17

Source: (Western Regional Climate Center, 2017).

3.4 - Service Area Population and Demographics

16031(a). Indicate the current population of the service area.

16031(a). Provide population projections for in five-year increments to 20 years or as far as data is available.

The population projections for the service area are based on the current number of residential connections using an average of 3.30 people per household from most current 2010 Census data of the City of Bakersfield (United States Census, 2010). It is estimated based on 3,273 residential connections that 10,801 people currently live in the service area.

Using the number of connections provided by the District, current and projected population for the service area was calculated through 2040 using the City of Bakersfield 3.30 people per household. The results are presented in Table 3-1.

Table 3-1 Retail: Population - Current and Projected

DRAFT Submittal Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045(opt)
	10,801	11,840	12,302	12,764	12,857	12,949

3.5 - Other Demographic Factors

16031(a). Describe other demographic factors affecting the supplier's water management planning.

There are no unique or pertinent community demographic characteristics which will influence future population growth or water usage.

SECTION 4 - SYSTEM WATER USE

A system's water use is determined by the amount of water conveyed by a distribution system, that is used by a water agency and its customers for any purpose, including non-potable water uses, water losses, and other nonrevenue water. This section describes and quantifies the District's current water use and water use projections by individual land use sector through the year 2040.

4.1 - Water Types

4.1.1 - POTABLE AND RAW WATER

Potable water is water intended for human consumption, which is delivered through a public water system, and regulated by a State or local health agency. Raw water is untreated water that is used in its natural state. The District supplies potable water to residences, commercial, industrial businesses, and institutions and does not supply raw water. *Section 6 – System Supplies* provides a full description of the District's potable supply including the source, quality, and groundwater levels.

4.1.2 - RECYCLED WATER

Recycled water is municipal wastewater that has been treated to a specified quality to enable it to be used again. Wastewater from the District is discharged to and treated by the City of Bakersfield. The District currently has no plans to utilize recycled water to offset potable water demand.

4.2 - Water Use

16031(e)(1). Quantify past, current, and projected water use, identifying the uses.

The quantifications of past, current, and projected water use include the following land use sectors in five-year increments:

- Single-family residential – lot with a free-standing building containing one dwelling unit;
- Multi-family residential – multiple dwelling units contained within one building or several buildings within one complex;
- Commercial – water users that provide or distribute a product or service;
- Industrial – water users that are primarily the manufacturer or processor of materials as defined by North American Industry Classification System code sectors 31 to 33, or entities that are water users and primarily engage in research and development;
- Institutional and government – water users dedicated to public service, including education, courts, churches, hospitals, government facilities, and nonprofit research institutions; and
- Landscape – water connections that supply water solely for landscape irrigation.

The following sectors are not included in this UWMP because they are not applicable to the District:

- Conjunctive use – the District does not apply a management strategy where surface water is managed in conjunction with an underground aquifer;
- Groundwater recharge – the District does not manage or intentionally replenish natural groundwater supplies using manmade conveyance;
- Saline water intrusion barriers – the District does not inject water into a freshwater aquifer to prevent intrusion of salt water;
- Agricultural – the District does not supply water for commercial agricultural irrigation;
- Surface water augmentation – the District does not place recycled water in a surface water reservoir as a source of domestic drinking water supply. The District does purchase seepage water that recharges groundwater in the area that is used as a source of domestic drinking water; and
- Wetlands or wildlife habitat – the District does not use water for a managed environmental use to improve any environmental conditions.
- Past, current, and projected losses within the system were tabulated.
- The following sectors are not included in this UWMP because they are exclusively associated with wholesale demand and, because the District is exclusively a retailer (see Table 2-3), these sectors are not applicable:
 - Sales to other agencies – the District does not make water sales to other agencies;
 - Exchanges – the District does not exchange water with other agencies; and
 - Transfers – the District does not transfer water to other agencies as defined by the CWC as a temporary or long-term change in the point of diversion, place of use, or purpose of use.

4.2.1 - CURRENT WATER USE

This section describes the different types of land use sectors and their 2020 individual water demand within the District service area. Pursuant to the UWMP Standardized Tables provided by DWR, the District has provided, in Table 4-1, the 2020 water demand volume by land use sector.

As shown in Table 4-1, the District experienced a water demand of 2,564 in the year 2020. All water distributed through the District service area is potable drinking water. The District produces all its water supply through pumping groundwater using District facilities. There are no current plans to purchase wholesale water. The District does purchase seepage water that recharges groundwater in the area that is used as a source of domestic drinking water.

Table 4-1 Retail: Demands for Potable and Raw Water – Actual

DRAFT Submittal Table 4-1 Retail: Demands for Potable and Non-Potable Water - Actual			
Use Type <i>(Add additional rows as needed)</i>	2020 Actual		
<i>Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool</i>	Additional Description <i>(as needed)</i>	Level of Treatment When Delivered <i>Drop down list</i>	Volume (MG)
Single Family		Drinking Water	657.52
Multi-Family		Drinking Water	61.83
Commercial		Drinking Water	91.90
Industrial		Drinking Water	
Institutional/Governmental		Drinking Water	
Landscape		Other Non-Potable Water	10.03
Groundwater recharge		Other Non-Potable Water	
Saline water intrusion barrier			
Agricultural irrigation			
Wetlands or wildlife habitat			
Sales/Transfers/Exchanges to other agencies			
Losses			14
Other			
Other			
Other			
Other			
TOTAL			835

4.2.2 - PROJECTED WATER USE

Pursuant to the UWMP Standardized Tables provided by DWR, the District has provided, in Table 4-2, the projected demands for water by land use and, in Table 4-3, the total projected water demands for the District. Total projected demands for the District do not include the use of any raw or recycled water and only include potable water.

Table 4-2 Retail: Demand for Potable and Raw Water – Projected (MG)

DRAFT Submittal Table 4-2 Retail: Use for Potable and Non-Potable Water - Projected						
Use Type <i>(Add additional rows as needed)</i>	Additional Description <i>(as needed)</i>	Projected Water Use <i>Report To the Extent that Records are Available</i>				
<i>Drop down list</i> <i>May select each use multiple times</i> <i>These are the only Use Types that will be recognized by the WUEdata online submittal tool</i>		2025	2030	2035	2040	2045 (opt)
Single Family		693	729	765	803	843
Multi-Family		65	69	72	75	78
Commercial		97	102	107	112	117
Industrial						
Institutional/Governmental						
Landscape		11	11	12	12	12
Groundwater recharge						
Saline water intrusion barrier						
Agricultural irrigation						
Wetlands or wildlife habitat						
Sales/Transfers/Exchanges to other agencies						
Sales/Transfers/Exchanges to other agencies						
Losses						
Other Potable						
Other Non-Potable						
Other		15	16	17	18	19
TOTAL		881	927	972	1,020	1,069

Table 4-3 Retail: Total Water Demands (MG)

DRAFT Submittal Table 4-3 Retail: Total Gross Water Use (Potable and Non-Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable <i>From</i> <i>Tables 4-1R and 4-2 R</i>	835	881	927	972	1,020	1,069
Recycled Water Demand* <i>From Table 6-4</i>	0	0	0	0	0	0
TOTAL WATER USE	835	881	927	972	1,020	1,069
<i>*Recycled water demand fields will be blank until Table 6-4 is complete.</i>						

4.3 - Distribution System Water Losses

10631(e)(3)(A). Report the distribution system water loss for the most recent 12-month period available.

Distribution system water losses (also known as “real losses”) are the physical water losses from the water distribution system and the supplier’s storage facilities, up to the point of customer consumption. These losses are reported in Tables 4-1 and 4-4.

It is currently estimated that the water losses from the District’s distribution system are 9.9% of water produced and therefore, the volume of water loss is reported as 82.71 MG.

Table 4-4 Retail: 12 Month Water Loss Audit Reporting (MG)

DRAFT Submittal Table 4-4 Retail: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss*
01/2020	82.71
* Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.	

4.4 - Estimating Future Water Savings

CWC 10631(e)(4)(A). If available and applicable to an urban water supplier, water use projections may display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

CWC 10631(e)(4)(B). To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following: (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections. (ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

Water savings from codes, standards, ordinances, or transportation and land use plans are also known as “passive savings.” These various factors generally decrease the water use for new and future customers compared to historical customers.

As shown in Table 4-5, this 2015 UWMP does not display or account for future water savings estimated to result from adopted codes, standards, ordinances, or transportation and land

use plans. This does not preclude the District from adopting codes, standards, ordinances, or transportation and land use plans in the future that would result in water savings. If such adoptions occur, they would be reflected in future UWMPs for the District.

4.5 - Water Use for Lower Income Households

CWC 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 District, county, or District and county in the service area of the supplier.

As shown in Table 4-5, water use for lower income households has been included in projected demands (see Table 4-2). Using the State’s Disadvantaged Communities Mapping Tool, portions of the District are found within two “Disadvantaged Community Block Groups” (ID Numbers 060290032022 and 060290032025) (California Department of Water Resources, 2017), both of which are considered a “Severely Disadvantaged Community.” Block Group ID Number 060290032022 within the service area is bound by the Arvin-Edison Canal to the north, the service area boundary to the east, Hosking Avenue to the south, and Monitor Street to the west; the median household income of this Block Group is \$47,625. Block Group ID Number 060290032025 within the service area is bound by Hosking Avenue to the north, the service area boundary to the east, the service area boundary and Taft Highway to the south, and South Union Avenue to the west; the median household income of this Block Group is \$44,324. Much of the single-family and multi-family residential housing in the District is needed for lower income households as defined by Section 50079.5 of the Health and Safety Code and therefore, water use projections in this 2020 UWMP include such households.

Table 4-5 Retail Only: Inclusion in Water Use Projections

DRAFT Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections	
<p>Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) <i>Drop down list (y/n)</i></p>	No
<p>If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc... utilized in demand projections are found.</p>	
<p>Are Lower Income Residential Demands Included In Projections? <i>Drop down list (y/n)</i></p>	Yes

SECTION 5 - BASELINES AND TARGETS

On November 10, 2009, California Governor Arnold Schwarzenegger signed into law SB X7-7. SB X7-7 mandates conservation targets for all urban retail water entities supplying potable municipal water to more than 3,000 customers or delivering more than 3,000-acre feet of potable water per year to end users. The conservation target of 20% by 2020 on a GPCD basis must be complied with to be eligible for State water grants and loans. The District is not subject to agricultural-related provisions of SB X7-7 since it does not supply agricultural water.

CWC 10608.20(e). An urban retail water supplier shall include in its urban water management plan due in 2010 pursuant to Part 2.6 (commencing with Section 10610) 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.

CWC 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.

This section includes analysis for the District's baselines and targets to meet SB X7-7 mandates for 2015 and 2020. This analysis reports on the progress of the District in meeting water use targets and is reported using a standardized form provided by DWR.

5.1 - SB X7-7 Verification Form

To demonstrate SB X7-7 compliance, retail water agencies are required to complete the SB X7-7 Verification Form and submit the standardized tables provided by DWR with their 2020 UWMPs. Please note that the tables in the SB X7-7 Verification Form will follow a different numbering format than the rest of this 2020 UWMP, and will begin with "SB X7-7," followed by the table number.

5.1.1 - BASELINE PERIOD

CWC 10608.12(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.

Urban retail water suppliers that used less than 10% recycled water in 2008 must utilize a 10-year baseline period for measuring its SB X7-7 compliance that ends no earlier than December 31, 2004 and no later than December 31, 2010. Water use GPCD must be calculated and reported for two baseline periods, the 10- or 15- year baseline (Baseline) and the 5-year baseline (Target Confirmation). The following table provides information about the baseline period ranges for this analysis.

SB X7-7 Table 1: Baseline Period Ranges

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	834	Million Gallons
	2008 total volume of delivered recycled water	-	Million Gallons
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period ^{1, 2}	10	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range ³	2012	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2006	
	Year ending baseline period range ⁴	2010	
¹ If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period. ² The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.			
³ The ending year must be between December 31, 2004 and December 31, 2010.			
⁴ The ending year must be between December 31, 2007 and December 31, 2010.			

5.1.2 - SERVICE AREA POPULATION

CWC 10608.20(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.

Several population estimation methodologies are available to retail water agencies. As shown in SB X7-7 Table 2 below, these can include use of DOF data, persons-per-connection based on census year data, the DWR population tool, or a different methodology proposed by the water agency. As shown in SB X7-7 Table 2, this 2020 UWMP uses the persons-per-connection basis.

As discussed in *Section 3.4 – Service Area Population and Demographics*, it was determined that the 2015 population of the service area was 9,547 people and that the annual increase in population based on 3.3 people per water system account.

SB X7-7 Table 2: Method for Population Estimates

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population (may check more than one)	
<input type="checkbox"/>	1. Department of Finance (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2010 - 2020) when available
<input checked="" type="checkbox"/>	2. Persons-per-Connection Method
<input type="checkbox"/>	3. DWR Population Tool
<input type="checkbox"/>	4. Other DWR recommends pre-review

Table SB X7-7 Table 3 provides the population estimates for the baseline periods and 2020 calendar year. Year 1 for the 10- to 15-year baseline population is 2003 and Year 1 for the 5-year baseline population is 2006.

SB X7-7 Table 3: Service Area Population

SB X7-7 Table 3: Service Area Population		
Year		Population
10 to 15 Year Baseline Population		
Year 1	2003	8,831
Year 2	2004	8,891
Year 3	2005	8,951
Year 4	2006	9,011
Year 5	2007	9,071
Year 6	2008	9,131
Year 7	2009	9,191
Year 8	2010	9,251
Year 9	2011	9,311
Year 10	2012	9,371
Year 11	2013	9,431
Year 12	2014	9,491
Year 13	2015	9,547
Year 14	2016	9,738
Year 15	2017	10,032
5 Year Baseline Population		
Year 1	2006	9,011
Year 2	2007	9,071
Year 3	2008	9,131
Year 4	2009	9,191
Year 5	2010	9,251
2020 Compliance Year Population		
	2020	10,801

5.1.3 - ANNUAL GROSS WATER USE

CWC 10608.12(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.

The District’s sole source of water into its distribution system is groundwater. SB X7-7 Table 4 provides the 10- to 15-year baseline, 5-year baseline, and 2020 compliance year water use.

SB X7-7 Table 4: Annual Gross Water Use (MG)*

SB X7-7 Table 4: Annual Gross Water Use *								
Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	Deductions					Annual Gross Water Use	
		Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>		
10 to 15 Year Baseline - Gross Water Use								
Year 1	2003	513			-		-	513
Year 2	2004	627			-		-	627
Year 3	2005	707			-		-	707
Year 4	2006	812			-		-	812
Year 5	2007	841			-		-	841
Year 6	2008	834			-		-	834
Year 7	2009	799			-		-	799
Year 8	2010	744			-		-	744
Year 9	2011	761			-		-	761
Year 10	2012	836			-		-	836
Year 11	2013	896			-		-	896
Year 12	2014	772			-		-	772
Year 13	2015	651			-		-	651
Year 14	2016	711			-		-	711
Year 15	2017	766			-		-	766
10 - 15 year baseline average gross water use								751
5 Year Baseline - Gross Water Use								
Year 1	2006	812			-		-	812
Year 2	2007	841			-		-	841
Year 3	2008	834			-		-	834
Year 4	2009	799			-		-	799
Year 5	2010	744			-		-	744
5 year baseline average gross water use								806
2020 Compliance Year - Gross Water Use								
2020		835	-		-		-	835
* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3								

The District’s uses do not include exported water, indirect recycled water, water delivered for agricultural use, or process water. Therefore, the annual gross water use does not include deductions for these categories.

5.1.4 - AVERAGE DAILY PER CAPITA WATER USE

In SB X7-7 Table 5, the average daily per capita water use is calculated by dividing the volume of “Annual Gross Water Use” by the service area population.

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Annual Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	2003	8,831	513	159
Year 2	2004	8,891	627	193
Year 3	2005	8,951	707	216
Year 4	2006	9,011	812	247
Year 5	2007	9,071	841	254
Year 6	2008	9,131	834	250
Year 7	2009	9,191	799	238
Year 8	2010	9,251	744	220
Year 9	2011	9,311	761	224
Year 10	2012	9,371	836	244
Year 11	2013	9,431	896	260
Year 12	2014	9,491	772	223
Year 13	2015	9,547	651	187
Year 14	2016	9,738	711	200
Year 15	2017	10,032	766	209
10-15 Year Average Baseline GPCD				222
5 Year Baseline GPCD				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use
Year 1	2006	9,011	812	247
Year 2	2007	9,071	841	254
Year 3	2008	9,131	834	250
Year 4	2009	9,191	799	238
Year 5	2010	9,251	744	220
5 Year Average Baseline GPCD				242
2020 Compliance Year GPCD				
2020		10,801	835	212

The results of SB X7-7 Table 5 are summarized in SB X7-7 Table 6 and shows the following:

- The 10- to 15-year baseline period identified a water usage for the District of 222 GPCD.
- The 5-year baseline identified a water usage for the District of 242 GPCD.
- For calendar year 2020, the District’s water usage was 212 GPCD.

SB X7-7 Table 6: Gallons Per Capita Per Day, Summary

SB X7-7 Table 6: Gallons per Capita per Day Summary From Table SB X7-7 Table 5	
10-15 Year Baseline GPCD	222
5 Year Baseline GPCD	242
2020 Compliance Year GPCD	212

CWC 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.

Of the four methods, the District has chosen the first method (80% of urban retail water supplier's baseline per capita daily water use) (see SB X7-7 Table 7) and calculated the baseline and target GPCD consistent with CWC Section 10608.20(b)(3) and as set forth in the State’s draft 20X2020 Water Conservation Plan.

SB X7-7 Table 7: 2020 Target Method

SB X7-7 Table 7: 2020 Target Method		
Select Only One		
Target Method	Supporting Documentation	
<input checked="" type="checkbox"/>	Method 1	SB X7-7 Table 7A
<input type="checkbox"/>	Method 2	SB X7-7 Tables 7B, 7C, and 7D <i>Contact DWR for these tables</i>
<input type="checkbox"/>	Method 3	SB X7-7 Table 7-E
<input type="checkbox"/>	Method 4	Method 4 Calculator

5.1.5 - TARGET GPCD REDUCTIONS

The District has calculated the 2020 target (80% of urban retail water supplier's baseline per capita daily water use) at 177 GPCD (see SB X7-7 Table 7-A).

SB X7-7 Table 7-A: Target Method 1

SB X7-7 Table 7-A: Target Method 1	
20% Reduction	
10-15 Year Baseline GPCD	2020 Target GPCD
222	177

CWC 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.

The 5-year baseline period identified a maximum year 2020 compliance target of 222 GPCD to meet the intent of CWC Section 10608.22. This is the Maximum 2020 Target as shown in SB X7-7 Table 7-F.

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target			
5 Year Baseline GPCD <i>From SB X7-7 Table 5</i>	Maximum 2020 Target ¹	Calculated 2020 Target ²	Confirmed 2020 Target
242	230	177	177
¹ Maximum 2020 Target is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD. ² 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.			

CWC Section 10608.16 also mandates that the District achieve a 10% reduction from baseline usage by 2015. The District has calculated the 2020 target (95% of baseline per capita water usage) at 177 GPCD (see SB X7-7 Table 8).

SB X7-7 Table 8: 2015 Interim Target GPCD

SB X7-7 Table 8: 2015 Interim Target GPCD		
Confirmed 2020 Target <i>Fm SB X7-7 Table 7-F</i>	10-15 year Baseline GPCD <i>Fm SB X7-7 Table 5</i>	2015 Interim Target GPCD
177	222	199

5.2 - Baselines and Targets Summary

CWC Section 10608.16 mandates that the District achieve a 20% reduction from baseline usage by 2020. The District has calculated the five-year baseline at 242 GPCD, and the 2020 target at 222 GPCD. Table 5 summarizes the baseline periods used by the District and the 2020 usage targets that were calculated in Section 5.1.

SB X7-7 Table 5: Baselines and Target Summary

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Annual Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	2003	8,831	513	159
Year 2	2004	8,891	627	193
Year 3	2005	8,951	707	216
Year 4	2006	9,011	812	247
Year 5	2007	9,071	841	254
Year 6	2008	9,131	834	250
Year 7	2009	9,191	799	238
Year 8	2010	9,251	744	220
Year 9	2011	9,311	761	224
Year 10	2012	9,371	836	244
Year 11	2013	9,431	896	260
Year 12	2014	9,491	772	223
Year 13	2015	9,547	651	187
Year 14	2016	9,738	711	200
Year 15	2017	10,032	766	209
10-15 Year Average Baseline GPCD				222
5 Year Baseline GPCD				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use
Year 1	2006	9,011	812	247
Year 2	2007	9,071	841	254
Year 3	2008	9,131	834	250
Year 4	2009	9,191	799	238
Year 5	2010	9,251	744	220
5 Year Average Baseline GPCD				242
2020 Compliance Year GPCD				
2020		10,801	835	212

The District did utilize the one or more factors (or “Optional Adjustments”) shown in Table 5-2. This was due to the increase of 120 acre-feet/year in water usage attributed to commercial, construction, and landscape uses between 2015 and 2020. The District meters these non-residential usages.

The actual capita daily water usage for the fiscal year ending in 2020 is 199 GPCD, which meets the 2020 target of 199 GPCD as shown in Table 5-2.

CWC 10608.24(d)(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.

SB X7-7 Table 5-2: 2015 Compliance

SB X7-7 Table 8: 2020 Compliance								
Actual 2020 GPCD	2020 Interim Target GPCD	Optional Adjustments <i>(in GPCD)</i>					2020 GPCD <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2020?
		Enter "0" if Adjustment Not Used			TOTAL Adjustments	Adjusted 2020 GPCD		
		Extraordinary Events	Weather Normalization	Economic Adjustment				
212	199	-	-	13	13	199	199	YES
NOTES: There was an increase of approximately 120 acre-feet/year increase in commercial, construction and landscape water used between 2015 and 2020. This was subtracted from the gpcd calculation.								

SECTION 6 - SYSTEM SUPPLIES

CWC 10631(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).

This section describes and quantifies sources of water available to the District. As discussed in *Section 4 – System Water Use*, the District produces all its water supply through pumping groundwater using District facilities. The District does not purchase water from any other source. There are no current plans to purchase wholesale water in the near future. Thus, the District does not:

- Purchase or import water (with caveat; see *Section 6.1 – Purchased or Imported Water*);
- Use surface water;
- Reuse stormwater, wastewater, or recycled water;
- Desalinate water; or
- Enter into water exchanges or transfers.

Therefore, the following discussion focuses on groundwater as the District’s only existing water supply. This section also discusses future water projects and provides a summary of existing and planned sources of water.

6.1 - Purchased or Imported Water

The District does not purchase or import surface water from other water suppliers or other entities for direct use. There are no plans for the District to purchase or import surface water for direct use as part of its water supply.

The District does purchase Kern Island Canal “seepage” water from the KDWD. The canal runs roughly along the border of the District service area and conveys surface water to the KDWD’s service area. Within this unlined canal, a certain amount of conveyed surface water “seeps” into the ground as it passes through the GCWD’s service area and becomes groundwater. The District purchases this seepage water to “bank” groundwater for future use. This water will ultimately be used by the District when it is pumped via their groundwater wells for retail treatment and delivery (see *Section 3.4 – Groundwater*). Therefore, the District considers this seepage water as groundwater, which is discussed further below.

The following table provides a history of the amount of seepage water GCWD has purchased for groundwater banking purposes since 2008.

Seepage Water Purchases from KTWD (2008 to 2020)

Year	Acre-Feet Purchased	Million Gallons Purchased
2008	2,915	950
2009	3,039	990
2010	3,032	988
2011	3,344	1,090
2012	3,855	1,256
2013	1,890	616
2014	2,760	899
2015	3,322	1,082
2016	3,894	1,269
2017	3,775	1,230
2018	3,582	1,167
2019	3,754	1,223
2020	3,573	1,164

6.2 - Groundwater

CWC 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 basins that 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.

6.2.1 - BASIN DESCRIPTION

The groundwater subbasin underlying the District's service area is the Kern Subbasin (Groundwater Basin No. 5-22.14). The Kern Subbasin is one of eight subbasins within the Tulare Lake Hydrologic Region that transport, filter, and store water (see Figure 6-1). The major watercourses in the Subbasin that provide much of the surface water runoff for the region are the Kern River and Poso Creek.

The Kern Subbasin has a surface area of about 1.95 million acres (3,040 square miles). The Kern Subbasin is bounded on the north by the County line, the base of the Sierra Nevada Mountains on the east, the base of the San Emigdio and Tehachapi Mountains on the south, and the base of the Coast Ranges on the west. (Department of Water Resources, 2006).

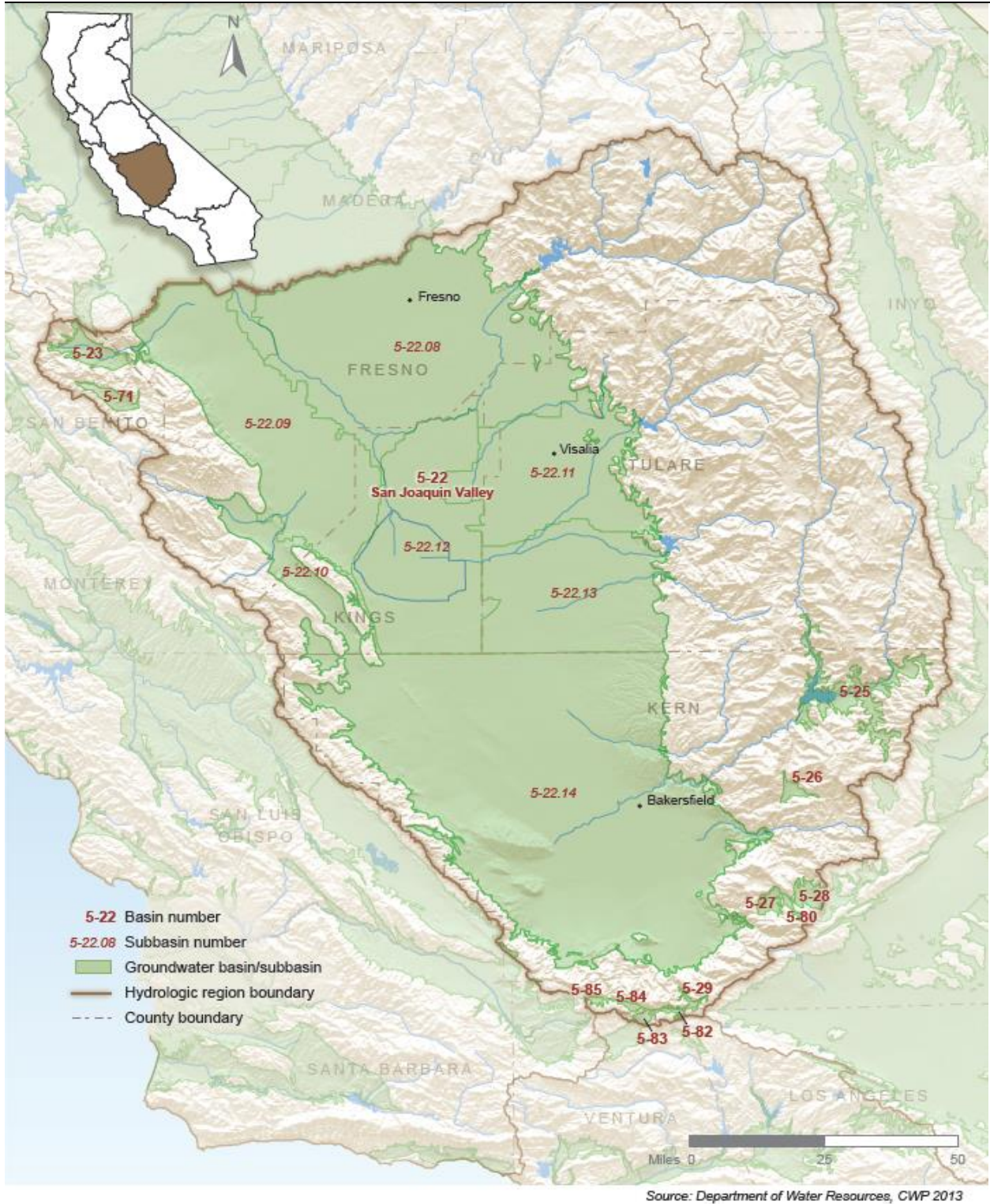
Basin Levels and Storage


Per Bulletin 118, the estimated total useable groundwater in storage in the Kern Subbasin is estimated to be 40 million acre-feet (AF) and dewatered storage¹ is 10 million AF. The average Subbasin water level is essentially unchanged from 1970 to 2000 (DWR, 2006). However, the Subbasin water level is overdrafted in areas. As a result, the State has listed the Kern Subbasin as critically overdrafted.

Basin Water Quality

The eastern portion of the Subbasin contains primarily calcium bicarbonate waters in the shallow zones, increasing in sodium with depth. Bicarbonate is replaced by sulfate and lesser chloride in an east to west trend across the Subbasin. West side waters are primarily sodium sulfate to calcium-sodium sulfate type. The average total dissolved solids (TDS) of groundwater is 400 to 450 milligrams per liter (mg/L) with a range of 150 to 5,000 mg/L. (DWR, 2006)

¹ "Dewatered storage" refers to a phenomenon when a well is pumped that the water drawn into it leaves behind a dewatered area or the cone of depression or influence. Water is stored and can still be pumped from this dewatered area. The pumped well is always located at the apex of this cone. The shape of the cone and the rate at which it expands across the top depend on the coefficients of transmissivity and storage of the aquifer and on the rate of pumping. The first water to be pumped by the well is derived from the pores in the immediate area of the well. However, as pumping continues, the cone enlarges and continues to do so until it intercepts a source of recharge (replenishment) that will produce all the water demanded by the pump. In unconfined or water table aquifers, the cone of influence expands initially at rates ranging from less than 100 meters to, in some cases, more than 1,000 meters per day.



 **Figure 6-1**
Tulare Lake Hydrologic Region

Shallow groundwater presents problems for agriculture in the western portion of the basin. High TDS, sodium chloride, and sulfate are associated with the axial trough of the Subbasin. Elevated arsenic concentrations exist in some areas associated with lakebed deposits. Nitrate, dibromo-chloropropane (DBCP), and dibromoethane (DBE) concentrations exceed maximum contaminate level (MCLs) in various areas of the basin. (DWR, 2006)

6.2.2 - GROUNDWATER MANAGEMENT

An adjudicated groundwater basin exists where, because of a lawsuit, the court decides who extracts from the basin, how much they extract, and who will manage the basin. The Kern Subbasin is not adjudicated, as defined by California DWR. Therefore, there are no limitations placed on groundwater pumpage volumes due to adjudication.

The District formed its own groundwater sustainability agency (GSA) and is coordinating with the Kern River Groundwater Sustainability Agency (KRGSA) through a memorandum of understanding to prepare a groundwater sustainability plan (GSP). The KRGSA published its GSP in January 2020. This UWMP is in compliance with the goals set forth in the GSP. The GSP may implement limitations on groundwater pumpage volumes at some time in the future.

6.2.3 - OVERDRAFT CONDITIONS

As required by CWC section 10631(b)(2), for basins that have not been adjudicated, information as to whether DWR has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted, an UWMP must include a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

According to DWR, the Kern Subbasin is listed as a critically overdrafted basin (California Department of Water Resources, 2015). According to DWR Bulletin 118-80, "critical conditions of overdraft" in a basin is "when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts" (DWR, 2015).

6.2.4 - GROUNDWATER PUMPING

The District currently utilizes groundwater as its sole source of municipal water supply. The District's municipal water system extracts its water supply from underground aquifers via seven active groundwater wells within the District limits (see Figure 3-3). The District maintains six water storage tanks. The Panama Well is currently a stand-by well.

The amount of groundwater pumped by the District over the last 5 years is shown in Table 6-1. The amount of groundwater projected to be pumped in 5-year increments over the next 20 years is shown in Table 4-2 in *Section 4 – System Water Use*. The projected retail demands for potable and raw water shown in the table are supplied solely by groundwater pumping.

Table 6-1 Retail: Groundwater Volume Pumped

DRAFT Submittal Table 6-1 Retail: Groundwater Volume Pumped (acre feet)						
<input type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.					
<input type="checkbox"/>	All or part of the groundwater described below is desalinated.					
Groundwater Type <i>Drop Down List</i> <i>May use each category multiple times</i>	Location or Basin Name	2016	2017	2018	2019	2020
<i>Add additional rows as needed</i>						
Alluvial Basin	Kern County Subbasin (Groundwater Basin No. 5-22.14)	2182	2350	2442	2431	2564
TOTAL		2,182	2,350	2,442	2,431	2,564

6.3 - Surface Water

The District does not draw water from streams, lakes or reservoirs for use in its potable water distribution system. There are no plans for the District to use surface water as part of its water supply.

6.4 - Stormwater

The District does not intentionally divert stormwater for beneficial use within its potable water distribution system. There are no plans for the District to use stormwater to offset water supply.

6.5 - Wastewater or Recycled Water

CWC 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.

(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.

Sewer treatment and disposal within the GCWD service area is performed either 1) at the City of Bakersfield's Wastewater Treatment Plant (WWTP) No. 3 located at 8101 Ashe Road, Bakersfield, CA 93307 or 2) using individual septic systems in compliance with applicable regulations. The following discussion is specific to wastewater treated at WWTP No. 3. Please also note that the 5,000 MG volume of wastewater collected (see Tables 6-2 and 6-3) at the City of Bakersfield WWTP No. 3 is for all the water collected at the plant, which includes the GCWD service area and other areas outside the service area.

WWTP No. 3 is an advanced (activated sludge) secondary treatment facility with disinfection system that can handle a design flow of 32 million gallons per day (MGD) daily. The plant includes two improved bar screens, a wet well, grit removal system, eight primary clarifiers, four secondary clarifiers, four trickling filters, eight effluent storage ponds (total capacity 2,280 acre-feet), eight anaerobic digesters, 10 covered aeration basins, an equalization lagoon, and about 20 acres of unlined sludge beds (Central Valley Regional Water Quality Control Board, 2009).

Wastewater effluent from WWTP No. 3 is discharged into the Interstate 5 (I-5) Reclamation Site, property owned by the City of Los Angeles and bound by Taft Highway on the north, I-5 on the east, Enos Lane on the west, and adjacent to the plant site on the south (Central Valley Regional Water Quality Control Board, 2009). The City of Bakersfield discharge up to 16 MGD of effluent to the I-5 Reclamation Site and 16 MGD to the onsite effluent storage ponds, and the effluent percolates to ground in compliance with the Waste Discharge Order (WDR) No. R5-2009-0122 (Central Valley Regional Water Quality Control Board, 2009).

The District is not using and does not plan to use wastewater or recycled water within the planning horizon of the 2020 UWMP and therefore, per the Guidebook, only Tables 6-2, 6-3, and 6-6 need to be completed.

Table 6-2 Retail: Wastewater Collected Within Service Area in 2020

DRAFT Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020						
<input type="checkbox"/> There is no wastewater collection system. The supplier will not complete the table below.						
Percentage of 2020 service area covered by wastewater collection system <i>(optional)</i>						
Percentage of 2020 service area population covered by wastewater collection system <i>(optional)</i>						
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? <i>Drop Down List</i>	Volume of Wastewater Collected from UWMP Service Area 2020	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? <i>Drop Down List</i>	Is WWTP Operation Contracted to a Third Party? <i>(optional) Drop Down List</i>
<i>Add additional rows as needed</i>						
City of Bakersfield Public Works	Estimated	5,000	City of Bakersfield	City of Bakersfield WWTP No. 3	No	Yes
Total Wastewater Collected from Service Area in 2020:		5,000				
NOTES: All wastewater from the GCWD service area is discharged into the City of Bakersfield's sewer system or via individual septic systems. Please also note that the 5,000 MG volume of wastewater collected is for all the water collected at the WWTP No. 3, which includes the GCWD service area and other areas outside the service area.						

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020

DRAFT Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020											
<input type="checkbox"/> No wastewater is treated or disposed of within the UWMP service area. The Supplier will not complete the table below.											
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number <i>(optional)</i>	Method of Disposal <i>Drop down list</i>	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level <i>Drop down list</i>	2020 volumes				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
<i>Add additional rows as needed</i>											
City of Bakersfield WWTP No. 3	Storage ponds and l-5 Reclamation Site	Onsite ponds and offsite reclamation site	R5-2009-0122	Percolation ponds	Yes	Secondary, Disinfected - 2.2	5,000	5,000	0	0	0
Total							5,000	5,000	0	0	0
NOTES: All wastewater from the GCWD service area is discharged into the City of Bakersfield's sewer system or via individual septic systems. Please also note that the 5,000 MG volume of wastewater collected is for all the water collected at the WWTP No. 3, which includes the GCWD service area and other areas outside the											

Table 6-6 Retail: Methods to Expand Future Recycled Water Use

Table 6-6 Retail: Methods to Expand Future Recycled Water Use	
<input checked="" type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.

6.6 - Desalinated Water Opportunities

CWC 16031(h). Describe desalinated water project opportunities for long-term supply.

The District has no feasible opportunity for the development of a water desalination system as a long-term supply. With no nearby or convenient sources of saline water to desalinate, the cost of providing the water and then treating would outweigh the benefits.

6.7 - Exchange and Transfer Opportunities

CWC 10631(d). Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

The District does not have any planned or potential future water exchanges or transfers.

6.8 - Future Water Projects

CWC 10631(g). 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 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.

The District is expecting to re-drill the McKee Well, and potentially provide treatment at the East Berkshire, Bannock and Panama well sites. None of these projects will increase the Districts water supply, only improve water quality and reliability. As shown in Table 6-7 below, the District is not expecting future water supply projects or programs to increase supply in the future.

Table 6-7 Retail: Expected Future Water Supply Projects or Programs

DRAFT Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs	
☑	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.

6.9 - Groundwater Supplies Coordination

In 2014, the Legislature enacted the Sustainable Groundwater Management Act to address groundwater conditions throughout California. The CWC now requires 2020 UWMPs to be consistent with GSPs in areas where those plans have been completed by GSAs.



The District formed its own GSA and is coordinating with the KRGSA through a memorandum of understanding to prepare a GSP. The KRGSA published its GSP in January 2020. The table

below is from the January 2020 KRGSA GSP and it shows the GSP implementation items and the projected timeline.

This 2020 UWMP is consistent with the GSP and the proposed projects and management actions.

Table 8-1: GSP Implementation Schedule

KRGSA GSP Implementation		2020-2025	2026-2030	2031-2035	2036-2039	2040
Phase 1	GSP Projects					
7.1.1	Water Allocation Plan					
7.1.2	Kern River Conjunctive Use Optimization					
7.1.3	Expand Recycled Water Use in KRGSA Plan Area					
7.1.4	Land Use Conversion - Urbanization of Agricultural Lands					
7.1.5	ENCSD North Weedpatch Water System Consolidation					
7.1.6	Possible Water Exchange for Improved Drinking Water Quality in DACs					
Phase 1	Management Actions					
7.2.1	Implement Action Plan if Water Levels Fall Below Minimum Thresholds					
7.2.2	Optimize Conjunctive Use in the KRGSA					
7.2.3	Establish Well Metering Policy in the KRGSA					
7.2.4	Implement Groundwater Extraction Reporting Program					
7.2.5	Support Delta Conveyance Project to Preserve Imported Water Supplies					
7.2.6	Incorporate Climate Change Adaptation Strategies					
7.2.7	Support Sustainable Groundwater Supplies for KRGSA DACs					
7.2.8	Improve Groundwater Monitoring in the KRGSA Plan Area					
7.2.9	Incorporate a Policy of Adaptive Management in the KRGSA GSP Process					
Phase 2	GSP Projects and Management Actions					
7.3.1	Expansion of the Northeast Treatment Plant to Buildout					
7.3.2	Re-negotiation of Banking Contract					
7.3.3	Capital Improvements to Municipal Wells					
7.3.4	Install Dedicated Monitoring Wells					
7.3.5	Expansion of Recharge Facilities					
7.4.1	Pumping Reductions and Allocation of Agricultural Groundwater					
7.4.2	Conversion of Agricultural Lands					
7.4.3	Additional Urban Conservation Measures					
7.4.4	Additional Considerations for Adaptive Management					

 Project/Action Implementation Period
 Project/Action Continuation Period

6.10 - Summary of Existing and Planned Sources of Water

As discussed above, the sole source of water for the District is through groundwater pumping. Continued groundwater pumping is also the only planned source of water in the future. Since the Kern Subbasin is a non-adjudicated basin, there are currently no restrictions on groundwater pumping.

Because there is no current restriction on groundwater pumping, the limit of available water is the pump capacity of the five existing wells to pump groundwater. The pump capacity of the five wells to pump groundwater is shown in the following table.

Pump Capacity at the Six Well Sites

Well Site	Pump Capacity (gallons per minute)	Pump Capacity (million gallons per year) ¹
Dublin	1,513	696
McKee	865	398
Taft	946	435
Berkshire	1,508	694
Bannock	1,225	563
East Berkshire	1,225	563
Total	7,282	3,349

¹ (Gallons per minute X 60 minutes/hour X 21 hours/day X 365.2425 days/year)/1,000,000

Source: (Greenfield County Water District, 2021).

Based on the above table, the District has the pumping capacity to produce 2,872 MG per year if the pumps were to run 21 hours a day. The assumption of 21 hours of use per day was determined to allow for the pumps to remain idle a portion of the day to extend their useful life and to account for times in the year when pumps will be down for repair or replacement as needed. Therefore, the retail water supply available to the District in 2020 is 3,349 MG (10,278 acre-feet) per year as shown in Table 6-8.

Table 6-8 Retail: Water Supplies – Actual

DRAFT Submittal Table 6-8 Retail: Water Supplies — Actual (AF)				
Water Supply	Additional Detail on Water Supply	2020		
<i>Drop down list</i> <i>May use each category multiple times.</i> <i>These are the only water supply categories</i> <i>that will be recognized by the WUEdata</i> <i>online submittal tool</i>		Actual Volume	Water Quality <i>Drop Down</i> <i>List</i>	Total Right or Safe Yield <i>(optional)</i>
<i>Add additional rows as needed</i>				
Groundwater (not desalinated)	Groundwater Balance	10,278	Drinking Water	
Total		10,278		0

For the same reasons discussed above, it is assumed that the projected groundwater supply available to the District is also 3,349 MG (10,278 acre-feet) for each of the projected years (see Table 6-9). Actual projected groundwater supply may change during the next UWMP cycle in response to the results of GSPs developed in the Kern Subbasin to comply with SGMA.

Table 6-9 Retail: Water Supplies – Projected

DRAFT Submittal Table 6-9 Retail: Water Supplies — Projected											
Water Supply	Additional Detail on Water Supply	Projected Water Supply (MG) <i>Report To the Extent Practicable</i>									
		2025		2030		2035		2040		2045 (opt)	
<i>Drop down list</i> <i>May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool</i>											
<i>Add additional rows as needed</i>											
Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Groundwater (not desalinated)	87.5% of well pump capacity (pumping 21 hours/day) of all groundwater wells	3,349		3,349		3,349		3,349		3,349	
Total		3,349	0	3,349	0	3,349	0	3,349	0	3,349	0

SECTION 7 - WATER SUPPLY RELIABILITY ASSESSMENT

CWC 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.

All UWMPs must include an assessment of the reliability of their water supplies. The water supply and demand assessment must compare the total projected water use with the projected water supply, in 5-year increments, through the next 20 years. This section presents a comparison of the water demands and supplies within the District's service area, and assesses supply versus demand during normal years, single dry water years, and multiple dry water years. This section describes the long-term reliability of the District's water supply while *Section 8 – Water Shortage Contingency Planning* provides short-term reliability planning that may require immediate action, such as a drought or a catastrophic supply interruption.

7.1 - Constraints on Water Sources

CWC 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 District obtains 100% of its potable water supply from groundwater pumping. Regardless of climatic conditions, there is approximately 40 million AF of water in storage within the Kern Subbasin. Using the existing pump capacity at the seven wells running at 21 hours per day, it was calculated that the existing groundwater water supply available to the District is 3,349 MG (10,278 acre-feet) per year (see Tables 6-8 and 6-9). This water supply is available to the District regardless of the climatic conditions related to average, single-dry, and multiple-dry years.

However, because the District relies entirely on groundwater wells, the drawdown will be more severe in drought years and high mean temperature years. Since the entire southern San Joaquin Valley experienced severe drought conditions over the period of 2012-2016, the groundwater drawdown may eventually reach a critical point particularly in depth of wells. Groundwater would still be available to the District over the UWMP planning horizon, but the need to deepen wells may become necessary in the future in the event of prolonged drought. The District has watering regulations in place to ensure water conservation and provide education to all customers. These regulations can be found on the District's website. Additionally, future SGMA regulations will mandate safe yields within the Kern Subbasin, which will further alleviate the possibility of requiring the deepening of wells in the future. Compliance with SGMA may require the District to come up with alternative sources of water in the future based on the GSP, but now the District can pump as much water as is required to supply the needs of the District.

The District's water system includes seven wells located within the District's sphere of influence. The five seven wells include the Dublin, McKee, Taft, Panama, Berkshire, Bannock and East Berkshire sites (see Figure 3-3). The District produces an annual water quality report required by the California State Water Resources Control Board – Division of Drinking Water. The report summarizes the water quality sampling results for 2019 for all water customers.

Based on the *Consumer Confidence Report For Calendar Year 2019* (Greenfield County Water District, 2020), the GCWD system exceeds the standard or MCL for arsenic which is 10 ppb at two of the wells. Compliance is based on a running annual average (RAA) of four consecutive quarterly samples for each well. In early 2020, the District installed arsenic treatment to remove arsenic from the water supply in compliance with applicable regulations.

7.2 - Reliability by Type of Year

CWC 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.

CWC 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.

There are two aspects of supply reliability that can be considered. The first relates to immediate service needs and is primarily a function of the availability and adequacy of the supply facilities. The second aspect is climate related and involves the availability of water during mild or severe drought periods. This section compares water supplies and demands during three water scenarios: average or normal water year, single-dry water year, and multiple-dry water years. These scenarios are defined as follows:

- Average year – a year, or an averaged range of years, that most closely represents the median runoff levels and patterns. The supply quantities for this condition are derived from historical average yields. Within this document the terms “normal” and “average” are used interchangeably.
- Single-dry year – the year with the lowest water supply availability. Generally considered to be the lowest annual runoff for a watershed since the water-year beginning in 1903.
- Multiple-dry years – the lowest average water supply availability to the agency for a consecutive multiple year period (three years or more). Generally considered to be

the lowest average runoff for a consecutive multiple year period (three years or more) for a watershed since 1903.

Drought years for the hydrologic region can be determined by referencing DWR's Chronological Reconstructed Sacramento and San Joaquin Valley Water Year Hydrologic Classification Indices 1995 to 2015 (WSIHIST) (California Department of Water Resources, 2016). The District is currently experiencing a multiple dry year cycle, which started in 2012 and has continued through 2015. Within this multiple dry year period, the District still could meet all its water demands without the need to implement water management tools. Also, the impact of an extreme single dry year such as 2015 did not impact the ability of the District to meet all its water demands. Supply reliability for average water years such as 2010 and multiple and single dry years is shown in Table 7-1. The reliability of water service, which is subject to proper operation and maintenance of the District's water distribution system and its ability to deliver the water, is discussed in *Section 6 – System Supplies*.

Table 7-1 Retail: Basis of Water Year Data (AF)

DRAFT Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)			
Year Type	Base Year <i>If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020</i>	Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		<input checked="" type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year	2008-2015	3020	100%
Single-Dry Year	2015	4845	160%
Consecutive Dry Years 1st Year	2012	3990	132%
Consecutive Dry Years 2nd Year	2013	3130	104%
Consecutive Dry Years 3rd Year	2014	3522	117%
Consecutive Dry Years 4th Year			
Consecutive Dry Years 5th Year			
Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.			

Therefore, the District has a reliable water supply and is not vulnerable to seasonal and climatic shortages. There is no current need for plans to supplement or replace the existing groundwater source available to the District with alternative sources or water demand management measures.

7.3 - Supply and Demand Assessment

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.

7.3.1 - AVERAGE (OR NORMAL) YEAR

Normal year supply and demand projections and differences are presented in Table 7-2.

Table 7-2 Retail: Normal Year Supply and Demand Comparison

DRAFT Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison (MG)					
	2025	2030	2035	2040	2045 (Opt)
Supply totals (autofill from Table 6-9)	3,349	3,349	3,349	3,349	3,349
Demand totals (autofill from Table 4-3)	2,704	2,844	2,984	3,130	3,281
Difference	645	505	365	219	68

As shown in Table 7-2, future water supplies are anticipated to not only meet, but far exceed demands in normal year conditions through year 2040.

7.3.2 - SINGLE DRY YEAR

Projected supplies were compared to the increased demands for a single-dry year and are presented in Table 7-3.

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison

DRAFT Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison (MG)					
	2025	2030	2035	2040	2045 (Opt)
Supply totals	3,349	3,349	3,349	3,349	3,349
Demand totals	2,704	2,844	2,984	3,130	3,281
Difference	645	505	365	219	68

As shown in Table 7-3, anticipated groundwater supplies are sufficient to meet all demands through the year 2040 even under single-year drought conditions.

7.3.3 - FIVE CONSECUTIVE DRY-YEAR RELIABILITY ASSESSMENT

Projected supplies were compared to the increased demands for a five consecutive dry-year scenarios and are presented in Table 7-4.

Table 7-4 Retail: Five Consecutive Dry Years Supply and Demand Comparison

DRAFT Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison (MG)						
		2025	2030	2035	2040	2045 (Opt)
First year	Supply totals	3,349	3,349	3,349	3,349	3,349
	Demand totals	2,704	2,844	2,984	3,130	3,281
	Difference	645	505	365	219	68
Second year	Supply totals	3,349	3,349	3,349	3,349	3,349
	Demand totals	2,704	2,844	2,984	3,130	3,281
	Difference	645	505	365	219	68
Third year	Supply totals	3,349	3,349	3,349	3,349	3,349
	Demand totals	2,704	2,844	2,984	3,130	3,281
	Difference	645	505	365	219	68
Fourth year	Supply totals	3,349	3,349	3,349	3,349	3,349
	Demand totals	2,704	2,844	2,984	3,130	3,281
	Difference	645	505	365	219	68
Fifth year	Supply totals	3,349	3,349	3,349	3,349	3,349
	Demand totals	2,704	2,844	2,984	3,130	3,281
	Difference	645	505	365	219	68

As shown in Table 7-4, anticipated groundwater supplies are sufficient to meet all demands through the year 2040 even under multiple-dry year drought conditions.

7.3.4 - DROUGHT RISK ASSESSMENT

Water Code Section 10635(b)

Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban

water management plan update. The drought risk assessment shall include each of the following:

(1) A description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive water years, starting from the year following when the assessment is conducted.

(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.

(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

Projected total supplies and projected water use for the next five years (2021 to 2025) were compared and are presented in Table 7-5. The information in the table shows a significant surplus of water available each year. Based on this, on supply augmentation or use reduction savings are included. However, the District is always pursuing ways to decrease water usage and increase water savings. These items are described in Section 8 and Section 9 of this UWMP.

Table 7-5 Five-Year Drought Risk Assessment Tables to Address Water Code Section 10635(b)

DRAFT Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)	
2021	Total (AF)
Gross Water Use	2,592
Total Supplies	10,278
Surplus/Shortfall w/o WSCP Action	7,686
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	0
2022	Total (AF)
Gross Water Use [Use Worksheet]	2,620
Total Supplies [Supply Worksheet]	10,278
Surplus/Shortfall w/o WSCP Action	7,658
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	0
2023	Total (AF)
Gross Water Use [Use Worksheet]	2,648
Total Supplies [Supply Worksheet]	10,278
Surplus/Shortfall w/o WSCP Action	7,630
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	0%
2024	Total (AF)
Gross Water Use [Use Worksheet]	2,676
Total Supplies [Supply Worksheet]	10,278
Surplus/Shortfall w/o WSCP Action	7,602
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	0%
2025	Total (AF)
Gross Water Use [Use Worksheet]	2,704
Total Supplies [Supply Worksheet]	10,278
Surplus/Shortfall w/o WSCP Action	7,574
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	0%

SECTION 8 - WATER SHORTAGE CONTINGENCY PLANNING

CWC 10632 (a) 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.

(b) Every urban water supplier required to prepare a water shortage contingency plan shall prepare a water shortage contingency plan pursuant to Section 10632. The supplier shall likewise periodically review the water shortage contingency plan as required by paragraph (10) of subdivision (a) of Section 10632 and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

The Act requires water agencies to incorporate a water shortage contingency plan (WSCP) focusing on the allocation of water supplies and the management of water consumption during periods of shortage due to extended drought or a water emergency. This Section describes the District's policies and ordinances to deal with water shortages. The District's water supply comes solely from groundwater pumping. As discussed in *Section 7 - Water Supply Reliability Assessment*, the District has a reliable water supply and is not vulnerable to seasonal and climatic shortages for the normal, dry-year, and multiple dry-year scenarios through year 2040. This reliability conclusion is caveated by the fact that future compliance with SGMA may require the District to come up with alternative sources of water in the future based on the result of the GSP to be developed. However, the District can now pump as much water as is required to supply its needs. To help offset water pumped, the District takes part in water banking projects in the area to replenish groundwater.

The District's WSCP illustrates specific water supply conditions that trigger the activation of voluntary and mandatory rationing efforts. It explains what the ability is to meet projected short-term demands during extended dry periods and emphasizes some of the significant proactive measures that enhance the District's ability to respond to interruptions in water supply should a natural or manmade disaster occur. The contingency plan outlines the planned response to failures in the infrastructure of the water system in the event of an earthquake, extensive power outage, or another catastrophic event. Finally, this section provides details about prohibitions and penalties against specific water uses during water shortages, and evaluates potential impacts to the water funds should water sales decrease because of supply shortages.

The District has enacted several actions related to water conservation.

On August 11, 2014, the District's Board approved the Mandatory Water Conservation Plan. This Plan is as follows:

The Greenfield County Water District approved these mandatory water conservation practices; as mandated by the State of California:

Authority: Section 1058.5, Water Code.

Reference: Sections 102, 104 and 105, Water Code.

Section 864. Prohibited Activities in Promotion of Water Conservation.

(a) To promote water conservation, each of the following actions is prohibited, except where necessary to address an immediate health and safety need or to comply with a condition in a permit issued by a state or federal agency;

(1) The application of potable water to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures;

(2) The use of a hose that dispenses potable water to wash motor vehicle, except where the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use;

(3) The application of potable water to driveways and sidewalks; and

(4) The use of potable water in a fountain or decorative water feature, except where the water is part of a recirculating system.

On May 11, 2015, the District Board approved additional and reaffirmed existing rules and regulations for the District's Mandatory Water Conservation Plan to meet the State's 25% conservation mandate, and the Board asked that they be posted at the District office. These rules and regulations are as follows:

[T]he Board has adopted the following mandatory water restrictions:

- Outdoor irrigation is limited to 3 days per week.
- Even Numbered Property Address: Outdoor irrigation is allowed on Sunday, Wednesday and Saturday only.
- Odd Numbered Property Address: Outdoor irrigation is allowed on Tuesday, Thursday and Saturday only.
- All outside irrigation is prohibited on Mondays.
- Outdoor irrigation should occur from Sundown to Sun-up.
- Outdoor irrigation that results in water flowing onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures is prohibited.

- The use of a hose without shut-off nozzle or device to wash a vehicle is prohibited.

8.1 - Stages of Actions

In compliance with CWC section 10632(a)(1), all water agencies are required to administer a strategy – an adopted ordinance or terms of service – to outline “stages of action” in response to water supply shortages. The District currently has only one stage of action, which requires compliance with all Board-adopted Mandatory Water Conservation Plan rules and regulations adopted both on August 11, 2014 and May 11, 2015.

Table 8-1 provides a summary of the one stage of action that has been enacted by the District’s Board.

Table 8-1 Retail: Stages of Water Shortage Contingency Plan

DRAFT Submittal Table 8-1 Water Shortage Contingency Plan Levels		
Shortage Level	Complete Both	
	Percent Shortage Range ¹ <i>Numerical value as a percent</i>	Water Shortage Condition <i>(Narrative description)</i>
<i>Add additional rows as needed</i>		
1	Up to 10%	
2	Up to 20%	
3	Up to 30%	
4	Up to 40%	
5	Up to 50%	
6	>50%	Prohibit landscape irrigation from running off onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures; prohibit use of hoses without shut-off nozzle to wash cars; prohibit application of potable water to driveways and sidewalks; prohibit potable water use in fountains or other water features except if using recirculating system; limit landscape irrigation to three days per week; institute even and odd address water days; prohibit landscape irrigation on Mondays; and limit landscape irrigation from sundown to sun-up
¹ One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.		
NOTES: Stage 1 enacts all Board-adopted Mandatory Water Conservation Plans rules and regulations.		

8.2 - Prohibition on End Users

In compliance with CWC section 10632(a)(4) and CWC section 10632(a)(5), prohibitions on end users are defined in the Board-adopted Mandatory Water Conservation Plan rules and regulations adopted both on August 11, 2014 and May 11, 2015 as shown above. Table 8-2 summarizes the mandatory restrictions and prohibitions placed on end users.

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses

DRAFT Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply to you.</i>	How much is this going to reduce the shortage gap? <i>Include volume units used.</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>Drop Down List</i>
<i>Add additional rows as needed</i>				
6	Landscape - Restrict or prohibit runoff from landscape irrigation			Yes
6	Landscape - Limit landscape irrigation to specific times			Yes
6	Landscape - Limit landscape irrigation to specific days			Yes
6	Water Features - Restrict water use for decorative water features, such as fountains			Yes
6	Other - Require automatic shut of hoses			Yes
NOTES: Third column cannot be populated at this time.				

8.2.1 - LANDSCAPE IRRIGATION

The following summarizes landscape irrigation restrictions for Stage 1:

- Restrict or prohibit runoff from landscape irrigation;
- Limit landscape irrigation to specific times; and
- Limit landscape irrigation to specific days.

8.2.2 - COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL (CII)

The following summarizes CII restrictions for Stage 1:

- None.

8.2.3 - WATER FEATURES AND SWIMMING POOLS

The following summarizes restrictions on water features and swimming pools for Stage 1:

- Restrict water use for decorative water features, such as fountains.

8.2.4 - OTHER RESTRICTIONS

The following summarizes other restrictions for Stage 1:

- Require automatic shut off hoses.

8.3 - Penalties, Charges, Other Enforcement of Prohibitions

On August 11, 2014, the District's Board approved the Mandatory Water Conservation Plan. Penalties found within this Plan are as follows:

- (b) The taking of any action prohibited in subdivision (a) of this section [e.g., landscape runoff, using hoses without nozzles, applying water to driveways, etc.], in addition to any other applicable civil or criminal penalties, is an infraction, punishable by a fine of up to five hundred dollars (\$500) for each day in which the violation occurs.

On May 11, 2015, the District's Board further defined that penalties under the Mandatory Water Conservation Plan by defining violation tiers and specifically defining the monetary penalty for each tier. These penalties are as follows:

First Violation

A Notice of Violation and a Fee Schedule for all violations.

Second Violation

A \$50.00 fee for 2nd violation, send written notice to violator with Violation Fee Schedule.

Third Violation

A \$100.00 fee for 3rd violation, send written notice to violator with Violation Fee Schedule.

Fourth Violation

A \$250.00 fee for 4th violation, send written notice to violator with Violation Fee Schedule.

The District continues to assess a \$250.00 fee and send written notice to violator with Violation Fee Schedule for every violation after the fourth violation.

8.4 - Consumption Reduction Methods

In compliance with CWC section 10632(a)(5), consumption reduction methods are actions that are taken by the District to reduce water demand within the service area whereas the

prohibitions (see Section 8.2) limit specific uses of water. DWR allows water agencies, such as the District, to make their own determinations as to which methods and which stages for employing the methods are most appropriate for a service area.

8.4.1 - CONSUMPTION REDUCTION GOALS

The consumption reduction goals for Shortage Level 6 is greater than 50% reduction.

8.4.2 - CATEGORIES OF CONSUMPTION REDUCTION METHODS

The following consumption reduction methods listed in the Guidelines have been implemented by the District:

- Expand Public Information Campaign – Examples include begin or enlarge media campaign; create bill insert with conservation information; write articles for local newspaper; conduct water efficiency workshops for different customer sectors.
- Increase Water Waste Patrols – Examples include implement Water Waste Patrol program; increase staffing for Water Waste Patrol; increase authority of Water Waste Patrol.
- Other – any other method that does not fall into the categories listed in the Guidelines.

Table 8-3 provides a summary of the consumption reduction methods currently employed by the District.

Table 8-3 Retail Only: Stages of Water Shortage Contingency Plan – Consumption Reduction Methods

Table 8-3: Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	How much is this going to reduce the shortage gap? <i>Include volume units used.</i>	Additional Explanation or Reference <i>(optional)</i>
<i>Add additional rows as needed</i>			
6	Expand Public Information Campaign	10%	See description below
6	Increase Water Waste Patrols	10%	See description below
6	Other actions (describe)	10%	See description below

Expand Public Information Campaign

The District passes out water conservation pamphlets and the office staff are tasked with providing water conservation education when customers pay their bills at the District office. Per the Mandatory Water Conservation Plan dated August 11, 2014, the District’s Board has directed District staff to include water conservation suggestions in the monthly billings and water conservation signs be placed in District office. Additionally, during preconstruction meetings with new development, developers, management, and contractors are encouraged and monitored to use water wisely.

The District has plans to expand their existing public information campaign by provided greater variety of pamphlets and contacting schools and other public venues in the future.

Increase Water Waste Patrols

The District has a Water Waste Patrol program in place and plans to expand this program in the future. Currently, the Water Waste patrol assists customers with leak detection, sprinkler timers, etc. and is encouraged to educate customers whenever possible. The District also has a large portion of farmland that does not receive water, but the servicemen include this area in their patrols to discourage theft or illegal connection to the District’s system.

Other

TOILET LEAK TABLETS

The District provides toilet leak tablets for free.

8.5 - Determining Water Shortage Reductions

The following discussion is provided to comply with CWC section 10632(a)(9). The District’s water system is supplied by groundwater wells. Each well has a flow meter that records the amount of water entering the District’s distribution system. The District use these meters to monitor actual reductions in water use within the service area. The District has maintained more than a 21% reduction as compared to the drought year of 2013.

8.6 - Revenue and Expenditure Impacts

The following discussion is provided to comply with CWC section 10632(a)(7). Most operating costs for most water agencies are fixed rather than a function of the amount of water sold. Thus, when conservation programs are undertaken, it is frequently necessary to raise water rates because the revenue generated is based on lower total consumption while the costs, and resulting revenue required, are basically fixed. Typically, water rates need to be increased by the percentages listed in Table 8-1 when the indicated stages are implemented. However, reductions in water demands, especially peak demands, can delay the need to develop costly new water sources in growing communities. The District currently charges water customers a flat fee based on meter size plus a volumetric charge for water use.

The District does have an emergency fund for system upkeep. The District’s water rates increased 3% a year per a Proposition 218 hearing in 2008. The increase was approved at the March 10, 2008 Board meeting. The District also reviews the water connection fees yearly for new developments. A portion of the fee is put in the capital improvements account and the other portion is placed in a separate account to help pay for the KDWD seeped water. The District is currently considering establishing a fund to mitigate the impacts of a water shortage, particularly considering SGMA. The fund would then be used to stabilize water rates during periods of water shortage.

8.7 - Resolution or Ordinance

In compliance with CWC section 10632(a)(8), the District's Board approved the Mandatory Water Conservation Plan on August 11, 2014 and approved additional and reaffirmed existing rules and regulations for the Plan on May 11, 2015. Please see above for more information about the specifics of the Plan.

8.8 - Catastrophic Supply Interruption

The following discussion is provided to comply with CWC section 10632(a)(3). The Act refers to catastrophic interruptions as regional power outages, natural disasters, and other disasters that stop the water supply. The District has developed the *Emergency Disaster Response Plan* (Greenfield County Water District, 2020) that outlines the District's response to emergencies and/or disasters to continue minimum service levels and mitigate the public health risk from drinking water contamination. The Plan designates responsible personnel, provides the location to obtain an inventory of resources, designates an emergency operations center, outlines other agency coordination, and provides response procedures.

8.9 - Minimum Supply Next Three Years

As required by CWC section 10632(a)(2), an UWMP must include an estimate of the minimum water supply available to the District during each of the next three years. The District's water supply is derived completely from groundwater wells. Table 8-4 provides an estimate of the minimum water supply available during the next three years.

Table 8-4 Retail: Minimum Supply Next Three Years

DRAFT Submittal Table 8-4 Retail: Minimum Supply Next Three Years (AF)			
	2021	2022	2023
Available Water Supply	10,278	10,278	10,278

8.10 - Seismic Risk Assessment and Mitigation Plan

Water Code Section 10632.5.

(a) In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.

(b) An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.

(c) An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk.

In lieu of conducting their own seismic risk assessment, which can be a lengthy process, suppliers can comply with the CWC requirement by submitting the relevant local hazard mitigation plan or multihazard mitigation plan, if available. The District was one of the agencies that is included in the Kern County Hazard Mitigation Plan. The Kern County Hazard Mitigation Plan is included in this Plan as an attachment. An updated Kern County Hazard Mitigation Plan is scheduled to be completed by July 2021.

SECTION 9 - DEMAND MANAGEMENT MEASURES

CWC 10631(f). Provide a description of the supplier's water demand management measures. This description shall include all of the following:

CWC 10631(f)(1)(A). For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

CWC 10631(f)(1)(B). The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

(i) Water waste prevention ordinances.

(ii) Metering.

(iii) Conservation pricing.

(iv) Public education and outreach.

(v) Programs to assess and manage distribution system real loss.

(vi) Water conservation program coordination and staffing support.

(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.

This section provides a comprehensive description of the water conservation programs that the District has implemented, is currently implementing, and plans to implement to meet urban water reduction targets. The District is not a signatory to the Memorandum of Understanding regarding Urban Water Conservation in California and therefore, is not a member of the California Urban Water Conservation Council. For responding to the Act, the District will address the six Demand Management Measures (DMMs) described in CWC section 10631(f)(1)(B). Descriptions of the District's DMMs are provided below.

9.1 - Water Waste Prevention Ordinances

In compliance with CWC section 10632(a)(8), the District's Board approved the Mandatory Water Conservation Plan on August 11, 2014 and approved additional and reaffirmed existing rules and regulations for the Plan on May 11, 2015. Please see *Section 8 – Water Shortage Contingency Planning* for more information about the specifics of the Plan.

9.2 - Metering

Approximately 5.4% of the GCWD's service connections are not metered. Using the 3,327 current connections, this means that about 315 of those connections were not metered. Currently, the District is installing meter spacers on existing flat-rate connections in preparation to meet the 100% metered mandate by 2025. The District will comply with the Urban Water Management Planning Act, CWC section 325, which requires water meters and billings based thereon for all service connections by 2025.

The District uses radio read technology on all metered connections. And the GCWD has a metered testing program and replaces inaccurate meters, as needed.

9.3 - Conservation Pricing

Conservation pricing promotes water conservation through retail water rate structures that send a signal to customers regarding their water use. An example is enacting penalties for a higher water rate for users who go over a predetermined water budget. The District uses a four-tier metered rate to encourage conservation. All flat-rate connections are charged according to lot size.

The metered service rates for the District as of June 1, 2020 are:

- 100 to 1,500 cubic feet (cf) at \$0.80 per 100 cf;
- 1,501 to 2,500 cf at \$0.85 per 100 cf;
- 2,501 to 4,000 cf at \$0.91 per 100 cf; and
- 4,001 cf and above at \$1.21 per 100 cf.

9.4 - Public Education and Outreach

The following describes the public education and outreach efforts by the District to promote water conservation and other water-related topics.

The annual Consumer Confidence Report is mailed each year. The District uses these mailings when necessary to provide customers additional information on water conservation and other demand management measures. Display cases and bulletin boards at District facilities augment the mailings by providing a permanent posting of the most current District mailings.

The District monthly water bill distributed to all water service customers is another vehicle used by the District for public education purposes. The bill presents information regarding comparable previous year water usage so that the public can self-monitor their water demand. The bill also contains a space for public service announcements that are used to remind citizens of conservation and demand management measures.

9.5 - Programs to Assess and Manage Distribution System Real Loss

The GCWD has several programs to manage distribution system loss.

1. Electronic water meter read

- After all water meters are read, a report card is created and reviewed for meters reading low and high.
- A list is created of meters reading low and high and these meters are visually inspected, which includes current read, checking using flow meter, and noting possible equipment failure.
- Failed meter-reading equipment are replaced at time of inspection.

2. Leak detection program

- Daily water patrol helps to detect visible leaks.
- Customer calls on possible water leaks, when received, are inspected the same day.
- All leaks are repaired as soon as possible.
- When repairing a leak, 1) underground dig alert is notified to let other utilities know of underground excavations and 2) the water leak is repaired.

3. Regular meter testing

- Several meters are flow tested regularly throughout the District for accuracy.
- Meters are also flow tested by request of a customer.
- Meters are replaced, if needed.

9.6 - Water Conservation Program and Staffing Support

The following provides a description of the District's water conservation program and staffing support.

On August 11, 2014, the District's Board approved the Mandatory Water Conservation Plan. This Plan states:

The Greenfield County Water District Board of Directors requested that field personnel increase their daily water patrol and discuss with customers the severity of the present drought. The Board also requested that conservation suggestions be placed on the monthly bills, signs be placed in the office and that office personnel encourage customers to conserve water.

The contact information for District-related water conservation program is provided below:

Nick Cooper, District Manager
(661) 831-0989

9.7 - Other Demand Management Measures That Impact GPCD

The District does not currently employ any other DMMs that affect GPCD.

9.8 - Planned Implementation to Achieve Water Use Targets

As required by CWC Section 10631(f)(1)(A), the District must describe the DMMs that it plans to implement to achieve its water use targets (see Table 5-1). The District plans to use all DMMs described above, if needed, to achieve its water use targets.

9.9 - Members of the California Urban Water Conservation Council

CWC 10631(i). For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivision (f) by complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.

The District is not a member of the California Urban Water Conservation Council and therefore, need not comply with this section of the CWC.

SECTION 10 - PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

CWC 10621(b). Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any District 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 District or county that receives notice pursuant to this subdivision.

CWC 10621(d). Each urban water supplier shall update and submit its 2020 plan to the department by June 30, 2021.

CWC 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.

CWC 10635(b). The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any District or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

CWC 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 District 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.

CWC 10644(a)(1). An urban water supplier shall submit to the department, the California State Library, and any District 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 District or county within which the supplier provides water supplies within 30 days after adoption.

CWC 10644(a)(2). The plan, or amendments to the plan, submitted to the department pursuant to paragraph (1) shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.

CWC 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.

The District has notified all entities that have land use jurisdiction within its service area that it is reviewing and considering amendments to its 2020 UWMP. The District has served 60-day notice to these agencies on **XXX** that its 2020 UWMP is under review and may be revised in concurrence with updated land use information, demand projections and new legislations. This 60-day notice also stated that a public hearing would be held on **XXX at XXX at XXX** to receive comments, questions, and suggestions regarding District’s 2020 UWMP, and to address water supply reliability and management by the District for at least the next 20 years. **Copies of the 60-day notices are included in Appendix C.** A notice of public hearing was published in the local newspaper, notifying interested parties that the 2020 UWMP was available at the District for review; at the same time copies of the draft 2020 UWMP were forwarded to the DWR for review. Upon the completion of that review, and corrections based thereon, the District Board of Directors will adopt the UWMP.

Table 10-1 provides the cities and counties that received notice.

Table 10-1 Retail: Notification to Cities and Counties

DRAFT Submittal Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
Bakersfield	<input type="checkbox"/>	<input type="checkbox"/>
County Name <i>Drop Down List</i>	<input type="checkbox"/> 60 Day Notice	Notice <input type="checkbox"/> Public Hearing
<i>Add additional rows as needed</i>		
Kern County	<input type="checkbox"/>	<input type="checkbox"/>

In accordance with CWC section 10635(b), 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. Since the District is the urban water supplier for itself, this requirement does not apply.

The District held the public hearing at its regularly scheduled District Council meeting on **XXX** in which the following was accomplished:

- Community input was taken regarding the 2020 UWMP.
- The economic impacts of the 2020 UWMP were considered.
- Information was provided on the District's baseline values, water use targets, and implementation plan required per Senate Bill X7-7.
- The District Council adopted Method 1 (80% of urban retail water supplier's baseline per capita daily water use) for determining its urban water use target per SB X7-7.

A copy of the signed resolution by the District Council adopting the 2020 UWMP is included in Appendix D. This UWMP includes all information necessary to meet the requirements of California Water Code Division 6, Part 2.6 (Urban Water Management Planning).

The District's 2020 UWMP will be provided to DWR per CWC section 10621 both in hardcopy and electronically. In addition, the District's 2020 UWMP will be provided to the California State Library and the agencies listed in Table 10-1 that have land use jurisdiction within its service area per CWC section 10644 no later than 30 days following its adoption. Copies of these letters of transmittal are included in Appendix E.

No later than 30 days after filing a copy of the 2020 UWMP with DWR, the District will make a hardcopy of its 2020 UWMP available for public review at the District during normal business hours.

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APPENDIX A
URBAN WATER MANAGEMENT PLANNING ACT OF 1983

**CALIFORNIA MODEL WATER EFFICIENT LANDSCAPE
APPENDIX B
ORDINANCE**

**APPENDIX C
60-DAY NOTICE**

**APPENDIX D
ADOPTED RESOLUTION**

APPENDIX E
LETTER OF TRANSMITTAL

**APPENDIX F
HAZARD MITIGATION**

APPENDIX G
CHECKLIST ARRANGED BY SUBJECT

Water Code Section	Summary as Applies to UWMP	Subject	2020 Guidebook Location	2020 UWMP Location (Optional Column for Agency Review Use)
10608.20(e)	Retail suppliers shall 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.	Baselines and Targets	Chapter 5	Section 5
10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.7.2	Section 5
10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Section 5.7	Section 5

10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Sections 5.2 and 5.5.7	Section 5
10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Section 5.1	N/A
10608.4	Retail suppliers shall report on their progress in meeting their water use targets. The data shall be reported using a standardized form.	Baselines and Targets	Section 5.8 and App E	Section 5
10631(e)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years.	Demand Management Measures	Sections 9.2 and 9.3	Section 9.2 and 9.3

10631(e)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Sections 9.1 and 9.3	N/A
10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets.	Plan Adoption, Submittal, and Implementation	Chapter 10	Section 10
10621(b)	Notify, at least 60 days prior to the public hearing, 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.	Plan Adoption, Submittal, and Implementation	Section 10.2.1	Section D; Appendix D
10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	Sections 10.3.1 and 10.4	Section 10

10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 60days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Sections 8.12, 10.4	Section 10
10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Sections 10.2.2, 10.3, and 10.5	Section 10
10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Section 10.2	Section 10
10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	Section 10; Appendix E

10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.5	Section 10; Appendix F
10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.5	Section 10; Appendix F
10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2	Section 10
10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5	Section 10

10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5	Section 10
10620(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.	Plan Preparation	Section 2.1	Section 2.1; Appendix E
10620(d)(2)	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.	Plan Preparation	Section 2.5.2	Section 2.5; Section 10; Appendix D

10642	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 and contingency plan.	Plan Preparation	Section 2.6	Section 2.5; Section 10; Appendix D
10630.5	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information.	Summary	Chapter 1	Chapter 1
10631(a)	Describe the water supplier service area.	System Description	Section 3.1	Section 3.1
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	Section 3.3
10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 3.4	Section 3.4

10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	Section 3.5
10631(a)	Describe the land uses within the service area.	System Description	Section 3.5	Section 3
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	Section 3.4
10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	Section 6.2.8	Section 6
10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	Section 6
10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	Section 6.2	Section 6.2

10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	Section 6.1	Section 6
10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Section 6.1	Section 6
10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of	System Supplies	Section 6.2.2	Section 6.2
	the plan or authorization.			
10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Section 6.2.2	Section 6.2
10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.2	N/A

10631(b)(4)(B)	<p>For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.</p>	System Supplies	Section 6.2.3	Section 6.2
10631(b)(4)(C)	<p>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</p>	System Supplies	Section 6.2.4	Section 6.2
10631(b)(4)(D)	<p>Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.</p>	System Supplies	Section 6.2	Section 6.2
10631(c)	<p>Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.</p>	System Supplies	Section 6.7	Section 6.7

10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	Section 6.8	Section 6.8
10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	Section 6.6
10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	Section 2.5.1	N/A

10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Section 2.5.1	N/A
10633(b)	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.	System Supplies (Recycled Water)	Section 6.2	Section 6.5
10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.2	N/A
10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.2	N/A

10633(e)	Describe 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.	System Supplies (Recycled Water)	Section 6.2	N/A
10633(f)	Describe the actions 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.	System Supplies (Recycled Water)	Section 6.2	Section 6.5
10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.2	Section 6.5
10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	Section 4.2
10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	Section 4.3	Section 4.3

10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	Section 4.2	Section 4.3
10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5	Section 4.5
10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Chapter 8	Section 8
10632(a)(2)(A)	Provide the written decision-making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	Section 8.2	Section 8.2
10632(a)(2)(B)	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	Section 8.2	Section 8

10632(a)(3)(A)	<p>Define six standard water shortage levels of 10,20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.</p>	Water Shortage Contingency Planning	Section 8.3	Section 8
10632(a)(3)(B)	<p>Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.</p>	Water Shortage Contingency Planning	Section 8.3	N/A
10632(a)(4)(A)	<p>Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.</p>	Water Shortage Contingency Planning	Section 8.4	Section 8.4

10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Section 8.4	Section 8.4
10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Section 8.4	Section 8.4
10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	Section 8.4	Section 8.4
10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	Section 8.4	Section 8.4
10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	Section 8.5	Section 8

10632(a)(5)(B) 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	Section 8.5, 8.6	Section 8
10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Section 8.7	Section 8.7
10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	Section 8.7	Section 8.7
10632(a)(7)(C)	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	Section 8.7	Section 8
10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Section 8.8	Section 8

10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with	Water Shortage Contingency Planning	Section 8.8	Section 8
activated shortage response actions.				
10632(a)(8)(C)	Describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought.	Water Shortage Contingency Planning	Section 8.8	Section 8
10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	Section 8.9	Section 8.9

10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	Section 8.10	Section 8.10
10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water Shortage Contingency Planning	Section 8.11	Section 8
10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.4	Section 7

10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Chapter 7	Section 7
10635(a)	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.	Water Supply Reliability Assessment	Section 7.3	Section 7.2
10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	Section 7.3	Section 7.3

10635(b)(1)	<p>Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.</p>	Water Supply Reliability Assessment	Section 7.3	Section 7.3
10635(b)(2)	<p>Include a determination of the reliability of each source of supply under a variety of water shortage conditions.</p>	Water Supply Reliability Assessment	Section 7.3	Section 7.3
10635(b)(3)	<p>Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.</p>	Water Supply Reliability Assessment	Section 7.3	Section 7.3

10635(b)(4)	<p>Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change condition, anticipated regulatory changes, and other locally applicable criteria.</p>	Water Supply Reliability Assessment	Section 7.3	Section 7.3
10631.2(a)	<p>The UWMP must include energy intensity information as stated in the code.</p>	System Suppliers, Energy Intensity	Section 6.4 and Appendix O	Section 6