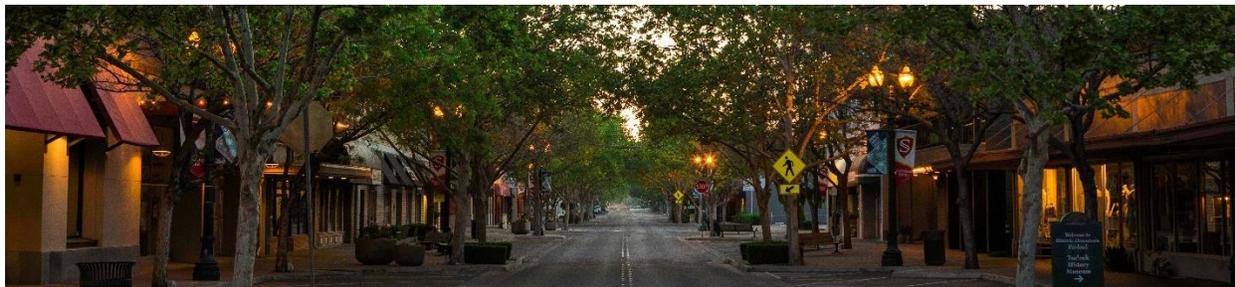
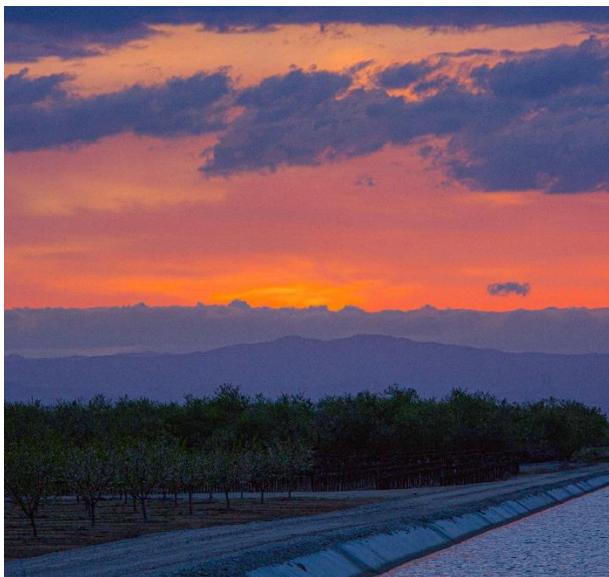


City of Turlock 2020 Urban Water Management Plan



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PREPARED FOR



PREPARED BY



2020 Urban Water Management Plan

Prepared for

City of Turlock

Project No. 669-60-20-04

Project Manager: Monique Day, PE

Date

QA/QC Review: Jim Connell, PE

Date

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LIST OF ACRONYMS AND ABBREVIATIONS

µg/L	Micrograms Per Liter
AB	Assembly Bill
Act	Urban Water Management Planning Act
AFY	Acre-Feet of Water Annually
AMR	Automatic Meter Reading
BMPs	Best Management Practices
CII	Commercial, Institutional, and Industrial
CIMIS	California Irrigation Management Information System
City	City of Turlock
CIWQS	California Integrated Water Quality System
Cr ⁶⁺	Hexavalent Chromium
CUWCC	California Urban Water Conservation Council
CVCWA	Central Valley Clean Water Association
CWC	California Water Code
DDM	Demand Management Measures
DMC	Delta-Mendota Canal
DOF	Department of Finance
DPWD	Del Puerto Water District
DRA	Drought Risk Assessment
DWR	Department of Water Resources
DWR Guidebook	2020 Urban Water Management Plans Guidebook for Urban Water Suppliers
DWR Methodologies	DWR Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use (2016)
ECI	Environmental Compliance Inspector
EPA	Environmental Protection Agency
e-WRIMS	Electronic Water Rights Information Management System
FERC	Federal Energy Regulatory Commission
GMP	Turlock Groundwater Basin Groundwater Management Plan
GPCD	Gallons Per Capita Per Day

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gpf	Gallons Per Flush
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
kWh	Kilowatt Hour
LHMP	Local Hazard Mitigation Plan
M&I	Municipal & Industrial
MCL	Maximum Contaminant Level
MG	Million Gallons
mg/L	Milligrams Per Liter
MGD	Million Gallons per Day
MID	Modesto Irrigation District
MOU	Memorandum of Understanding
Reclamation	U.S. Bureau of Reclamation
RSWSP	Regional Surface Water Supply Project
RUWMP	Regional Urban Water Management Plan
RWQCF	Regional Water Quality Control Facility
SB X7-7	Senate Bill Seven of the Senate's Seventh Extraordinary Session of 2009
SGMA	Sustainable Groundwater Management Act of 2014
SRWA	Stanislaus Regional Water Authority
State Water Board	State Water Resources Control Board
SWRCB	State Water Resources Control Board
Target	2020 Urban Water Use Target
TDS	Total Dissolved Solids
TGBA	Turlock Groundwater Basin Association
TID	Turlock Irrigation District
TMC	Turlock Municipal Code
UAFW	Unaccounted-for Water
UWMP	Urban Water Management Plan
WEC	Walnut Energy Center
WRCC	Western Regional Climate Center
WSCP	Water Shortage Contingency Plan
WTP	Water Treatment Plant
WUE	Water User Efficiency

INTRODUCTION

An Urban Water Management Plan (UWMP) helps water suppliers assess the availability and reliability of their water supplies and current and projected water use to help ensure reliable water service under different conditions. This water supply planning is especially critical for California currently, as climate change is resulting in changes in rainfall and snowfall which impact water supply availability and development is occurring throughout the State resulting in increased needs for reliable water supplies. The Urban Water Management Planning Act (Act) requires larger water suppliers that provide water to urban users (whether directly or indirectly) to develop UWMPs every five years. UWMPs evaluate conditions for the next 20 years, so these regular updates ensure continued long-term planning.

Since the City of Turlock (City) provides water service directly to more than 3,000 connections in its service area, it is required to prepare a UWMP.

This Executive Summary serves as a Lay Description of the City's UWMP, as required by California Water Code §10630.5.

CALIFORNIA WATER CODE REQUIREMENTS

The California Water Code documents specific requirements for California water suppliers. The Act is included in the California Water Code and specifies the required elements of a UWMP, including discussing the City's water system and facilities, calculating how much water its customers use (i.e., water demand) and how much the City can supply, and detailing how the City would respond during a drought or other water supply shortage. Also, a UWMP must describe what specific coordination steps were taken to prepare, review, and adopt the plan.

The Act has been revised over the years. The Water Conservation Act of 2009 (also known as SB X7-7) required retail water agencies to establish water use targets for 2015 and 2020 that would result in statewide water savings of 20 percent by 2020. In 2020, retail agencies are required to report on their compliance with SB X7-7.

The 2014 to 2017 drought has led to further revisions to the Act under the 2018 Water Conservation Legislation to improve water supply planning for long-term reliability and resilience to drought and climate change. Changes presented by the legislation include:

- **Five Consecutive Dry-Year Water Reliability Assessment:** Analyze water supply reliability for five consecutive dry years over the planning period of this UWMP (see Chapter 7).
- **Drought Risk Assessment:** Assess water supply reliability from 2021 to 2025 assuming that the next five years are dry years (see Chapter 7).
- **Seismic Risk:** Identify the seismic risk to the water supplier's facilities and have a plan to address the identified risks; the region's Local Hazard Mitigation Plan may address this requirement (see Chapter 8).
- **Energy Use Information:** Include reporting on the amount of electricity used to obtain, treat, and distribute water if data are available (see Chapter 6).



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- Water Shortage Contingency Plan (WSCP): Update the water supplier’s plan to include an annual process for assessing potential gaps between planned supply and demands; conform with the State’s standard water shortage levels (including a shortage level greater than 50 percent) for consistent messaging and reporting; and provide water shortage responses that are locally appropriate (see Chapter 8).
- Lay Description: Provide a lay description of the findings of the UWMP; this Executive Summary serves as the Lay Description for this 2020 UWMP.

The major components of the City’s 2020 UWMP, including its findings, are summarized below.

CITY WATER SERVICE AREA AND FACILITIES

The City water facilities produce, treat, store, and deliver drinking water to its customers. The City serves the entire City of Turlock.

The City’s water supplies include groundwater for potable use and recycled water for non-potable use. The City’s only source of potable water is groundwater supplied by 19 active wells within the City’s service area. All of the Turlock Regional Water Quality Control Facility (RWQCF) effluent is used as recycled water either within the City’s service area or by the North Valley Program. The City operates an extensive network of water pipelines, tanks, and pumping facilities to deliver both drinking water and recycled water to its customers.

CITY WATER USE

The City currently serves a population of approximately 74,300. It anticipates population growth and future planned development in its water service area, which would increase the demand for water. Thorough and accurate accounting of current and future water demands is critical for City planning efforts. To continue delivering safe and reliable drinking water, the City must know how much water its customers currently use and how much they expect to use in the future.

Projected future water demands have been estimated based on the anticipated growth as defined by the General Plan, adopted by the Turlock City Council in September 2012. Future study areas and planned development in the City water service area were reviewed and confirmed with the City’s Planning Division. Based on the anticipated growth, water demands in the City water service area are expected to increase approximately 0.90 percent per year through 2045.



Executive Summary

CITY WATER SUPPLIES

The City has the following existing potable water supplies:

- Groundwater pumped from City-owned and operated wells from the underlying Turlock Groundwater Subbasin

To reliably meet current and future water demands, the City plans to receive wholesale surface water from Turlock Irrigation District (TID) supplied by the Stanislaus Regional Water Authority (SRWA) Regional Surface Water Supply Project (RSWSP). The City plans to continue using groundwater as a source of potable water supply in the future and plans to maintain and replace groundwater wells as needed to provide a minimum emergency supply capacity in the future.

CONSERVATION TARGET COMPLIANCE

In accordance with SB X7-7, the City must meet a per capita water use target of 284 gallons per person per day by 2020 for its water service area. Looking at the City water service area population and water use in 2020, the City met and exceeded its water conservation target with a per capita water use of 249 gallons per person per day.

WATER SERVICE RELIABILITY

The California Water Code asks water suppliers to evaluate their water service reliability by examining the impact of drought on their water supplies and comparing those reduced supplies to water demands. Specifically, agencies should calculate their water supplies during a single dry year and five consecutive dry years using historical records.

The City is well-positioned to withstand the effects of a single dry year and a five-year drought at any period between 2025 and 2045. The City's drought risk was specifically assessed between 2021 and 2025, assuming that the next five years are dry years. In each case, water supplies comfortably exceed water demands. This remains true whether the drought occurs in 2021, 2045, or any year between.

WATER SHORTAGE CONTINGENCY PLAN

A WSCP describes an agency's plan for preparing and responding to water shortages. The City updated its WSCP to include its process for assessing potential gaps between planned water supply and demands for the current year and the next potentially dry year. It aligned its water service area's water shortage levels with the State's prescribed levels for consistent messaging and reporting and planned for locally appropriate water shortage responses. The WSCP may be used for foreseeable and unforeseeable events. The updated WSCP is adopted concurrently with this UWMP by separate resolution so that it may be updated as necessary to adapt to changing conditions.



Executive Summary

UWMP PREPARATION, REVIEW, AND ADOPTION

While preparing its UWMP, the City notified other stakeholders (e.g., Stanislaus County and the general public) of its preparation, its availability for review, and the public hearing prior to adoption. The City encouraged community participation in the development of the 2020 UWMP using newspaper advertisements and web-based communication. These public notices included the time and place of the public hearing, as well as the location where the plan would be available for public inspection.

The public hearing provided an opportunity for City water users and the general public to become familiar with the 2020 UWMP and ask questions about the City's water supply, its continuing plans for providing a reliable, safe, high-quality water supply, and its plans to address potential water shortages. Following the public hearing, the Turlock City Council adopted the 2020 UWMP on **May 25, 2021**. A copy of the adopted Plan was provided to the Department of Water Resources and is available on the City's website: www.cityofturlock.org.

DRAFT

CHAPTER 1

Introduction

This chapter provides an introduction and overview of the City of Turlock (City) 2020 Urban Water Management Plan (UWMP) including the importance and extent of the City's water management planning efforts, changes since the preparation of the City's 2015 UWMP, and the organization of the City's 2020 UWMP. This 2020 UWMP has been prepared jointly by City staff and West Yost.

1.1 INTRODUCTION

The Urban Water Management Planning Act (Act) was originally established by Assembly Bill (AB) 797 on September 21, 1983. Passage of the Act was recognition by state legislators that water is a limited resource and a declaration that efficient water use and conservation would be actively pursued throughout the state. The primary objective of the Act is to direct "urban water suppliers" to develop an UWMP which provides a framework for long-term water supply planning, and documents how urban water suppliers are carrying out their long-term resource planning responsibilities to ensure adequate water supplies are available to meet existing and future water demands. A copy of the current version of the Act, as incorporated in Sections 10610 through 10657 of the California Water Code (CWC), is provided in Appendix A of this plan.

1.2 IMPORTANCE AND EXTENT OF CITY'S WATER MANAGEMENT PLANNING EFFORTS

The purpose of the UWMP is to provide a planning tool for the City for developing and delivering municipal water supplies to the City's water service area. This UWMP provides the City a water management action plan for guidance as water conditions change and management conditions arise.

The City has had a long history of providing clean and reliable water to its customers. The City's UWMP is a comprehensive guide for planning for a safe and adequate water supply.

1.3 CHANGES FROM 2015 UWMP

The Urban Water Management Planning Act has been modified over the years in response to the State's water shortages, droughts and other factors. A significant amendment was made in 2009, after the 2007 to 2009 drought, and as a result of the Governor's call for a statewide 20 percent reduction in urban water use by the year 2020. This call was the Water Conservation Act of 2009, also known as Senate Bill Seven of the Senate's Seventh Extraordinary Session of 2009 (SB X7-7). This act required agencies to establish water use targets for 2015 and 2020 that would result in statewide water savings of 20 percent by 2020. The 2014 to 2017 drought has led to further amendments to the California Water Code to improve on water supply planning for long-term reliability and resilience to drought and climate change.



Summarized below are the major additions and changes to the California Water Code since the City's 2015 UWMP was prepared.

- Five Consecutive Dry-Year Water Reliability Assessment [CWC §10635(a)]. The Legislature modified the dry-year water reliability planning from a “multiyear” time period to a “drought lasting five consecutive water years” designation. This statutory change requires the urban water supplier to analyze the reliability of its water supplies to meet its water use over an extended drought period. This requirement is addressed in the water use assessment presented in Chapter 4; the water supply analysis presented in Chapter 6; and the water reliability determinations in Chapter 7 of this plan.
- Drought Risk Assessment [CWC §10635(b)]. The California Legislature created a new UWMP requirement for drought planning because of the significant duration of recent California droughts and the predictions about hydrological variability attributable to climate change. The Drought Risk Assessment (DRA) requires the urban water supplier to assess water supply reliability over a five-year period from 2021 to 2025 that examines water supplies, water uses, and the resulting water supply reliability under a reasonable prediction for five consecutive dry years. The DRA is discussed in Chapter 7 based on the water use information in Chapter 4; the water supply analysis is presented in Chapter 6; and the water reliability determinations are discussed in Chapter 7 of this plan.
- Seismic Risk [CWC §10632.5]. The Water Code now requires urban water suppliers to specifically address seismic risk to various water system facilities and to have a mitigation plan. Water supply infrastructure planning is correlated with the regional hazard mitigation plan associated with the urban water supplier. The City's seismic risk is discussed in Chapter 8 of this plan.
- Water Shortage Contingency Plan [CWC §10632]. In 2018, the Legislature modified the UWMP laws to require a Water Shortage Contingency Plan (WSCP) with specific elements. The WSCP is a document that provides the urban water supplier with an action plan for a drought or catastrophic water supply shortage. Although the new requirements are more prescriptive than previous versions, many of these elements have long been included in WSCPs, other sections of UWMPs, or as part of the urban water supplier's standard procedures and response actions. Many of these actions were implemented by the urban water suppliers during the last drought to successfully meet changing local water supply challenges. The WSCP is used by DWR, the State Water Board, and the Legislature in addressing extreme drought conditions or statewide calamities that impact water supply availability. The City's WSCP is presented in Chapter 8 of this plan.
- Groundwater Supplies Coordination [CWC §10631(b)(4)]. In 2014, the Legislature enacted the Sustainable Groundwater Management Act to address groundwater conditions throughout California. Water Code now requires 2020 UWMPs to be consistent with Groundwater Sustainability Plans in areas where those plans have been completed by Groundwater Sustainability Agencies. This requirement is addressed in Chapter 6 of this plan.



- Lay Description [CWC §10630.5]. The Legislature included a new statutory requirement for the urban water supplier to include a lay description of the fundamental determinations of the UWMP, especially regarding water service reliability, challenges ahead, and strategies for managing reliability risks. This section of the UWMP could be viewed as a go-to synopsis for new staff, new governing members, customers, and the media, and it can ensure a consistent representation of the Supplier’s detailed analysis. This requirement is addressed in the next section below.
- Water Loss Management [CWC §10608.34(a) (1)]. The Legislature included a requirement for urban water suppliers to report on their plan to meet the water loss performance standards in their 2020 UWMPs. This requirement is addressed in the Demand Management Measures presented in Chapter 9 of this plan.

1.4 PLAN ORGANIZATION

This 2020 UWMP contains the appropriate sections and tables required per CWC Division 6, Part 2.6 (Urban Water Management Planning Act), included in Appendix A of this 2020 UWMP, and has been prepared based on guidance provided by the California Department of Water Resources (DWR) in their “2020 Urban Water Management Plans Guidebook for Urban Water Suppliers” (DWR Guidebook).

This 2020 UWMP is organized into the following chapters:

- Chapter 1: Introduction
- Chapter 2: Plan Preparation
- Chapter 3: System Description
- Chapter 4: Water Use Characterization
- Chapter 5: SB X7-7 Baselines, Targets, and 2020 Compliance
- Chapter 6: System Supplies
- Chapter 7: Water System Reliability
- Chapter 8: Water Shortage Contingency Plan
- Chapter 9: Demand Management Measures
- Chapter 10: Plan Adoption, Submittal and Implementation

This 2020 UWMP also contains the following appendices of supplemental information and data related to the City's 2020 UWMP:

- Appendix A: Legislative Requirements
- Appendix B: DWR 2020 Urban Water Management Plan Tables
- Appendix C: DWR 2020 Urban Water Management Plan Checklist
- Appendix D: Agency and Public Notices
- Appendix E: SB X7-7 Verification Form
- Appendix F: TID SRWA Water Sales Agreement
- Appendix G: West Turlock GSA and East Turlock GSA Memorandum of Understanding
- Appendix H: Water Shortage Contingency Plan
- Appendix I: Municipal Code Title 6 Chapter 7
- Appendix J: Water Rates
- Appendix K: Water Audit
- Appendix L: UWMP Adoption Resolution

Furthermore, this 2020 UWMP contains all the tables recommended in the DWR Guidebook, both embedded into the UWMP chapters where appropriate and included in Appendix B.

DWR's Urban Water Management Plan Checklist, as provided in the DWR Guidebook, has been completed by West Yost to demonstrate the plan's compliance with applicable requirements. A copy of the completed checklist is included in Appendix C.

CHAPTER 2

Plan Preparation

This chapter describes the preparation of the City’s 2020 UWMP and Water Shortage Contingency Plan (WSCP), including the basis for the preparation of the plan, individual or regional planning, fiscal or calendar year reporting, units of measure, and plan coordination and outreach.

2.1 BASIS FOR PREPARING A PLAN

The Act requires every “urban water supplier” to prepare and adopt an UWMP, to periodically review its UWMP at least once every five years and make any amendments or changes which are indicated by the review. An “urban water supplier” is defined as a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually (AFY).

The City manages Water System CA5010019. As shown in Table 2-1 (DWR Table 2-1) the City provided water to 19,468 customer connections and supplied 7,188 million gallons (MG) of water in 2020 to retail customers. Of the water supplied to customer connections, 6,773 MG was potable water and 445 MG was raw water. The City primarily supplies water to retail customers. Because the City supplies more than 3,000 AFY and has more than 3,000 retail customers, the City is required to prepare an UWMP. The City’s last UWMP, the 2015 UWMP, was adopted by the City Council on June 21, 2016.

Table 2-1. Public Water Systems (DWR Table 2-1 Retail)

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
<i>Add additional rows as needed</i>			
CA5010019	City of Turlock	19,468	7,218
TOTAL		19,468	7,218
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES: Volumes are in MG. Total Volume supplied includes both potable and raw water supplies.			

2.2 REGIONAL PLANNING

As described in Section 2.3 below, the City has prepared this 2020 UWMP on an individual reporting basis, not part of a regional planning process.



2.3 INDIVIDUAL OR REGIONAL PLANNING AND COMPLIANCE

This 2020 UWMP has been prepared on an individual reporting basis covering only the City’s service area, see Table 2-2. The City is a member and participant in several regional water planning organizations. These groups include the Stanislaus Regional Water Authority, the East Stanislaus Regional Water Management Partnership, and the North Valley Regional Recycled Water Program. Although the City is closely involved with each of these regional organizations, the City has opted not to pursue a Regional Urban Water Management Plan (RUWMP) with any of these entities at this time. As described in Section 2.5, the City has notified and coordinated planning and compliance with appropriate regional agencies and constituents, as well as several local agencies.

Table 2-2. Plan Identification (DWR Table 2-2)

Select Only One	Type of Plan	Name of RUWMP or Regional Alliance <i>if applicable</i> (select from drop down list)
<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 FISCAL OR CALENDAR YEAR AND UNITS OF MEASURE

The City is a water retailer.

The 2020 UWMP has been prepared on a calendar year basis, with the calendar year starting on January 1 and ending on December 31 of each year. Water use and planning data for the entire calendar year of 2020 has been included.

The water volumes in this 2020 UWMP are reported in units of MG.

The City’s reporting methods for this 2020 UWMP are summarized in Table 2-3.



Table 2-3. Agency Identification (DWR Table 2-3)

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

This section includes a discussion of the City’s inter-agency coordination and coordination with the general public. The UWMP Act requires the City to coordinate the preparation of its UWMP and WSCP with other appropriate agencies and all departments within the City, including other water suppliers that share a common source, water management agencies, and relevant public agencies. These agencies, as well as the public, participated in the coordination and preparation of this 2020 UWMP, and are summarized below.

2.5.1 Wholesale and Retail Coordination

The City is a member agency of the Stanislaus Regional Water Authority, the East Stanislaus Regional Water Management Partnership, and the North Valley Regional Recycled Water Program. These and other agencies, as well as the public, participated in the coordination and preparation of this 2020 UWMP, which includes the WSCP. The retail water supplier information exchange is summarized in Table 2-4 (DWR Table 2-4).

Table 2-4. Water Supplier Information Exchange (DWR Table 2-4 Retail)

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>
Stanislaus Regional Water Authority



2.5.2 Coordination with Other Agencies and the Community

The City actively encourages community participation in water management activities and specific water-related projects. The City's public participation program includes both active and passive means of obtaining input from the community, such as mailings, public meetings, and web-based communication. The City's website and social media channels describe on-going projects and post announcements of planned rate increases to fund these water projects.

As part of the 2020 UWMP and WSCP update, the City facilitated a public review period. Public noticing, pursuant to Section 6066 of the Government Code, was conducted prior to commencement of a public comment period. Public hearing notices are included in Appendix D of this plan. During the public comment period, a hard copy of the Draft UWMP and WSCP update was made available at the City's Municipal Services Department during normal business hours and an electronic version was placed on the City's website.

The City also coordinated the preparation of this 2020 UWMP and WSCP with several neighboring agencies, including relevant public agencies that utilize the same water supplies. These agencies included the following:

- Stanislaus Regional Water Authority
- East Stanislaus Regional Water Management Partnership
- North Valley Regional Recycled Water Program
- Merced County Public Works Department
- Turlock Irrigation District
- City of Modesto
- City of Ceres
- City of Hughson
- Eastside Water District
- Denair Community Services District
- Keyes Community Services District
- Stanislaus County Public Works Department
- California State University, Stanislaus
- Turlock Groundwater Basin Association
- Merced Irrigation District
- Modesto Irrigation District
- City of Turlock
- East Turlock Groundwater Sustainability Agency
- West Turlock Groundwater Sustainability Agency



The public hearings provided an opportunity for all City water users and the general public to become familiar with the draft UWMP and WSCP and ask questions about the City's water supply, in addition to the City's continuing plans for providing a reliable, safe, high-quality water supply.

2.5.3 Notice to Cities and Counties

CWC Section 10621 (b) requires agencies to notify the cities and counties to which they serve water at least 60 days in advance of the public hearing that the plan is being updated and reviewed. On January 27, 2021, a notice of preparation was sent to the cities and counties and other stakeholders, to inform them of the UWMP update process and schedule, and to solicit input for the 2020 UWMP and WSCP. The notifications to cities and counties, the public hearing notifications, and the public hearing and adoption are discussed in Chapter 10.

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CHAPTER 3

System Description

This chapter provides a description of the City’s water system and service area. This description includes the water system facilities, climate, population, and housing within the City’s service area.

3.1 GENERAL DESCRIPTION

The City, incorporated in 1908, is located in the California Central Valley along State Highway 99, and is referred to as the “Heart of the Valley,” as it is located within one of the most productive agricultural regions in the world. Located in Stanislaus County, the City is about 100 miles east of the San Francisco Bay Area with Stockton and Sacramento to the north, and Fresno and Bakersfield to the south.

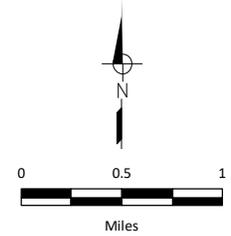
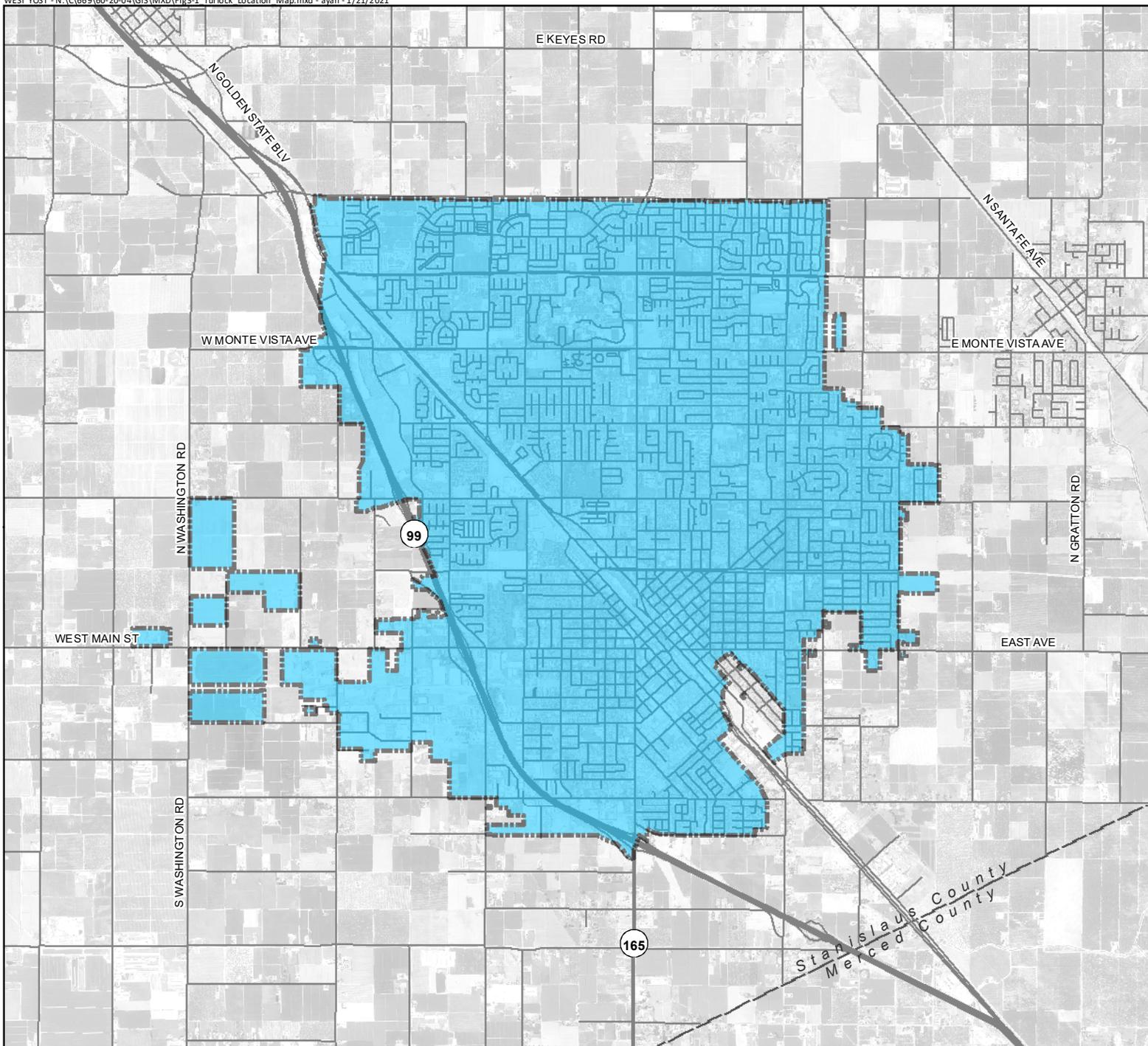
3.2 SERVICE AREA BOUNDARY MAPS

The City and water service area encompass an area of approximately 20 square miles. With the exception of three small residential areas served with groundwater from the City of Modesto, the City serves all areas within the City’s limits, as well as several small unincorporated areas neighboring the City. The City’s water service includes residential, commercial, industrial, and fire service connections. Municipal water supply for the City is currently almost entirely groundwater, with supplemental supplies from recycled and non-potable water (see more discussion in Chapter 6).

The City water system serves its population of about 74,297 through 19 active wells. The distribution system consists of approximately 250 miles of pipe ranging in diameter from 4 to 16 inches, with plans to expand for future surface water distribution (see more discussion in Chapter 6). The service area boundary is shown on Figure 3-1.

3.3 SERVICE AREA CLIMATE

The City of Turlock has a Mediterranean climate. Summers are hot and dry while winters are cold and wet, with an annual average precipitation of approximately 12.0 inches. The local annual average maximum daily temperature is 74.4 degrees Fahrenheit. The average rainfall over the last six years (2015-2020) was 12.2 inches. The region is subject to wide variations in annual precipitation. Water Year 2017 (October 2016 – September 2017) was a relatively wet year with 18.6 inches of rainfall while Water Year 2018 was relatively dry with only 9.2 inches of rain. The climatic data for the Turlock area is shown in Table 3-1.



Legend

-  Service Area
-  County Boundary

Notes:

1. The indicated service area includes three small areas which are served by the City of Modesto.



Figure 3-1

City of Turlock
Water Service Area



Table 3-1. Climate Data Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Average Et _o , inches ^(a)	1.2	2.1	3.6	5.2	6.8	8.1	8.4	7.3	5.4	3.6	1.8	1.2	54.6
Average Max Temperature, °F ^(b)	54.3	61.1	66.8	72.9	80.3	88.7	94.4	92.5	87.0	77.2	64.1	54.0	74.4
Average Min Temperature, °F ^(b)	38.9	42.2	45.1	49.0	53.7	59.3	63.1	61.5	58.4	52.1	43.3	38.4	50.3
Average Rainfall, inches ^(b)	2.3	2.0	1.9	1.1	0.4	0.1	0.0	0.0	0.2	0.6	1.3	2.1	12.0

(a) California Irrigation Management Information System (CIMIS) Website: www.cimis.water.ca.gov, Station 206 Denair II, California (April 2009 to November 2020), Monthly Average ET_o Report, Printed November 2020.
 (b) Western Regional Climate Center (WRCC) website: www.wrcc.dri.edu, Station 049073 Turlock #2, California. Period of record: 1/1/1893 to 10/31/2020.

These climate characteristics highly influence the City’s water use. As described in Chapter 4, the City’s water use in the summer months is significantly higher than that in the winter, reflecting increased water use for irrigation purposes during the hot, dry summers.

3.4 SERVICE AREA POPULATION AND DEMOGRAPHICS

3.4.1 Service Area Population

The City’s current (2020) service area population of 74,297 has been estimated by the California Department of Finance (DOF). Historical population data was obtained from the DOF and projected populations were developed using growth rates provided in the Turlock 2012 General Plan.

The City’s population has grown at an average annual rate of 1.40 percent from 2010 through 2020 according to population estimates from DOF. Household size within the City is estimated at about 3.05 persons per household with approximately 24,986 total households in 2020.

Growth and development within the City’s service area are subject to City and County growth management policies. Future population within the City’s service area was projected from a 0.90 percent annual growth rate calculated between the 2015 actual population and 2020 actual population. These results are summarized in Table 3-2 (DWR Table 3-1).



Table 3-2. Population – Current and Projected (DWR Table 3-1 Retail)

Population Served	2020 ^(a)	2025 ^(b)	2030 ^(b)	2035 ^(b)	2040 ^(b)	2045 ^(opt) ^(b)
	74,297	77,700	81,259	84,981	88,873	92,944

NOTES:
 (a) Source: Department of Finance.
 (b) Future population growth was extrapolated based on a 0.90% growth rate calculated between the 2015 actual population (71,043) and 2020 actual population.

3.4.2 Other Social, Economic, and Demographic Factors

The City of Turlock is composed of primarily residential and commercial areas, surrounded on all sides by arable land. The City’s economy is primarily focused around agriculture, with several local companies supporting the food processing industry. Regionally, almonds are the largest agricultural export followed by alfalfa, corn, grapes, and peaches.

Land use planning within the City is administrated by the City’s Development Services Planning Division, and guided by the City’s 2012 General Plan. The General Plan promotes infill development prior to annexation of land to the City; however, the City has not seen a dramatic change in housing density over the past few years.

3.5 LAND USES WITHIN SERVICE AREA

The City’s current land use is majority residential neighborhoods at 41 percent of City limits, 16 percent agriculture, 11 percent industrial, 9 percent commercial, 8 percent public facilities, 2 percent parks, and 1 percent office (City’s 2012 General Plan).

According to the City’s 2012 General Plan, there are four Master Plan Areas: Southeast 1 (SE1), Southeast 2 (SE2), Southeast 3 (SE3), and Montana-West. SE1 is 170 acres and will be developed as a primarily residential neighborhood with small office and commercial areas. SE2, with 320 acres, will also be a majority residential neighborhood with a small office center. The largest Master Plan Area at 700 acres is SE3, which will have a mix of land uses. SE3 includes land for residential neighborhoods, industrial area, public use, park, and a neighborhood center. Montana-West is 50 acres and includes seven unincorporated County Islands; this area will be majority low density residential and vacant lots.



3.6 REFERENCES

California Department of Finance (DoF). May 2020. *E-1 Population Estimates for Cities, Counties, and the State – January 1, 2019 and 2020*. Accessed at <https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/> on January 18, 2021.

California Department of Finance (DoF). May 2020. *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2020*. Accessed at <https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/> on January 20, 2021.

City of Turlock. September 2012. *Turlock General Plan*. Accessed at https://www.cityofturlock.org/_pdf/files/generalplancomplete.pdf on January 18, 2021.

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CHAPTER 4

Water Use Characterization

This chapter describes and quantifies the City's past, current, and projected water use. Water demand projections are based on the selected SB X7-7 water use targets combined with the population projections from the City's 2012 General Plan. Accurately tracking and reporting current water demands allows the City to properly analyze the use of their resources and conduct good resource planning. As described in Chapter 3, the City's water service area is mostly residential, metered accounts.

4.1 NON-POTABLE VERSUS POTABLE WATER USE

The City serves its demand for water with different levels of treatment depending on the end use. Potable water deliveries are supplemented with recycled water from the wastewater treatment plant as well as raw water from several shallow, non-potable wells. Maintaining a variety of water sources allows the City to best meet its customers' needs, as some irrigation and industrial uses do not require the same water quality as is required for drinking water. Additional discussion of recycled water can be found in Chapter 6.

4.2 WATER USE BY SECTOR

Water production is the combined quantity of water produced by the City's groundwater wells, while water consumption is the quantity of water actually consumed or used. The difference between production and consumption is unaccounted-for water (UAFW).

This section describes the City's past, current and projected water use by sector through the year 2045 in five-year increments. Demand projections provide the basis for sizing and staging future water facilities to ensure adequate supply. This section identifies the usage among water use sectors including single-family residential, multi-family residential, commercial, industrial, institutional/governmental, and landscape irrigation. These classifications were used to analyze current consumption patterns among various types of customers. These classifications are defined by the DWR 2020 Guidebook and City as follows:

- Single-Family Residential – A single-family dwelling unit. A lot with a free-standing building containing one dwelling unit that may include a detached secondary dwelling
- Multi-Family Residential – Multiple dwelling units contained within one building or several buildings within one complex
- Commercial – A water user that provides or distributes a product or service
- Industrial – A water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development
- Institutional/Governmental – A water user dedicated to public service
- Landscape – Water connections supplying water solely for landscape irrigation

4.2.1 Historical Water Use

Actual water use by the City's customers, by water use sector, in 2010 and 2015 is summarized in Table 4-1. Due to the metering program not yet being completed in 2010, past water use was based on groundwater well production records. In 2011, the metering program was fully implemented, allowing the City to track actual water use by customers and sector.

Chapter 4 Water Use Characterization



Table 4-1. City of Turlock Water Deliveries – Actual (2010 and 2015)

Water Use Sectors	2010 Total Volume, MG	2015 Total Volume, MG
Single-Family	4,115.90	2,495.4
Multi-Family	686.5	559.7
Commercial	585.2	532.5
Industrial	1,091.90	1,075.1
Institutional/Governmental	41.8	105.92
Landscaping	572.6	269.4
Other (City Meters)	-	81.5
Other (Unmetered water)	-	442.9
Other (Parks – Non-Potable Wells)	-	112.7
Total	7,093.90	5,675.1

4.2.2 Current Water Use

Actual potable and non-potable water use by the City's customers, by water use sector, in 2020 is summarized in Table 4-2 and Table 4-3 (DWR Table 4-1). Current recycled water use is addressed in Chapter 6 and, therefore, is not included in the non-potable water use table below.

Table 4-2. Actual Demands for Potable Water (DWR Table 4-1 Retail)

Use Type	2020 Actual		
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	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume*
Add additional rows as needed			
Single Family		Drinking Water	2,964
Multi-Family		Drinking Water	715
Commercial		Drinking Water	430
Industrial		Drinking Water	1,504
Institutional/Governmental		Drinking Water	82
Landscape		Drinking Water	334
Other Potable	City Meters	Drinking Water	216
Other Potable	Unmetered water	Drinking Water	498
Other Potable	Flushing and City of Modesto accounts	Drinking Water	30
TOTAL			6,773
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES: Volumes are in MG.			



Table 4-3. Actual Demands for Non-Potable Water (DWR Table 4-1 Retail)

Use Type	2020 Actual		
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	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume ²
Add additional rows as needed			
Other Non-Potable	Park Wells	Raw Water	445
TOTAL			445
1 Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4. 2 Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES: Volumes are in MG.			

4.2.3 Projected Water Use

The projected water use by the City’s customers is based on the best available information at this time. The City was able to track actual water use by customers and sector type through the metering program, which was fully implemented in 2011. Per capita water demand declined after the meters were installed throughout the City. Per capita water demand also declined heavily from 2014 to 2016, likely due to the conservation efforts related to the drought. When the drought ended in 2017, per capita water demand started to increase again but not to pre-drought levels, likely due to continued conservation efforts and increased water rates. The City has assumed that 2020 represents a reasonable approximation for future per capita water use. Per capita water use in 2020 is approximately 249 gallons per capita per day (GPCD).

The City projected the annual water demands, assuming an annual water production growth of 0.90 percent, consistent with the population growth rate calculated in Chapter 3 *System Description*. Using this 0.90 percent projection to 2045 from the actual water use in 2020, and the percent water use by sector from 2020, the projected water use by water use sector, from 2025 to 2045, was approximated. These results are summarized in Table 4-4 and Table 4-5 (DWR Table 4-2).

The City does not know the estimated volume of water saved by its conservation measures so water savings resulting from conservation measures are not included in the projected water use estimates.

Chapter 4
Water Use Characterization



Table 4-4. Projected Use for Potable Water (DWR Table 4-2 Retail)

Use Type	Additional Description (as needed)	Projected Water Use * Report To the Extent that Records are Available				
		2025	2030	2035	2040	2045 (opt)
<u>Drop down list</u> May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool						
Add additional rows as needed						
Single Family		3,114	3,257	3,406	3,562	3,725
Multi-Family		751	785	821	859	898
Commercial		451	472	493	516	540
Industrial		1,581	1,653	1,729	1,808	1,891
Institutional/Governmental		351	367	383	401	419
Landscape		86	90	94	98	102
Other Potable	City Meters	227	238	248	260	272
Other Potable	Unmetered Water	523	547	572	599	626
TOTAL		7,083	7,408	7,747	8,102	8,473
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES: Volumes are in MG.						

Table 4-5. Projected Use for Non-Potable Water (DWR Table 4-2 Retail)

Use Type	Additional Description (as needed)	Projected Water Use ² Report To the Extent that Records are Available				
		2025	2030	2035	2040	2045 (opt)
<u>Drop down list</u> May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool						
Add additional rows as needed						
Other	Parks Non-Potable Wells	149	149	149	149	
TOTAL		149	149	149	149	
¹ Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.						
² Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES: Volumes are in MG.						
Recycled Water is not included in this table. See DWR Table 4-3 for projected Recycled Water Demands.						

Total actual and projected potable water demands are summarized in Table 4-6 (DWR Table 4-3) and total actual and projected non-potable water demands, including recycled water demands, are summarized in Table 4-7 (DWR Table 4-3).



Table 4-6. Total Potable Water Use (DWR Table 4-3 Retail)

	2020	2025	2030	2035	2040	2045 (opt)
Potable Water <i>From Tables 4-1R and 4-2 R</i>	6,773	7,083	7,408	7,747	8,102	8,473
TOTAL WATER USE	6,773	7,083	7,408	7,747	8,102	8,473

NOTES: Volumes are in MG.

Table 4-7. Total Non-Potable Water Use (DWR Table 4-3 Retail)

	2020	2025	2030	2035	2040	2045 (opt)
Recycled Water Demand ¹ <i>From Table 6-4</i>	3,474	4,056	4,639	5,221	5,804	
Raw and Other Non-potable <i>From Tables 4-1R and 4-2 R</i>	445	149	149	149	149	
Optional Deduction of Recycled Water Put Into Long-Term Storage ²						
TOTAL WATER USE	3,919	4,205	4,788	5,370	5,953	

¹ Recycled water demand fields will be blank until Table 6-4 is complete
² Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier may deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.

NOTES: Volumes are in MG.



4.2.3.1 Characteristic Five-Year Water Use

Water Code Section 10635(b) requires urban suppliers to include a five-year DRA in their UWMP. A key component of the DRA is estimating demands for the next five years (2021-2025) without drought conditions (i.e., unconstrained demand) to account for climate change considerations. The five-year demand projections are summarized in Table 4-8, and the DRA is detailed in Chapter 7. Demand projections for 2021 through 2024 are interpolated between 2020 actual water demands and 2025 projected demands.

Table 4-8. Projected Water Demands for Drought Risk Assessment					
	2021	2022	2023	2024	2025
Water Demand ^(a) , MG	10,808	10,928	11,048	11,169	11,288
(a) Demand projections were interpolated between 2020 actual water demands and 2025 projected.					

4.3 DISTRIBUTION SYSTEM WATER LOSSES

Water losses occur due to distribution system leaks and other unmetered water uses (such as firefighting, main flushing, etc.). Actual water losses within the City’s water system, from 2016 to the most recent year of 2020, are summarized in Table 4-9 (DWR Table 4-4). There was a 6% water loss in 2020.

Table 4-9. Last Five Years of Water Loss Audit Reporting (DWR Table 4-4 Retail)

Reporting Period Start Date (mm/yyyy)	Volume of Water Loss ^{1,2}
01/2016	687
01/2017	527
01/2018	327
01/2019	443
01/2020	451
¹ Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.	
² Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.	
NOTES: Volumes are in MG.	

At the time of preparation of this UWMP, DWR and the State Water Board are in the process of adopting water loss standards.



4.4 WATER USE FOR LOWER INCOME HOUSEHOLDS

Senate Bill 1087 (SB 1087) approved on October 7, 2005 added certain provisions to the Government Code and amended a portion of the UWMP Act. As it relates to the UWMP Act, SB 1087 requires the water use projections of an UWMP to include the projected demands for single-family and multi-family residential housing needed for lower income households as identified in the housing element of any city or county in the service area of the supplier (CWC § 10631(a).) A low-income household is any household that has an income below 80 percent of the area median income, adjusted for family size.

Table 4-10 shows projected demands for low income housing based on the most recent estimated percentages of Single Family Residential and Multi-Family Residential households derived from the January 2016 City of Turlock Housing Element.

Low Income Water Demands ^(b)	2020	2025	2030	2035	2040	2045
Single Family Residential	1,704	1,790	1,873	1,958	2,048	2,142
Multi-Family Residential	304	319	334	349	365	382
Total	2,008	2,110	2,206	2,307	2,413	2,524

(a) Volumes are in MG.
 (b) City of Turlock Housing Element (Revised Draft January 6, 2016) Table 3.2-9 says (with 2007-2011 data) that 2,650 of low-income households (including extremely low, very low, and low) were owners and 5,990 were renters. Citywide, it says 12,680 are owners and 10,100 are renters. Therefore, owners = 30.7% of low-income households and renters = 69.3% of low-income households. Citywide owners = 55.7% and renters = 44.3%. Table 3.3-1 shows (with 2013 data) that 93.9% of owners live in Single Family Residential and 41.4% of renters live in Single Family Residential. Therefore, it is estimated that 57.5% of low-income households are Single Family Residential and 42.5% are Multi-Family Residential. The dates of the data in the Housing Element are not the same so the percentages of Single Family and Multi-Family Residential are not exact.

Table 4-11 (DWR Table 4-5) indicates that both future water savings estimates and lower income residential demands have been included in the water demand projections, as described above.

Table 4-11. Inclusion in Water Use Projections (DWR Table 4-5 Retail)

Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) <i>Drop down list (y/n)</i>	No
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.	
Are Lower Income Residential Demands Included In Projections? <i>Drop down list (y/n)</i>	Yes



4.5 CLIMATE CHANGE CONSIDERATIONS

According to the fourth edition of the *California Climate Change Assessment, San Joaquin Valley Region Report Preview*, periods of drought will occur more frequently and be more intense as temperatures increase. Additional climate change impacts include more severe and frequent wildfires. These impacts are likely to increase stresses to agriculture, water resources, public health and climate justice.

The City currently relies on groundwater as its sole source of drinking water. There is an expected increase in water demand due to growing urbanization and agricultural pumping. However, due to climate change, specifically less precipitation and increased drought conditions, it is projected that the groundwater supply may not be adequate to meet water demands and have a greater likelihood of over-drafting the groundwater basins and ultimately impacting the Turlock Subbasin.

These data support the need for securing alternate water supplies to support resiliency against such drought periods. To diversify the City's water supply portfolio, the City has entered an agreement for delivery of wholesale Turlock Irrigation District surface water from the Stanislaus Regional Water Authority (SRWA) Regional Surface Water Supply Project (RSWSP). The addition of surface water will allow the City to rely less on groundwater and be able to reserve groundwater supply for periods of drought when surface water is in short supply, improving the City's long-term resiliency to drought. The project will also facilitate groundwater recharge of the basin and increase the emergency, operational, fire flow and potable water storage capacity of the City's system to meet increased demands.

Additional details about the potential impacts of climate change and the SRWA RSWSP are described in Chapter 6 *System Supplies*.



4.6 REFERENCES

Westerling, Leroy, Josue Medellin-Azuara, Joshua Viers. (University of California, Merced). 2018. *San Joaquin Valley Region Report Preview*. Accessed at https://www.energy.ca.gov/sites/default/files/2019-11/Reg_Report-SUM-CCA4-2018-003_SanJoaquinValley_Preview_ADA.pdf on February 16, 2021.

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CHAPTER 5

SB X7-7 Baselines, Targets, and 2020 Compliance

In November 2009, SB X7-7, the Water Conservation Act of 2009, was signed into law as part of a comprehensive water legislation package. SB X7-7 addressed both urban and agricultural water conservation. The legislation set a goal of achieving a 20 percent statewide reduction in urban per capita water use by December 31, 2020 (i.e., “20 by 2020”). To meet the urban water use target requirement, each retail supplier was required to determine its baseline water use, as well as its target water use for the year 2020. Per capita water use is measured in GPCD.

A discussion of the City’s programs and policies for water conservation is provided in Chapter 9 Demand Management Measures of this plan. Therefore, the remainder of this chapter will only focus on SB X7-7 baselines and targets for the City’s retail water service area.

This chapter also provides a review of the methodology the City used to calculate its 2020 Urban Water Use Target (Target), its baseline, and how the baseline was calculated. The City calculated baselines and targets on an individual reporting basis in accordance with SB X7-7 legislation requirements and DWR *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* (2016) (DWR *Methodologies*).

In this chapter, it is demonstrated that the City has achieved its 2020 target reduction. Compliance with the urban water use target requirement is verified in the SB X7-7 Verification Form, which is included as Appendix E.

5.1 OVERVIEW AND BACKGROUND

The City’s compliance with SB X7-7 was first addressed in the City’s 2010 UWMP. The City’s baseline per capita water use was determined, and urban water use targets for 2015 and 2020 were established and adopted. Actual water use data and California DOF population estimates were used to calculate GPCD water use.

SB X7-7 included a provision that an urban water supplier may update its 2020 urban water use target in its 2015 UWMP and may use a different target method than was used in 2010. Also, the SB X7-7 methodologies developed by DWR in 2011 noted that water suppliers may revise population estimates for baseline years when the 2010 Census information became available.

The 2010 Census data was not finalized until 2012. In its 2015 UWMP, the City updated its population, baselines, and targets to reflect 2010 Census data. The City demonstrated that it successfully achieved its 2015 interim target and confirmed its 2020 target.

In this 2020 UWMP, the City verifies that it achieved its 2020 target per capita water use.

5.2 GENERAL REQUIREMENTS FOR BASELINE AND TARGETS

SB X7-7 required each urban water retailer to determine its baseline daily per capita water use over a 10-year or 15-year baseline period. The 10-year baseline period is defined as a continuous 10-year period ending no earlier than December 31, 2004 and no later than December 31, 2010. SB X7-7 also defined that for those urban water retailers that met at least 10 percent of their 2008 water demand using recycled water, the urban water retailers can extend the baseline GPCD calculation for a maximum of a continuous 15-year baseline period, ending no earlier than December 31, 2004 and no later than December 31, 2010. In 2008, the City delivered only 4.25 percent of its total deliveries as recycled water;



therefore, the City's baseline GPCD was calculated over a 10-year period. In its 2015 UWMP, the 10-year baseline period that the City selected was 1997 through 2007 (see Appendix E). This is the same 10-year baseline period reported in the City's 2010 UWMP.

SB X7-7 and DWR provided four different methods for calculation of an urban water retailer's 2020 target. Three of these methods are defined in Water Code Section 10608.20(a)(1), and the fourth method was developed by DWR. The 2020 water use target may be calculated using one of the following four methods:

- **Method 1:** 80 percent of the City's base daily per capita water use
- **Method 2:** Per capita daily water use estimated using the sum of performance standards applied to indoor residential use; landscaped area water use; and commercial, industrial, and institutional uses
- **Method 3:** 95 percent of the applicable State hydrologic region target as stated in the State's April 30, 2009, draft 20x2020 Water Conservation Plan
- **Method 4:** An approach that considers the water conservation potential from: 1) indoor residential savings, 2) metering savings, 3) commercial, industrial and institutional savings, and 4) landscape and water loss savings

The City selected Method 1 to calculate its 2020 target in its 2015 UWMP.

Daily average water use is divided by the service area population to obtain baseline and target GPCD. In 2015, the City adjusted its baseline and target GPCD to reflect its updated population estimates based on 2010 Census data results. To calculate the City's compliance year GPCD and compare it to the 2020 target, the population is updated to reflect population estimates for 2020. Details of determining 2020 service area population are provided in Section 5.3.

The City's baselines and targets are summarized in Section 5.5. The City's 2020 compliance water use is provided in Section 5.6.

5.3 SERVICE AREA POPULATION

To correctly calculate its compliance year GPCD, the City must determine the population that it served in 2020. At the time of preparation of this UWMP, the 2020 Census results were unavailable.

The method used to estimate the service area population is shown on Table 5-1 (SB X7-7 Table 2). The DOF uses U.S. Census data, combined with changes to the housing stock, estimated occupancy of housing units, and the number of persons per household to estimate annual population within jurisdictional boundaries. Because the City's current water service area is substantially the same as the City limits, DOF population data for the City of Turlock is valid for use as the service area population. DOF estimates City of Turlock's 2020 population to be 74,297 as shown in Table 5-2 (SB X7-7 Table 3).



Table 5-1. Method for Population Estimates (SB X7-7 Table 2)

Method Used to Determine 2020 Population (may check more than one)	
<input checked="" type="checkbox"/>	1. Department of Finance (DOF) or American Community Survey (ACS)
<input type="checkbox"/>	2. Persons-per-Connection Method
<input type="checkbox"/>	3. DWR Population Tool
<input type="checkbox"/>	4. Other DWR recommends pre-review

Table 5-2. Service Area Population (SB X7-7 Table 3)

2020 Compliance Year Population	
2020	74,297
NOTES: Population is from the Department of Finance.	

5.4 GROSS WATER USE

Annual gross water use, as defined in CWC §10608.12(h), is the water that enters the City’s distribution system over a 12-month period (calendar year) with certain exclusions. This section discusses the City’s annual gross water use for each year in the baseline periods, as well as 2020, in accordance with Methodology 1: Gross Water of DWR’s *Methodologies* document.

Annual gross water use for the baseline periods and 2020 are summarized in Appendix E. The baseline values reported in Appendix E are the same as documented in the City’s 2010 and 2015 UWMP. The City’s 2020 actual gross water use for Calendar Year 2020 is 7,218 MG as presented in Chapter 4 of this plan.

5.5 BASELINES AND TARGETS SUMMARY

Daily per capita water use is reported in GPCD. Annual gross water use is divided by annual service area population to calculate the annual per capita water use for each year in the baseline periods. As discussed in Section 5.1, the City updated its population data, adjusted its baseline, and confirmed its 2020 target in its 2015 UWMP. The City’s 10-year base daily per capita water use is 356 GPCD. Using Method 1 for 2020 water use target calculation as described in Section 5.2, the City’s confirmed 2020 compliance target is 284 GPCD. The City’s baseline and target are summarized in Table 5-3 (SB X7-7 Table 5-1).



Table 5-3. Supplier: Baseline and Targets Summary (DWR Table 5-1 Retail)

Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	1997	2006	356	284
5 Year	2003	2007	352	
*All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)				

The baseline and 2020 target are included in the SB X7-7 verification form, Appendix E.

5.6 2020 COMPLIANCE DAILY PER CAPITA WATER USE

In Sections 5.3 and 5.4, the City's 2020 population and gross water use are presented, respectively. The City calculated its actual 2020 water use for the 2020 calendar year in accordance with Methodology 1 of DWR's *Methodologies* document. As shown in Table 5-4 (DWR Table 5-2), urban per capita water use in 2020 was 250 GPCD, which is well below the confirmed 2020 water use target of 284 GPCD. Therefore, the City has met its 2020 final water use target. The complete set of SB X7-7 verification tables used to document this compliance is included in Appendix E.

Table 5-4. Supplier: 2020 Compliance (DWR Table 5-2 Retail)

2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* (Adjusted if applicable)		
250	-	250	250	YES
*All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)				
NOTES: Volumes are in MG.				

As detailed in DWR's *Methodologies* document, adjustments are allowed that can be made to an agency's gross water use in 2020 for unusual weather, land use changes, or extraordinary institutional water use.



Chapter 5

SB X7-7 Baselines, Targets, and 2020 Compliance

The City has elected not to make the adjustments allowed by Water Code Section 10608.24 because these exceptions are not needed to demonstrate compliance with SB X7-7 for 2020. Water use in 2020 in the City's service area was significantly reduced as compared to baseline years as a result of increased water conservation efforts by the City and its customers.

5.7 REGIONAL ALLIANCE

The City has chosen to comply with the requirements of SB X7-7 on an individual basis. The City has elected not to participate in a regional alliance.

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CHAPTER 6

System Supplies

This chapter characterizes the City's water supply portfolio. Currently available water supplies, as well as future anticipated water supplies, are described and quantified. The management of each supply in correlation with other supplies are discussed. Potential effects of climate change and regulations are also discussed. The energy intensity required to treat and distribute the City's water supply within its service area is provided.

6.1 WATER SUPPLY ANALYSIS OVERVIEW

The City currently utilizes only groundwater and recycled water. Projected future supplies include surface water from the Tuolumne River and expansion of the recycled water system.

The City's groundwater is the only current source of potable water. It is supplied by 40 local wells within the City's service area. Details of the City's groundwater supply are described further in Section 6.2.2.

The City's surface water supplies are planned to be supplied by the SRWA RSWSP and are described in further detail in Section 6.2.1.

The City's recycled water supply is used for non-potable applications and is described further in Section 6.2.5.

6.2 WATER SUPPLY CHARACTERIZATION

The following sections characterize the following water supply types: purchased or imported water, groundwater, surface water, wastewater and recycled water. The availability of these sources under single dry, five-year droughts, and any other water year conditions are discussed in Chapter 7.

6.2.1 Purchased or Imported Water

Currently the City does not purchase or import water from any other water supply or entity. However, as a member of the SRWA, the City will receive wholesale surface water from TID (sourced from the Tuolumne River) as SRWA has entered into a Water Sales Agreement for delivery of up to 26.8 million gallons per day (MGD) (or 30,000 AFY). Although the SRWA has an agreement to receive up to 26.8 MGD from TID, the RSWSP under design and construction includes a water treatment plant (WTP) with a capacity of 15 MGD, easily expandable to 20 MGD. Per the February 2020 RSWSP Phase 3 Project Design and Construction Funding Agreement with the City of Ceres, City of Turlock, TID and SRWA, the City has a dedicated capacity of the SRWA WTP of 66.7 percent (or 10 MGD). This portion of WTP capacity amounts to 3,650 MG per year for the City. Copies of the 2015 water sales agreement and an amendment to the agreement approved in 2020, and the Phase 3 Funding Agreement are included in Appendix F. The SRWA RSWSP, which will construct the raw water pump station, raw water pipeline, WTP, and finished water transmission mains to deliver surface water to the Cities of Ceres and Turlock, is currently in the design and construction phase and is scheduled to be operational in mid-2023.

It should be noted that while SRWA is initially going to provide 10 MGD to the City, the SRWA plans to re-rate the filter capacity within the WTP to increase the overall WTP capacity from 15 MGD to 20 MGD. It is anticipated that the WTP can be re-rated within the first year or two of operation. Once the WTP is re-rated the capacity available to the City will be roughly 13 MGD.

6.2.2 Groundwater

Through 2020, groundwater supplies were used to meet all potable water needs in the management area. The local groundwater source is the Turlock Subbasin, which is a subunit of the San Joaquin Valley Groundwater Basin. The City currently possesses 40 wells. The number of wells considered active, inactive/abandoned, or non-potable are as follows:

- 19 active
- 21 inactive/abandoned
- 4 non-potable (irrigation only)

The City does not currently have any standby wells.

Since the 2010 UWMP, four wells have been removed from active status due to water quality concerns. In addition to evaluating opportunities to reduce contamination in these wells, diversification of supplies away from groundwater (surface water from TID through SRWA - as described above) will help mitigate any future groundwater quality degradation. Quality constraints and their potential impacts on water supply reliability are discussed further in Chapter 7.

The Turlock Subbasin is discussed in detail in the 2008 Turlock Groundwater Basin Groundwater Management Plan (GMP) produced by the Turlock Groundwater Basin Association (TGBA). A description of topics relevant to the 2020 UWMP follows.

6.2.2.1 Basin Description

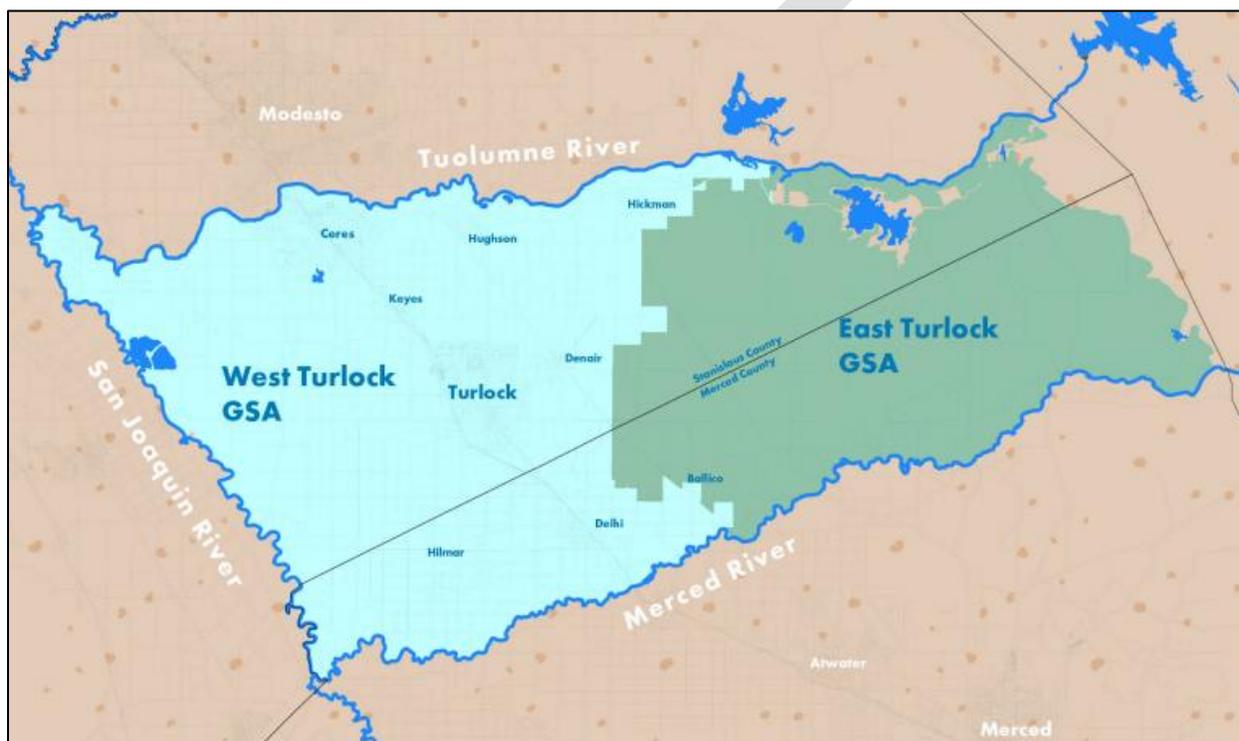
The Turlock Subbasin lies on the eastern side of California's San Joaquin Valley and encompasses portions of both Stanislaus and Merced counties. The groundwater system is bounded by the Tuolumne River on the north, the Merced River on the south, and the San Joaquin River on the west. The eastern boundary of the system is the western extent of the outcrop of crystalline basement rock in the foothills of the Sierra Nevada. Land uses in the Turlock Subbasin are diverse and include agriculture, urban, and commercial or industrial uses distributed in a mosaic throughout the region.

The Turlock Subbasin underlies an area of approximately 347,000 acres, with irrigated crops (245,000 acres), native vegetation (69,000 acres), and urban development (20,000 acres) as the predominant land uses. The general trend in land use throughout the subbasin has been an increase in urbanization from less than 4,000 acres in 1952 to approximately 20,000 acres in 2006.

The majority of this urbanization has occurred within unincorporated urban areas and cities within the TID boundary. Land in the Eastside Water District, Ballico-Cortez Water District, and Merced Irrigation District has not seen the substantial increase in urbanization that has occurred in other portions of the subbasin. However, in the Eastside Water District, there has been a shift from non-irrigated lands to irrigated agriculture as the principal land use. The majority of this agricultural development occurred between 1952 and 1984; land use patterns in the Eastside Water District have generally stabilized since the mid-1980s. The shift to irrigated agriculture has occurred to a lesser extent in the Ballico-Cortez Water District. Land use patterns in the foothill areas in the eastern portion of the subbasin have also shifted from non-irrigated to irrigated agriculture, but most of this shift has occurred in recent years. Between 1952 and 1992, irrigated agriculture in the foothills non-district area increased gradually from 8,600 acres to 10,800 acres. Following 1992, irrigated area grew rapidly, reaching 19,500 acres in 2006, and 35,100 in 2014.

Although expansion of irrigation has, and will continue to increase overall water demand, a portion of water used for irrigation is passively recaptured by the groundwater basin. Unlike water for Municipal & Industrial (M&I) use, irrigation water does not ultimately flow to the City’s wastewater treatment plant. Due to its application outdoors, a percentage of irrigation water will percolate downwards through soil and contribute to groundwater aquifer recharge. The benefits of this recharge will become further apparent when the City’s groundwater is supplemented by Tuolumne River surface water (through SRWA), as a portion of the recharge water will have originated outside of the basin, contributing towards a net basin inflow.

A map displaying the boundaries of the Turlock Subbasin can be found in Figure 6-1.



Source: Figure from Turlock Subbasin GSA’s Turlock Subbasin Fact Sheet.

Figure 6-1. Turlock Groundwater Basin Location and Boundaries

6.2.2.2 Basin Overdraft Conditions

Overdraft of an aquifer occurs when groundwater extraction is faster than aquifer recharge. It is unsustainable to overdraft an aquifer over long periods of time. Overdraft can eventually lead to subsidence and water quality problems. The Turlock Subbasin is neither listed as adjudicated, nor critically overdrafted (DWR).

Groundwater conditions within the Turlock Subbasin vary. Groundwater levels in the eastern areas have declined significantly since the 1960s while levels in the western areas of the subbasin are high to the point of requiring pumping in certain areas to keep the groundwater from encroaching into the root zone of agricultural crops. Local agencies will continue their efforts to ensure a sustainably managed groundwater basin and prevent activities that could lead to overdraft.

6.2.2.3 Groundwater Basin Management

The City has taken initiative in management of the Turlock Subbasin by pursuing a hydrogeological and water quality assessment study. This study was completed in July 2016 and provided the City with a groundwater “road map” intended to provide direction to further protect and develop the City’s groundwater resources. Deliverables of the study included:

- A Conceptual Hydrogeologic Model of the Turlock Subbasin
- Groundwater Elevation Hydrographs & Contour Maps
- Groundwater Quality Maps
- An Aquifer Evaluation
- A Well Field Interference Analysis
- A Contamination Mitigation Evaluation
- Recommendations for Future Well Locations
- Well Head Treatment Cost Estimates
- Well Tests
- Well Rehabilitation Recommendations
- Future Well Design Guidelines

Background information regarding the constraints placed on the City’s groundwater resources are further discussed in Section 7.1.

6.2.2.4 Groundwater Sustainability

The Sustainable Groundwater Management Act of 2014 (SGMA), a three-bill legislative package composed of AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley), was passed in September 2014. The legislation provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for state intervention when necessary to protect the resource. The legislation lays out a process and a timeline for local authorities to achieve sustainable management of groundwater basins. It also provides tools, authorities, and deadlines to take the necessary steps to achieve the goal. For local agencies involved in implementation, the requirements are significant and can be expected to take years to accomplish. The State Water Resources Control Board may intervene if local agencies do not form a Groundwater Sustainability Agency (GSA) and/or fail to adopt and implement a Groundwater Sustainability Plan (GSP).

The SGMA implementation steps and deadlines are shown in Table 6-1.



Table 6-1. Sustainable Groundwater Management Act and Deadlines

Implementation Step	Implementation Measure	Deadlines	Status
Step One	Local agencies must form local GSAs within two years	June 30, 2017	West Turlock Subbasin GSA formed November 2016
Step Two	Agencies in basins deemed high- or medium-priority must adopt GSPs within five to seven years, depending on whether a basin is in critical overdraft	January 31, 2020 for critically overdrafted basins January 31, 2022 for high- and medium-priority basins not currently in overdraft	The West and East Turlock Subbasin GSA's joint GSP will be completed by January 1, 2022
Step Three	Once plans are in place, local agencies have 20 years to fully implement them and achieve the sustainability goal	January 31, 2040 for critically overdrafted basins January 31, 2042 for high- and medium-priority basins not currently in overdraft	TBD

SGMA applies to basins or subbasins designated by DWR as high or medium priority basins, based on a statewide ranking that uses criteria including population and extent of irrigated agriculture dependent on groundwater. The SGMA 2019 Basin Prioritization findings indicate that 94 of California's 515 groundwater basins and subbasins are high and medium priority basins. These high and medium priority basins account for 98 percent of California's annual groundwater pumping and supply 83 percent of the population which resides over the groundwater basins. The ranking for the Turlock Subbasin is shown in Table 6-2. As shown, the Turlock Subbasin has been ranked as a high Priority Basin.

Table 6-2. Groundwater Basin Prioritization for Sustainable Groundwater Management Act^(a)

Basin Number	Subbasin Name	Overall Basin Ranking Score	Overall Basin Priority
5-22.03	Turlock	26	High

(a) SGMA Basin Prioritization Dashboard, run version May 2020.

6.2.2.5 GSA and GSP Formation

The area's commitment to comply with SGMA was outlined in a Memorandum of Understanding (MOU) signed by local water agencies, including the City, on December 14, 2017. The MOU can be found in Appendix G. The agencies developed two GSAs and submitted the required documentation to DWR before the June 30, 2017 deadline. The two GSAs formed were the West Turlock Subbasin GSA and the East Turlock GSA. The City is part of the West Turlock Subbasin GSA.

The West and East Turlock GSAs are in the process of monitoring groundwater levels, conducting outreach, and working through data needs and other issues to develop a joint GSP by the required deadline of January 31, 2022.



6.2.2.6 Turlock Groundwater Basin Association

The majority of water agencies located within the Turlock Subbasin, including the City, are part of the TGBA (see Figure 6-1). Formed in 1995, the TGBA has completed numerous studies to better understand the Turlock Subbasin groundwater system. The TGBA has also developed and implemented multiple Groundwater Management Plans, and coordinates groundwater monitoring for the subbasin. The TGBA facilitated the formation of the West Turlock Subbasin GSA and the East Turlock GSA and continues to serve as the primary mechanism for coordination between the two GSAs.

All of the member agencies in TGBA agree that groundwater and surface water within the Turlock Subbasin are vitally important resources that provide the foundation for maintaining current and future water needs. Preservation of these resources is essential to maintaining the economic viability and prosperity of the subbasin area. It is the overall goal of the TGBA that groundwater will continue to be a reliable, safe, efficient, and cost-effective water supply. Basin Management objectives include:

- Maintain an adequate water level in the groundwater basin;
- Protect groundwater quality and implement measures, where feasible, to reduce the potential movement of existing contaminants;
- Monitor groundwater extraction to reduce the potential for land subsidence;
- Promote conjunctive use of groundwater and surface waters;
- Support and encourage water conservation;
- Develop and support alternate water supplies, and educate users on the benefits of water recycling; and
- Continue coordination and cooperation between the TGBA members and customers.

6.2.2.7 Groundwater Use – Past Five Years

Groundwater pumping by the City over the last five years is summarized in Table 6-3 (DWR Table 6-1).

Table 6-3. Groundwater Pumped in Last Five Years (DWR Table 6-1 Retail)

<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	Turlock Subbasin within the San Joaquin Valley Groundwater Basin	5,812	6,139	6,108	6,465	7,218
TOTAL		5,812	6,139	6,108	6,465	7,218
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES: Volumes are in MG.						

6.2.3 Surface Water

The City does not currently have a surface water supply. As mentioned in Section 6.2.1, as a member of the SRWA, the City has entered into an agreement with TID for the diversion of up to 3,650 MG per year (10 MGD). This surface water is then treated and delivered to the City from facilities constructed as part of the SRWA RSWSP.

TID and Modesto Irrigation District (MID) jointly operate the Don Pedro Reservoir, from which water is diverted for end use by both TID and MID's agricultural and M&I customers. The quality of this surface water supply is exceptionally high, with the City of Modesto regularly blending it with local groundwater to help the groundwater meet U.S. Environmental Protection Agency (EPA) MCL requirements.

TID has both pre- and post-1914 water rights on the Tuolumne River. A full listing of these water rights can be found through the State Water Resources Control Board's (SWRCB) California Integrated Water Quality System's (CIWQS) Electronic Water Rights Information Management System (e-WRIMS). TID has committed pre- and/or post-1914 water rights to the SRWA as part of Amendment No. 1 to the Water Sales Agreement (included in Appendix F).

Surface water supplies more than 50 percent of the total irrigation water applied to land in the Turlock Subbasin boundaries. Therefore, a majority of recharge originates from the Tuolumne River, and to a much lesser extent, the Merced River. The average volume of surface water imported into the subbasin between 1997 and 2006 was 540,000 AFY (176,000 MG per year). A significant part of applied irrigation water percolates past the root zone to become groundwater, with deep percolation of applied surface water being the largest single component of groundwater recharge. The City's addition of surface water supply will likely not only reduce the necessity for groundwater pumping but will also increase the rate of groundwater recharge in the Turlock Subbasin.

6.2.4 Stormwater

The City's stormwater system includes about 130 miles of storm drain collection/conveyance piping, 49 pump stations, 45 detention basins, and use of the TID open channel irrigation system.

The majority of the City's stormwater drains to local detention basins. Although the primary purpose of these detention facilities is for urban runoff and flood control, they passively contribute to groundwater recharge through percolation of stored supplies. These detention facilities are managed in a way to maximize stored volume to maximize groundwater recharge as long as flood control concerns are low. As soon as wet weather events are in the forecast, the detention facilities are drained to create more space for stormwater detention.

A portion of the City's stormwater drains to TID laterals. Although this drainage does not directly increase supply for the City, stormwater delivered to TID may help offset TID demands. The City works closely with TID to ensure there is adequate capacity in the laterals for stormwater discharges. The City implements best management practices to improve water quality for the stormwater discharges.

The remainder of the City's stormwater that is not captured in detention basins or flows to TID laterals eventually drains through a combined sewer system to the Turlock RWQCF.

6.2.5 Wastewater and Recycled Water

Since 2006, the City has operated a disinfected tertiary wastewater treatment system, the Turlock RWQCF. This section provides information on the wastewater and its current and potential reuse as a recycled water resource in the City.

6.2.5.1 Recycled Water Coordination

The Cities of Turlock, Modesto, Ceres, and the Del Puerto Water District (DPWD) worked together to develop a cooperative project, the North Valley Regional Recycled Water Program (North Valley Program). The North Valley Program is an effort to regionalize recycled water use in Stanislaus County. Starting in December 2017, the North Valley Program began producing and delivering up to 30,600 AFY (9,970 MG per year) of disinfected tertiary treated recycled water to western Stanislaus County. By 2045, the North Valley Program could deliver up to 59,900 AFY (19,500 MG per year) of recycled water. The source of recycled water includes treated wastewater from the Cities of Turlock and Modesto. As part of the project, the City of Turlock installed 7.3 miles of conveyance pipeline to convey recycled water directly from its RWQCF's tertiary treatment plant to the City of Modesto pumping facility, who then pumps the recycled water to the Delta-Mendota Canal (DMC). The DMC is used to convey the blended canal-recycled water to DPWD in the west side of the County.

In addition to the above regional program, the City operates its own recycled water program for customers within the City's service area. The City coordinates both internally and externally with its recycled water customers. The City also coordinates with businesses and residences in the surrounding geographic areas adjacent to and within the City.

6.2.5.2 Wastewater Collection, Treatment, and Disposal

The RWQCF is designed to treat an average of 20 MGD and is currently treating an average influent flow of 10.8 MGD. The raw wastewater received at the City's RWQCF is a combination of domestic and industrial wastewater flows. Influent consists of wastewater from the City of Turlock, Community Service Districts of Keyes and Denair and up to 2 MGD of primary treated wastewater from the City of Ceres. The RWQCF produces disinfected tertiary treated water that meets Title 22 standards for unrestricted use pursuant to Title 22 section 60301.230(a)(1).

The RWQCF treatment system consists of influent screening, grit removal, primary flotation, secondary treatment (which consists of activated bio-filtration for BOD/TSS reduction and nitrification), secondary clarification, tertiary treatment (which consists of high rate clarification with chemical addition followed by cloth disk filters), disinfection via chlorination, and dechlorination by sodium bisulfite. Solids handling at the RWQCF consists of gravity belt thickening, two-stage anaerobic digestion via acid phase and methane phase digesters, and sludge drying beds. Biosolids are beneficially reused for land application to farmland and co-compost.

Since the North Valley Program was implemented, the City no longer discharges any effluent. All of the RWQCF effluent is used as recycled water either within the City's service area or by the North Valley Program. Prior to the implementation of the North Valley Program, final effluent from the RWQCF that was not recycled within the City's service area was discharged to the San Joaquin River. The pipeline and pump station have been added to the NVRWP and the 36-inch diameter outfall facilities remain as a backup discharge location to the San Joaquin River.



Wastewater facilities also include a 37.2 MG earthen storage basin, allowing the emergency diversion and storage of flow when necessary. Constructed with a 6-inch bentonite liner on the bottom and sides, the basin can be used to store either excess wet weather influent, or effluent that does not meet permit requirements.

6.2.5.2.1 Wastewater Collected Within Service Area

Table 6-4 (DWR Table 6-2) summarizes information on collection of wastewater within the City’s service area. As noted above, wastewater generated outside the City’s service area, including wastewater from Community Service Districts of Keyes and Denair and the City of Ceres, is treated within the service area.

Table 6-4. Wastewater Collected Within Area in 2020 (DWR Table 6-2 Retail)

<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)</i> <i>Drop Down List</i>
City of Turlock	Metered	3,909	City of Turlock	Turlock Regional Water Quality Control Facility	Yes	No
Total Wastewater Collected from Service Area in 2020:		3,909				
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3 .						
NOTES: Volumes are in MG. Wastewater generated outside the City’s service area, including wastewater from Community Service Districts of Keyes and Denair and the City of Ceres, is treated within the City’s service area.						

6.2.5.2.2 Wastewater Treatment and Discharge Within Service Area

Table 6-5 (DWR Table 6-3) identifies the volume of treated wastewater either recycled or disposed of within the service area.

Table 6-5. Wastewater Treatment and Disposal Within Area in 2020 (DWR Table 6-3 Retail)

<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 (optional) ²	Method of Disposal <i>Drop down list</i>	Does This Plant Treat Wastewater Generated Outside the Service Area? <i>Drop down list</i>	Treatment Level <i>Drop down list</i>	2020 volumes ¹				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
Turlock Regional Water Quality Control Facility	Harding Drain Bypass Pipeline	San Joaquin River		River or creek outfall	Yes	Tertiary	4,245	776	298	3,172	0
Total							4,245	776	298	3,172	0
¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. ² If the Wastewater Discharge ID Number is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility											
NOTES: Volumes are in MG.											

6.2.5.3 Recycled Water System Description

Although the City has operated an established recycled water program since 1990, it does not operate a large pipeline distribution system, and has instead opted to evaluate, design, and build facilities on a per connection basis.

Currently, the City provides up to 2.0 MGD of recycled water to the Walnut Energy Center (WEC) Co-Generation Facility (owned by TID) for cooling, and an average of 0.10 MGD to the City's Pedretti Sports Fields for landscape irrigation.

The remaining treated water is utilized by the North Valley Program, which is used for agricultural irrigation.

6.2.5.4 Potential, Current, and Projected Recycled Water Uses

Approved uses of disinfected tertiary recycled water may include, but are not limited to: agricultural irrigation, water for industrial purposes (including process cooling water), residential landscape irrigation, construction water, and other uses as approved by the City identified within Title 22 California Code of Regulations.

Table 6-6 (DWR Table 6-4) shows the current and projected recycled water direct beneficial uses within the service area.

Table 6-7 (DWR Table 6-5) shows a comparison between the recycled water use that was projected in the 2015 UWMP for 2020 and the actual water use for 2020. Actual recycled water use for landscape irrigation (Pedretti Sports Fields) and energy production (Walnut Energy Center Cooling Tower) was much lower than projected in the 2015 UWMP while recycled water use for agricultural irrigation was more than projected in the previous UWMP because of the implementation of the North Valley Program. The recycled water used at the Pedretti Sports Fields was much less than previously projected since the City's non-potable wells can also provide irrigation water to these fields. Now that the North Valley Program is online, the City reserves the recycled water for that program while only using the recycled water to supplement the non-potable well water for irrigation of the Pedretti Sports Fields when needed.

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Table 6-6. Current and Projected Recycled Water Direct Beneficial Uses Within Service Area (DWR Table 6-4 Retail)

<input type="checkbox"/> Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.										
Name of Supplier Producing (Treating) the Recycled Water:		Turlock Regional Water Quality Control Facility (RWQCF)								
Name of Supplier Operating the Recycled Water Distribution System:		City of Turlock								
Supplemental Water Added in 2020 (volume) <i>Include units</i>		None								
Source of 2020 Supplemental Water		N/A								
Beneficial Use Type <i>Insert additional rows if needed.</i>	Potential Beneficial Uses of Recycled Water (Describe)	Amount of Potential Uses of Recycled Water (Quantity) <i>Include volume units¹</i>	General Description of 2020 Uses	Level of Treatment <i>Drop down list</i>	2020 ¹	2025 ¹	2030 ¹	2035 ¹	2040 ¹	2045 ¹ (opt)
Agricultural irrigation	Transported by North Valley Regional Recycled Water Pipeline (NVRWWP) for agricultural irrigation		Transported by NVRWWP for agricultural irrigation	Tertiary	3,172	3,755	4,337	4,919	5,502	
Landscape irrigation (exc golf courses)	Irrigation at Pedretti Sports Fields		Irrigation at Pedretti Sports Fields	Tertiary	1	1	1	1	1	
Golf course irrigation										
Commercial use										
Industrial use										
Geothermal and other energy production	Walnut Energy		Walnut Energy	Tertiary	297	301	301	301	301	
Seawater intrusion barrier										
Recreational impoundment										
Wetlands or wildlife habitat										
Groundwater recharge (IPR)										
Reservoir water augmentation (IPR)										
Direct potable reuse										
Other (Description Required)	Recycled Water Filling Stations		Recycled Water Filling Stations	Tertiary	0	Varies	Varies	Varies	Varies	
Total:					3,470	4,056	4,639	5,221	5,804	
2020 Internal Reuse					0					
¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.										
NOTES: Volumes are in MG. The City began its recycled water filling station in 2018. The City has not set a limit on the amount of recycled water that can be trucked off-site other than 300 gallons per vehicle per trip. The City plans on conducting more outreach to promote the recycled water filling station program and, therefore, is not sure what volume of recycled water to assume will be needed for this program in future years.										

Table 6-7. 2015 Recycled Water Use Projection Compared to 2020 Actual (DWR Table 6-5 Retail)

<input type="checkbox"/>	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.	
Beneficial Use Type	2015 Projection for 2020 ¹	2020 Actual Use ¹
<i>Insert additional rows as needed.</i>		
Agricultural irrigation	0	3,172
Landscape irrigation (exc golf courses)	18	1
Golf course irrigation	0	0
Commercial use	0	0
Industrial use	0	0
Geothermal and other energy production	471	297
Seawater intrusion barrier	0	0
Recreational impoundment	0	0
Wetlands or wildlife habitat	0	0
Groundwater recharge (IPR)	0	0
Reservoir water augmentation (IPR)	0	0
Direct potable reuse	0	0
Other (Description Required)	Varies	0
Total	489	3,470
¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.		
NOTE: Volumes in MG. The "Other" beneficial use type is the City's recycled water filling stations.		

6.2.5.5 Actions to Encourage and Optimize Future Recycled Water Use

The City has many plans for encouraging and expanding future recycled water use in its service area. These plans are discussed in the following sections and summarized in Table 6-8 (DWR Table 6-6).

6.2.5.5.1 Expansion of Recycled Water to TID

As part of SRWA's Water Sales Agreement with TID, beginning in 2022, SRWA will provide 2,000 AFY (652 MG per year) of recycled water from the City to TID for agricultural irrigation purposes.

6.2.5.5.2 Outreach for Recycled Water for Residential and Commercial Filling Stations

In 2018, as an addition to the recycled water distribution system, recycled water was made available to commercial and residential users through an on-site filling station at the City's RWQCF. Users can fill properly identified recycled water tanks in their vehicle for appropriate uses off-site, up to a maximum volume of 300 gallons per visit. To prevent cross-contamination, all portable recycled water containers are prohibited from being connected to any potable water supply system. Additionally, commercial users are required to maintain a logbook detailing date of delivery, name and address of delivery/recipient, type



of use, volume delivered/used and intended use of water delivered. The quantity of recycled water provided by this filling station has not been estimated but is assumed to be negligible.

Currently, the City plans to conduct more outreach regarding the availability of recycled water and encouraging the use of it in an effort to reduce the use of drinking water. The City will also offer recycled water to contractors who may be interested in obtaining a hydrant meter for construction use. There are no planned implementation dates for these actions, therefore they are not included in Table 6-8 (DWR Table 6-6).

Table 6-8. Methods to Expand Future Recycled Water Use (DWR Table 6-6)

<input 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.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
<i>Add additional rows as needed</i>			
Recycled Water to TID ^(a)	Agriculture Irrigation	2022	652
Total			652
<i>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>			
NOTES: Volumes are in MG.			
(a) These actions will result in recycled water supplied to areas outside of the City's service area.			

6.2.6 Desalinated Water

Because the City is not located in a coastal area, seawater desalination is not applicable to the City and is not currently considered technically or economically feasible. In addition, the groundwater that underlies the City is not brackish in nature and does not require desalination. As such, the City does not have any plans to incorporate desalinated or treated brackish water into its supply portfolio.

6.2.7 Water Exchanges and Transfers

Currently there is no alternative potable water supply source in the area that would lend itself to transfer or exchange opportunities. Although there are three small potable water systems within the City's limits (owned and operated by the City of Modesto), these systems do not have excess capacity and already use the City of Turlock as a backup water source.

Although the City has entered into a water sales agreement for TID surface water, the infrastructure is not in place at this time. Additionally, because TID's currently available irrigation water is designated for agricultural use, there are practical and legal issues to consider if an exchange or transfer were to occur.



6.2.8 Future Water Projects

As stated in Section 6.1, as a member of the SRWA, the City will be able to purchase up to 3,650 MG per year (10 MGD) of TID surface water starting in 2023 when the RSWSP is operational.

In 2020, the SRWA awarded a contract for design and construction of a WTP, raw water pump station, and transmission pipeline to provide surface water from TID to the City for M&I use. Water will be released from the Don Pedro Reservoir, diverted from the Tuolumne River at an existing infiltration gallery, and pumped to the WTP by TID. It is currently anticipated that TID water will be available to the City by 2023. Constraints and reliability of the project water are further discussed in Chapter 7. A summary of the City's expected future water supply programs is provided in Table 6-9 (DWR Table 6-7).

Table 6-9. Expected Future Water Supply Projects or Programs (DWR Table 6-7 Retail)

┌	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.					
┌	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type <i>Drop Down List</i>	Expected Increase in Water Supply to Supplier* <i>This may be a range</i>
	<i>Drop Down List (wh)</i>	<i>If Yes: Supplier Name</i>				
<i>Add additional rows as needed</i>						
Stanislaus Regional Surface Water Supply Project	Yes	Stanislaus Regional Water Authority		2023	All Year Types	3,650
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES: Volumes are in MG.						

6.2.9 Summary of Existing and Planned Sources of Water

The City's current and planned sources of water can be summarized as such:

- The City is currently contracted to purchase 3,650 MGY (10 MGD) of TID surface water
- The City maintains 19 active, potable groundwater wells
- The City neither currently uses nor plans to use surface water that is not mentioned above
- The City maintains a series of stormwater detention basins that contribute to groundwater recharge
- The City currently utilizes and has future plans to expand recycled water usage
- The City neither currently uses nor plans to use desalinated water
- The City neither currently exchanges or transfers nor plans to exchange or transfer water with other water systems

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The actual potable (2020) water supplies for the City are summarized in Table 6-10(DWR Table 6-8) and the actual non-potable water supplies are summarized in Table 6-11 (DWR Table 6-8).

Table 6-10. Water Supplies – Actual Potable (DWR Table 6-8 Retail)

Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Groundwater (not desalinated)	City's domestic supply wells	6,773	Drinking Water	
Total		6,773		0
<i>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>				
NOTES: Volumes are in MG.				

Table 6-11. Water Supplies - Actual Non-Potable (DWR Table 6-8 Retail)

Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Recycled Water		3,474	Recycled Water	
Other	Park Wells	445	Other Non-Potable Water	
Total		3,919		0
<i>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>				
NOTES: Volumes are in MG.				

The projected future potable water supplies for the City are summarized in Table 6-12(DWR Table 6-9) and projected future non-potable supplies are summarized in Table 6-13 (DWR Table 6-9).

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Table 6-12. Water Supplies - Projected Potable (DWR Table 6-9 Retail)

Water Supply	Additional Detail on Water Supply	Projected Water Supply * Report To the Extent Practicable									
		2025		2030		2035		2040		2045 (opt)	
		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)
Add additional rows as needed											
Groundwater (not desalinated)		7,232		7,557		7,896		8,251		8,473	
Surface water (not desalinated)		3,650		3,650		3,650		3,650		3,650	
	Total	10,882	0	11,207	0	11,546	0	11,901	0	12,123	0
<i>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>											
NOTES: Volumes are in MG. The Stanislaus Regional Water Supply Project will have a maximum surface water capacity of 3,650 MG during the first phase of build-out in mid-2023. However, there is no timeline for the project expansion so the same volume was assumed for future years.											

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Table 6-13. Water Supplies – Projected Non-Potable (DWR Table 6-9 Retail)

Water Supply	Additional Detail on Water Supply	Projected Water Supply* Report To the Extent Practicable									
		2025		2030		2035		2040		2045 (opt)	
		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)
Add additional rows as needed											
Recycled Water		4,056		4,639		5,221		5,804			
Other		149		149		149		149			
Total		4,205	0	4,788	0	5,370	0	5,953	0		
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.											
NOTES: Volumes are in MG.											

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6.2.10 Special Conditions

6.2.10.1 Climate Change Impacts

As mentioned in Section 6.2.2, the City relies on groundwater as its sole source of drinking water. Land use changes have impacted the overall groundwater basin supply and quality. Combined with below average rainfall, increased agricultural pumping and urbanization, groundwater pumping for urban water has adversely impacted groundwater levels. Climate change impacts include more frequent and more severe droughts in the future in California and specifically in the Central Valley. Increased drought conditions equate to less precipitation and less recharge of the groundwater basins. With the lack of diversified water supplies in the City, it is projected that the groundwater supply may not be adequate to meet water demands and have a greater likelihood of over-drafting the groundwater basins and ultimately impacting the Turlock Subbasin.

The SRWA RSWSP, mentioned in Section 6.2.1, allows the City to manage its land and water resources to adapt to changes in the environment. The role of a conjunctive use system will enable the City to utilize surface water supplies to the maximum extent possible, when surface water is readily available, and rely more on groundwater in periods of drought. The SRWA RSWSP will build long-term resiliency to drought by diversifying the City's water supply portfolio through implementing required infrastructure to access a new surface water source, specifically the Tuolumne River, and reducing the City's reliance on the groundwater basin. The project will increase the emergency, operational, fire flow and potable water storage capacity of the City's system and allow the City to meet SB610 requirements of securing an assured water supply for a minimum of 20 years.

In addition, an alternative analysis was conducted to determine the best practices to manage water resources in the Turlock Subbasin and to adapt to changes in the environment due to climate change and increasing periods of drought, which is contributing to a significant decline in groundwater levels in the Turlock Subbasin. This decline in groundwater is causing surface depressions, higher concentrations of contaminants and may result in increases in salinity if the groundwater levels continue to lower. The proposed project to provide a new water supply source from the Tuolumne River will facilitate groundwater recharge of the basin. Recharging of the groundwater basin is a long-term necessity for all urban and agricultural users of the Turlock Subbasin.

West Turlock and East Turlock Groundwater Sustainability Agencies (total of 17 agencies) are working together to jointly develop a Groundwater Sustainability Plan by 2022 (as described in Section 6.2.2.5), which requires consideration of climate change per SGMA requirements.

6.2.10.2 Regulatory Conditions

Aside from the SRWA RSWSP, the City currently doesn't anticipate any emerging regulatory conditions or future projects that affects characterization of future water supply availability and analysis.

6.2.10.3 Other Locally Applicable Criteria

The City is not aware of any other locally applicable criteria that warrants discussion in this UWMP.

6.3 ENERGY INTENSITY

In accordance with CWC §10631.2(a), the energy intensity to provide water service to the City's customers over a one-year period is presented in this section to the extent that the information is available. The amount of energy to pump and distribute the City's water supply within the system it owns and operates is included.

Water energy intensity is the total amount of energy, calculated on a whole-system basis, used to deliver water to the City's customers for use. Energy intensity is the total amount of energy in kilowatt hour (kWh) expended on a per acre-foot basis to take water from the City's sources to its points of delivery. Understanding the whole-system energy intensity would allow the City make informed strategies in managing its water supplies and operating its system as follows:

- Identifying energy saving opportunities as energy consumption is often a large portion of the cost of delivering water
- Calculating energy savings and greenhouse gas emissions reductions associated with water conservation programs
- Potential opportunities for receiving energy efficiency funding for water conservation programs
- Informing climate change mitigation strategies
- Benchmarking of energy use at each water acquisition and delivery step and the ability to compare energy use among similar agencies

In Table 6-14 (DWR Table O-1C) below, the energy intensity of the City's water service is calculated for 2020. The total energy intensity for the City's water service is 1590.1 kWh/MG.

Table 6-14. Recommended Energy Reporting - Multiple Water Delivery Products (DWR Table O-1C)

Enter Start Date for Reporting Period		1/1/2020	Urban Water Supplier Operational Control					
End Date		12/31/2020						
			Water Management Process					
			<input type="checkbox"/> Is upstream embedded in the values reported?					
			Extract and Divert	Place into Storage	Conveyance	Treatment	Distribution	Total Utility
<i>Water Volume Units</i>	<i>Total Volume of Water Entering Process (volume units)</i>		6773	0	0	0	6773	N/A
MG			100%	0%	0%	0%	100%	
	<i>Retail Potable Deliveries (%)</i>							
	<i>Retail Non-Potable Deliveries (%)</i>		0%	0%	0%	0%	0%	
	<i>Wholesale Potable Deliveries (%)</i>		0%	0%	0%	0%	0%	
	<i>Wholesale Non-Potable Deliveries (%)</i>		0%	0%	0%	0%	0%	
	<i>Agricultural Deliveries (%)</i>		0%	0%	0%	0%	0%	
	<i>Environmental Deliveries (%)</i>		0%	0%	0%	0%	0%	
	<i>Other (%)</i>		0%	0%	0%	0%	0%	
	<i>Total Percentage [must equal 100%]</i>		100%	0%	0%	0%	100%	N/A
	<i>Energy Consumed (kWh)</i>		10051244.07	0	0	0	670643.6	10721888
	<i>Energy Intensity (kWh/volume units)</i>		1484.0	0.0	0.0	0.0	99.0	1583.0
Water Delivery Type			<i>Production Volume (volume units defined above)</i>	<i>Total Utility (kWh/volume)</i>	<i>Net Utility (kWh/volume)</i>			
	<i>Retail Potable Deliveries</i>		6773	1583.0	0.0			
	<i>Retail Non-Potable Deliveries</i>		445	0.0	0.0			
	<i>Wholesale Potable Deliveries</i>		0	0.0	0.0			
	<i>Wholesale Non-Potable Deliveries</i>		0	0.0	0.0			
	<i>Agricultural Deliveries</i>		0	0.0	0.0			
	<i>Environmental Deliveries</i>		0	0.0	0.0			
	<i>Other</i>		0	0.0	0.0			
	<i>All Water Delivery Types</i>		7218	1485.4	0.0			
Quantity of Self-Generated Renewable Energy								
0 kWh								
Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data)								
Metered Data								
Data Quality Narrative:								
The City's retail potable water energy bills start on 12/09/2019 and end on 12/09/2020. However, the total volume of water associated with the January to December 2020 time period is recorded from 1/1/2020 to 12/31/2020. The total utility of retail non-potable deliveries is shown as zero because the City does not keep track of the energy usage for the non-potable water facilities.								



6.4 REFERENCES

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CHAPTER 7

Water System Reliability

This chapter describes the long-term reliability and vulnerability of the City's water supplies through 2045. It also provides a rational basis for future decision-making related to supply management, demand management, and project development. The City's planned and implemented water management tools for increasing the reliability of water supplies are also addressed. In assessing the City's water supply reliability, a comparison of projected water supplies and projected water demand in normal, single-dry, and five consecutive dry years is provided. A DRA that enables the City to evaluate its risk under a severe drought period lasting for the next five consecutive years is included in this chapter. Other short-term reliability planning that may require immediate action, such as a short-term drought or a catastrophic supply interruption, is addressed in Chapter 8.

Where applicable, each section in this chapter addresses groundwater, surface water, and recycled water in a separate sub-section. The groundwater sub-section refers to the City's current supplies from the Turlock Subbasin, the surface water sub-section refers to the SRWA's water sales agreement of Tuolumne River water from TID (as described in Chapter 6), and the recycled water sub-section refers to the current and future recycled water produced from the Turlock RWQCF.

7.1 WATER SERVICE RELIABILITY ASSESSMENT

The City's water supply reliability reflects its ability to meet the needs of its water customers with its various water supplies under varying conditions. Details from Chapter 4, which describes the City's water demand characteristics, and Chapter 6, which describes the City's water supply characteristics, are incorporated in this chapter to conduct the assessment. Conclusions from this assessment affect the City's water management decisions.

7.1.1 Constraints on Water Sources

The City's water supply currently consists of local groundwater and recycled water.

The types of constraints on the City's water supplies include environmental, regulatory, and water quality. The factors and constraints specific to each of the City's individual water supplies are described in Chapter 6.

This section addresses potential effects on the reliability of water supply sources through the year 2045.

Constraints on water resources for specific communities are addressed by CWC section 10631(c)(2) and section 10634, which state the following:

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 in management measures, to the extent practicable.

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.

The City has (or will have) the following sources of water supply:

- Treated surface water
- Groundwater
- Recycled water

The major constraints on each of these supplies are discussed in the following sections:

- Environmental constraints
- Legal constraints
- Water quality constraints

7.1.1.1 Environmental Constraints

Environmental factors can limit the reliability of surface water supplies in the event that dry year supply reductions are necessary to maintain the health of aquatic species and the environment in general.

Given the fragile state of many of California's ecosystems, environmental concerns inevitably arise during the water planning process. The delicacy of these systems can, in turn, cause a lack of supply due to the enforcement of environmental legislation. The recent legal actions involving the Endangered Species Act in the Delta are an example of the clash between environmental concerns and water supply. To ensure reliability of the City's water supply, during unexpected environmental constraints that may be placed on TID's water rights, the City will use local groundwater in place of surface water.

A further concern is the potential for overdraft and diminished water quality of the Turlock Subbasin, which prompted the City to seek an alternative primary water supply (i.e., surface water). However, for the purposes of this UWMP, the concern of overdraft is considered a long-term groundwater basin issue rather than a supply inconsistency. The TGBA GMP includes actions to address cooperative management of groundwater to prevent further overdraft and the new TGBA SGMA process, of which the City is taking part, will address overdraft prevention in its GSP in 2022.

7.1.1.2 Legal Constraints

Legal issues, including place of use and water rights issues, are not expected to limit supply reliability for the City.

7.1.1.2.1 Groundwater

The Turlock Subbasin is not an adjudicated groundwater basin, as defined by DWR. Therefore, there are no defined legal pumping rights for the City, and there are no legal constraints on groundwater pumping. In California, the State is not currently authorized by the Water Code to manage groundwater. California landowners have a correlative right to extract groundwater for beneficial use. As a municipal water supplier, the City acts on behalf of the overlying landowners, who rescind their water rights to the City when the land is annexed into the City.

The implementation of SGMA, described in Section 6.2.2 of Chapter 6, has introduced provisions whereby the state can step in to manage a groundwater basin if a local GSA does not properly implement sustainable groundwater management. While the information included in this section is current as of early 2021, conditions may change between the writing of this UWMP and the adoption of the 2020 UWMP.



7.1.1.2.2 Surface Water

Through the SRWA, the City is purchasing Tuolumne River water from TID. TID has both pre- and post-1914 water rights and, through a Water Sales Agreement with TID, SRWA will have access to one or both of these water rights. Use of the post-1914 water rights is dependent on a State Water Resources Control Board (State Water Board) action to both change the point of diversion and modify the use from agricultural to M&I supply. One outstanding protest remains on this water right action from the U.S. Bureau of Reclamation (Reclamation). Reclamation is claiming that their operations may be harmed by the post-1914 water transfer. TID's hydraulic modeling does not support Reclamation's claim and TID is working diligently with the State Water Board to get this protest dismissed.

TID's pre-1914 water right is not subject to State Board jurisdiction. Because the pre-1914 water right is not jurisdictional this water can be used right away without constraint and is not subject to cutbacks. In the Water Sales Agreement between SRWA and TID (see Appendix F) it does say that SRWA supplies will be cutback by the same percentage as TID customers are cutback. So, for example, if farmers receive 75-percent of their allocation from TID then SRWA receives 75-percent of their allocation.

Additionally, the Federal Energy Regulatory Commission (FERC) operations license for the Don Pedro Reservoir, which is used to store TID's Tuolumne River surface water, expired in April 2016. TID is going through a FERC relicensing agreement process and the terms of that agreement are not yet known but have the potential to impact TID operations.

7.1.1.2.3 Recycled Water

As described in Chapter 6, the City plans to greatly enhance the use of recycled water produced at the City's RWQCF. Future expansion of recycled water facilities must be pursuant to the requirements set forth in its SWRCB Order WQ 2016-0068-DDW (https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2016/wqo2016_0068_ddw.pdf). No major legal issues associated with recycled water facility expansion are anticipated.

7.1.1.3 Water Quality Constraints

The potential water quality constraints on groundwater, surface water, and recycled water supplies are discussed below.

7.1.1.3.1 Groundwater

The 2016 Hydrogeologic and Water Quality Assessment Report identified several groundwater constituents that may lead to groundwater quality concerns in the basin. Contaminants in the area include: salinity, arsenic, hexavalent chromium, nitrates, fuel, solvents, and synthetic organic compounds. Of the above contaminants, those with the highest potential for future impacts (i.e. salinity, arsenic, hexavalent chromium, and nitrates) are further discussed below.

7.1.1.3.1.1 Salinity

Salinity has been identified as a source of contamination in the Turlock Groundwater Sub-Basin. The DDW recommended maximum contaminant level (MCL) of salinity is 500 milligrams per liter (mg/L), measured in total dissolved solids (TDS). The City reported an average groundwater salinity value of 282 (mg/L) in its drinking water supply in its 2016 Hydrogeologic and Water Quality Assessment Report. One of the City's wells slightly exceeded the recommended MCL at 510 mg/L and is on "stand-by" status. Salinity appears to be increasing; however, the average levels are within the recommended MCL.

It should be noted, however, that several other water suppliers in the area are members of the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) program, with the stated objective to organize, facilitate and fund efforts needed for the efficient management of salinity in the Central Valley. Although the City is not currently a member of CV-SALTS, it does participate through its membership with Central Valley Clean Water Association (CVCWA). The City will continue to monitor salinity levels in the basin and act accordingly.

7.1.1.3.1.2 Arsenic

Arsenic has been identified as a source of contamination in the Turlock Groundwater Subbasin. The City has had several wells with arsenic concentrations slightly over the MCL value of 10 micrograms per liter ($\mu\text{g/L}$). These wells were removed from active status, with one on “standby” status, which is only available in the event of an emergency. In its 2019 Annual Water Quality Report, the City indicated an average arsenic concentration of 8.53 $\mu\text{g/L}$ in its drinking water supply. The City continues to regularly monitor arsenic contamination in its water supplies.

7.1.1.3.1.3 Hexavalent Chromium

Hexavalent Chromium (Cr^{6+}) has been identified as a source of contamination in the Turlock Groundwater Sub-Basin. In its 2016 Hydrogeologic and Water Quality Assessment Report, the City reported an average Cr^{6+} value of 5.6 $\mu\text{g/L}$, which was below the MCL value in effect at that time of 10 $\mu\text{g/L}$. It should be noted that, as of September 2017, by court order, the MCL for Hexavalent Chromium is no longer in effect. The state will likely establish a new MCL for Hexavalent Chromium but for the time being, no MCL for this constituent is currently in effect.

7.1.1.3.1.4 Nitrates

Nitrates have been identified as a source of contamination in the Turlock Groundwater Subbasin. While nitrate in irrigation water is not a major concern for most crops, high concentrations of nitrate in groundwater is a concern for potable water supplies.

Historically, the City has reported nitrate concentrations as mg/L nitrate (as Nitrate, NO_3), however as of January 1, 2016, the SWRCB has mandated that all nitrate results be reported in the form of mg/L nitrate (as Nitrogen, N). The SWRCB reports that this change does not represent a functional change in the MCL, but is to reduce confusion and ease reporting of results to U.S. EPA. The MCL for nitrate (as Nitrate, NO_3) in public drinking water supplies is 45 mg/L and for nitrate (as Nitrogen, N) is 10 mg/L.

In its 2016 Hydrogeologic and Water Quality Assessment Report, the City reported an average nitrate concentration of 26 mg/L (as Nitrate, NO_3). Under the new reporting methodology, this represents an average concentration of 5.8 mg/L nitrate (as Nitrogen, N). In its 2019 Annual Water Quality Report, the City indicated an average nitrate concentration of 6.17 mg/L (as Nitrogen, N) in its drinking water supply. These values, irrespective of reporting methodology, are still well below the MCL, and show that nitrate concentrations are generally within a safe range and should not pose a problem in the near future. It should be noted, however, that the City has closed several wells due to measured nitrate levels exceeding the MCL. The City continues to regularly monitor nitrate contamination in its water supplies.

7.1.1.3.1.5 1,2,3-TCP

On December 14, 2017 the State Water Resources Control Board's Division of Drinking Water established an MCL and monitoring frequencies for 1,2,3-trichloropropane (1,2,3-TCP) that went into effect January 2018. Due to the newly adopted MCL, the City has three wells that have exceeded the allowable limits for the contaminant. As a result, the City is required to increase monitoring frequencies for 1,2,3-TCP, develop a corrective action plan, and distribute a public notice to all drinking water customers every three months until the wells are no longer producing levels of 1,2,3-TCP above the MCL. Testing results from November 2020 show the City's water system exceeds the MCL of 0.005 µg/L (micrograms per liter). The average level of 1,2,3-TCP for the period of December 2019 – November 2020 for three out of the eighteen drinking water wells was 0.01941 µg/L, ranging from 0.0059 µg/L to 0.0431 µg/L.

The City is in the process of addressing the 1,2,3-TCP MCL exceedance problem by continuing to evaluate water quality in its aquifers. Wells drawing water from an aquifer with unacceptable water quality will be modified and receive wellhead treatment as necessary.

7.1.1.3.2 Surface Water

According to the 2013 Don Pedro Water Quality Assessment (http://www.donpedro-relicensing.com/Documents/P-2299_DP_ISR_W-AR-01_WtrQltyAssmt_StdYRept_130117.pdf) the Tuolumne River water has low specific conductivity and hardness, is prone to acidification, and potential sources of local contamination are limited. The majority of analytes were reported as either non-detectable or just above reporting limit concentrations. Further, there does not appear to be a pattern of increasing chemical concentrations from upstream to downstream of Don Pedro Dam, implying that contamination due to retention in the reservoir is not an issue.

7.1.1.3.3 Recycled Water

All water produced or intended for use as recycled water within the City's limits, including water produced from the RWQCF, meets all regulations set forth by Title 22 of the California Division of Drinking Water's 2018 update of Regulations Related to Recycled Water.

7.1.2 Year Type Characterization

Water supply reliability is assessed based on the characteristics of the City's water supplies during various water year types which are provided in this section.

7.1.2.1 Types of Years

CWC §10635(a) requires that the City's water service reliability be assessed based on the following three (3) water year types:

1. **Normal Year** - This condition represents the water supplies the City considers available during normal conditions. This could be a single year or averaged range of years in the historical sequence that most closely represents the median or average water supply available. The year 2014, which had water use closest to the average water use in the past 10 years, represents a Normal Year for the City. This year represents the City's typical year where all of its combined water supply sources are available to meet demands.



2. **Single Dry Year** – This condition represents the year with the lowest water supply availability to the City. The year 2016, which had the lowest water use in the past 25 years, represents the Single Dry Year for the City.
3. **Five-Consecutive-Year Drought** – This condition represents a five-consecutive year dry period such as the lowest average water supply available to the Supplier for five years in a row since 1903. The years 2015 through 2019, the five-year period with lowest water use in recent past, represent the Five-Consecutive-Year Drought years for the City.

The basis of the water year data is provided in Table 7-1 (DWR Table 7-1) for the City’s supply.

Table 7-1. Basis of Water Year Data (DWR Table 7-1)

Year Type	Base Year 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	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 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	2014	6,363	100%
Single-Dry Year	2016	5,380	85%
Consecutive Dry Years 1st Year	2015	5,562	87%
Consecutive Dry Years 2nd Year	2016	5,380	85%
Consecutive Dry Years 3rd Year	2017	6,026	95%
Consecutive Dry Years 4th Year	2018	5,979	94%
Consecutive Dry Years 5th Year	2019	6,080	96%
<p><i>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.</i></p>			
<p>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</p>			
<p>NOTES: Volumes are in MG. Volume available for average year reflects the 10-year average from 2011-2020. The actual water usage in 2014 was actually 6,565 MG but 2014 was the year with usage closest to the average. In all year types, groundwater is assumed to be sufficient to supply all demand.</p>			

7.1.3 Water Service Reliability

In this section, the City's Normal, Single-Dry, and Five-Consecutive-Year Drought projected supplies and demands are integrated and compared. Projected water demands are detailed in Chapter 4 and projected water supplies are detailed in Chapter 6. Under the various water year types, the total annual water supply sources available to the City are compared to the total annual projected water use from 2025 to 2045 (for potable and 2025 to 2040 for non-potable water) in five-year increments. For the water supply and demand assessment, demand projections for the period of 2025 through 2040 and 2045 are taken from Table 4-7 and 4-8 (DWR Table 4-3) in Chapter 4 of this document. The supply projections are assumed to equal the sum of the surface water, groundwater, and recycled water supplies summarized above.

7.1.3.1 Water Service Reliability – Normal Year

The availability of the City's potable supplies in Normal Years are described in detail in Chapter 6 and summarized below:

- 7,232 MG (year 2025) – 8,473 MG (year 2045) of groundwater from the City's wells in the Turlock Subbasin; and
- 3,650 MG (year 2025-2045) of surface water from the Stanislaus Regional Water Supply Project.

The City's expected use of non-potable water in Normal Years is described in Chapter 4 and 6 and summarized below:

- 4,056 MG (year 2025) – 5,804 MG (year 2040) of recycled water from the City's RWQCF; and
- 149 MG (year 2025) – 149 MG (year 2040) of park non-potable well water.

The City's Normal Year demands are described in detail in Chapter 4 and 6 and are summarized below:

- 7,083 MG (year 2025) – 8,473 MG (year 2045) of potable water demands from the City's projected population of 77,700 (year 2025) – 92,944 (year 2045) and associated residential and CII accounts; and
- 4,205 MG (year 2025) – 5,953 MG (year 2040) of non-potable water demand from various sources.

As shown in Table 7-2 and Table 7-3 (DWR Table 7-2), the City's Normal Year supplies for both potable and non-potable water are adequate to meet projected Normal Year demands. The City's primary potable water sources in the future will be surface water from the Tuolumne River and local groundwater. Groundwater supply will be used conjunctively with the surface water supplies to meet increased water demands primarily in the summer months. If necessary, the City plans to meet any additional demand through increased groundwater pumping, ensuring the City will maintain 100 percent supply reliability. In short, no potable water supply shortage is anticipated during Normal Years through 2045. Likewise, no non-potable water supply shortage is anticipated in Normal Years through 2040 as the ample supply of treated wastewater is more than enough to meet all non-potable water demands.

Table 7-2. Normal Year Supply and Demand Comparison – Potable (DWR Table 7-2)

	2025	2030	2035	2040	2045 (Opt)
Supply totals (autofill from Table 6-9)	10,882	11,207	11,546	11,901	12,123
Demand totals (autofill from Table 4-3)	7,083	7,408	7,747	8,102	8,473
Difference	3,799	3,799	3,799	3,799	3,650

NOTES: Volumes are in MG.
 In all year types, if potable demand cannot be met from Surface Water alone, it is assumed that groundwater will supply all remaining demand.
 The City expects 3,650 MG of surface water from the Stanislaus Regional Water Supply Project will be available by 2023.

Table 7-3. Normal Year Supply and Demand Comparison – Non-Potable (DWR Table 7-2)

	2025	2030	2035	2040	2045 (Opt)
Supply totals (autofill from Table 6-9)	4,205	4,788	5,370	5,953	
Demand totals (autofill from Table 4-3)	4,205	4,788	5,370	5,953	
Difference	0	0	0	0	

NOTES: Volumes are in MG.

7.1.3.2 Water Service Reliability – Single Dry Year

The City’s water supplies and demands for a Single Dry Year are assumed to be equivalent to those for a Normal Year.

As shown in Table 7-4 and Table 7-5 (DWR Table 7-3), the City’s Single Dry Year supplies are adequate to meet projected Single Dry Year demands. If necessary, the City plans to meet any additional potable demand through increased groundwater pumping, ensuring that the City will maintain 100 percent supply reliability. If there is any disruption in surface water supply, the City will increase groundwater pumping to compensate.

No non-potable water supply shortage is anticipated in Normal Years through 2040 as the ample supply of treated wastewater will be more than enough to meet all non-potable water demands.



Table 7-4. Single Dry Year Supply and Demand Comparison - Potable (DWR Table 7-3)

	2025	2030	2035	2040	2045 (Opt)
Supply totals*	10,882	11,207	11,546	11,901	12,123
Demand totals*	7,083	7,408	7,747	8,102	8,473
Difference	3,799	3,799	3,799	3,799	3,650
<i>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>					
NOTES: Volumes are in MG. In all year types, if potable demand cannot be met from Surface Water alone, it is assumed that groundwater will supply all remaining demand. The City expects 3,650 MG of surface water from the Stanislaus Regional Water Supply Project will be available by 2023.					

Table 7-5. Single Dry Year Supply and Demand Comparison – Non-Potable (DWR Table 7-3)

	2025	2030	2035	2040	2045 (Opt)
Supply totals*	4,205	4,788	5,370	5,953	
Demand totals*	4,205	4,788	5,370	5,953	
Difference	0	0	0	0	
<i>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>					
NOTES: Volumes are in MG.					

7.1.3.3 Water Service Reliability – Five Consecutive Dry Years

The City’s water supplies and demands for five consecutive dry years are assumed to be equivalent to those for a Normal Year and Single Dry Year. To be conservative, the City has assumed that demands would remain constant between normal, single dry, and a five consecutive dry year period. It is likely that by the third, fourth, and fifth year of an extended dry period, customers would ramp up conservation activities and effectively reduce the demands below normal year conditions. The City’s five consecutive dry year potable supply is anticipated to be 12,123 MG from combined surface water and groundwater through 2045.



As shown in Table 7-6 and Table 7-7 (DWR Table 7-4), the City’s five consecutive dry year supplies are adequate to meet projected five consecutive dry year demands. If necessary, the City plans to meet any additional potable demand through increased groundwater pumping and water conservation, ensuring that the City will maintain 100 percent supply reliability. Additionally, if there is any disruption in surface water supply, the City will increase groundwater pumping to compensate. In this scenario, potable supplies will remain reliable but water quality consistency may suffer as water from the City’s native groundwater wells will likely vary in quality noticeably from the surface water. However, this aesthetic water quality issue is considered acceptable in an extreme scenario such as a 5-year drought.

If necessary, the City may also initiate a water shortage emergency stage to extend available water supplies, as described in Chapter 8.

Table 7-6. Five Consecutive Dry Years Supply and Demand Comparison - Potable (DWR Table 7-4)

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	15,088	15,995	16,917	17,854	12,123
	Demand totals	11,289	12,196	13,118	14,055	8,473
	Difference	3,799	3,799	3,799	3,799	3,650
Second year	Supply totals	15,088	15,995	16,917	17,854	12,123
	Demand totals	11,289	12,196	13,118	14,055	8,473
	Difference	3,799	3,799	3,799	3,799	3,650
Third year	Supply totals	15,088	15,995	16,917	17,854	12,123
	Demand totals	11,289	12,196	13,118	14,055	8,473
	Difference	3,799	3,799	3,799	3,799	3,650
Fourth year	Supply totals	15,088	15,995	16,917	17,854	12,123
	Demand totals	11,289	12,196	13,118	14,055	8,473
	Difference	3,799	3,799	3,799	3,799	3,650
Fifth year	Supply totals	15,088	15,995	16,917	17,854	12,123
	Demand totals	11,289	12,196	13,118	14,055	8,473
	Difference	3,799	3,799	3,799	3,799	3,650
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES: Volumes are in MG. In all year types, if demand cannot be met from Surface Water and Recycled Water alone, it is assumed that groundwater will supply all remaining demand.						



Table 7-7. Five Consecutive Dry Years Supply and Demand Comparison – Non-Potable (DWR Table 7-4)

		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	4,205	4,788	5,370	5,953	
	Demand totals	4,205	4,788	5,370	5,953	
	Difference	0	0	0	0	
Second year	Supply totals	4,205	4,788	5,370	5,953	
	Demand totals	4,205	4,788	5,370	5,953	
	Difference	0	0	0	0	
Third year	Supply totals	4,205	4,788	5,370	5,953	
	Demand totals	4,205	4,788	5,370	5,953	
	Difference	0	0	0	0	
Fourth year	Supply totals	4,205	4,788	5,370	5,953	
	Demand totals	4,205	4,788	5,370	5,953	
	Difference	0	0	0	0	
Fifth year	Supply totals	4,205	4,788	5,370	5,953	
	Demand totals	4,205	4,788	5,370	5,953	
	Difference	0	0	0	0	
<p><i>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i></p>						
<p>NOTES: Volumes are in MG.</p>						

7.2 DROUGHT RISK ASSESSMENT

CWC §10635(b) requires that the City prepare a DRA, which evaluates the risk of a severe drought occurring for the next five consecutive years (2021-2025). Supply conditions for the DRA are based on the five driest consecutive years on record, with adjustments to consider plausible changes in climate, regulations, and other locally applicable criteria. This analysis requires the City to consider management of its water supplies in relation to variations in customer water use. It also provides the City the opportunity to use its WSCP response actions described in Chapter 8 and understand the degree of response necessary in managing its water supplies. This evaluation may help identify risks and assist in planning for steps to address them.

This section reviews the data and methods used to define the DRA water shortage condition and evaluates each water source's reliability under the proposed drought condition. Finally, total water supplies during the five-year drought are compared to projected demands, accounting for any applicable supply augmentation or demand reduction measures available to the City.

7.2.1 Data, Methods, and Basis for Water Shortage Condition

The water shortage condition for the DRA is the same as the five-year drought described in Section 7.1.3.3. Since the DRA can be updated outside of the UWMP five-year plan cycle, the narrative description of the data and basis for the water shortage condition is repeated in this section.

To estimate supplies during a five-year drought, it was assumed that 2015 was the first year of a five-year drought. While surface water supplies could be cut back in dry years, it was assumed that groundwater supplies would not be reduced in dry years. Based on the operational yield estimates for the Turlock Subbasin, it was assumed that groundwater supplies could provide up to 7,232 MG, the projected demand in 2025, throughout a five-year drought if necessary to supplement surface water supplies that may be unavailable.

7.2.2 DRA Water Source Reliability

The City's multiple dry year potable supplies include:

- Projected base purchased surface water supplies from SRWA starting in mid-2023 (with 10 percent reduction from Normal Year supplies during 2023 and an additional 10 percent reduction in each successive dry year); and
- Groundwater pumping.

Table 7-8 summarizes the available supplies for each year of the DRA.



Table 7-8. Projected Supplies for Drought Risk Assessment

Supply Source	Available Supply, AFY				
	2021	2022	2023	2024	2025
SRWA ^(a)	0	0	1,643	2,920	2,555
Groundwater ^(b)	7,232	7,232	7,232	7,232	7,232
Total	7,232	7,232	8,875	10,152	9,787

- (a) Surface water supplies are not expected to be available until the second half of 2023. However, due to the drought conditions, it is assumed that the projected supplies from SRWA in 2023 are reduced 10 percent from normal and an additional 10 percent in subsequent dry years.
- (b) Based on operational yield estimates for the Turlock Subbasin it is assumed the groundwater supply will not be reduced in dry years.

7.2.3 Total Water Supply and Use Comparison

As shown in Table 7-9 and Table 7-10 (DWR Table 7-5), during a five-year drought beginning in 2021, the City’s supplies are adequate to meet both potable and non-potable projected demands through 2025, even without water conservation.

7.3 REGIONAL SUPPLY RELIABILITY

Requirements for water supply and demand assessment are addressed in CWC section 10620(f), which states the following:

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.

All water consumed by the City, including the future surface water from TID, is under the jurisdiction of the Central Valley Regional Water Quality Control Board, and is therefore considered from local supply sources. No water is imported from other regions, nor does the City anticipate importing water from other regions throughout the UWMP planning period.



Table 7-9. Five-Year Drought Risk Assessment Tables to Address Water Code Section 10635(b) - Potable (DWR Table 7-5)

2021	Total
Total Water Use - <i>Potable</i>	6,603
Total Supplies - <i>Potable</i>	7,083
Surplus/Shortfall w/o WSCP Action	480
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	480
Resulting % Use Reduction from WSCP action	0%
2022	
Total	
Total Water Use [Use Worksheet]	6,723
Total Supplies [Supply Worksheet]	7,083
Surplus/Shortfall w/o WSCP Action	360
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	360
Resulting % Use Reduction from WSCP action	0%
2023	
Total	
Total Water Use [Use Worksheet]	6,843
Total Supplies [Supply Worksheet]	8,726
Surplus/Shortfall w/o WSCP Action	1,883
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	1,883
Resulting % Use Reduction from WSCP action	0%
2024	
Total	
Total Water Use [Use Worksheet]	6,963
Total Supplies [Supply Worksheet]	10,003
Surplus/Shortfall w/o WSCP Action	3,040
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	
Total Water Use [Use Worksheet]	7,083
Total Supplies [Supply Worksheet]	9,638
Surplus/Shortfall w/o WSCP Action	2,555
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	2,555
Resulting % Use Reduction from WSCP action	0%



Table 7-10. Five-Year Drought Risk Assessment Tables to Address Water Code Section 10635(b) – Non-Potable (DWR Table 7-5)

2021	Total
Total Water Use - Non-potable	4,205
Total Supplies	4,205
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%
2022	
2022	Total
Total Water Use [Use Worksheet]	4,205
Total Supplies [Supply Worksheet]	4,205
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%
2023	
2023	Total
Total Water Use [Use Worksheet]	4,205
Total Supplies [Supply Worksheet]	4,205
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%
2024	
2024	Total
Total Water Use [Use Worksheet]	4,205
Total Supplies [Supply Worksheet]	4,205
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%
2025	
2025	Total
Total Water Use [Use Worksheet]	4,205
Total Supplies [Supply Worksheet]	4,205
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

CHAPTER 8

Water Shortage Contingency Plan

This chapter describes the City's WSCP, seismic risk to the City facilities, and WSCP adoption procedures. The WSCP establishes actions and procedures for managing water supply and water demand during water shortages. The WSCP's purpose is to minimize non-essential uses of water and conserve remaining supplies for the benefit of the public.

8.1 WATER SHORTAGE CONTINGENCY PLANNING BACKGROUND

A water shortage may occur due to a number of reasons, such as population growth, climate change, drought, and catastrophic events. Drought, regulatory action constraints, and natural and manmade disasters may occur at any time. A water shortage means that the water supply available is insufficient to meet the normally expected customer water use at a given point in time. A WSCP presents how an urban water supplier plans to act in response to an actual water shortage condition and helps prevent catastrophic service disruptions.

In 2018, the California State Legislature enacted two policy bills, (SB 606 (Hertzberg) and AB 1668 (Friedman)) (2018 Water Conservation Legislation), to establish a new foundation for long-term improvements in water conservation and drought planning to adapt to climate change and the resulting longer and more intense droughts in California. The 2018 Water Conservation Legislation set new requirements for water shortage contingency planning. The City's WSCP has been updated to be consistent with these requirements.

8.2 CITY WATER SHORTAGE CONTINGENCY PLAN

The City's WSCP is included in this UWMP as Appendix H. The WSCP describes the City's strategic plan in preparation for and in response to water shortages. The WSCP includes water shortage stages and associated shortage response actions that will be implemented in the event of a water supply shortage. As part of the WSCP, the City's legal authorities, communication protocols, compliance and enforcement, and monitoring and reporting are included. Turlock Municipal Code (TMC) Chapter 6-5 Water Code and Chapter 6-7 Water Conservation and Education supports the City's WSCP actions.

The City intends for its WSCP to be dynamic so that it may assess response action effectiveness and adapt to foreseeable and unforeseeable events. It may also be updated to conform to State legislative and regulatory requirements. The City's WSCP is included as Appendix H so that it may be updated outside of the UWMP preparation process.

When an update to the WSCP is proposed, the revised WSCP will undergo the process described in Section 8.4.

8.3 SEISMIC RISK ASSESSMENT AND MITIGATION PLAN

CWC §10632.5(a) requires that the UWMP include a seismic risk assessment and mitigation plan to assess and mitigate the vulnerability of the City's water system. Local Hazard Mitigation Plans (LHMP) may be incorporated in this UWMP to satisfy this requirement if the LHMP addresses seismic risk.

The Stanislaus County LHMP (County LHMP, updated in 2017) addressed seismic risk and is incorporated into this UWMP by reference. It identified risks posed by disasters (including earthquakes) and ways to



minimize damage from those disasters. The County LHMP was adopted by Stanislaus County on July 11, 2017 and submitted the Federal Emergency Management Agency (FEMA), which found it in conformance with Title 44 Code of Federal Regulations Part 201.6 Local Mitigation Plans. The County's LHMP is updated periodically. It can be found at www.stanoes.com and is incorporated into this UWMP by reference.

While California experiences hundreds of earthquakes each year, most are below 3.0 on the Richter Scale (i.e., magnitude 3.0) and cause minimal damage. The United States Geological Survey (USGS) roughly defines strong earthquakes (which can cause moderate damage to structures) as measuring greater than 5.0 on the Richter Scale, while major earthquakes measure more than 7.0 on the Richter Scale. Generally, in California, strong earthquakes occur every two to three years, and major earthquakes occur once a decade.

Seismic activity within Stanislaus County has been historically rare, but earthquakes still present a significant risk. As described in the County LHMP, there are no known active faults within the County, though inactive faults are found on the extreme eastern parts of the County and within the Diablo Range. Since 1930, only one earthquake with a magnitude greater than 4.0 has occurred in the County. Nevertheless, USGS estimates more than an 80 percent chance of a strong earthquake occurring within 50 kilometers (31 miles) of the County in the next 50 years. Shaking and aftershocks from nearby earthquakes could damage facilities within the County.

Section Six of the County LHMP identifies earthquake hazard mitigation activities that achieve stated hazard mitigation goals (e.g., minimize loss of life and reduce property damage) and objectives (e.g., continue critical business operations). Mitigation activities from the County LHMP potentially applicable to the City include the following:

- Conduct public outreach about earthquake risk and mitigation activities;
- Integrate LHMP priorities into Capital Improvement Plans and other planning activities; and
- Develop, adopt, maintain, and update a continuity of operations plan.

8.4 WATER SHORTAGE CONTINGENCY PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

The City's WSCP (Appendix H) is adopted concurrently with the City's 2020 UWMP, by separate resolution. Prior to adoption, a duly noticed public hearing was conducted. A hard copy of the WSCP will be submitted to DWR within 30 days of adoption, along with an electronic copy.

No later than 30 days after submittal to DWR, a copy of this WSCP will be available at the City's offices. A copy will also be provided to Stanislaus County. An electronic copy of the WSCP will also be available for public review and download on the City's website.

The City's WSCP is an adaptive management plan. It is subject to refinements as needed to ensure that the City's shortage response actions and mitigation strategies are effective and produce the desired results. When a revised WSCP is proposed, the revised WSCP will undergo the process described in this section for adoption by City Council and distribution to Stanislaus County, the City's customers, and the general public.



8.5 REFERENCES

Stanislaus County Office of Emergency Services (Stanislaus County OES). July 2017. *Local Hazard Mitigation Plan*.

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CHAPTER 9

Demand Management Measures

The City implements Demand Management Measures (DMMs) to increase water conservation thereby helping to sustainably manage its water resources. If not mitigated, an increase in water demand and/or changes in water supplies due to climate change and other factors reduce water reliability. The implementation of demand management measures can help improve water service reliability and help meet City and State water conservation goals.

This chapter describes the City's historical and existing water conservation program and status of the implementation of DMMs. The CWC requires that UWMPs include a comprehensive description of historical, current, and projected water conservation programs.

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

(1) (A) ... 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 measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

(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.

In previous UWMPs, a substantial amount of data was required to document a water supplier's progress in implementing fourteen specific DMMs. In 2014, Assembly Bill 2067 simplified, clarified, and updated reporting requirements for DMMs. Starting with the 2015 UWMP, focus has turned away from detailed descriptions of each of the fourteen DMMs and has turned to key water conservation measures that are being implemented to achieve compliance with SB X7-7. For retail agencies, the number of DMMs has been reduced from fourteen to six (plus an "other" category). A narrative description of the status of the DMMs and how the DMMs help the water supplier achieve its water efficiency goals are required. Detailed data are not required.

9.1 WATER CONSERVATION PROGRAM OVERVIEW

The City actively promotes water conservation through customer education and other DMMs described in the following sections. The City educates customers through outreach methods such as direct mail, web site alerts, social media outreach, messages on customer bills and school-based education programs that reinforce the need for customers and their families to take prompt action to reduce water use to conserve precious drinking water.



As described in this chapter, the City has an active and comprehensive conservation program that offers a full range of helpful programs for customers to reduce their water use.

9.2 EXISTING DEMAND MANAGEMENT MEASURES FOR RETAIL SUPPLIERS

In this section, the City describes the nature and extent of each demand management measure implemented over the past five years.

9.2.1 Water Waste Prevention Ordinances

Title 6, Chapter 7 of the Turlock Municipal Code (Appendix I), most recently amended by Ordinance Nos. 1209-CS (June 2015) and 1222-CS (May 2016) (Appendix I), contains a water wasting prohibition section that prohibits the wasteful use of water during normal water years. This section prohibits specific water wasting appurtenances (such as “once-through” cooling systems and “slip-n-slides”), general water waste, and requires proper maintenance of water pipes and fixtures to prevent leaks. This City Code is in line with the goals of the California Urban Water Conservation Council (CUWCC) MOU.

9.2.1.1 Implementation Over the Past Five Years

Table 9-1 lists the number of documented water waste violations recorded by the City from 2016 through 2020. As shown, there was a substantial increase in the number of recorded violations from 2016 to 2018, but a dramatic decrease in 2019 and 2020. Although there was a 15.1 percent increase in per capita water use from 2016 with 216 GCPD to 2020 with 249 GPCD, the recorded violations decreased due to the adherence to the water waste prevention ordinances.

	2016	2017	2018	2019	2020
Number of Violations	631	861	1,410	190	223

(a) Written warnings and notices to customers, excludes informal interactions.

For dry year conditions and other water supply shortages, the City has a Water Shortage Contingency Plan (Appendix H) that includes specific water use restrictions. The City’s Water Shortage Contingency Plan is further described in Chapter 8.

9.2.1.2 Implementation to Achieve Water Use Targets

Implementation of this DMM will continue to help the City achieve its water use targets by minimizing the nonessential uses of water to increase availability for human consumption, sanitation, and fire protection.

9.2.2 Metering

The City commenced meter-based billing for all its water accounts on January 1, 2011. In conjunction with a thorough public education campaign, the move to meter-based billing has resulted in a significant decrease in water consumption.



The installation of meters appears to have significantly modified customer behavior and is largely responsible for the 20 percent reduction in total City-wide water use from 2007 to 2011. The per capita water use, likewise, declined by 21.6 percent City-wide, 22.65 percent for single family residential and 7.54 percent for multi-family residential, between 2011 and 2015 as customers began receiving and responding to their commodity based monthly water bills.

In addition to motivating water use behavior change in ratepayers, the City’s metering program also provides detailed usage information that has helped customers use water more efficiently. For example, the Automatic Meter Reading (AMR) systems installed at schools, religious institutions, City parks and other large, landscaped areas provides near real-time water usage information, empowering the customers with large irrigated landscapes to maximize the efficiency of its watering schedule.

9.2.2.1 Implementation Over the Past Five Years

From 2016 to 2020, the per capita water use increased by 15.1 percent City-wide. However, the per capita water use values from the past five years, as shown in Table 9-2, were still well below the 2010 value of 284 GPCD before the meters were installed.

Table 9-2. Per Capita Water Use Over the Past Five Years					
	2016	2017	2018	2019	2020
Per Capita Water Use	216	225	223	225	249

9.2.2.2 Implementation to Achieve Water Use Targets

Implementation of this DMM will continue to help the City achieve its water use targets by providing accurate water use information to the customer and the City.

9.2.3 Conservation Pricing

Municipal Financial Services conducted a water rate and capacity charge study in January 2014. Based on that study, the City adopted rates that went into effect July 1, 2014, and increased every year on January 1st through 2019. In 2017, the City adopted another five-year water rate increase schedule that went into effect March 1st of 2018; where water rates would increase every January 1st. The final water rate increase of that schedule will take effect January 1, 2022. The City’s current water rates are included in Appendix J.

The current pricing structure is comprised of three components. The first is the commodity charge, which is the cost of the water supply. Customers are charged per 1,000 gallons of water based on the account type. This component of the pricing structure is what financially incentivizes customers to conserve. The second component of the pricing structure is the capacity charge. This charge accounts for the cost of the meter, operation and maintenance, as well as other facility costs. This charge is based on the meter size. The third component of the pricing structure is the customer charge, which accounts for the cost of mailing and processing bills along with other administrative costs. The customer charge is the same amount regardless of meter size or account type.

9.2.3.1 Implementation Over the Past Five Years

Since the implementation of these rates, water production has declined approximately 15 percent. Overall, with the installation of water meters and the conversion of all customers to meter-based billing, and the watering restrictions currently in place there has been approximately a 17 percent reduction in water use from 2008 to 2020.

9.2.3.2 Implementation to Achieve Water Use Targets

Implementation of this DMM will continue to help the City achieve its water use targets by ensuring water customers pay the true cost of water. Implementation of this DMM will also continue to help adequately fund water system operations and maintenance, including capital repair and replacement programs, and water conservation programs.

9.2.4 Public Education and Outreach

The City has an active public information and outreach program. This program consists of distributing information to the public through a variety of methods, such as utility billing publication inserts, press releases via radio and newspaper, school curriculum, educational flyers, commercials on television, social media outreach, and water conservation tips and videos on the City's webpage.

9.2.4.1 Implementation Over the Past Five Years

Since 2007, the City has implemented an aggressive and prominent environmental stewardship program known as "Go Green Week." The program is broad but focuses specifically on conservation education. Program components include water use efficiency and conservation, stormwater pollution prevention, recycling, composting, and sanitary sewer overflow prevention. The "Go Green" educational activities related to water conservation over the past nine years include, but are not limited to:

- Website information
- Utility bill inserts
- Press releases
- Print media campaigns/columns
- Local cable TV public information
- Booths at fairs/exhibitions
- Presentation to local service organizations and similar groups

The City's primary school-age public education campaign is the "Go Green Week" program, which engages students in activities that teach the importance of environmentally-responsible behavior. Currently in its thirteenth year, "Go Green Week" is coordinated each year with participating schools in Turlock. Through a partnership of City staff, teachers, administrators, community organizations, and volunteers, students learn about conservation and pollution prevention strategies such as recycling, composting, water conservation and waste reduction. City staff also conduct periodic classroom presentations on water conservation and other environmental issues, as well as provide student tours of the City's wastewater treatment facility.

9.2.4.2 Implementation to Achieve Water Use Targets

Implementation of this DMM will continue to help the City achieve its water use targets by educating water users about the importance of improving water use efficiency and avoiding water waste.

9.2.5 Programs to Assess and Manage Distribution System Real Loss

A water audit is a method of accounting water use throughout a water system to quantify unaccounted for water. Unaccounted for water is the difference between metered production and metered usage on a system-wide basis. With the implementation of meter-based billing for all water accounts, the City is better able to track water losses and unaccounted for water use.

9.2.5.1 Implementation Over the Past Five Years

As a member of the California Water Efficiency Partnership (CalWEP), the City uses AWWA's software to complete an annual Water Audits and Balance Analysis. A copy of the City's 2020 AWWA audit can be found in Appendix K.

In addition to the AWWA water audits, the City's loss prevention program involves leak detection and repair, focusing primarily on areas with a high probability for leakage. Due to the flat nature of the San Joaquin Valley and the shallow depth of the City's water mains, water leaks are detected fairly easily. Utility staff monitor for water leaks as part of their daily operations and respond to calls from customers concerned about potential leaks. Although the City does not perform "formal" pipeline inspections at regular intervals, these "spot check" inspections help contribute to approximately 100 leak repairs per year.

9.2.5.2 Implementation to Achieve Water Use Targets

Implementation of this DMM will continue to help the City achieve its water use targets by identifying sources of water loss quickly so repairs can be made and losses minimized.

9.2.6 Water Conservation Program Coordination and Staffing Support

In line with the CUWCC's MOU, the City has designated staff to actively develop, promote, enforce, and maintain water conservation programs. Currently, two full time employees allot a portion of their time to serve the duties of a Water Conservation Coordinator. These employees are responsible for implementing and monitoring the City's water conservation activities. Further, two twenty hour per week year-round employees assist the conservation coordinator by responding to water complaints, monitoring water waste, and checking for excess landscape water use.

9.2.6.1 Implementation Over the Past Five Years

The effectiveness of this DMM will be evaluated in conjunction with the success of the City's water conservation efforts as a whole. As the City grows and water resources become more limited and expensive, the water conservation programs will gain in importance. As the water conservation program grows, these duties will increase, and additional staffing may be necessary.

9.2.6.2 Implementation to Achieve Water Use Targets

Implementation of this DMM will continue to help the City achieve its water use targets by making implementation of the City's water conservation program a top priority.

9.2.7 Other Demand Management Measures

In addition to the six DMMs described above, the City also implements the following programs:

- Residential Water Survey Program
- Residential High-Efficiency Toilet Rebate Program
- High Efficiency Washing Machine Rebate Program
- Large Landscape Conservation Program
- Conservation for Commercial and Industrial Accounts

These programs are described below.

9.2.7.1 Residential Water Survey Program

The City began implementation of its residential water survey program in 2010. The program was developed by City staff based on training provided by the then CUWCC (now CalWEP) and consists of offering residential water survey kits to the City's customers. The survey kits allow customers to perform a home water audit, gauging how efficient they are with their water use. By performing the audit, the customer is able to identify areas of potential improvement, as well as identify potential leaks. Free water saving devices (low-flow shower heads and faucet aerators) are provided to customers who complete and submit a survey response form.

9.2.7.2 Residential WaterSense Toilet Rebate Program

This program provides incentives for residential customers to replace existing toilets with high efficiency models that meet the EPA's WaterSense specifications. The City offers a rebate of \$75 per toilet for the replacement of a 3.6 or greater gallons per flush (gpf) model with one that uses 1.28 gpf or less.

9.2.7.3 High-Efficiency Washing Machine Rebate Program

The City's Municipal Services Department offers a high-efficiency washing machine rebate program which provides financial incentives to qualifying customers who install high-efficiency washing machines in their homes. Rebates for the purchase of high-efficiency clothes washers are available for up to \$100 per washer. In addition to the City's rebate, the City's main electrical utility (TID) currently offers a \$35 rebate for customers who purchase a high-efficiency clothes washer (Energy Star compliant). These rebates can be combined for additional savings.

9.2.7.4 Large Landscape Conservation Program

Beginning in 2006, the City began monitoring water use of landscape and irrigation customers. This program was further enhanced by the installation of a fixed-based AMR system that allows the City to monitor water consumption on a daily basis. The City has worked with large landscape customers such as the Turlock Unified School District and a number of religious institutions to increase efficiency and reduce overall water use. The City has also installed meters and AMR devices at all City parks and City-owned landscaped areas to ensure efficient landscape irrigation.



9.2.7.5 Conservation for Commercial and Industrial Accounts

Compared to residential customers, the City’s commercial, institutional, and industrial (CII) customers have significant economic incentive to conserve water, as CII customers pay for both water and sewer services volumetrically (meter-based). The incentive to conserve is especially strong for those commercial and light industrial customers who do not have a separate landscape water meter, as their monthly sewer charge is based on their water meter reading (which in this case likely includes landscape irrigation water). Since the Regional Board required the City to convert its RWQCF to disinfected tertiary treatment, the City’s sewer utility rates are higher than the City’s water rates. High volumetric sewer utility rates make conservation appealing to CII facilities, because it reduces the use of metered water and therefore, reduces the volume of sewage.

The City’s Environmental Compliance Inspector (ECI) reviews CII water meter readings on a monthly basis, and conducts annual inspections of all significant industrial users. By analyzing meter data and production processes, the City’s ECI has been able to reduce water consumption for a variety of CII accounts.

9.3 MEMBERS OF THE CALIFORNIA WATER EFFICIENCY PARTNERSHIP

In 1991 (amended September 16, 1999), an MOU regarding urban water conservation in California was made to formalize an agreement between DWR, water agencies, environmental organizations, and other interested groups to implement Best Management Practices (BMPs) and make a cooperative effort to reduce the consumption of California’s water resources. Until 2018, this MOU was administered by the CUWCC. In 2018 the CUWCC was sunset and a new organization, CalWEP, was launched to carry forward the expertise and collaboration established by the CUWCC but with a new name and broader framework.

In August 2009, the City became a member of the CUWCC and in May 2011 submitted its first BMP annual report for 2009-2010 to the Council. The City maintained its membership with CUWCC and CalWEP until 2019. The City rejoined the CalWEP in 2021.

9.4 WATER USE OBJECTIVES (FUTURE REQUIREMENTS)

In 2018, the State Legislature enacted two policy bills, (SB 606 (Hertzberg) and AB 1668 (Friedman)), to establish long-term water conservation and drought planning to adapt to climate change and the associated longer and more intense droughts in California. These two policy bills build on SB X7-7 and set authorities and requirements for urban water use efficiency. The legislation sets standards for indoor residential use and requires DWR, in coordination with the State Water Board, to adopt efficiency standards for outdoor residential use, water losses, and CII outdoor landscape areas with dedicated irrigation meters by October 1, 2021. At the time of preparation of this UWMP, DWR and the State Water Board had not yet adopted water loss standards. Water loss standards for urban retail water suppliers are expected in 2021 along with new standards for indoor and outdoor residential water use. These standards will require urban water retailers to develop agency-wide water use objectives, provide annual reports and update their UWMP.

The State Legislature established indoor residential water use standards as 55 gpcd until January 2025, 52.5 gpcd from 2025 to 2029, and 50 gpcd in January 2030, or a greater standard recommended by DWR and the State Water Board. By June 30, 2022, the State Water Board is anticipated to adopt an outdoor residential use standard, a standard for CII outdoor landscape area with dedicated irrigation meters, and

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performance measures for CII water uses. At that time, the State Water Board will adopt guidelines and methodologies for calculating the water use objectives. In accordance with CWC §10609.20(c), the water use objective for urban water retailers will be based on the estimated efficient indoor and outdoor residential water use, efficient outdoor irrigation of CII landscaped areas, estimated water losses, and estimated water use for variances approved by the State Water Board aggregated across the population in its water service area.

By November 1, 2023, and November 1 of every year thereafter, the City will calculate its urban water use objective and actual water use and provide an annual report to the State. By January 1, 2024, the City will prepare an UWMP supplemental incorporating DMMs and other water efficiency standards that it plans to implement to achieve its water use objective by January 1, 2027.

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CHAPTER 10

Plan Adoption, Submittal, and Implementation

This chapter provides information regarding the notification, public hearing, adoption, and submittal of the City's 2020 UWMP. It also includes discussion on plan implementation and the process of amending the UWMP and the WSCP.

10.1 INCLUSION OF ALL 2020 DATA

Because 2020 is the final compliance year for SB X7-7, the 2020 UWMPs must contain data through the end of 2020. If the water supplier bases its accounting on a calendar year, the data must be through the end of the 2020 calendar year (December 2020).

As indicated in Section 2.4 of this plan, the City uses a calendar year for water supply and demand accounting, and; therefore this 2020 UWMP includes data through December 2020.

10.2 NOTICE OF PUBLIC HEARING

In accordance with the UWMP Act, the City must provide an opportunity for the public to provide input on this 2020 UWMP and WSCP update. The City must consider all public input prior to its adoption. There are two audiences to be notified for the public hearing; cities and counties, and the public.

10.2.1 Notices to Cities and Counties

The City provided greater than a 60-day notice regarding the preparation of its 2020 UWMP, including the WSCP, to cities and counties in its service area as discussed in Section 2.5 of this plan. In addition, the City provided notices to the following agencies:

- California State University, Stanislaus
- City of Ceres
- City of Hughson
- City of Modesto
- Denair Community Services District
- East Stanislaus Regional Water Management Partnership
- East Turlock Groundwater Sustainability Agency
- Eastside Water District
- Keyes Community Services District
- Merced County Public Works Department
- Merced Irrigation District
- Modesto Irrigation District
- North Valley Regional Recycled Water Program
- Stanislaus Regional Water Authority
- Turlock Groundwater Basin Association
- Turlock Irrigation District
- West Turlock Groundwater Sustainability Agency



The City coordinated the preparation of its UWMP internally, with Stanislaus County, and with the above listed agencies. The notices of preparation are included as Appendix D. Upon substantial completion of this 2020 UWMP, the City provided the agencies listed above, including internally within the City and Stanislaus County, notice of public hearing (Appendix D.)

Notifications to cities and counties in accordance with the UWMP Act, is summarized in Table 10-1.

Table 10-1. Notification to Cities and Counties (DWR Table 10-1 Retail)

City Name	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
City of Turlock	Yes	Yes
City of Ceres	Yes	Yes
City of Hughson	Yes	Yes
City of Modesto	Yes	Yes
County Name <i>Drop Down List</i>	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
Stanislaus County	Yes	Yes

10.2.2 Notice to the Public

The City issued a notice of public hearing to the public and provided a public review period following the notice, and prior to adoption, to allow ample time for public comments to be prepared and received.

A notice of public hearing was issued in accordance with Government Code Section 6066 and was published in the local newspaper (Turlock Journal) to notify all customers and local governments of the public hearing and availability of the UWMP and WSCP for review. In addition, the notice was posted on the City’s website, cityofturlock.org. A copy of the published Notice of Public Hearing is included in Appendix D.

10.3 PUBLIC HEARING AND ADOPTION

The City encouraged community participation in the development of this 2020 UWMP, including its WSCP, using public notices and web-based communication. The notice included time and place of hearing, as well as the location where the plan is available for public inspection.



The public hearing provided an opportunity for City water users and the general public to become familiar with the 2020 UWMP, and ask questions about its water supply, the City's continuing plans for providing a reliable, safe, high-quality water supply, and the plans to mitigate various potential water shortage conditions. Copies of the draft UWMP were made available for public inspection on the City website.

10.3.1 Public Hearing

A public hearing was held on **May 25, 2021**. As part of the public hearing, the City provided a report on the City's compliance with the Water Conservation Act of 2009. The report included information on the City's baseline, water use targets, compliance, and implementation, as discussed previously in Chapter 5 of this plan.

10.3.2 Adoption

Subsequent to the public hearing, this 2020 UWMP was adopted by the City Council on **May 25, 2021**. A **copy of the adopted resolution is included in Appendix L**.

10.4 PLAN SUBMITTAL

This 2020 UWMP will be submitted to DWR within 30 days of adoption and by July 1, 2021. The adopted 2020 UWMP, including the WSCP, will be submitted electronically to DWR using the Water User Efficiency (WUE) data submittal tool. A CD or hardcopy of the adopted 2020 UWMP and WSCP will also be submitted to the California State Library.

No later than 30 days after adoption, a copy of the adopted 2020 UWMP, including the WSCP, will be provided to the cities and counties to which the City provides water.

10.5 PUBLIC AVAILABILITY

No later than 30 days after submittal to DWR, copies of this Plan, including the adopted WSCP, will be available at the City's offices for public review during normal business hours. An electronic copy of this 2020 UWMP will also be available for review and download on the City's website.

10.6 AMENDING AN ADOPTED UWMP OR WATER SHORTAGE CONTINGENCY PLAN

The City may amend its 2020 UWMP and Water Shortage Contingency Plan jointly or separately. If the City amends one or both documents, the City will follow the notification, public hearing, adoption, and submittal process described in Sections 10.2 through 10.4 above. In addition to submitting amendments to DWR through the WUE data portal, copies of amendments or changes to the plans will be submitted to the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

Legislative Requirements

DRAFT



WATER CODE - WAT

DIVISION 6. CONSERVATION, DEVELOPMENT, AND UTILIZATION OF STATE WATER RESOURCES [10000 - 12999] (Heading of Division 6 amended by Stats. 1957, Ch. 1932.)

PART 2.55. SUSTAINABLE WATER USE AND DEMAND REDUCTION [10608 - 10609.42] (Part 2.55 added by Stats.2009, 7th Ex. Sess., Ch. 4, Sec. 1.)

CHAPTER 1. General Declarations and Policy [10608 - 10608.8] (Chapter 1 added by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1.)

10608.

The Legislature finds and declares all of the following:

- (a) Water is a public resource that the California Constitution protects against waste and unreasonable use.
- (b) Growing population, climate change, and the need to protect and grow California's economy while protecting and restoring our fish and wildlife habitats make it essential that the state manage its water resources as efficiently as possible.
- (c) Diverse regional water supply portfolios will increase water supply reliability and reduce dependence on the Delta.
- (d) Reduced water use through conservation provides significant energy and environmental benefits, and can help protect water quality, improve stream flows, and reduce greenhouse gas emissions.
- (e) The success of state and local water conservation programs to increase efficiency of water use is best determined on the basis of measurable outcomes related to water use or efficiency.
- (f) Improvements in technology and management practices offer the potential for increasing water efficiency in California over time, providing an essential water management tool to meet the need for water for urban, agricultural, and environmental uses.
- (g) The Governor has called for a 20 percent per capita reduction in urban water use statewide by 2020.
- (h) The factors used to formulate water use efficiency targets can vary significantly from location to location based on factors including weather, patterns of urban and suburban development, and past efforts to enhance water use efficiency.
- (i) Per capita water use is a valid measure of a water provider's efforts to reduce urban water use within its service area. However, per capita water use is less useful for measuring relative water use efficiency between different water providers. Differences in weather, historical patterns of urban and suburban development, and density of housing in a particular location need to be considered when assessing per capita water use as a measure of efficiency.

(Added by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1. (SB 7 7x) Effective February 3, 2010.)

10608.4

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

- (a) Require all water suppliers to increase the efficiency of use of this essential resource.
- (b) Establish a framework to meet the state targets for urban water conservation identified in this part and called for by the Governor.
- (c) Measure increased efficiency of urban water use on a per capita basis.
- (d) Establish a method or methods for urban retail water suppliers to determine targets for achieving increased water use efficiency by the year 2020, in accordance with the Governor's goal of a 20-percent reduction.
- (e) Establish consistent water use efficiency planning and implementation standards for urban water suppliers and agricultural water suppliers.
- (f) Promote urban water conservation standards that are consistent with the California Urban Water Conservation Council's adopted best management practices and the requirements for demand management in Section 10631.
- (g) Establish standards that recognize and provide credit to water suppliers that made substantial capital investments in urban water conservation since the drought of the early 1990s.
- (h) Recognize and account for the investment of urban retail water suppliers in providing recycled water for beneficial uses.
- (i) Require implementation of specified efficient water management practices for agricultural water suppliers.
- (j) Support the economic productivity of California's agricultural, commercial, and industrial sectors.
- (k) Advance regional water resources management.

(Added by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1. (SB 7 7x) Effective February 3, 2010.)



10608.8

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

(2) Because an urban agency is not required to meet its urban water use target until 2020 pursuant to subdivision

(a) of Section 10608.24, an urban retail water supplier's failure to meet those targets shall not establish a violation of law for purposes of any state administrative or judicial proceeding prior to January 1, 2021.

Nothing in this paragraph limits the use of data reported to the department or the board in litigation or an administrative proceeding. This paragraph shall become inoperative on January 1, 2021.

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

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

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

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

(Added by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1. (SB 7 7x) Effective February 3, 2010.)



DIVISION 6. CONSERVATION, DEVELOPMENT, AND UTILIZATION OF STATE WATER RESOURCES [10000 - 12999]
(*Heading of Division 6 amended by Stats. 1957, Ch. 1932.*)

PART 2.6. URBAN WATER MANAGEMENT PLANNING [10610 - 10657] (*Part 2.6 added by Stats. 1983, Ch. 1009, Sec..*)

CHAPTER 1. General Declaration and Policy [10610 - 10610.4] (*Chapter 1 added by Stats. 1983, Ch. 1009, Alec. 1.*)

[10610](#) This part shall be known and may be cited as the “Urban Water Management Planning Act.”

(*Added by Stats. 1983, Ch. 1009, Sec. 1.*)

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

(1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.

(2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.

(3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate, and increasing long-term water conservation among Californians, improving water use efficiency within the state's communities and agricultural production, and strengthening local and regional drought planning are critical to California's resilience to drought and climate change.

(4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years now and into the foreseeable future, and every urban water supplier should collaborate closely with local land-use authorities to ensure water demand forecasts are consistent with current land-use planning.

(5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.

(6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.

(7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.

(8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.

(9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.

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

(*Amended by Stats. 201B, Ch. 14, Sec. 18. (SB 606) Effective January 1, 201 9.*)

[10610.4](#) The Legislature finds and declares that it is the policy of the state as follows:

(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.



CHAPTER 2. Definitions [10611 - 10618] (Chapter 2 added by Stats. 1983, Ch. 1009, iec. 1.)

[10611.](#) Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

[10611.3](#) “Customer” means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

Added by renumbering Section 10612 by Stats. 2018, Ch. 14, Sec. 20. (SB 606) Effective January 1, 2019.)

[10611.5](#) “Demand management” means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

(Amended by Stats. 1995, Ch. 854, Sec. 3. Effective January 1, 1996.)

[10612](#) “Drought risk assessment” means a method that examines water shortage risks based on the driest five- year historic sequence for the agency’s water supply, as described in subdivision (b) of Section 10635.

(Added by Stats. 2018, Ch. 14, Sec. 21. (SB 606) Effective January 1, 2019.)

[10613.](#) “Efficient use” means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

(Added by Stats. 1983, Ch. 1009, Exec. 1.)

[10614.](#) “Person” means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

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

(Amended by Stats. 1995, Ch. 854, Sec. 4. Effective January 1, 1996.)

[10616.](#) “Public agency” means any board, commission, county, city and county, city, regional agency, district, or other public entity.

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

[10616.5](#) “Recycled water” means the reclamation and reuse of wastewater for beneficial use.

(Added by Stats. 1995, Ch. 854, Sec. 5. Effective January 1, 1996)

[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.

(Amended by Stats. 1996, Ch. 1023, Sec. 428. Effective January 29, 1996.)

[10617.5](#) “Water shortage contingency plan” means a document that incorporates the provisions detailed in subdivision (a) of Section 10632 and is subsequently adopted by an urban water supplier pursuant to this article.

(Added by Stats. 2018, Ch. 14, Sec. 22. (SB 606) Effective January 1, 2019)

[10618](#) “Water supply and demand assessment” means a method that looks at current year and one or more dry year supplies and demands for determining water shortage risks, as described in Section 10632.1.

(Added by Stats. 2018, Ch. 14, Sec. 23 (SB 606). Effective January 1, 2019)



CHAPTER 3. Urban Water Management Plans [10620 - 10645] (Chapter 3 added by Stabs. 1983, Ch. 1009, Sec. 1.)

ARTICLE 1. General Provisions [10620 - 1 0621] (Article 1 added by Stats. 1 983, Ch. 1009, Sec. 1.)

- [10620.](#) (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).
- (b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.
- (c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.
- (d) (l) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation, efficient water use, and improved local drought resilience.
- (2) Notwithstanding paragraph (1), each urban water supplier shall develop its own water shortage contingency plan, but an urban water supplier may incorporate, collaborate, and otherwise share information with other urban water suppliers or other governing entities participating in an areawide, regional, watershed, or basinwide urban water management plan, an agricultural management plan, or groundwater sustainability plan development.
- (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.
- (e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.
- (f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

(Amended by Stats. 2018, Ch. 14, Sec. 24. (SB 606) Effective January 1, 2019.)

- [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.
- (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 city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.
- (c) An urban water supplier regulated by the Public Utilities Commission shall include its most recent plan and water shortage contingency plan as part of the supplier's general rate case filings.
- (d) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640)
- (e) Each urban water supplier shall update and submit its 2015 plan to the department by July1, 2016



(f) Each urban water supplier shall update and submit its 2020 plan to the department by July 1,2021

(Amended by Stats. 2019, Ch. 239, Sec. 7. (AB 1414) Effective January 1, 2020.)



CHAPTER 3. Urban Water Management Plans [10620 - 10645] (Chapter 3 added by Stats. 1983, Ch. 1009, Sec. 1.)

ARTICLE 2. Contents of Plans [10630 - 10634] (Article 2 added by Stats. 1983, Ch. 1009, Sec. 1.)

[10630](#) It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied, while accounting for impacts from climate change.

(Amended by Stats. 2018, Ch. 14, Sec. 26. (SB 606) Effective January 1, 2019.)

[10630.5](#) Each plan shall include a simple lay description of how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency's strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency's plan.

(Added by Stats. 2018, Ch. 14, Sec. 27. (SB 606) Effective January 1, 2019.)

[10631](#) A plan shall be adopted in accordance with this chapter that shall do all of the following:

(a) Describe the service area of the supplier, including current and projected population, climate, and other social, economic, and demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available. The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

(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), providing supporting and related information, including all of the following:

(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.

(3) For any planned sources of water supply, a description of the measures that are being undertaken to acquire and develop those water supplies.

(4) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information:

The current version of any groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720), 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 for basins underlying the urban water supplier's service area.



(A) 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 a basin that has not been adjudicated, information as to whether the department has identified the basin as a high- or medium-priority basin 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 coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).

(B) 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.

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

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

(d) (I) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(J) Distribution system water loss.

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

(3) (A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34.

(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.

(C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

(4) (A) Water use projections, where available, shall 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.

(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.

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

(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.

(B) For the supplement required of urban retail water suppliers by paragraph (2) of subdivision (f) of Section 10621, a narrative that describes the water demand management measures that the supplier plans to implement to achieve its urban water use objective by January 1, 2027, pursuant to Chapter 9 (commencing with Section 10609) of Part 2.55.

(C) 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.

(2) For an urban wholesale water supplier, as defined in Section 10608.12, a narrative description of the items in clauses (ii), (iv), (vi), and (vii) of subparagraph (C) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs.

(f) 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 normal and single-dry water years and for a period of drought lasting five consecutive 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.

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



(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

(Amended by Stats. 2018, Ch. 14, Sec. 28. (SB 606) Effective January 1, 2019.)

[10631.1](#) (a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

(b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower income households will assist a supplier in complying with the requirement under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower income households.

(Added by Stats. 2005, Ch. 727, Sec. 2. Effective January 1, 2006.)

[10631.2.](#) (a) In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:

- (1) An estimate of the amount of energy used to extract or divert water supplies.
- (2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.
- (3) An estimate of the amount of energy used to treat water supplies.
- (4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.
- (5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.
- (6) An estimate of the amount of energy used to place water into or withdraw from storage.
- (7) Any other energy-related information the urban water supplier deems appropriate.

(b) The department shall include in its guidance for the preparation of urban water management plans a methodology for the voluntary calculation or estimation of the energy intensity of urban water systems. The department may consider studies and calculations conducted by the Public Utilities Commission in developing the methodology.

(c) The Legislature finds and declares that energy use is only one factor in water supply planning and shall not be considered independently of other factors.

(Amended by Stats. 2018, Ch. 14, Sec. 29. (SB 606a) Effective January 1, 2019.)

[10632](#) (a) Every urban water supplier shall prepare and adopt a water shortage contingency plan as part of its urban water management plan that consists of each of the following elements:

- (1) The analysis of water supply reliability conducted pursuant to Section 10635.
- (2) The procedures used in conducting an annual water supply and demand assessment



that include, at a minimum, both of the following:

(A) The written decision making process that an urban water supplier will use each year to determine its water supply reliability.

(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:

(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.

(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.

(iii) Existing infrastructure capabilities and plausible constraints.

(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.

(v) A description and quantification of each source of water supply.

(3) (A) Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.

(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage levels.

(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

(A) Locally appropriate supply augmentation actions. Locally appropriate demand reduction actions to adequately respond to shortages.

(B) Locally appropriate operational changes.

(C) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.

(D) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

(5) Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following:

(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.

(B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.

(C) Any other relevant communications.

(6) For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption



procedures for triggered shortage response actions as determined pursuant to Section 10632.2.

(7) (A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.

(B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1.

(C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

(8) A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:

(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

(9) For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

(10) Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

(b) For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

(c) The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.

(Repealed and added by Stats. 2018, Ch. 14, Sec. 32. (SB 606) Effective January 1, 2019.)

[10632.1](#) An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before June 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by June 1 of each year, whichever is later.

(Added by Stats. 2018, Ch. 14, Sec. 33. (SB 606) Effective January 1, 2019.)

[10632.2](#) An urban water supplier shall follow, where feasible and appropriate, the prescribed procedures and implement determined shortage response actions in its water shortage contingency plan, as identified in subdivision

(a) of Section 10632, or reasonable alternative actions, provided that descriptions of the alternative actions are submitted with the annual water shortage assessment report pursuant to Section



10632.1. Nothing in this section prohibits an urban water supplier from taking actions not specified in its water shortage contingency plan, if needed, without having to formally amend its urban water management plan or water shortage contingency plan.

(Added by Stats. 2018, Ch. 14, Sec. 34. (SB 606) Effective January 1, 2019.)

[10632.3](#) It is the intent of the Legislature that, upon proclamation by the Governor of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions, the board defer to implementation of locally adopted water shortage contingency plans to the extent practicable.

(Added by Stats. 2018, Ch. 14, Sec. 35. (SB 606) Effective January 1, 2019.)

[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.

(Added by Stats. 2015, Ch. 681, Sec. 1. (SB 664a Effective January 1, 2016.)

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

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

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

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

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

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

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



(Amended by Stats. 2009, Ch. 534, Sec. 2. (AB 1465) Effective January 1, 2010.)

[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.

(Added by Stats. 2001, Ch. 644, Sec. 3. Effective January 1, 2002.)



CHAPTER 3. Urban Water Management Plans [10620 - 10645] (Chapter 3 added by Stabs. 1983, Ch. 1009, Sec. 1.)

ARTICLE 2.5. Water Service Reliability [10635- 10635.] (Article 2.5 added by Stats. 1995, Ch. 854, Sec. 11.)

[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 long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

(b) 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.

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

(d) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

(e) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers

(Amended by Stats. 2018, Ch. 14, Sec. 36. (SB 606) Effective January 1, 2019.)



CHAPTER 3. Urban Water Management Plans [10620 - 10645] (Chapter 3 added by Stabs. 1983, Ch. 1009, Sec. 1.)

ARTICLE 3. Adoption and Implementation of Plans [1 0640 - 10645] Article 3 added by Stats. 1983, Ch. 1009, Sec. 1.)

[10640.](#) (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.

(Amended by Stats. 2018, Ch. 14, Sec. 37. (SB 606a Effective January 1, 20J 9.g

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

(Amended by Stats. 2018, Ch. 14, Sec. 38. (SB 606a Effective January 1, 20J 9.g

[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 both the plan and the water shortage contingency plan. Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the 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 a hearing to any city or county within which the supplier provides water supplies. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.

(Amended by Stats. 2018, Ch. 14, Sec. 39. (SB 606\$ Effective January 1, 70J 9.g

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

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

[10644](#) (a) (1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

(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.

(b) If an urban water supplier revises its water shortage contingency plan, the supplier shall submit to the department a copy of its water shortage contingency plan prepared pursuant to subdivision (a) of Section 10632 no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.

(c) (1) (A) Notwithstanding Section 10231.5 of the Government Code, the department shall prepare and submit to the Legislature, on or before July 1, in the years ending in seven and two, a report summarizing the status of the plans and water shortage contingency plans adopted pursuant to this part. The report prepared by the department shall identify the exemplary elements of the individual plans and water shortage contingency plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan and water shortage contingency plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans and water shortage contingency plans submitted pursuant to this part.

(B) The department shall prepare and submit to the board, on or before September 30 of each year, a report summarizing the submitted water supply and demand assessment results along with appropriate reported water shortage conditions and the regional and statewide analysis of water supply conditions developed by the department. As part of the report, the department shall provide a summary and, as appropriate, urban water supplier specific information regarding various shortage response actions implemented as a result of annual supplier-specific water supply and demand assessments performed pursuant to Section 10632.1.

(C) The department shall submit the report to the Legislature for the 2015 plans by July 1, 2017, and the report to the Legislature for the 2020 plans and water shortage contingency plans by July 1, 2022.

(2) A report to be submitted pursuant to subparagraph (A) of paragraph (1) shall be submitted in compliance with Section 9795 of the Government Code.

(d) The department shall make available to the public the standard the department will use to identify exemplary water demand management measures.

(Amended by Stats. 2018, Ch. 14, Sec. 40. (SB 606) Effective January 1, 2019.)

[10645.](#) (a) 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.

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

(Amended by Stats. 2018, Ch. 14, Sec. 41. (SB 606) Effective January 1, 2019.)



CHAPTER 4. Miscellaneous Provisions [1 0650 - 10657] (Chapter 4 added by :itats. 1 983, Ch. 1009, iec. 1.)

[10650](#) Any actions or proceedings, other than actions by the board, to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

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

(b) Any action or proceeding alleging that a plan or water shortage contingency plan, or action taken pursuant to either, does not comply with this part shall be commenced within 90 days after filing of the plan or water shortage contingency plan or an amendment to either pursuant to Section 10644 or the taking of that action.

(Amended by Stats. 2018, Ch. 14, Sec. 42. (SB 606) Effective January 1, 2019.)

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

(Amended by Stats. 2018, Ch. 14, Sec. 43. (SB 606) Effective January 1, 2019)

[10652](#) The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

(Amended by Stats. 1995, Ch. 854, Sec. 6. Effective January 1, 1996.)

[10653](#) The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the board and the Public Utilities Commission, for the preparation of water management plans, water shortage contingency plans, or conservation plans; provided, that if the board or the Public Utilities Commission requires additional information concerning water conservation, drought response measures, or financial conditions to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan that complies with analogous federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

(Amended by Stats. 2018, Ch. 14, Sec. 45. (SB 606) Effective January 1, 2019)

[10654](#) An urban water supplier may recover in its rates the costs incurred in preparing its urban water management plan, its drought risk assessment, its water supply and demand assessment, and its water shortage contingency plan and implementing the reasonable water conservation measures included in either of the plans.

(Amended by Stats. 2018, Ch. 14, Sec. 44. (SB 606) Effective January 1, 2019)

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



(Amended by Stats. 1983, Ch. 1009, Sec. 1)

[10656](#) An urban water supplier is not eligible for a water grant or loan awarded or administered by the state unless the urban water supplier complies with this part.

(Amended by Stats. 2018, Ch. 14, Sec. 46. (SB 606) Effective January 1, 2019)

[10657](#) The department may adopt regulations regarding the definitions of water, water use, and reporting periods, and may adopt any other regulations deemed necessary or desirable to implement this part. In developing regulations pursuant to this section, the department shall solicit broad public participation from stakeholders and other interested persons.

(Amended by Stats. 2018, Ch. 14, Sec. 47. (SB 606) Effective January 1, 2019)

DWR 2020 Urban Water Management Plan Tables

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 *
<i>Add additional rows as needed</i>			
CA5010019	City of Turlock	19,468	7,218
TOTAL		19,468	7,218
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES: Volumes are in MG. Total Volume supplied includes both potable and raw water supplies.			

Submittal Table 2-2: Plan Identification		
Select Only One	Type of Plan	Name of RUWMP or Regional Alliance <i>if applicable</i> (select from drop down list)
<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)	
NOTES:		

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
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.	
NOTES:	

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

Add additional rows as needed

Stanislaus Regional Water Authority

NOTES:

Submittal Table 3-1 Retail: Population - Current and Projected

Population Served	2020 ^(a)	2025 ^(b)	2030 ^(b)	2035 ^(b)	2040 ^(b)	2045 ^(opt) ^(b)
	74,297	77,700	81,259	84,981	88,873	92,944

NOTES:

(a) Source: Department of Finance.

(b) Future population growth was extrapolated based on a 0.90% growth rate calculated between the 2015 actual population (71,043) and 2020 actual population.

OPTIONAL Table 4-1 Retail: Demands for Potable Water - Actual			
Use Type	2020 Actual		
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	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume*
Add additional rows as needed			
Single Family		Drinking Water	2,964
Multi-Family		Drinking Water	715
Commercial		Drinking Water	430
Industrial		Drinking Water	1,504
Institutional/Governmental		Drinking Water	82
Landscape		Drinking Water	334
Other Potable	City Meters	Drinking Water	216
Other Potable	Unmetered water	Drinking Water	498
Other Potable	Flushing and City of Modesto accounts	Drinking Water	30
TOTAL			6,773
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES: Volumes are in MG.			

OPTIONAL Table 4-1 Retail: Demands for Non-Potable ¹ Water - Actual			
Use Type	2020 Actual		
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	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume ²
Add additional rows as needed			
Other Non-Potable	Park Wells	Raw Water	445
TOTAL			445
¹ Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4. ² Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES: Volumes are in MG.			

OPTIONAL Table 4-2 Retail: Use for Potable Water - Projected

Use Type	Additional Description (as needed)	Projected Water Use *				
		Report To the Extent that Records are Available				
<u>Drop down list</u> May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Single Family		3,114	3,257	3,406	3,562	3,725
Multi-Family		751	785	821	859	898
Commercial		451	472	493	516	540
Industrial		1,581	1,653	1,729	1,808	1,891
Institutional/Governmental		351	367	383	401	419
Landscape		86	90	94	98	102
Other Potable	City Meters	227	238	248	260	272
Other Potable	Unmetered Water	523	547	572	599	626
TOTAL		7,083	7,408	7,747	8,102	8,473
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES: Volumes are in MG.						

OPTIONAL Table 4-2 Retail: Use for Non-Potable¹ Water - Projected

Use Type	Additional Description (as needed)	Projected Water Use ²				
		Report To the Extent that Records are Available				
<u>Drop down list</u> May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Other	Parks Non-Potable Wells	149	149	149	149	
TOTAL		149	149	149	149	
¹ Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4. Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES: Volumes are in MG.						

OPTIONAL Table 4-3 Retail: Total Water Use (Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Potable Water <i>From Tables 4-1R and 4-2 R</i>	6,773	7,083	7,408	7,747	8,102	8,473
TOTAL WATER USE	6,773	7,083	7,408	7,747	8,102	8,473
NOTES: Volumes are in MG.						

OPTIONAL Table 4-3 Retail: Total Water Use (Non-Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Recycled Water Demand ¹ <i>From Table 6-4</i>	3,470	4,056	4,639	5,221	5,804	
Raw and Other Non-potable <i>From Tables 4-1R and 4-2 R</i>	445	149	149	149	149	
Optional Deduction of Recycled Water Put Into Long-Term Storage ²						
TOTAL WATER USE	3,915	4,205	4,788	5,370	5,953	
¹ Recycled water demand fields will be blank until Table 6-4 is complete ² Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier <i>may</i> deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.						
NOTES: Volumes are in MG.						

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting

Reporting Period Start Date (mm/yyyy)	Volume of Water Loss ^{1,2}
01/2016	687
01/2017	527
01/2018	327
01/2019	443
01/2020	451

¹ Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.

² **Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES: Volumes are in MG.

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

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

Submittal Table 5-1 Baselines and Targets Summary
From SB X7-7 Verification Form
Retail Supplier or Regional Alliance Only

Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	1997	2006	356	284
5 Year	2003	2007	352	

**All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)*

NOTES:

Submittal Table 5-2: 2020 Compliance
From SB X7-7 2020 Compliance Form
Retail Supplier or Regional Alliance Only

2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* <i>(Adjusted if applicable)</i>		
250	-	250	250	YES

**All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)*

NOTES: Volumes are in MG.

Submittal Table 6-1 Retail: Groundwater Volume Pumped						
<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> May use each category multiple times	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
<i>Add additional rows as needed</i>						
Alluvial Basin	Turlock Subbasin within the San Joaquin Valley Groundwater Basin	5,812	6,139	6,108	6,465	7,218
TOTAL		5,812	6,139	6,108	6,465	7,218
* <i>Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>						
NOTES: Volumes are in MG.						

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)</i> <i>Drop Down List</i>
City of Turlock	Metered	3,909	City of Turlock	Turlock Regional Water Quality Control Facility	Yes	No
Total Wastewater Collected from Service Area in 2020:		3,909				

** Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3 .*

NOTES: Volumes are in MG.
Wastewater generated outside the City's service area, including wastewater from Community Service Districts of Keyes and Denair and the City of Ceres, is treated within the City's service area.

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



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 (optional) ²	Method of Disposal <i>Drop down list</i>	Does This Plant Treat Wastewater Generated Outside the Service Area? <i>Drop down list</i>	Treatment Level <i>Drop down list</i>	2020 volumes ¹				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
Turlock Regional Water Quality Control Facility	Harding Drain Bypass Pipeline	San Joaquin River		River or creek outfall	Yes	Tertiary	4,245	776	298	3,172	0
Total							4,245	776	298	3,172	0

¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

² If the **Wastewater Discharge ID Number** is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at <https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility>

NOTES: Volumes are in MG.

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area										
<input type="checkbox"/> Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.										
Name of Supplier Producing (Treating) the Recycled Water:		Turlock Regional Water Quality Control Facility (RWQCF)								
Name of Supplier Operating the Recycled Water Distribution System:		City of Turlock								
Supplemental Water Added in 2020 (volume) <i>Include units</i>		None								
Source of 2020 Supplemental Water		N/A								
Beneficial Use Type <i>Insert additional rows if needed.</i>	Potential Beneficial Uses of Recycled Water (Describe)	Amount of Potential Uses of Recycled Water (Quantity) <i>Include volume units¹</i>	General Description of 2020 Uses	Level of Treatment <i>Drop down list</i>	2020 ¹	2025 ¹	2030 ¹	2035 ¹	2040 ¹	2045 ¹ (opt)
Agricultural irrigation	Transported by North Valley Regional Recycled Water Pipeline (NVRWP) for agricultural irrigation		Transported by NVRWP for agricultural irrigation	Tertiary	3,172	3,755	4,337	4,919	5,502	
Landscape irrigation (exc golf courses)	Irrigation at Pedretti Sports Fields		Irrigation at Pedretti Sports Fields	Tertiary	1	1	1	1	1	
Golf course irrigation										
Commercial use										
Industrial use										
Geothermal and other energy production	Walnut Energy		Walnut Energy	Tertiary	297	301	301	301	301	
Seawater intrusion barrier										
Recreational impoundment										
Wetlands or wildlife habitat										
Groundwater recharge (IPR)										
Reservoir water augmentation (IPR)										
Direct potable reuse										
Other (Description Required)	Recycled Water Filling Stations		Recycled Water Filling Stations	Tertiary	0	Varies	Varies	Varies	Varies	
Total:					3,470	4,056	4,639	5,221	5,804	
2020 Internal Reuse					0					
¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.										
NOTES: Volumes are in MG. The City began its recycled water filling station in 2018. The City has not set a limit on the amount of recycled water that can be trucked off-site other than 300 gallons per vehicle per trip. The City plans on conducting more outreach to promote the recycled water filling station program and, therefore, is not sure what volume of recycled water to assume will be needed for this program in future years.										

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual

Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.

Beneficial Use Type	2015 Projection for 2020 ¹	2020 Actual Use ¹
<i>Insert additional rows as needed.</i>		
Agricultural irrigation	0	3,172
Landscape irrigation (exc golf courses)	18	1
Golf course irrigation	0	0
Commercial use	0	0
Industrial use	0	0
Geothermal and other energy production	471	297
Seawater intrusion barrier	0	0
Recreational impoundment	0	0
Wetlands or wildlife habitat	0	0
Groundwater recharge (IPR)	0	0
Reservoir water augmentation (IPR)	0	0
Direct potable reuse	0	0
Other (Description Required)	Varies	0
Total	489	3,470

¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

NOTE: Volumes in MG.
The "Other" beneficial use type is the City's recycled water filling stations.

Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
<input 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.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
<i>Add additional rows as needed</i>			
Recycled Water to TID ^(a)	Agriculture Irrigation	2022	652
Total			652
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES: Volumes are in MG.			
(a) These actions will result in recycled water supplied to areas outside of the City's service area.			

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
<input type="checkbox"/>	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.					
<input type="checkbox"/>	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type <i>Drop Down List</i>	Expected Increase in Water Supply to Supplier* <i>This may be a range</i>
	<i>Drop Down List (y/n)</i>	<i>If Yes, Supplier Name</i>				
<i>Add additional rows as needed</i>						
Stanislaus Regional Surface Water Supply Project	Yes	Stanislaus Regional Water Authority		2023	All Year Types	3,650
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES: Volumes are in MG.						

OPTIONAL Table 6-8 Retail: Water Supplies — Actual Potable

Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Groundwater (not desalinated)	City's domestic supply wells	6,773	Drinking Water	
Total		6,773		0
<i>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>				
NOTES: Volumes are in MG.				

OPTIONAL Table 6-8 Retail: Water Supplies — Actual Non-Potable

Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Recycled Water		3,474	Recycled Water	
Other	Park Wells	445	Other Non-Potable Water	
Total		3,919		0
<i>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>				
NOTES: Volumes are in MG.				

OPTIONAL Table 6-9 Retail: Water Supplies — Projected Potable

Projected Water Supply * Report To the Extent Practicable											
Water Supply	Additional Detail on Water Supply	2025		2030		2035		2040		2045 (opt)	
		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)
Add additional rows as needed											
Groundwater (not desalinated)		7,232		7,557		7,896		8,251		8,473	
Surface water (not desalinated)		3,650		3,650		3,650		3,650		3,650	
Total		10,882	0	11,207	0	11,546	0	11,901	0	12,123	0
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.											
NOTES: Volumes are in MG.											

OPTIONAL Table 6-9 Retail: Water Supplies — Projected Non-Potable

Projected Water Supply* Report To the Extent Practicable											
Water Supply	Additional Detail on Water Supply	2025		2030		2035		2040		2045 (opt)	
		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)
Add additional rows as needed											
Recycled Water		4,056		4,639		5,221		5,804			
Other		149		149		149		149			
Total		4,205	0	4,788	0	5,370	0	5,953	0		
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.											
NOTES: Volumes are in MG.											

Enter Start Date for Reporting Period		1/1/2020	Urban Water Supplier Operational Control					
End Date		12/31/2020						
			Water Management Process					
			<input type="checkbox"/> Is upstream embedded in the values reported?					
			Extract and Divert	Place into Storage	Conveyance	Treatment	Distribution	Total Utility
Water Volume Units	Total Volume of Water Entering Process (volume units)		6773	0	0	0	6773	N/A
MG	Retail Potable Deliveries (%)		100%	0%	0%	0%	100%	
	Retail Non-Potable Deliveries (%)		0%	0%	0%	0%	0%	
	Wholesale Potable Deliveries (%)		0%	0%	0%	0%	0%	
	Wholesale Non-Potable Deliveries (%)		0%	0%	0%	0%	0%	
	Agricultural Deliveries (%)		0%	0%	0%	0%	0%	
	Environmental Deliveries (%)		0%	0%	0%	0%	0%	
	Other (%)		0%	0%	0%	0%	0%	
	Total Percentage [must equal 100%]		100%	0%	0%	0%	100%	N/A
	Energy Consumed (kWh)		10051244.07	0	0	0	670643.6	10721888
	Energy Intensity (kWh/volume units)		1484.0	0.0	0.0	0.0	99.0	1583.0
Water Delivery Type			Production Volume (volume units defined above)	Total Utility (kWh/volume)	Net Utility (kWh/volume)			
	Retail Potable Deliveries		6773	1583.0	0.0			
	Retail Non-Potable Deliveries		445	0.0	0.0			
	Wholesale Potable Deliveries		0	0.0	0.0			
	Wholesale Non-Potable Deliveries		0	0.0	0.0			
	Agricultural Deliveries		0	0.0	0.0			
	Environmental Deliveries		0	0.0	0.0			
	Other		0	0.0	0.0			
	All Water Delivery Types		7218	1485.4	0.0			
Quantity of Self-Generated Renewable Energy			0 kWh					
Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data)			Metered Data					
Data Quality Narrative:			The City's retail potable water energy bills start on 12/09/2019 and end on 12/09/2020. However, the total volume of water associated with the January to December 2020 time period is recorded from 1/1/2020 to 12/31/2020. The total utility of retail non-potable deliveries is shown as zero because the City does not keep track of the energy usage for the non-potable water facilities.					

Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)

Year Type	Base Year 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	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 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	2014	6,363	100%
Single-Dry Year	2016	5,380	85%
Consecutive Dry Years 1st Year	2015	5,562	87%
Consecutive Dry Years 2nd Year	2016	5,380	85%
Consecutive Dry Years 3rd Year	2017	6,026	95%
Consecutive Dry Years 4th Year	2018	5,979	94%
Consecutive Dry Years 5th Year	2019	6,080	96%

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.

***Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**

NOTES:

Volumes are in MG.

Volume available for average year reflects the 10-year average from 2011-2020. The actual water usage in 2014 was actually 6,565 MG but 2014 was the year with usage closest to the average.

In all year types, groundwater is assumed to be sufficient to supply all demand.

OPTIONAL Table 7-2 Retail: Normal Year Supply and Demand Comparison - Potable					
	2025	2030	2035	2040	2045 (Opt)
Supply totals (autofill from Table 6-9)	10,882	11,207	11,546	11,901	12,123
Demand totals (autofill from Table 4-3)	7,083	7,408	7,747	8,102	8,473
Difference	3,799	3,799	3,799	3,799	3,650
<p>NOTES: Volumes are in MG.</p> <p>In all year types, if potable demand cannot be met from Surface Water alone, it is assumed that groundwater will supply all remaining demand.</p> <p>The City expects 3,650 MG of surface water from the Stanislaus Regional Water Supply Project will be available by 2023.</p>					

OPTIONAL Table 7-2 Retail: Normal Year Supply and Demand Comparison - NonPotable					
	2025	2030	2035	2040	2045 (Opt)
Supply totals (autofill from Table 6-9)	4,205	4,788	5,370	5,953	
Demand totals (autofill from Table 4-3)	4,205	4,788	5,370	5,953	
Difference	0	0	0	0	
<p>NOTES: Volumes are in MG.</p>					

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

	2025	2030	2035	2040	2045 (Opt)
Supply totals*	10,882	11,207	11,546	11,901	12,123
Demand totals*	7,083	7,408	7,747	8,102	8,473
Difference	3,799	3,799	3,799	3,799	3,650

**Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES: Volumes are in MG.

In all year types, if potable demand cannot be met from Surface Water alone, it is assumed that groundwater will supply all remaining demand.

The City expects 3,650 MG of surface water from the Stanislaus Regional Water Supply Project will be available by 2023.

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

	2025	2030	2035	2040	2045 (Opt)
Supply totals*	4,205	4,788	5,370	5,953	
Demand totals*	4,205	4,788	5,370	5,953	
Difference	0	0	0	0	

**Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES: Volumes are in MG.

OPTIONAL Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison - Potable

		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	10,882	11,207	11,546	11,901	12,123
	Demand totals	7,083	7,408	7,747	8,102	8,473
	Difference	3,799	3,799	3,799	3,799	3,650
Second year	Supply totals	10,882	11,207	11,546	11,901	12,123
	Demand totals	7,083	7,408	7,747	8,102	8,473
	Difference	3,799	3,799	3,799	3,799	3,650
Third year	Supply totals	10,882	11,207	11,546	11,901	12,123
	Demand totals	7,083	7,408	7,747	8,102	8,473
	Difference	3,799	3,799	3,799	3,799	3,650
Fourth year	Supply totals	10,882	11,207	11,546	11,901	12,123
	Demand totals	7,083	7,408	7,747	8,102	8,473
	Difference	3,799	3,799	3,799	3,799	3,650
Fifth year	Supply totals	10,882	11,207	11,546	11,901	12,123
	Demand totals	7,083	7,408	7,747	8,102	8,473
	Difference	3,799	3,799	3,799	3,799	3,650

**Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES: Volumes are in MG.

In all year types, if potable demand cannot be met from Surface Water alone, it is assumed that groundwater will supply all remaining demand.

OPTIONAL Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison - Non-Potable

		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	4,205	4,788	5,370	5,953	
	Demand totals	4,205	4,788	5,370	5,953	
	Difference	0	0	0	0	
Second year	Supply totals	4,205	4,788	5,370	5,953	
	Demand totals	4,205	4,788	5,370	5,953	
	Difference	0	0	0	0	
Third year	Supply totals	4,205	4,788	5,370	5,953	
	Demand totals	4,205	4,788	5,370	5,953	
	Difference	0	0	0	0	
Fourth year	Supply totals	4,205	4,788	5,370	5,953	
	Demand totals	4,205	4,788	5,370	5,953	
	Difference	0	0	0	0	
Fifth year	Supply totals	4,205	4,788	5,370	5,953	
	Demand totals	4,205	4,788	5,370	5,953	
	Difference	0	0	0	0	

**Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES: Volumes are in MG.

2021		Total
Total Water Use		10,808
Total Supplies		11,288
Surplus/Shortfall w/o WSCP Action		480
Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit		
WSCP - use reduction savings benefit		
Revised Surplus/(shortfall)		480
Resulting % Use Reduction from WSCP action		0%
y		Total
Total Water Use		10,928
Total Supplies		11,288
Surplus/Shortfall w/o WSCP Action		360
Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit		
WSCP - use reduction savings benefit		
Revised Surplus/(shortfall)		360
Resulting % Use Reduction from WSCP action		0%
2023		Total
Total Water Use		11,048
Total Supplies		12,931
Surplus/Shortfall w/o WSCP Action		1,883
Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit		
WSCP - use reduction savings benefit		
Revised Surplus/(shortfall)		1,883
Resulting % Use Reduction from WSCP action		0%
2024		Total
Total Water Use		11,169
Total Supplies		14,208
Surplus/Shortfall w/o WSCP Action		3,040
Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit		
WSCP - use reduction savings benefit		
Revised Surplus/(shortfall)		3,040
Resulting % Use Reduction from WSCP action		0%
2025		Total
Total Water Use		11,289
Total Supplies		13,843
Surplus/Shortfall w/o WSCP Action		2,555
Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit		
WSCP - use reduction savings benefit		
Revised Surplus/(shortfall)		2,555
Resulting % Use Reduction from WSCP action		0%

**OPTIONAL Table 7-5 Five-year Drought Risk Assessment Tables to
a+G3:H52ddress Water Code Section 10635(b) - Non-Potable**

2021	Total
Total Water Use - Non-potable	4,205
Total Supplies	4,205
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2022	Total
Total Water Use [Use Worksheet]	4,205
Total Supplies [Supply Worksheet]	4,205
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2023	Total
Total Water Use [Use Worksheet]	4,205
Total Supplies [Supply Worksheet]	4,205
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2024	Total
Total Water Use [Use Worksheet]	4,205
Total Supplies [Supply Worksheet]	4,205
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2025	Total
Total Water Use [Use Worksheet]	4,205
Total Supplies [Supply Worksheet]	4,205
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

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>		
City of Turlock	Yes	Yes
City of Ceres	Yes	Yes
City of Hughson	Yes	Yes
City of Modesto	Yes	Yes
County Name <i>Drop Down List</i>	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
Stanislaus County	Yes	Yes
NOTES:		

DWR 2020 Urban Water Management Plan Checklist

DRAFT

Appendix C

UWMP Checklist



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	X	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	Executive Summary
X	X	Chapter 1	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. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	Executive Summary
X	X	Section 2.2	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
X	X	Section 2.6	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
X	X	Section 2.6.2	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 2.5.2
X		Section 2.6, Section 6.1	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
	X	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	N/A; City is not a Wholesale Supplier
X	X	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	Section 3.2
X	X	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3
X	X	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 3.4.1
X	X	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Section 3.4.2
X	X	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.3
X	X	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	Section 3.5

Appendix C

UWMP Checklist



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	X	Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2
X	X	Section 4.3	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	Section 4.3
X	X	Section 4.2.6	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.	System Water Use	Section 4.4
X	X	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	Section 4.2.3
X	optional	Section 4.3.2.4	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
X	optional	Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.4
X	X	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	Section 4.2.3.1 and 4.5
X		Chapter 5	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	Section 5.5 and 5.6
X		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Section 5.6
	X	Section 5.1	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	N/A; City is not a Wholesale Supplier
X		Section 5.2	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	N/A; City is not adjusting its compliance GPCD (Section 5.6)
X		Section 5.5	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 5.6
X		Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	Section 5.6
X	X	Sections 6.1 and 6.2	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 and Section 7.1.3

Appendix C UWMP Checklist



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	X	Sections 6.1	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, <i>including changes in supply due to climate change.</i>	System Supplies	Section 6.2, 6.2.10.1, 7.1.3
X	X	Section 6.1	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 6.2
X	X	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Section 6.2.1, 6.2.8, 6.2.9
X	X	Section 6.2.8	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 6.2.9
X	X	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2.2
X	X	Section 6.2.2	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 the plan or authorization.	System Supplies	Section 6.2.2.3 to 6.2.2.6
X	X	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Section 6.2.2.1
X	X	Section 6.2.2	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 6.2.2.2
X	X	Section 6.2.2.1	10631(b)(4)(B)	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.	System Supplies	Section 6.2.2.4
X	X	Section 6.2.2.4	10631(b)(4)(C)	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	System Supplies	Section 6.2.2.7
X	X	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Section 6.2.9
X	X	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.2.7
X	X	Section 6.2.5	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 6.2.5.2
X	X	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.2.5.3

Appendix C UWMP Checklist



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	X	Section 6.2.5	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 6.2.5.4
X	X	Section 6.2.5	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 6.2.5.4
X	X	Section 6.2.5	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 6.2.5.5
X	X	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.2.5.5
X	X	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.2.6
X	X	Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal methods.	System Supplies (Recycled Water)	Section 6.2.5.2
X	X	Section 6.2.8, Section 6.3.7	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 6.2.8
X	X	Section 6.4 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	Section 6.3
X	X	Section 7.2	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	Section 7.1.1
X	X	Section 7.2.4	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 7.3
X	X	Section 7.3	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive 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 7.1.3
X	X	Section 7.3	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 7.2

Appendix C UWMP Checklist



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	X	Section 7.3	10635(b)(1)	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.	Water Supply Reliability Assessment	Section 7.2.1
X	X	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	Section 7.1.3
X	X	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	Section 7.1.3.3
X	X	Section 7.3	10635(b)(4)	Include 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.	Water Supply Reliability Assessment	Section 7.1.1 and Section 6.2.10
X	X	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Section 8.2 and Appendix H
X	X	Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	Appendix H: Section 1.0
X	X	Section 8.10	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	Appendix H: Section 2.0 and Section 10
X	X	Section 8.2	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	Appendix H: Section 2.0
X	X	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	Appendix H: Section 2.0
X	X	Section 8.3	10632(a)(3)(A)	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.	Water Shortage Contingency Planning	Appendix H: Section 3.0
X	X	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	Appendix H: Section 3.0
X	X	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	Appendix H: Section 4.2

Appendix C UWMP Checklist



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	X	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Appendix H: Section 4.1
X	X	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Appendix H: Section 4.3
X	X	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	Appendix H: Section 4.1
X	X	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	Appendix H: Section 4.1
X	X	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Section 8.3 and Appendix I
X	X	Section 8.5	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	Appendix H: Section 5.0
X	X	Section 8.5 and 8.6	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	Appendix H: Section 5.0
X		Section 8.6	10632(a)(6)	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	Appendix H: Section 6.0
X	X	Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Appendix H: Section 7.0
X	X	Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency per Water Code Chapter 3.	Water Shortage Contingency Planning	Appendix H: Section 5.0
X	X	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	Appendix H: Section 5.1 and 7.0
X	X	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Appendix H: Section 8.0
X	X	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Appendix H: Section 8.0
X		Section 8.8	10632(a)(8)(C)	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought	Water Shortage Contingency Planning	Appendix H: Section 8.0

Appendix C UWMP Checklist



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X		Section 8.9	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	Appendix H: Section 9.0 and 10.1
X		Section 8.11	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	Appendix H: Section 11.0
X	X	Sections 8.12 and 10.4	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 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Appendix H: Section 12.0
X	X	Section 8.14	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 days after adoption of the plan.	Water Shortage Contingency Planning	Appendix H: Section 12.0
	X	Sections 9.1 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	N/A; City is not a Wholesale supplier
X		Sections 9.2 and 9.3	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. The description will address specific measures listed in code.	Demand Management Measures	Section 9.2
X		Chapter 10	10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	Section 10.3
X	X	Section 10.2.1	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. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	Section 10.2 and Appendix D
X	X	Section 10.4	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	Section 10.4
X	X	Sections 10.2.2, 10.3, and 10.5	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	Section 10.2.2 and Appendix D
X	X	Section 10.2.2	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 10.2.2
X	X	Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.2 and Appendix N

Appendix C UWMP Checklist



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	X	Section 10.4	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 10.4
X	X	Section 10.4	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 10.4
X	X	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Section 10.4
X	X	Section 10.5	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
X	X	Section 10.5	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
X	X	Section 10.6	10621(c)	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	N/A
X	X	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	Section 10.6

Agency and Public Notices

DRAFT

From: Danae Lawrence
Sent: Wednesday, January 27, 2021 8:43 AM
To: Danae Lawrence <DLawrence@turlock.ca.us>
Cc: Carl Brown <CBrown@turlock.ca.us>
Subject: City of Turlock 2020 Urban Water Management Plan

Good morning,

Please see attached a Notice of Preparation of a 2020 Urban Water Management Plan for the City of Turlock.

You are receiving this notice because you may be interested in this effort and/or represent urban areas served by the City of Turlock.

Thank you,

Danae Lawrence
Staff Services Technician

City of Turlock – Municipal Services
156 S. Broadway, Ste. 270
Turlock, CA 95380
209-668-5590, ext. 4424



CARL BROWN
UTILITIES MANAGER

MUNICIPAL SERVICES DEPARTMENT
CBROWN@TURLOCK.CA.US

156 S. BROADWAY, SUITE 270 | TURLOCK, CALIFORNIA 95380 | PHONE 209-668-5590 | FAX 209-668-5695 | TDD 1-800-735-2929

January 26, 2021

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To Whom it May Concern:

The City of Turlock (City) is currently in the process of updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water 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 to prepare and adopt an UWMP and periodically update that plan at least every five years. Further, changes to the Act since 2015 require updates to the City's WSCP. The City's 2015 UWMP was adopted in June 2016, and the City's 2020 UWMP is required to be submitted to the California Department of Water Resources by July 1, 2021.

The UWMP is a planning document and a source document which reports, describes and evaluates water deliveries and uses, water supply sources and conservation efforts. The WSCP provides a plan for response to various water supply shortage conditions. As an urban water supplier, the City coordinates with water management agencies, relevant public agencies and other water suppliers on the preparation of the UWMP and WSCP updates. The City will be reviewing the UWMP and WSCP and will make amendments and updates, as appropriate.

If you wish to contact the City about its review process, you may do so by writing to the undersigned or by email to CBrown@turlock.ca.us.

Sincerely,

Carl Brown
Utilities Manager, City of Turlock Municipal Services Department

Contacts	Emails	Name:	NOTES:
SRWA	granbergassociates@gmail.com	Robert Granberg	
East Stanislaus Integrated Regional Water Management	jalves@modestogov.com	Jim Alves	Associate Civil Engineer
North Valley Regional Recycled Water Program	ahansen@delpuertowd.org	Anthea Hansen	
Merced County	dhertfelder@co.merced.ca.us	Mr. Dana S. Hertfelder, P.E.	Director
TID	mareimers@TID.org	Michelle Reimers	General Manager
City of Modesto	joelopez@modestogov.com	Joseph Lopez	City Manager
City of Ceres	Tom.Westbrook@ci.ceres.ca.us	Tom Westbrook	City Manager & Economic Development Director
City of Hughson	mmayhew@hughson.org	Merry Mayhew	City Manager
Eastside Water District	tim-johnsonfarms@hotmail.com	Tim Johnson	Chairman
Denair CSD	jgomes@denaircsd.org	Jenny Gomes	Ron Allen retired, the new chairman wont be decided until their January meeting
Keyes CSD	egarza@keyescsd.org	Ernie Garza	
Stanislaus County Public Works Department	leamond@stancounty.com	David Leamon	
CSU Stanislaus	MMaffei@csustan.edu Facilities_Services@csustan.edu	Ms. Melody Maffei	Melody Maffei retired, forwarded email to given address
Turlock GBA	dcliebersbach@tid.org	Debbie Liebersbach	Chair
Merced ID	helital@mercedid.org	Hicham ElTal	Deputy General Manager, Water Supply/Rights
Modesto Irrigation District	john.davids@mid.org	John Davids	
City of Turlock	ghampton@turlock.ca.us	Gary R. Hampton	Acting City Manager
East and West Turlock GSA's	turlockgroundwater@gmail.com		

SB X7-7 Verification Form

DRAFT

SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)*

Million Gallons

**The unit of measure must be consistent with Submittal Table 2-3*

NOTES:

SB X7-7 Table-1: Baseline Period Ranges

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	8,489	Million Gallons
	2008 total volume of delivered recycled water	361	Million Gallons
	2008 recycled water as a percent of total deliveries	4%	See Note 1
	Number of years in baseline period ^{1,2}	10	Years
	Year beginning baseline period range	1997	
	Year ending baseline period range ³	2006	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range ⁴	2007	
<p>¹ If the 2008 recycled water delivery is less than 10 percent of total water deliveries, then the 10-15year baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater of total deliveries, the 10-15 year baseline period is a continuous 10- to 15-year period.</p>			
<p>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.</p>			
<p>³ The ending year for the 10-15 year baseline period must be between December 31, 2004 and December 31, 2010.</p>			
<p>⁴ The ending year for the 5 year baseline period must be between December 31, 2007 and December 31, 2010.</p>			
<p>NOTES:</p>			

SB X7-7 Table 2: Method for Population Estimates

Method Used to Determine Population (may check more than one)	
<input checked="" type="checkbox"/>	1. Department of Finance (DOF) or American Community Survey (ACS)
<input type="checkbox"/>	2. Persons-per-Connection Method
<input type="checkbox"/>	3. DWR Population Tool
<input type="checkbox"/>	4. Other DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: Service Area Population		
Year	Population	
10 to 15 Year Baseline Population		
Year 1	1997	51,254
Year 2	1998	52,227
Year 3	1999	53,635
Year 4	2000	55,811
Year 5	2001	58,061
Year 6	2002	59,846
Year 7	2003	61,439
Year 8	2004	63,242
Year 9	2005	65,301
Year 10	2006	65,674
<i>Year 11</i>		
<i>Year 12</i>		
<i>Year 13</i>		
<i>Year 14</i>		
<i>Year 15</i>		
5 Year Baseline Population		
Year 1	2003	61,439
Year 2	2004	63,242
Year 3	2005	65,301
Year 4	2006	65,674
Year 5	2007	66,784
NOTES: Populations are from the Department of Finance.		

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					Million Gallons
		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>	Annual Gross Water Use
10 to 15 Year Baseline - Gross Water Use							
Year 1	1997	6,852		-		-	6,852
Year 2	1998	6,179		-		-	6,179
Year 3	1999	6,930		-		-	6,930
Year 4	2000	7,464		-		-	7,464
Year 5	2001	7,489		-		-	7,489
Year 6	2002	8,184		-		-	8,184
Year 7	2003	8,186		-		-	8,186
Year 8	2004	8,299		-		-	8,299
Year 9	2005	8,293		-		-	8,293
Year 10	2006	8,255		-		-	8,255
Year 11	0	-		-		-	-
Year 12	0	-		-		-	-
Year 13	0	-		-		-	-
Year 14	0	-		-		-	-
Year 15	0	-		-		-	-
10 - 15 year baseline average gross water use							7,613
5 Year Baseline - Gross Water Use							
Year 1	2003	8,186		-		-	8,186
Year 2	2004	8,299		-		-	8,299
Year 3	2005	8,293		-		-	8,293
Year 4	2006	8,255		-		-	8,255
Year 5	2007	8,359		-		-	8,359
5 year baseline average gross water use							8,278
* Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.							
NOTES:							

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source Groundwater

This water source is:

- The supplier's own water source
 A purchased or imported source

Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System ¹	Meter Error Adjustment ² <i>Optional</i> (+/-)	Corrected Volume Entering Distribution System
--	--	--	--

10 to 15 Year Baseline - Water into Distribution System

Year 1	1997	6,852	6,852
Year 2	1998	6,179	6,179
Year 3	1999	6,930	6,930
Year 4	2000	7,464	7,464
Year 5	2001	7,489	7,489
Year 6	2002	8,184	8,184
Year 7	2003	8,186	8,186
Year 8	2004	8,299	8,299
Year 9	2005	8,293	8,293
Year 10	2006	8,255	8,255
Year 11	0		-
Year 12	0		-
Year 13	0		-
Year 14	0		-
Year 15	0		-

5 Year Baseline - Water into Distribution System

Year 1	2003	8,186	8,186
Year 2	2004	8,299	8,299
Year 3	2005	8,293	8,293
Year 4	2006	8,255	8,255
Year 5	2007	8,359	8,359

¹ **Units of measure** (AF, MG, or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.

² **Meter Error Adjustment** - See guidance in Methodology 1, Step 3 of Methodologies Document

NOTES: Although gross water use should include water entering the City's distribution system that is treated and untreated, the City did not start keeping records of non-potable park irrigation wells until 2008. Therefore, the 2020 volume number does not include the 445 Million Gallons of non-potable park irrigation water that was supplied in 2020 so that the comparison between 2020 and the 10 Year and 5 Year Baselines were most accurate.

SB X7-7 Table 5: Baseline 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	1997	51,254	6,852	366
Year 2	1998	52,227	6,179	324
Year 3	1999	53,635	6,930	354
Year 4	2000	55,811	7,464	366
Year 5	2001	58,061	7,489	353
Year 6	2002	59,846	8,184	375
Year 7	2003	61,439	8,186	365
Year 8	2004	63,242	8,299	360
Year 9	2005	65,301	8,293	348
Year 10	2006	65,674	8,255	344
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	
10-15 Year Average Baseline GPCD				356
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	2003	61,439	8,186	365
Year 2	2004	63,242	8,299	360
Year 3	2005	65,301	8,293	348
Year 4	2006	65,674	8,255	344
Year 5	2007	66,784	8,359	343
5 Year Average Baseline GPCD				352
NOTES:				

SB X7-7 Table 6: Baseline GPCD		<i>Summary</i>
<i>From Table SB X7-7 Table 5</i>		
10-15 Year Baseline GPCD		356
5 Year Baseline GPCD		352
NOTES:		

SB X7-7 Table 7: 2020 Target Method*Select Only One*

Target Method		Supporting Tables
<input checked="" type="checkbox"/>	Method 1	SB X7-7 Table 7A
<input type="checkbox"/>	Method 2	SB X7-7 Tables 7B, 7C, and 7D
<input type="checkbox"/>	Method 3	SB X7-7 Table 7-E
<input type="checkbox"/>	Method 4	Method 4 Calculator <i>Located in the WUE Data Portal at wuedata.water.ca.gov Resources button</i>

NOTES:

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

20% Reduction

10-15 Year Baseline GPCD	2020 Target GPCD
356	284
NOTES:	

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

5 Year Baseline GPCD From SB X7-7 Table 5	Maximum 2020 Target ¹	Calculated 2020 Target ²			Confirmed 2020 Target ⁴
		As calculated by supplier in this SB X7-7 Verification Form	Special Situations ³		
			Prorated 2020 Target	Population Weighted Average 2020 Target	
352	334	284			284

¹ **Maximum 2020 Target** is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD.

² **Calculated 2020 Target** is the target calculated by the Supplier based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target. Supplier may only enter one calculated target.

³ **Prorated targets and population weighted target** are allowed for special situations only. These situations are described in Appendix P, Section P.3

⁴ **Confirmed Target** is the lesser of the Calculated 2020 Target (C5, D5, or E5) or the Maximum 2020 Target (Cell B5)

NOTES:

TID SRWA Water Sales Agreement

DRAFT

**AMENDMENT NO. 1
TO TID/SRWA WATER SALES AGREEMENT**

THIS AMENDMENT TO AGREEMENT is made this April 16, 2020, between Turlock Irrigation District, a local government agency (**District**), and Stanislaus Regional Water Authority, a joint powers authority (**SRWA**), who agree as follows:

1. Recitals. The parties approve this Amendment with reference to the following background recitals:

1.1. On July 28, 2015, the parties entered into the Water Sales Agreement (the **Agreement**), which is on file in the District and SRWA offices.

1.2. The parties now desire to amend the Agreement to reflect changed circumstances and make other changes and clarifications. Capitalized terms in this Amendment shall have the same meanings as set forth in the Agreement.

2. Amendments to Agreement. The parties amend the Agreement as follows:

2.1. Section 1, subsection (b) is amended to read as follows:

(b) Closing Date - The date on which the Parties close escrow on the purchase and transfer of the treatment plant site pursuant to section 11(d).

2.2. Section 2, subsection (b) (CEQA) is amended by adding the following:

In 2018, after the 2015 approval of the Agreement, SRWA certified the Surface Water Supply Project Final Environmental Impact Report (**EIR**) for the Regional Surface Water Supply Project and approved the Project pursuant to the California Environmental Quality Act and CEQA Guidelines. The approval of this Amendment is consistent with and achieves the purposes as evaluated and approved in the 2018 EIR.

2.3. Section 2, subsections (c) and (d) are amended to read as follows:

(c) Water Rights. District submitted a water right petition to the State Water Resources Control Board (**SWRCB**) for a long-term transfer of a maximum of 17,375 acre feet of water per year of District's post-1914 water rights (SWRCB License 11058) and Water Code section 1735 et seq. to SRWA, to add the District Delivery Facilities as a point of diversion, and to add municipal and industrial as an authorized purpose of use. District will use commercially reasonable efforts to pursue and process the petition and SRWA will reasonably cooperate in District's request. District retains the sole discretion to (1) determine whether any terms and conditions that the SWRCB may impose pursuant to the change petition are acceptable, (2) and to determine whether Transfer Water will be delivered under the District's pre-1914 water rights, the District's post-1914 water rights, or some combination of both.

(d) SWRCB's Failure to Approve Section 2(c) Petition. In the event that District cannot obtain the SWRCB approval of the License 11058 water right change petition described in section 2(c) on terms and conditions acceptable to District in District's sole discretion, then District will deliver Transfer Water to SRWA under the District's pre-1914 water rights, the District's post-1914 water rights, or some combination of both..

2.4. Section 3, subsection (a) is amended to read as follows:

(a) Sale of Water. Subject to the delivery limitations, the Offset Water requirements, and other terms and conditions of this Agreement, District shall make continuously available to SRWA up to 30,000 acre feet of Transfer Water per year in accordance with section 4. District will make such Transfer Water available to SRWA within the scope of District's water rights as described in section 2(c).

2.5. Section 4, subsection (c) is amended to read as follows:

(c) Measurement of Water Delivered. SRWA will measure all water delivered to SRWA and all water diverted through the District Delivery Facilities but which are delivered to the Ceres Main Canal and not to the SRWA. SRWA will keep and maintain accurate and complete measurement records. SRWA will install, operate, and maintain water metering equipment that are reasonably acceptable to both Parties at all delivery points for water from the District Delivery Facilities to the SRWA and to the District's Ceres Main Canal. The meters shall be examined, tested and serviced regularly by the SRWA to maintain their accuracy in accordance with the meter manufacturer's written recommendations. The District may inspect the metering equipment and the measurement records during regular business hours upon reasonable notice. The SRWA will provide the District with instrumentation output signals for water flow rate and water pressure information at each meter. District retains the right to install reciprocal measuring devices that comply with the same standards and procedures set forth above. Disparities between District and SRWA measurements will be resolved pursuant to Section 12, Resolution of Differences, of this Agreement.

2.6. Section 4, subsection (h) (Curtailed of Delivery for Maintenance Purposes) is deleted.

2.7. Section 4, subsection (k) is amended to read as follows:

(k) The District will pay all reasonable costs associated with obtaining any and all approvals to use Recycled Water for irrigation purposes, whether or not such approvals are issued or obtained, including any attorney and filing fees. District shall obtain all permits necessary from the SWRCB Regional Water Quality Control Board, or any other federal, state, or local government agency with jurisdiction to use Recycled Water for irrigation purposes. SRWA agrees to provide assistance and all relevant and available information to the District for its uses in obtaining these permits. If the District cannot obtain all of the required approvals and permits on

terms and conditions acceptable to the District in the District's sole discretion by the time Transfer Water deliveries commence, SRWA will purchase the undelivered Recycled Water from the District in the same amount per acre foot that the City of Turlock receives for recycled water under the North Valley Regional Recycled Water Program until such approvals and permits are obtained.

2.8. Section 7, subsection (c) is amended to read as follows:

(c) Administration and Fees. District may elect to deliver water under this Agreement pursuant to one or both of the following:

(1) For the License 11058 water right supply option, SRWA will pay all costs associated with filing the water right change petition for and obtaining the long term water transfer from the SWRCB, whether or not the petition is successful. This includes attorney and filing fees, and any costs associated with implementing the water transfer. District will issue monthly billing statements for these costs as they accrue. Payment will be due and payable within thirty (30) days of issuance by the District.

(2) If pre-1914 water is transferred, SRWA will reimburse District for all liabilities and costs, including attorneys' fees, associated with delivering the pre-1914 rights under this Agreement, and defending any claims or challenges to the use of those water rights for purposes of this Agreement, including, but not limited to, any challenge under Water Code sections 1702, 1706, 1725 or stream adjudication. District will issue monthly billing statements for these costs as they accrue. Payment will be due and payable within thirty (30) days of issuance by the District.

2.9. Section 7, subsection (f) is amended to read as follows:

(f) Use of District Delivery Facilities; Cost Sharing. The Parties recognize and agree that the District Delivery Facilities will be used for the following purposes: (1) to divert and deliver the Transfer Water to the SRWA, (2) to divert and deliver water for District agricultural uses, or (3) to divert and deliver water for District agricultural uses if water was ordered by the SRWA pursuant to the Delivery Schedule but cannot be used by the SRWA after the water is released at La Grange Dam because of an emergency or operational problem at the water treatment plant or in the Project's treated water transmission system. Uses (1) and (3) shall cumulatively be called "**SRWA Water Use.**" Use (2) shall be called "**District Water Use.**" Upon SRWA's completion of construction of the District Delivery Facilities, the water diverted and delivered through the District Delivery Facilities will be used initially in the SRWA member agency public water systems and other community water systems within District boundaries that may become SRWA wholesale treated water customers.

Because SRWA initially will have sole use of the District Delivery Facilities, the SRWA shall operate, maintain, and, as necessary, repair and replace the District Delivery Facilities, and pay for 100% of the costs described in subsection (e) (the "**Operating and Maintenance Costs**") until such time that District commences regular District Water Use and there is dual use of the District Delivery Facilities by

both Parties. Once dual use of the District Delivery Facilities has begun, the SRWA's annual share and payment of the Operation and Maintenance Costs shall be calculated as follows: In acre feet, SRWA Water Use divided by the sum of SRWA Water Use and District Water Use pumped through the pump station during the Year with the resulting quotient expressed as a percentage. The total annual Operation and Maintenance Costs shall be multiplied by the resulting quotient expressed as a percentage. The product shall be the percentage share of annual Operation and Maintenance Costs payable by the SRWA. SRWA shall invoice District for the remaining percentage share of Operation and Maintenance Costs for District Water Use and District will pay any such invoice to SRWA pursuant to the budget and billing provisions set forth below. SRWA shall begin implementing the budget, billing, and collection procedures in subsection (g) when and after District commences regular District Water Use and there is dual use of the District Delivery Facilities by both Parties and shared Operation and Maintenance Costs.

2.10. Section 9, subsection (a) is amended to read as follows:

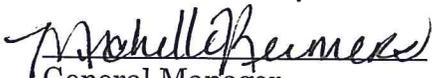
(a) Rate Sufficiency Covenant. SRWA covenants and agrees to bill and collect payments from the SRWA member agencies for the water provided to the Project sufficient to provide revenues adequate to meet its obligations under this Agreement.

2.11. Section 11, subsection (d) is amended to read as follows:

(d) Ownership of Real Property. District agrees to sell the treatment plant site, subject to a reservation of such easements for the District's pipelines to the treatment plant from the pump station and from the treatment plant to the Ceres Main Canal, to the SRWA at a sales price of \$1,436,674.00 payable to the District. Upon execution of Amendment No. 1 to the TID/SRWA Water Sales Agreement by both Parties, the Parties shall proceed expeditiously to open escrow with a mutually acceptable title company and to process and close escrow on the purchase and transfer of the site. The Parties agree that should the treatment plant not be completed by 2028, the District will have the option to require SRWA to reconvey the treatment plant site to the District at the sales price of \$1,436,674.00. A legal description and parcel map of the treatment plant site is attached hereto as Exhibit "A" and incorporated herein by reference. SRWA will acquire such additional lands and/or easements to complete, operate and maintain the treatment plant and treated water delivery pipelines and facilities.

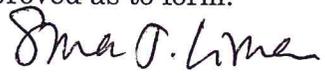
3. No Effect on Other Provisions. Except for the amendments in Section 2, the remaining provisions of the Agreement are unaffected and remain in full force and effect.

TURLOCK IRRIGATION DISTRICT

By: 
General Manager

Attest:

Secretary

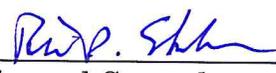
Approved as to form:

General Counsel

STANISLAUS REGIONAL WATER AUTHORITY

By: 
General Manager

Attest:

Secretary

Approved as to form:

General Counsel

West Turlock GSA and East Turlock GSA
Memorandum of Understanding

DRAFT

MEMORANDUM OF AGREEMENT
BETWEEN THE WEST TURLOCK SUBBASIN GROUNDWATER SUSTAINABILITY
AGENCY AND THE EAST TURLOCK SUBBASIN GROUNDWATER
SUSTAINABILITY AGENCY

THIS AGREEMENT is entered into and effective this 14th day of December, 2017 (“**Effective Date**”), by and among the West Turlock Subbasin Groundwater Sustainability Agency (“**WTS GSA**”) and the East Turlock Subbasin Groundwater Sustainability Agency (“**ETS GSA**”) (collectively “**Parties**” or individually a “**Party**”).

RECITALS

A. On August 29, 2014, the California Legislature passed comprehensive groundwater legislation contained in SB 1168, SB 1319 and AB 1739. Collectively, those bills, as subsequently amended, enacted the “Sustainable Groundwater Management Act” (“**SGMA**”). Governor Brown signed the legislation on September 16, 2014 and it became effective on January 1, 2015.

B. Each of the Parties overlies the San Joaquin Valley Groundwater Basin, Turlock Subbasin, California Department of Water Resources (“**DWR**”) Basin No. 5-22.03 as its boundaries may be modified from time to time in accordance with Water Code Section 10722.2 (the “**Basin**”).

C. The WTS GSA elected to manage the groundwater over the boundaries of its members and act as the Groundwater Sustainability Agency (“**GSA**”) pursuant to SGMA with the DWR on or about March 27, 2017.

D. The ETS GSA elected to manage the groundwater over the boundaries of its members and act as the GSA pursuant to SGMA with the DWR on or about April 3, 2017.

E. The members of the WTS GSA and ETS GSA have previously collaborated on groundwater management through membership in the Turlock Groundwater Basin Association.

F. The Parties desire, through this Agreement, to coordinate the work of the GSAs and the management of the Basin, in accordance with SGMA.

G. The Parties plan to review this Agreement and the provisions therein after a joint GSP has been developed or in 2022, whichever occurs earlier.

THEREFORE, in consideration of the mutual promises, covenants and conditions herein set forth, the Parties agree as follows:

ARTICLE 1: DEFINITIONS

1.1 **Definitions.** As used in this Agreement, unless the context requires otherwise, the meaning of the terms hereinafter set forth shall be as follows:

- a. **“Agreement”** shall mean this Agreement between the WTS GSA and the ETS GSA.
- b. **“Basin”** shall mean Turlock Groundwater Subbasin, California Department of Water Resources Basin No. 5-22.03 as its boundaries may be modified from time to time in accordance with Water Code Section 10722.2.
- c. **“Basin-Wide Activities”** shall mean those activities or actions that affect the Basin as a whole, or are otherwise required by SGMA to be determined as the Basin level.
- d. **“Coordination Agreement”** shall mean a legal agreement adopted between two or more GSAs that provides the basis for intra-basin coordination for more than one groundwater sustainability plan (“GSP”) within a single basin.
- e. **“DWR”** shall mean the California Department of Water Resources.
- f. **“Effective Date”** shall be as set forth in the Preamble.
- g. **“Groundwater Sustainability Agency”** or **“GSA”** shall mean an agency enabled by SGMA to regulate a portion of the Basin cooperatively with all other Groundwater Sustainability Agencies in the Basin, in compliance with the terms and provisions of SGMA.
- h. **“Groundwater Sustainability Plan”** or **“GSP”** shall mean a plan of a Groundwater Sustainability Agency adopted pursuant to SGMA.
- i. **“Joint TAC”** shall mean a meeting of the technical advisory committees of both of the Parties.
- j. **“Management Area”** shall mean the area within the boundaries of a GSP that are managed separately or differently than the remainder of the GSP for the Basin.
- k. **“Members”** shall mean the member agencies of each of the Parties’ Joint Powers Agreements.
- l. **“Parties”** shall mean any of the signatories to this Agreement.
- m. **“Project Agreement”** shall mean a separate Agreement amongst and between the Parties for a specific project, whose purpose, terms, or financial contributions are different than those set forth in this Agreement.
- n. **“SGMA”** shall mean the Sustainable Groundwater Management Act of 2014 and all regulations adopted under the legislation (SB 1168, SB 1319 and AB 1739) that

collectively comprise the Act, as that legislation and those regulations may be amended from time to time.

ARTICLE 2: KEY PRINCIPLES

2.1 The Parties intend to work together in mutual cooperation to develop a GSP in compliance with SGMA, for the sustainable management of groundwater for the portion of the Basin underlying the boundaries of each of the Parties.

2.2 The Parties intend to mutually cooperate to the extent possible to jointly implement the GSP within the Basin.

2.3 To the extent the Parties are not able to collaborate on a single GSP, each Party reserves the right to develop a GSP for the portion of the Basin the GSA is authorized to manage. To the extent it is not possible to jointly implement the GSP within the Basin, the Parties reserve the right to implement the GSP within its boundaries, and work with all Parties to coordinate such implementation in accordance with the requirements of SGMA.

2.4 The Parties expressly intend that this Agreement shall not limit or interfere with the respective Parties' rights and authorities over their own internal matters, including, but not limited to, a Party's legal rights to surface water supplies and assets, groundwater supplies and assets, facilities, operations, water management and water supply matters. The Parties make no commitments by entering into this Agreement to share or otherwise contribute their water supply assets as part of the development or implementation of a GSP.

2.5 Nothing in this Agreement is intended to modify or limit a Party's police powers, land use authorities, or any other authority.

2.6 The Parties further intend through this Agreement to collaborate in obtaining consulting, administrative and management services needed to efficiently and effectively develop a GSP, to conduct outreach to other Basin agencies and private parties, and to identify mechanisms for the management and funding commitments reasonably anticipated to be necessary for the purposes of this Agreement.

2.7 The Parties acknowledge and agree that SGMA is a new, complex and evolving legislation, with implementing regulations continuing to be developed by DWR. While this Agreement reflects the Parties' initial approach to SGMA compliance, a great deal of data needed for implementation is unknown, and necessary models are still in development. The Parties may experience changes in political boundaries, gain experience in the application of SGMA, or discover other considerations that may affect the decision of Parties on how to best comply with SGMA within each of their own boundaries and/or Management Area boundaries. DWR has acknowledged the need for entities to be able to change their decisions about participating in or becoming a GSA, and it is the intent of the Parties to support flexibility in admitting additional Parties, accommodating voluntary withdrawals, coordinating with other multi-agency or individual GSAs, changing the form of their organizational documents, for example, or creating an independent agency through a Joint Powers Agreement, and making other types of adjustments required by the Parties to achieve efficient compliance with SGMA,

consistent with the schedule and requirements of SGMA for coordination throughout the Basin and the provisions of this Agreement.

2.8 Each of the Parties acknowledges that SGMA requires that multiple GSAs within a Bulletin 118 groundwater basin designated as high- or medium-priority must coordinate, use the same data and consistent methodologies for certain required technical assumptions when developing a GSP, and the entire basin must be managed under one or more GSPs.

ARTICLE 3: FORMATION, PURPOSE AND POWERS

3.1 **Recitals:** The foregoing recitals are incorporated by reference.

3.2 **Certification.** Each of the Parties certifies and declares that it is a public agency (as defined in Government Code Section 6500 *et seq.*) that is authorized to be a GSA and manage groundwater for the portion of the Basin for which its members overlie.

3.3 **Purpose of the Agreement.** The purposes of this Agreement are to:

- a. Cooperatively carry out the purposes, goals and objectives of SGMA;
- b. Provide for coordination amongst and between the Parties to develop and implement a GSP and/or facilitate a Coordination Agreement, to the extent necessary for SGMA compliance;
- c. Develop, adopt and implement a legally sufficient GSP in compliance with SGMA covering those portions of the Basin that are within the jurisdictional boundaries of the Parties, subject to the limitations set forth in this Agreement; and
- d. Satisfy the requirements of SGMA for coordination among the WTS GSA and the ETS GSA.

3.4 **Authority Under the Agreement.** To the extent authorized by the Parties, subject to the limitations set forth in this Agreement and the limitations of all applicable laws, the Parties acting collectively shall have the following authority including, but not limited to the power to:

- a. Coordinate the implementation of SGMA among the Parties in accordance with this Agreement;
- b. Recommend the adoption of actions, rules, regulations, policies, and procedures related to the coordination of the Parties for purposes of implementation of SGMA;
- c. Perform all acts necessary or proper to carry out fully the purposes of this Agreement and to exercise all other powers necessary and incidental to the implementation of the powers set forth herein.

3.5 **Powers Reserved to Parties.** Each of the Parties will have the sole and absolute right, in its sole discretion, to:

- a. Act as a GSA within its boundaries or the Management Area managed in whole or in part by such Parties;
- b. Approve any portion, section or chapter of the GSP developed pursuant to this Agreement;
- c. Exercise authorities granted to each of the Parties as a GSA under SGMA;
- d. Exercise authority to implement SGMA and any GSP adopted pursuant to this Agreement;
- e. Defend any challenge to the adoption or implementation of a GSP developed pursuant to this Agreement; and
- f. Notwithstanding anything to the contrary in this Agreement, this Agreement does not provide any Parties the authority to undertake any activities within the geographic or service area boundaries of any other Parties pursuant to the GSP developed or adopted hereunder, unless the Parties have formally and expressly consented and agreed in writing to the activity proposed.

3.6 **Term.** This Agreement shall be effective as of the Effective Date and shall remain in effect until terminated in accordance with Article 7.4 of this Agreement.

3.7 **Role of Party Members.** Each of the Parties agrees to undertake such additional proceedings or actions as may be necessary in order to carry out the terms and intent of this Agreement, including the support of its Members, to participate in this Agreement. This support will involve the following types of actions:

- a. The Parties will provide support to the Joint TAC and any third party facilitating the development of the GSP by making available staff time, information and facilities within available resources.
- b. Policy support shall be provided by the Parties to either approve, or respond quickly to, any recommendations made as to funding shares, operational decisions, fare structures, and other policy areas.
- c. Each of the Parties may contribute public resources including but not limited to personnel, services, equipment or property to facilitate this Agreement. Such in-kind resource support is made in order to facilitate this Agreement and comply with SGMA; without a separate Project Agreement, the contributions shall not be made with the expectation of reimbursement from other Parties.

3.8 **Other Officers and Employees.** To the extent the Parties need support from employees, officers, consultants or otherwise need to hire employees, the Parties may do the following:

- a. Provide that any employee of the Parties, or the Parties' respective Members, with the express approval of the Parties, may work on behalf of the Parties under this

Agreement, and shall perform the same various duties under the direction of the Joint TAC as for his or her other employer in order to carry out this Agreement. This work may be completed and funded under the existing employment with the Parties or each of their Members. In the alternative, the Joint TAC may recommend that work performed by employees of the Parties or Members of the Parties be reimbursed by the Parties. Such recommendation shall include the scope of activities and the recommended reimbursement structure.

b. With the consent of the Parties, per Article 3.7, the Parties may independently contract or hire consultants and/or employees to perform work under this Agreement. Under this arrangement, the hiring or contracting Parties must present the contract to the Joint TAC for review and approval. Further, the contract must include appropriate indemnity, insurance, and non-disclosures to protect all Parties.

ARTICLE 4: GOVERNANCE

4.1 **Joint Technical Advisory Committee.** Activities under this Agreement will be guided by the appointed technical advisory committees of each Party (“Joint TAC”). The Joint TAC shall work collaboratively under this Agreement to develop recommendations for the technical and substantive Basin-wide issues. Recommendations from the Joint TAC that require approval or action of the Parties shall be provided to each Parties’ respective governing boards for adoption, approval, or other recommended action. The Joint TAC shall be responsible, but not be limited to, the following actions:

- a. Develop budget(s) for any project or program that requires funding from the Parties;
- b. Draft reports or options with regard to decisions related to the levying of taxes, assessments or property-related fees and charges;
- c. Propose guidance and options for obtaining grant funding;
- d. Recommend the adoption of rules, regulations, policies, and procedures related to the Agreement;
- e. Recommend the approval of contracts with consultants or subcontractors that would undertake work on behalf of the Parties pursuant to this Agreement;
- f. Update each Party’s respective governing boards on specific issues, including the development of the GSP, when appropriate or requested;
- g. Advise the Parties when the convening of an Ad Hoc committee is needed to resolve an impasse or inability to make a consensus recommendation;
- h. Conduct outreach with stakeholder groups;
- i. Participate and guide the development of GSP and materials in support thereof;

- j. Recommend action and/or approval of a GSP.

4.2 **Meetings.** The Joint TAC shall provide for regular and special meetings in accordance with Chapter 9, Division 2, Title 5 of Government Code of the State of California (the “Ralph M. Brown Act” commencing at Section 54950), and any subsequent amendments of those provisions.

4.3 **Advisory Committees.** The Joint TAC may establish other advisory committees, technical committees or other committees for any purpose, including but not limited to the GSP purposes in Water Code Section 10727.8.

4.4 **Impasse Resolution.** To the extent the Joint TAC is unable to make a consensus-based recommendation on an issue for which their respective governing boards need to make a decision, the Joint TAC may convene an Ad Hoc committee comprised of the Parties’ governing board members in an attempt to resolve the impasse.

ARTICLE 5: INFORMATION AND DATA SHARING

5.1 **Exchange of Information.** The Parties acknowledge and recognize pursuant to this Agreement and SGMA, the Parties will need to exchange information amongst and between the Parties.

5.2 **Procedure for Exchange of Information.** The Parties may exchange information through collaboration and/or informal requests made at the Joint TAC level or through working/stakeholder committees. However, to the extent it is necessary to make a written request for information to other Parties, the following protocols shall be followed:

5.2.1 Each of the Parties shall designate a representative to respond to information requests and provide the name and contact information of the designee to the Joint TAC. Requests may be communicated in writing and transmitted in person or by mail, facsimile machine or other electronic means to the appropriate representative as named in this agreement.

5.3 **Non-Disclosure of Confidential Information.** It is understood and agreed to that the Parties to this Agreement may provide the Parties with certain information that may be considered confidential. To ensure the protection of such information and in consideration of the agreement to exchange said information, the Parties agree as follows:

5.3.1 The confidential information to be disclosed under this Agreement (“Confidential Information”) includes data, information, modeling, projections, estimates, plans, that are not public and in which the Parties have a reasonable expectation of confidentiality, regardless of whether such information is designated as “Confidential Information” at the time of its disclosure.

5.3.2 In addition to the above, Confidential Information shall also include, and the Parties shall have a duty to protect, other confidential and/or sensitive information which is (a) disclosed as such in writing and marked as confidential (or with other similar designation) at

the time of disclosure; and/or (b) disclosed in any other manner and identified as confidential at the time of disclosure and is also summarized and designated as confidential in a written memorandum delivered within thirty (30) days of the disclosure.

5.3.3 The Parties shall use the Confidential Information only for the purposes set forth in this Agreement.

5.3.4 The Parties shall limit disclosure of Confidential Information within its own organization to its directors, officers, partners, consultants, members and/or employees having a need to know and shall not disclose Confidential Information to any third party (whether an individual, corporation, or other entity) without prior written consent. The Parties shall satisfy its obligations under this paragraph if it takes affirmative measures to ensure compliance with these confidentiality obligations by its employees, agents, consultants and others who are permitted access to or use of the Confidential Information.

5.3.5 This Agreement imposes no obligation upon the Parties with respect to any Confidential Information (a) that was possessed before receipt; (b) is or becomes a matter of public knowledge through no fault of receiving Parties; (c) is rightfully received from a third party not owing a duty of confidentiality; (d) is disclosed without a duty of confidentiality to a third party by, or with the authorization of the disclosing Parties; or (e) is independently developed.

5.3.6 If there is a breach or threatened breach of any provision of this section, it is agreed and understood that the non-breaching Parties shall have no adequate remedy in money or other damages and accordingly shall be entitled to injunctive relief; provided however, no specification in this Agreement of any particular remedy shall be construed as a waiver or prohibition of any other remedies in the event of a breach or threatened breach of this Agreement.

ARTICLE 6: FINANCIAL PROVISIONS

6.1 **Contributions and Expenses:** Each of the Parties shall be responsible to fund its participation in this Agreement. The Parties agree to fund Basin-wide activities, including development of the GSP, in a manner consistent with how each of the Parties' Members funded participation in the Turlock Groundwater Basin Association ("TGBA"). Specifically, this funding obligation would be allocated as 49.36 percent to the ETS GSA and 50.64 percent to the WTS GSA. Funding for non-basin-wide activities or other activities that the Parties separately agree shall not be split proportionately, shall be through a separate Project Agreement. For the activities under Project Agreements, the Joint TAC shall develop a scope of work, proposed cost allocation, and separate Project Agreement that would need to be approved by each Party's respective governing board before it is binding on such Parties. This provision shall be revisited by the Parties upon completion of the GSP or 2022, whichever is earlier.

6.2 **Funding Responsibility.** Each of the Parties will be solely responsible for raising funds for payment of the Parties' share of operating and administrative costs. The obligation of each of the Parties to make payments under the terms and provisions of this Agreement is an individual and severable obligation and not a joint obligation with those of the other Parties.

Each of the Parties shall be individually responsible for its own covenants, obligations, and liabilities under this Agreement. No Parties shall be precluded from independently pursuing any of the activities contemplated in this Agreement. No Parties shall be the agent or have the right or power to bind any other Parties without such Parties' express written consent, except as expressly provided in this Agreement.

6.3 **Alternate Funding Sources.** The Parties may secure contributions of grant funding, state, federal, or county funding as funding or a portion of funding for projects between the Parties.

ARTICLE 7: CHANGES IN PURPOSE, PARTICIPATION, WITHDRAWAL AND TERMINATION

7.1 **Changes in Purpose.** This Agreement shall remain in place and all applicable provisions shall remain in effect, in the event the Parties determine it is not possible to develop a single GSP pursuant to this Agreement. In that instance, the Parties may develop separate, multiple GSPs and continue to collaborate and work together as necessary to comply with SGMA and develop a Coordination Agreement as required by SGMA.

7.2 **Noncompliance.** In the event any of the Parties (1) fails to comply with the terms of this Agreement, or (2) undertakes actions that conflict with or undermine the compliance with SGMA and/or achieving sustainable groundwater management, the Parties alleging non-compliance shall provide written notice summarizing the nature of lacking compliance to the Party against whom the allegations are lodged. The alleged non-compliant Party agrees to make best efforts to resolve or remedy any such non-compliance. Such actions may include, for example, failure to pay its agreed upon contributions when due; refusal to participate in GSA activities or to provide required monitoring of sustainability indicators; refusal to enforce controls as required by the GSP; refusal to implement any necessary actions as outlined by the approved GSP; and exceedance of minimum thresholds that are likely to lead to "undesirable results" under SGMA.

7.3 **Mediation.** To the extent notice and informal discussion of non-compliance pursuant to section 7.2 does not resolve the issue of non-compliance, the Parties agree to participate in good faith to settle the alleged non-compliance by mediation administered under its standard mediation procedures before resorting to arbitration, litigation, or some other dispute resolution procedure.

7.4 **Withdrawal and Termination.** Either Party may, in its sole discretion, unilaterally withdraw and terminate its participation from this Agreement, effective upon thirty (30) days' prior written notice to the governing board of the other Party, provided that (a) the withdrawing Party will remain responsible for its proportionate share of any obligation or liability duly incurred while a Party to this Agreement. In the event the withdrawing Party has any rights in any property or has incurred obligations, the Party may not sell, lease or transfer such rights or be relieved of its obligations, except in accordance with a written agreement executed by it and the other Party.

7.5 **Disposition of Property Upon Termination.** Upon termination of this Agreement, the Joint TAC shall recommend the Parties distribute the assets between the successor entity and the Parties in proportion to how the assets were provided.

7.6 **Use of Data.** Upon withdrawal, a Party shall be entitled to use any data or other information developed during its time as a Party to the Agreement. Further, should a Party withdraw after completion of the GSP, it shall be entitled to utilize the GSP for future implementation of SGMA within its boundaries.

ARTICLE 8: MISCELLANEOUS PROVISIONS

8.1 **Indemnification.** Each of the Parties shall hold harmless, defend and indemnify the other Party, and its agents, officers and employees from and against any liability, claims, actions, costs, damages or losses of any kind, including death or injury to any person and/or damage to property arising out of the activities of this Agreement. These indemnification obligations shall continue beyond the Term of this Agreement as to any acts or omissions occurring before or under this Agreement or any extension of this Agreement.

8.2 **CASGEM Reporting Entity.** The Department of Water Resources runs the California Statewide Groundwater Elevation Monitoring (“CASGEM”) Program, which requires the identification of a local monitoring entity to report elevation data. Prior to the enactment of SGMA, the TGBA acted as the CASGEM monitoring entity. The Parties hereby agree that the WTS GSA shall act as the CASGEM monitoring entity from the Effective Date of this Agreement. The WTS GSA shall work through this Agreement to obtain the necessary approvals from DWR to transfer the local monitoring entity’s duties to the WTS GSA, coordinate with the ETS GSA to obtain required information, and collaborate with the ETS GSA on data provided as the CASGEM monitoring entity.

8.3 **Liability of Joint TAC.** Each Party must defend, indemnify and hold harmless the other Party from the actions of its employees or agents taken within the scope of the authority of this Agreement.

8.4 **Amendments.** This Agreement may only be amended by a written instrument executed by all Parties.

8.5 **Binding on Successors.** Except as otherwise provided in this Agreement, the rights and duties of the Parties may not be assigned or delegated without a unanimous vote by the Parties. Any approved assignment or delegation shall be consistent with the terms of any contracts, resolutions, indemnities and other obligations then in effect. This Agreement shall inure to the benefit of, and be binding upon, the successors and assigns of the Parties hereto.

8.6 **Notice.** Any notice or instrument required to be given or delivered under this Agreement may be made by: (a) depositing the same in any United States Post Office, postage prepaid, and shall be deemed to have been received at the expiration of 72 hours after its deposit in the United States Post Office; (b) transmission by facsimile copy to the addressee; (c) transmission by electronic mail; or (d) personal delivery, as follows:

WTS GSA

Michael Cooke
WTS GSA Technical Advisory Committee Chair
City of Turlock Municipal Services
156 S. Broadway, Suite 270
Turlock, CA 95380
Email: mcooke@turlock.ca.us
Phone: 209-668-4142

With copy to: Valerie Kincaid
O'Laughlin & Paris LLP
2617 K Street, Suite 100
Sacramento, CA 95816
Email: vkincaid@olaughlinparis.com
Phone: 916.599.5498

ETS GSA

Kevin Kauffman, ETS GSA Coordinator
P.O. Box 692632
Stockton, CA 95269
E-mail: Kauffmankevin@comcast.net and paddedcell@sbcglobal.net
Phone: (209) 478-4940

With copy to: Baker Manock & Jensen
c/o Lauren D. Layne
5260 N. Palm Ave., Suite 421
Fresno, CA 93704
E-mail: llayne@bakermanock.com
Phone: (559) 432-5400

8.7 **Counterparts.** This Agreement may be executed by the Parties in separate counterparts, each of which when so executed and delivered shall be an original. All such counterparts shall together constitute but one and the same instrument.

8.8 **Choice of Law.** This Agreement shall be governed by the laws of the State of California.

8.9 **Severability.** If one or more clauses, sentences, paragraphs or provisions of this Agreement are held to be unlawful, invalid or unenforceable, it is hereby agreed by the Parties that the remainder of the Agreement shall not be affected thereby. Such clauses, sentences, paragraphs or provisions shall be deemed reformed so as to be lawful, valid and enforced to the maximum extent possible.

8.10 **Headings.** The paragraph headings used in this Agreement are intended for convenience only and shall not be used in interpreting this Agreement or in determining any of the rights or obligations of the Parties to this Agreement.

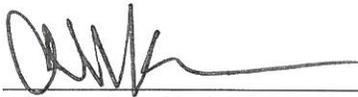
8.11 **Construction and Interpretation.** This Agreement has been arrived at through negotiation and each of the Parties has had a full and fair opportunity to revise the terms of this Agreement. As a result, the normal rule of construction that any ambiguities are to be resolved against the drafting Parties shall not apply in the construction or interpretation of this Agreement.

8.12 **Entire Agreement.** This Agreement constitutes the entire agreement among the Parties and supersedes all prior agreements and understandings, written or oral.

IN WITNESS WHEREOF, the Parties have executed this Agreement on the day and year first above-written.

“ETS GSA”

East Turlock Subbasin Groundwater Sustainability Agency

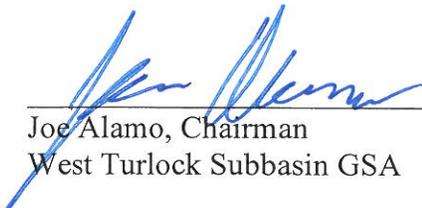


Al Rossini, Chairman
East Turlock Subbasin GSA

Date: 1/18/18

“WTS GSA”

West Turlock Subbasin Groundwater Sustainability Agency



Joe Alamo, Chairman
West Turlock Subbasin GSA

Date: 1/16/18

Water Shortage Contingency Plan

DRAFT

**City of Turlock
Water Shortage Contingency Plan**

DRAFT

JOINTLY PREPARED BY



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LIST OF ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AWSDA	Annual Water Supply and Demand Assessment
City	City of Turlock
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
DWR	Department of Water Resources
EOP	2017 Water System Emergency Operations Plan
MOU	Memorandum of Understanding
RSWSP	Regional Surface Water Supply Project
SB	Senate Bill
SRWA	Stanislaus Regional Water Authority
TID	Turlock Irrigation District
TMC	Turlock Municipal Code
UWMP	Urban Water Management Plan
WSCP	Water Shortage Contingency Plan

Water Shortage Contingency Plan

A water shortage may occur due to a number of reasons, such as population growth, climate change, drought, and catastrophic events. Drought, regulatory action constraints, and natural and manmade disasters may occur at any time. A water shortage means that the water supply available is insufficient to meet the normally expected customer water use at a given point in time.

This plan presents the City of Turlock's (City's) Water Shortage Contingency Plan (WSCP). The WSCP describes the City's strategic plan in preparation for and responses to water shortages with a goal to proactively prevent catastrophic service disruptions. It includes water shortage stages and associated actions that will be implemented in the event of a water supply shortage. As part of the WSCP, the City's legal authorities, communication protocols, compliance and enforcement, and monitoring and reporting are included. The Turlock Municipal Code (TMC) Chapter 6-7 (Water Conservation and Education) is complementary text that supports the City's WSCP. This text has been updated over time.

In 2018, the California State Legislature (Legislature) enacted two policy bills, (Senate Bill (SB) 606 (Hertzberg) and Assembly Bill (AB) 1668 (Friedman)) (2018 Water Conservation Legislation), to establish a new foundation for drought planning to adapt to climate change and the resulting longer and more intense droughts in California. The 2018 Water Conservation Legislation set new requirements for water shortage contingency planning.

The City's WSCP has been updated so that it is consistent with the 2018 Water Conservation Legislation requirements. The City plans to modify TMC Chapter 6-7 to support these updates. The City intends for this WSCP to be dynamic, so that it may assess response action effectiveness and adapt to emergencies and catastrophic events. Refinement procedures and adoption requirements are provided in this plan to allow the City to modify this WSCP outside of the UWMP process.

1.0 WATER SUPPLY RELIABILITY ANALYSIS

Chapters 6 and 7 of the City's 2020 UWMP present the City's water supply sources and reliability, respectively. Findings show that the City's five consecutive dry year supplies, whether occurring now or 20 years in the future, are adequate to meet projected five consecutive dry year demands because if there is any disruption in surface water supply, the City will increase groundwater pumping to compensate. While potable supplies will remain reliable, aesthetic water quality consistency will suffer as water from the City's native groundwater wells is much less palatable than the surface water.

Statewide water supply conditions, changes in groundwater levels, subsidence, and actions by the Stanislaus Regional Water Authority (SRWA) and the Turlock Irrigation District (TID), may impact the City's available water supply. For the City, a water shortage condition occurs when the supply of potable water available cannot meet ordinary water demands for human consumption, sanitation, fire protection, and other beneficial uses. The City may be able to foresee its water shortage condition in some cases; however, in other cases, the water shortage may be caused by an unforeseen sudden or emergency event. In general, the City's water supply conditions may be affected by the following issues:

- SRWA supply availability and/or production issues
- City well production and/or water quality issues

The City may experience unforeseen water shortage when catastrophic interruption of water supplies occurs due to regional power outage, an earthquake, or other potential emergency events.



Water Shortage Contingency Plan

In future years, the City will conduct an annual water supply and demand assessment in accordance with Section 2. The analysis associated with this WSCP was developed in the context of the City's water supply sources and reliability.

2.0 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES

Beginning July 1, 2022, California Water Code (CWC) §10632.1 requires water suppliers to submit an Annual Water Supply and Demand Assessment (AWSDA). Water suppliers will also be required to submit an Annual Water Shortage Assessment Report beginning July 1, 2022. This WSCP provides the procedures for the City to conduct its AWSDA. The findings from that assessment will provide information for the City's Annual Water Shortage Assessment Report.

The procedures provided in this section are intended to assist the City in planning for potential, foreseeable shortage in water supplies. These procedures provide the steps the City needs to take that may lead to declaring a water shortage emergency and associated water shortage level (see Section 3) and implementation of water shortage response actions (see Section 4).

2.1 Decision-making Process

The decision-making process described below will be used by the City to determine its water supply reliability in a consistent manner annually. The City may adjust this process for improved decision-making during implementation.

The Municipal Services Director or their designee is responsible for the preparation of the City's AWSDA and Annual Water Shortage Assessment Report, and submittal of the reports to Department of Water Resources (DWR) by July 1 of each year. The Municipal Services Director or their designee will gather key data inputs described in Section 2.2 and conduct the assessment in accordance with Section 2.3. In June, the Municipal Services Director or their designee will finalize the assessment based on the SRWA allocated water amount from TID. If the Annual Assessment finds that available water supply will be sufficient to meet expected demands for the current year and one subsequent dry year, no further action will be required. The City's Annual Water Shortage Assessment Report will be finalized using the AWSDA. The final approved documents will be submitted to DWR by July 1 each year.

In the event that the AWSDA finds that available supply will not meet expected demands, the Municipal Services Director or designee will present the finalized assessment to the City Council, along with recommendations on water shortage condition determination and actions. Recommended actions may include declaration of a water shortage emergency, declaration of a water shortage level, and water shortage actions. The Municipal Services Director or designee will coordinate interdepartmentally, with SRWA and with Stanislaus County, for the possible proclamation of a local emergency. The Municipal Services Director or designee will prepare the City's Annual Water Shortage Assessment Report using the finalized AWSDA and incorporate City Council determinations and approved actions.

Based on the findings of the assessment, the City Council will determine if a water shortage condition exists and, if needed, declaring a water shortage emergency and water shortage level and authorizing water shortage actions.



Water Shortage Contingency Plan

The City will follow the timeline of activities as shown on Table 1 for conducting the assessment, and Table 2 for its decision making. Due to variations in climate and hydrologic conditions, schedule shown in the table are approximate and may be adjusted as needed. The intent of the schedule is to allow shortage response actions to effectively address anticipated water shortage conditions in a timely manner, and to comply with the State’s reporting requirements.

Table 1. Schedule of Assessment Activities		
Schedule	Activities	Responsible Party
Early November of Prior Year	Convene Team	Municipal Services Department
Mid- to Late November of Prior Year	Plan for water supply sources for current year and one subsequent dry year. Describe sources and quantities considering factors affecting supply as described in Section 2.2.	Municipal Services Department
Mid- to Late November of Prior Year	Plan for water demands for current year and one subsequent dry year. Describe demand types and quantities considering factors affecting supply as described in Section 2.2.	Municipal Services Department
Early December of Prior Year	Using the methodology described in Section 2.3, calculate the City’s water supply reliability for the current year and one subsequent dry year.	Municipal Services Department
Early March	Finalize assessment based on expected purchased water from SRWA	Municipal Services Department
Mid to Late March	Draft Annual Water Shortage Assessment Report for DWR submittal.	Municipal Services Department
Early April	Review Annual Assessment and Annual Water Shortage Assessment Report and provide comments as needed.	Municipal Services Director or Designee
April - June	Finalize and approve Annual Assessment and Annual Water Shortage Assessment Report.	Municipal Services Department
Before July 1	Submit Annual Assessment and finalized Annual Water Shortage Assessment Report to DWR.	Municipal Services Department



Water Shortage Contingency Plan

Table 2. Schedule of Decision-Making Activities

Schedule	Activities	Responsible Party
April	Based on finalized determinations of AWSDA regarding water shortage condition and recommended actions, prepare recommendations on water shortage condition determination and actions.	Municipal Services Department
April - June	Prepare ordinances or resolutions approving determinations and actions.	Municipal Services Department
April - June	If a water shortage emergency condition exists, activate WSCP protocols and follow Section 7.0.	Municipal Services Department
April - June	Coordinate interdepartmentally, with SRWA, and with County for the possible proclamation of a local emergency.	Municipal Services Department
April - June	Present finalized determinations and recommendations, along with ordinances or resolutions approving determinations and actions.	Municipal Services Department
April - June	Receive presentation of finalized determinations and recommendations. Make determination of degree of emergency and act on resolutions that declare a water shortage emergency condition. Authorize water shortage response actions for implementation. Act on ordinances or resolutions.	City Council
April - June	If a water shortage emergency condition is declared, implement the WSCP and the water shortage response actions as approved by City Council.	Municipal Services Department
April - June	Finalize Annual Water Shortage Assessment Report.	Municipal Services Department
Before July 1	Submit finalized AWSDA assessment and Annual Water Shortage Assessment Report to DWR.	Municipal Services Department

2.2 Key Data Inputs

The AWSDA requires the evaluation of supply and demands for the current year and one dry year that is assumed to follow the current year. The following key data inputs will be used to evaluate the City's water supply reliability, as necessary and applicable.

Planned water supplies will be used as inputs to the AWSDA for the current year and a subsequent single dry year. In planning for water supplies, the following factors are considered:

1. Hydrological conditions
2. Regulatory conditions
3. Contractual constraints
4. Surface water and groundwater quality conditions
5. Well production limitations
6. Infrastructure capacity constraints or changes.
7. Capital improvement projects implementation



Water Shortage Contingency Plan

Planned water supply sources and quantities will be described and be reasonably consistent with the supply projections in the City's last updated UWMP Chapter 6 (Water Supply Characterization). Should the supply sources and projections deviate significantly from projections, an explanation for the difference will be provided.

Planned unconstrained water demands will be used as input to the AWSDA for the current year and a subsequent single dry year. Unconstrained water demands are customer demands where no water conservation measures are in effect. In planning for water demands, the following factors are considered:

1. Weather conditions
2. Water year type
3. Population changes (for example, due to development projects)
4. Anticipated new demands (for example, changes to land use)
5. Pending policy changes that may impact demands
6. Infrastructure operations

Planned water demands types and quantities will be described and be reasonably consistent with the demand projections in the City's last updated UWMP Chapter 4 (Water Demand Characterization). Should the demand projections deviate significantly from projections, an explanation for the difference will be provided.

2.3 Assessment Methodology

In preparing the AWSDA, the City will follow the following assessment methodology and evaluation criteria will be used to evaluate the agency's water supply reliability for the current year and a subsequent single dry year.

The City uses a spreadsheet to plan for current year and future year demands. Planned supply and demand inputs described in Section 2.2 will be entered in the spreadsheet in monthly increments.

Supply and demand will be compared to determine the reliability of the City's water supply in the current year and a subsequent single dry year. The City's water supply for the current year and the following dry year will be determined as reliable if water supply is sufficient to meet the planned water demands. If water supply is insufficient to meet planned water demands in the current year and/or the following dry year, the extent of the water shortage condition will be determined, and the City will prepare response actions in accordance with this WSCP.

The AWSDA findings will be presented to the City Council, along with recommendations for action for City Council consideration.



3.0 SIX STANDARD WATER SHORTAGE LEVELS

To provide a consistent regional and statewide approach to conveying the relative severity of water supply shortage conditions, the 2018 Water Conservation Legislation mandates that water suppliers plan for six standard water shortage levels that correspond to progressive ranges of up to 10, 20, 30, 40, 50 percent, and greater than 50 percent shortages from the normal reliability condition. Each shortage condition should correspond to additional actions water suppliers would implement to meet the severity of the impending shortages.

In Table 3 (DWR UWMP Table 8-1), the City's water shortage levels and corresponding water shortage level conditions are identified. The City's water shortage levels apply to both foreseeable and unforeseeable water supply shortage conditions. Water shortage is the gap between available supply and planned demands.

As described in Section 2, the City will conduct an AWSDA to determine its water supply condition for the current year and a subsequent single dry year. The preparation of AWSDA helps the City ascertain the need to declare a water shortage emergency and water shortage level. In other cases, the City may need to declare a water shortage emergency due to unforeseen water supply interruptions. When the City anticipates or identifies that water supplies may not be adequate to meet the normal water supply needs of its customers, the City Council may determine that a water shortage exists and consider a resolution to declare a water shortage emergency and associated level. The shortage level provides direction on shortage response actions.

The City's 2015 Urban Water Management Plan (UWMP) included five levels that addressed up to a 50 percent gap between supply and demand. In Table 3, the City's five levels are reorganized to align with the State's standard levels and incorporates a sixth level to address a 50 percent or greater gap between supply and demand. The City's water supplies are resilient, and the City would not need to declare a water shortage level greater than Level 1 until its water supplies are reduced significantly.

TMC Chapter 6-7-405 addresses demand reduction actions required by the City per shortage level. This TMC text is included as Attachment A to this WSCP. Concurrent with the preparation of this UWMP, the City is in the process of updating TMC Chapter 6-7 to support this updated WSCP.



Water Shortage Contingency Plan

Table 3. Water Shortage Contingency Plan Levels (DWR Table 8-1)

Shortage Level	Percent Shortage Range	Shortage Response Actions (<i>Narrative description</i>)
1	Up to 10%	<ul style="list-style-type: none"> - Outdoor landscape watering shall be limited to three times per week on an odd-even basis. - Outdoor landscape watering is prohibited between the hours of 9:00 a.m. and 9:00 p.m. - Large commercial landscapes and City parks may have individual watering schedules approved by the Municipal Services Department. - Residential vehicle washing requires a quick-acting automatic positive shut-off valve and is limited to one washing per week during designated watering times.
2	Up to 20%	<ul style="list-style-type: none"> - Outdoor landscape watering. Outdoor landscape watering shall be limited to two times per week. - Outdoor landscape watering is prohibited between the hours of 9:00 a.m. and 9:00 p.m. - Large commercial landscapes and City parks shall also be limited to two (2) days per week, as scheduled by the Municipal Services Department. - Residential vehicle washing requires a quick-acting automatic positive shut-off valve and is limited to one washing per week during designated watering times.
3	Up to 30%	<ul style="list-style-type: none"> - Construction water from City fire hydrants shall be banned but recycled water from the City of Turlock's Regional Water Quality Control Facility may be made available for construction water purposes. - Outdoor landscape watering shall be limited to one day per week. - Outdoor landscape watering is prohibited between the hours of 9:00 a.m. and 9:00 p.m. - Large commercial landscaping and City parks shall be limited to one (1) day per week, as scheduled by the Municipal Services Department. - Washing of automobiles, trucks, trailers, boats, airplanes, and other types of mobile equipment not occurring upon the immediate premises of commercial car washes and commercial service stations and not in immediate interest of the public health, safety, and welfare shall be prohibited. - Further use of decorative fountains or reflection ponds shall be discontinued until further notice.
4	Up to 40%	<ul style="list-style-type: none"> - Construction water from City fire hydrants shall be banned but recycled water from the City of Turlock's Regional Water Quality Control Facility may be made available for construction water purposes. - Outdoor landscape watering shall be limited to one day per week, for trees only. - Outdoor landscape watering is prohibited between the hours of 9:00 a.m. and 9:00 p.m. - Large commercial landscaping and City parks shall be limited to one (1) day per week, as scheduled by the Municipal Services Department. - Washing of automobiles, trucks, trailers, boats, airplanes, and other types of mobile equipment not occurring upon the immediate premises of commercial car washes and commercial service stations and not in immediate interest of the public health, safety, and welfare shall be prohibited. - Further use of decorative fountains or reflection ponds shall be discontinued until further notice.
5	Up to 50%	<ul style="list-style-type: none"> - Construction water from City fire hydrants shall be banned but recycled water from the City of Turlock's Regional Water Quality Control Facility may be made available for construction water purposes. - Outdoor landscape watering shall be limited to one day per week, for trees only. - Outdoor landscape watering is prohibited between the hours of 9:00 a.m. and 9:00 p.m. - Large commercial landscaping and City parks shall be limited to one (1) day per month, as scheduled by the Municipal Services Department. - Washing of automobiles, trucks, trailers, boats, airplanes, and other types of mobile equipment not occurring upon the immediate premises of commercial car washes and commercial service stations and not in immediate interest of the public health, safety, and welfare shall be prohibited.
6	>50%	<ul style="list-style-type: none"> - Industry and commercial businesses shall be required to curtail consumption to maintain adequate Supplies of water for health and safety. - Outdoor landscape watering shall be prohibited. - Further use of decorative fountains or reflection ponds shall be discontinued until further notice. - Filling newly constructed or drained swimming pools with City water shall be prohibited.



4.0 SHORTAGE RESPONSE ACTIONS AND EFFECTIVENESS

CWC §10632 (a)(4) requires shortage response actions that align with the defined shortage levels. The City's shortage response actions consist of a combination of demand reduction, supply augmentation, and operational changes. The City's suites of response actions are dependent on the event that precipitates a water shortage level, the time of the year the event occurs, the water supply sources available, and the condition of its water system infrastructure.

The City plans to use a balanced approach, combining supply augmentation, demand reduction, and operational changes to respond to the event and the resulting water shortage level. The City will adapt its implementation of response actions to close the gap between water supplies and water demand and meet the water use goals associated with the declared water shortage level.

The City's water system is fully metered, from production to individual customer meters. These meters can be read as often as needed to track the extent of the effectiveness of the City's response actions. Water production and water use can be compared to previous periods. Water use can be compared per customer sector or per individual customer. This continuous monitoring allows the City to assess water system demands and compare it with its water demand reduction goals. The City may then adjust its shortage response actions, allowing it to equalize demands with available water supplies. For example, the City may intensify its public outreach or more vigorously enforce compliance to water use prohibitions if needed water demand reduction goals are not met for any specific level. In the 2012-2016 Drought, the City was able to exceed its water conservation goals using a combination of public outreach and compliance actions. The City found that customers are very responsive to public outreach efforts.

The shortage response actions discussed below may be considered as tools that allow the City to respond to water shortage conditions. Because the City may continuously monitor and adjust its response actions to reasonably equate demands with available supply, the extent to which the gap between water supplies and water demand will be reduced by implementation of each action is difficult to quantify and is provided as an estimate. Certain response actions, such as public outreach and enforcement, support the effectiveness of other response actions and do not have a quantifiable effect on their own.

4.1 Demand Reduction and Mandatory Restrictions

During water shortage conditions, the City plans to close the gap between water supply and water demand by implementing demand reduction action categories shown in Table 4 (DWR UWMP Table 8-2). The shortage level for which each demand reduction action will commence implementation is also provided, along with the estimate of extent that the action will reduce the shortage gap. The table also indicates if the City plans to use compliance actions such as penalties, charges, or other enforcement actions for each demand reduction action.



Water Shortage Contingency Plan

Table 4. Water Shortage Contingency Plan Demand Reduction Actions (DWR Table 8-2)

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>
1	Landscape - Limit landscape irrigation to specific days	Reduces total water use by 15-20%	Turlock Municipal Code: 6-7-405(a)(1)	Yes
1	Landscape - Limit landscape irrigation to specific times	Reduces total water use by 15-20%	Turlock Municipal Code: 6-7-405(a)(2)	Yes
1	CII - Other CII restriction or prohibition	Reduces total water use by 5-10%	Turlock Municipal Code: 6-7-405(a)(3); Large commercial landscapes and City parks may have individual watering schedules approved by the Municipal Services Department.	Yes
1	Other - Require automatic shut of hoses	Reduces total water use by 0-5%	Turlock Municipal Code: 6-7-405(a)(4); Residential vehicle washing requires a quick-acting automatic positive shut-off valve and is limited to one washing per week during designated watering times.	Yes
2	Landscape - Limit landscape irrigation to specific days	Reduces total water use by 15-20%	Turlock Municipal Code: 6-7-405(b)(1)	Yes
2	Landscape - Limit landscape irrigation to specific times	Reduces total water use by 15-20%	Turlock Municipal Code: 6-7-405(b)(2)	Yes
2	CII - Other CII restriction or prohibition	Reduces total water use by 5-10%	Turlock Municipal Code: 6-7-405(b)(3); Large commercial landscapes and City parks limited to irrigation two days per week	Yes
2	Other - Require automatic shut of hoses	Reduces total water use by 0-5%	Turlock Municipal Code: 6-7-405(b)(4); Residential vehicle washing requires a quick-acting automatic positive shut-off valve and is limited to one	Yes



Water Shortage Contingency Plan

Table 4. Water Shortage Contingency Plan Demand Reduction Actions (DWR Table 8-2)

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>
			washing per week during designated watering times.	
2	Water Features - Restrict water use for decorative water features, such as fountains	Reduces total water use by 0-5%	Turlock Municipal Code: 6-7-405(b)(5)	Yes
3	Landscape - Limit landscape irrigation to specific days	Reduces total water use by 15-20%	Turlock Municipal Code: 6-7-405(c)(1)	Yes
3	Landscape - Limit landscape irrigation to specific times	Reduces total water use by 15-20%	Turlock Municipal Code: 6-7-405(c)(2)	Yes
3	CII - Other CII restriction or prohibition	Reduces total water use by 5-10%	Turlock Municipal Code: 6-7-405(c)(3); Large commercial landscapes and City parks limited to irrigation one day per week	Yes
3	Other water feature or swimming pool restriction	Reduces total water use by 0-5%	Turlock Municipal Code: 6-7-405(c)(4); Filling newly constructed or drained swimming pools is prohibited.	Yes
3	Other - Prohibit use of potable water for construction and dust control	Reduces total water use by 0-5%	Turlock Municipal Code: 6-7-405(c)(5); Construction water from City fire hydrants shall be banned but recycled water from the City's Regional Water Quality Control Facility may be made available for construction water purposes	Yes
3	Water Features - Restrict water use for decorative water features, such as fountains	Reduces total water use by 0-5%	Turlock Municipal Code: 6-7-405(c)(6)	Yes
3	Other - Prohibit vehicle washing except at	Reduces total water use by 0-5%	Turlock Municipal Code: 6-7-405(c)(7)	Yes



Water Shortage Contingency Plan

Table 4. Water Shortage Contingency Plan Demand Reduction Actions (DWR Table 8-2)

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>
	facilities using recycled or recirculating water			
4	Landscape - Limit landscape irrigation to specific days	Reduces total water use by 15-20%	Turlock Municipal Code: 6-7-405(d)(1)	Yes
4	Landscape - Limit landscape irrigation to specific times	Reduces total water use by 15-20%	Turlock Municipal Code: 6-7-405(d)(2)	Yes
4	CII - Other CII restriction or prohibition	Reduces total water use by 5-10%	Turlock Municipal Code: 6-7-405(d)(3); Large commercial landscapes and City parks limited to irrigation one day per week	Yes
4	Other water feature or swimming pool restriction	Reduces total water use by 0-5%	Turlock Municipal Code: 6-7-405(d)(4); Filling newly constructed or drained swimming pools is prohibited.	Yes
4	Other - Prohibit use of potable water for construction and dust control	Reduces total water use by 0-5%	Turlock Municipal Code: 6-7-405(d)(5); Construction water from City fire hydrants shall be banned but recycled water from the City's Regional Water Quality Control Facility may be made available for construction water purposes	Yes
4	Water Features - Restrict water use for decorative water features, such as fountains	Reduces total water use by 0-5%	Turlock Municipal Code: 6-7-405(d)(6)	Yes
4	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Reduces total water use by 0-5%	Turlock Municipal Code: 6-7-405(d)(7)	Yes
5	Landscape - Limit landscape irrigation to specific days	Reduces total water use by 15-20%	Turlock Municipal Code: 6-7-405(e)(1)	Yes



Water Shortage Contingency Plan

Table 4. Water Shortage Contingency Plan Demand Reduction Actions (DWR Table 8-2)

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>
5	Landscape - Limit landscape irrigation to specific times	Reduces total water use by 15-20%	Turlock Municipal Code: 6-7-405(e)(2)	Yes
5	CII - Other CII restriction or prohibition	Reduces total water use by 5-10%	Turlock Municipal Code: 6-7-405(e)(3); Large commercial landscapes and City parks limited to irrigation one day per week	Yes
5	Other water feature or swimming pool restriction	Reduces total water use by 0-5%	Turlock Municipal Code: 6-7-405(e)(4); Filling newly constructed or drained swimming pools is prohibited.	Yes
5	Other - Prohibit use of potable water for construction and dust control	Reduces total water use by 0-5%	Turlock Municipal Code: 6-7-405(e)(5); Construction water from City fire hydrants shall be banned but recycled water from the City's Regional Water Quality Control Facility may be made available for construction water purposes	Yes
5	Water Features - Restrict water use for decorative water features, such as fountains	Reduces total water use by 0-5%	Turlock Municipal Code: 6-7-405(e)(6)	Yes
5	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Reduces total water use by 0-5%	Turlock Municipal Code: 6-7-405(e)(7)	Yes
6	Landscape - Prohibit all landscape irrigation	Reduces total water use by 20-25%	Turlock Municipal Code: 6-7-405(f)(1)	Yes



Water Shortage Contingency Plan

Table 4. Water Shortage Contingency Plan Demand Reduction Actions (DWR Table 8-2)

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>
6	CII - Other CII restriction or prohibition	Reduces total water use by 15-20%	Turlock Municipal Code: 6-7-405(f)(2); Industry and commercial businesses shall be required to curtail consumption in order to maintain adequate supplies of water for health and safety	Yes
6	Other	Reduces total water use by 20-25%	Turlock Municipal Code: 6-7-405(f)(3); If there is total well failure, disaster relief from outside the City of Turlock shall be required	Yes
NOTES: Per Turlock Municipal Code and Corresponding Ordinances adopted May 25, 2021.				

The City may request that its customers reduce their water demands in response to any water shortage level through TMC Chapter 6-7. The City is currently updating TMC Chapter 6-7 for consistency with this WSCP. The demand reduction action categories are detailed further below.

During each shortage level, the City plans to impose water use restrictions on its customers and enforce the regulations and restrictions provided in TMC Chapter 6-7-405 and presented in Table 3 (DWR Table 8-1) and Table 5, to achieve the percent demand reduction required by the water shortage stage. Table 5 presents the shortage reduction actions for each water shortage stage by general category of consumption reduction methods whereas Table 3 (DWR Table 8-1) does not organize the shortage reduction actions into general categories of consumption reduction methods. The additional mandatory restrictions are in addition to State-mandated prohibitions.



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Table 5. Water Restrictions and Regulations^(a)

Consumption Reduction Methods	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	
<i>Commercial</i>						Industry and commercial businesses shall be required to curtail consumption to maintain adequate supplies of water for health and safety.	
<i>Construction</i>			Construction water from City fire hydrants shall be banned but recycled water from the City of Turlock's Regional Water Quality Control Facility may be made available for construction water purposes.				
<i>Landscape Irrigation</i>	Outdoor landscape watering shall be limited to <u>three</u> times per week on an odd-even basis.	Outdoor landscape watering. Outdoor landscape watering shall be limited to <u>two</u> times per week.	Outdoor landscape watering shall be limited to <u>one</u> day per week.	Outdoor landscape watering shall be limited to <u>one</u> day per week, for <u>trees only</u> .		Outdoor landscape watering shall be prohibited.	
	Outdoor landscape watering is prohibited between the hours of 9:00 a.m. and 9:00 p.m.						
	Large commercial landscapes and City parks may have individual watering schedules approved by the Municipal Services Department	Large commercial landscapes and City parks shall also be limited to two (2) days per week, as scheduled by the Municipal Services Department	Large commercial landscaping and City parks shall be limited to one (1) day per week, as scheduled by the Municipal Services Department		Large commercial landscaping and City parks shall be limited to one (1) day per month, as scheduled by the Municipal Services Department		
<i>Vehicle Washing</i>	Residential vehicle washing requires a quick-acting automatic positive shut-off valve and is limited to one washing per week during designated watering times.		Washing of automobiles, trucks, trailers, boats, airplanes, and other types of mobile equipment not occurring upon the immediate premises of commercial car washes and commercial service stations and not in immediate interest of the public health, safety, and welfare shall be prohibited.				
<i>Water Features</i>	Further use of decorative fountains or reflection ponds shall be discontinued until further notice.						
	Filling newly constructed or drained swimming pools with City water shall be prohibited.						
<i>Other</i>						If there is total well failure, disaster relief from outside the City shall be required.	

(a) Water Conservation Ordinance, TMC Chapter 6-7-405



Water Shortage Contingency Plan

The City will monitor water production, demands, and changing conditions to determine the intensity of its public outreach, the extent of its enforcement actions, and the need to adjust its water shortage level declaration as discussed in Section 9.

4.2 Supply Augmentation and Other Actions

The City's water supply portfolio consists of native groundwater and recycled water as described in Chapter 6 of the City's 2020 UWMP. The City manages the use of the local groundwater and currently owns 19 active groundwater wells, and 6 non-potable irrigation wells. If there is total well failure, disaster relief from outside the City shall be required. The City's surface water supplies are planned to be supplied by the SRWA Regional Surface Water Supply Project (RSWSP) in mid-2023.

Should the City's water supply portfolio be insufficient to meet the reduced demands of its customers, the City may augment its water supply and take other actions as summarized in Table 6 (DWR UWMP Table 8-3). The shortage level for which each action will commence implementation is provided, along with the estimated extent that the action will reduce the shortage gap. Details regarding operational changes in response to water shortage are provided in Section 4.3.

Table 6. Supply Augmentation and Other Actions (DWR Table 8-3)

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>			
1	Expand Public Information Campaign	1,126	10% water demand reduction anticipated
1	Other Actions (describe)	1,126	Offer Water Use Surveys: 10% water demand reduction anticipated
1	Other Actions (describe)	1,126	Reduce System Water Loss: 10% water demand reduction anticipated
1	Other Actions (describe)	1,126	Increase Water Waste Patrols: 10% water demand reduction anticipated
2	Expand Public Information Campaign	2,251	10% water demand reduction anticipated in addition to demand reduction observed during shortage level 1
2	Other Actions (describe)	2,251	Offer Water Use Surveys: 10% water demand reduction anticipated in addition to



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Table 6. Supply Augmentation and Other Actions (DWR Table 8-3)

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>			
			demand reduction observed during shortage level 1
2	Other Actions (describe)	2,251	Reduce System Water Loss: 10% water demand reduction anticipated in addition to demand reduction observed during shortage level 1
2	Other Actions (describe)	2,251	Increase Water Waste Patrols: 10% water demand reduction anticipated in addition to demand reduction observed during shortage level 1
3	Expand Public Information Campaign	3,377	10% water demand reduction anticipated in addition to demand reduction observed during shortage level 2
3	Other Actions (describe)	3,377	Offer Water Use Surveys: 10% water demand reduction anticipated in addition to demand reduction observed during shortage level 2
3	Other Actions (describe)	3,377	Reduce System Water Loss: 10% water demand reduction anticipated in addition to demand reduction observed during shortage level 2
3	Other Actions (describe)	3,377	Increase Water Waste Patrols: 10% water demand reduction anticipated in addition to demand reduction observed during shortage level 2
4	Expand Public Information Campaign	4,503	10% water demand reduction anticipated in addition to demand reduction observed during shortage level 3



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Table 6. Supply Augmentation and Other Actions (DWR Table 8-3)

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>			
4	Other Actions (describe)	4,503	Offer Water Use Surveys: 10% water demand reduction anticipated in addition to demand reduction observed during shortage level 3
4	Other Actions (describe)	4,503	Reduce System Water Loss: 10% water demand reduction anticipated in addition to demand reduction observed during shortage level 3
4	Other Actions (describe)	4,503	Increase Water Waste Patrols: 10% water demand reduction anticipated in addition to demand reduction observed during shortage level 3
5	Expand Public Information Campaign	5,629	10% water demand reduction anticipated in addition to demand reduction observed during shortage level 4
5	Other Actions (describe)	5,629	Offer Water Use Surveys: 10% water demand reduction anticipated in addition to demand reduction observed during shortage level 4
5	Other Actions (describe)	5,629	Reduce System Water Loss: 10% water demand reduction anticipated in addition to demand reduction observed during shortage level 4
5	Other Actions (describe)	5,629	Increase Water Waste Patrols: 10% water demand reduction anticipated in addition to demand reduction observed during shortage level 4
6	Expand Public Information Campaign	6,754	10% water demand reduction anticipated in addition to demand reduction observed during shortage level 5



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Table 6. Supply Augmentation and Other Actions (DWR Table 8-3)

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	Other Actions (describe)	6,754	Offer Water Use Surveys: 10% water demand reduction anticipated in addition to demand reduction observed during shortage level 5
6	Other Actions (describe)	6,754	Reduce System Water Loss: 10% water demand reduction anticipated in addition to demand reduction observed during shortage level 5
6	Other Actions (describe)	6,754	Increase Water Waste Patrols: 10% water demand reduction anticipated in addition to demand reduction observed during shortage level 5
NOTES: Volumes are in MG. The amount of shortage gap reduction is based on reductions to the base water demand of 11,257 MG in 2025.			

4.3 Operational Changes

The City may modify its operations on a short-term or long-term basis in response to any water shortage condition. The City may take any one or a combination of the following actions.

1. The City may expedite repairs of leaks in its water distribution system. All meter leaks and emergency breaks would be repaired immediately after being reported. Non-emergency service line and main breaks would be repaired within three business days after detection.
2. During the duration of the water shortage condition, the City may limit its regular maintenance water system flushing operations such that flushing is conducted only in areas with known water quality issues.

4.4 Emergency Response Plan

As stated in Section 3, the City's water shortage levels outlined in TMC Section 6-7-405 apply to both foreseeable and unforeseeable water supply shortage conditions, including catastrophic water shortage conditions.



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The City's 2017 *Water System Emergency Operations Plan (EOP)* addresses extreme weather emergencies such as droughts when catastrophic water shortage conditions may occur. Water shortage emergency response is coordinated with the County's Advisory Water Committee per the Stanislaus County 2015 Water Contingency Plan. The EOP and Stanislaus County Water Contingency Plan outline response procedures associated with unforeseeable incidents such as water supply contamination, earthquake, infrastructure failure, and other events. The EOP includes actions to be taken in preparation for, during, and recovery from such events.

The City's response planning for continued water service includes the use of standby generators, water purification supplies and equipment, emergency drinking water storage, and water trucks. Water storage, treatment, and pumping facilities have been constructed to meet earthquake safety standards and are inspected regularly.

The City does not yet maintain any treated water interties with other agencies. However, once the Regional Surface Water Supply Project is operational, the City will have access to surface water from the Tuolumne River. The facilities of the Regional Surface Water Supply Project may supply emergency water to maintain normal distribution during a catastrophic supply interruption. Alternatively, if the catastrophic supply interruption is related to the surface water supply, the City will use the existing groundwater wells to provide sufficient water for health, sanitation, and fire protection for the duration of the emergency.

5.0 COMMUNICATION PROTOCOLS

In the event of a water shortage, the City must inform their customers, the general public and interested parties, and local, regional, and state entities. Communication protocols for foreseeable and unforeseeable events are provided in this section. In any event, timely and effective communication must occur for appropriate response to the event. City staff are provided cell phones and City email accounts to communicate internally and externally.

5.1 Communication for Foreseeable Events

Water shortage may be foreseeable when the City conducts its AWSDA as described in Section 2. When the City determines the potential of a water shortage event, the City Council may find, determine and declare a water shortage emergency, and the associated water shortage level, in accordance with TMC Chapter 6-7-403.

The following communications protocol and procedures will be followed. The City may trigger any of these communication protocols at any water shortage level.

1. If a water shortage emergency is anticipated, the City will coordinate interdepartmentally and with Stanislaus County for the possible proclamation of a local emergency.
2. The City may hold a duly noticed City Council meeting in which the AWSDA findings and recommendations for a water shortage emergency and shortage response actions are presented.
3. The Municipal Services Director, or his or her designee, shall monitor the projected supply and demand for water by its customers, with heightened emphasis during the months of March through October.



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4. The Municipal Services Director, or his or her designee, shall recommend to the City Manager and City Council the extent of the conservation compliance stage required in order for the City to prudently plan for and supply water to its customers.
5. The City Council may order that the appropriate stage of water conservation be implemented or terminated in accordance with the applicable provisions of this chapter. When implementing mandatory water conservation compliance Stages 2, 3, 4, 5 and 6, said order shall be made by public announcement and shall be published a minimum of one (1) time in a daily newspaper of general circulation and shall become effective immediately upon such publication. Other forms of communication to inform customers, the public, and government entities shall include social media postings, email to customers and businesses in Turlock and radio broadcast. Public entities and officials are informed of water shortage information via email.

5.2 Communication for Unforeseeable Events

Water shortage may occur during unforeseeable events such as earthquakes, fires, infrastructure failures, civil unrest, and other catastrophic events. The City's EOP provides specific communication protocols and procedures to convey water shortage contingency planning actions during these events. The City may trigger any of these communication protocols at any water shortage level, depending on the event.

In general, communications and notifications should proceed along the chain of command. Notification decisions will be made under the direction of the Municipal Services Director or their designee. External communications will be managed by the Municipal Services Director or their designee. All City staff are provided their communication responsibilities. The Regulatory Compliance Officer and the Municipal Services Director will work with the Municipal Services Department staff to notify regulatory agencies. The EOP provides a list of relevant contacts to notify at the local, regional, and state level.

To maintain the security of the City water system, the EOP is maintained as a confidential document and may not be incorporated in this UWMP.

6.0 COMPLIANCE AND ENFORCEMENT

TMC Chapter 6-7 supports the implementation of the City's water shortage contingency actions. This text includes provisions for compliance and enforcement of its water use regulations, restrictions, and prohibitions and is available on the City's website. An update of the current water shortage stage, referencing TMC Chapter 6-7-405, is highlighted on the City's water conservation website (<https://www.cityofturlock.org/watersewergarbage/waterconservation/>) to notify the public of year-round regulations and water restrictions.

When a water shortage is anticipated, the City Council determines the degree of the water shortage emergency and makes a declaration of the water shortage stage. The City Council may also hold a duly noticed public meeting to discuss the water shortage emergency.

Since the City service area is fully metered, customer water use can be quantified and compared to determine their extent of compliance to water reduction requirements. The City may also become aware of non-compliance through its water waste reporting outreach or through staff inspections. Non-



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compliance is deemed as a violation and is classified as an infraction. Each day of continued violation is considered as a separate offense.

The Municipal Services Director or their designee and duly designated representatives are authorized to enforce provisions of TMC Chapter 6-7 and make determinations with regard to the customer water allocations provided in TMC Chapter 6-7. For these purposes, they have the power and discretion of a law enforcement office.

6.1 Shortage Level Enforcement and Penalties

Enforcement and penalties for non-compliance with each stages' restrictions are provided in TMC 6-7-410. When the City becomes aware of a customer violating, causing, or permitting a violation of the restrictions prohibitions presented in Table 5 for any of the Water Shortage Stages, the City issues a notice that describes the nature of the violation and includes an order that the violation be corrected within a stated period. Upon occurrence of a second violation or failure to correct the initial violation, the City issues a second notice ordering immediate correction and imposing a surcharge of \$50. Upon occurrence of a third violation or failure to correct the initial violation, the City issues a third notice ordering immediate correction and imposing a surcharge of \$100. Upon occurrence of a fourth violation, and each subsequent violation, or failure to correct the initial violation, the City issues an additional notice ordering immediate correction and imposing a surcharge of \$250. The Municipal Services Director or designee may issue an order to cease and desist until appropriate remedial actions are taken. For continued violation, the Municipal Services Director or designee may order discontinuance of service.

Thirty days after the effective date of the Council's declaration of a water shortage emergency or the effective date stated in the resolution is considered as an adjustment period during which no penalties will be imposed for water usage in excess of the allocation described in Table 6.

Thirty-one days after the effective date, any customer who exceeds the established allocation in any monthly billing cycle is charged an excess use charge in addition to all other charges. For continued violation, the customer is issued a warning. If the violation is not corrected, the City may issue additional penalties.

6.2 Appeal and Exemption Process

Per TMC Chapter 6-7-411 and 6-7-412, utility customers may appeal a Notice of Acts Constituting Water Wasting by submitting a written appeal to the Municipal Services Director within fifteen calendar days from the date of service of the Notice of Acts Constituting Water Wasting, or any water wasting penalty assessed to his or her account. The written appeal should include supporting facts and reasons. The hearing officer may hold an appeal hearing, where the appellant and the Municipal Services Director are heard. At the conclusion of hearing the appeal, the hearing officer, may affirm, reverse or modify the Notice of Acts Constituting Water Wasting. The hearing officer's action on the appeal is final.

7.0 LEGAL AUTHORITIES

Title 6, Chapter 7 of the Turlock Municipal Code, most recently amended by Ordinance Nos. 1209 CS (June 2015) and 1222 CS (May 2016), contains a water wasting prohibition section that prohibits the wasteful use of water during normal water years. This section prohibits specific water wasting appurtenances (such as "once through" cooling systems and "slip n slides"), general water waste, and



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requires proper maintenance of water pipes and fixtures to prevent leaks. This City Code is in line with the goals of the California Urban Water Conservation Council (CUWCC) Memorandum of Understanding (MOU). At time of preparation of this WSCP, the City is updating TMC Chapter 6-7-405 to incorporate updates presented herein.

When a water shortage is determined, the City will coordinate interdepartmentally and with Stanislaus County for the possible proclamation of a local emergency in accordance with California Government Code, California Emergency Services Act (Article 2, Section 8558).

In accordance with TMC Chapter 6-7 and California Water Code Chapter 3, Division 1, Section 350 et seq, the City Council is required, unless an immediate emergency exists, to conduct a duly noticed public meeting for the purpose of determining whether a water shortage emergency condition exists and, if so, the degree of the emergency and what regulations and restrictions should be enforced in response to the shortage. The City shall declare a water shortage emergency in accordance with CWC Chapter 3 Division 1.

Water Code Section Division 1, Section 350

...The governing body of a distributor of a public water supply...shall declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

The water shortage emergency declaration triggers communication protocols described in Section 5 of this WSCP and compliance and enforcement actions described in Section 6 of this WSCP.

8.0 FINANCIAL CONSEQUENCES OF WSCP

The City maintains an adequate operational reserve to protect against a temporary water shortage. The City anticipates reduced revenue due to decreased water use by its customers and additional costs associated with implementing water use restrictions and associated compliance actions. Reduced revenue and costs associated with compliance actions are considered in the City's water rate study.

9.0 MONITORING AND REPORTING

The City's water system is fully metered, from its water supply sources to individual customer meters. These meters, along with other enforcement actions, may be used as monitoring tools for compliance and reporting purposes. Other enforcement actions the City may use include online water violation reports and part-time water conservation staff.

Customers' water meters can be read per billing period to track the extent of their compliance with the City's water use restrictions. Per TMC 6-7-140, the first billing period after the effective date of the City Council's declaration of a water shortage emergency is considered as an adjustment period during which no penalties will be imposed for water usage in excess of the allocation. The second and subsequent billing period after the effective date is used to determine if a customer exceeds the established allocation for the City Council-declared water shortage level as discussed in Section 4.1/ TMC 6-7-405 and 410. The City may use readings from water meters to track compliance and determine required enforcement actions.



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The City's meters at its groundwater production wells provide a systemwide overview of water supply and demands and assess progress in meeting the water shortage objectives. Water production information may be read on a daily basis. The information collected from these meters allows the City to determine the extent of implementation of public outreach and enforcement actions, and adjust other water shortage response actions.

At the time of preparation of this WSCP, the State Water Board is preparing regulations for monthly reporting of water production and other uses, along with associated enforcement metrics. The City regularly records its water meter readings, along with enforcement actions, ensuring that the City will be able to comply with upcoming reporting requirements.

10.0 WSCP REFINEMENT PROCEDURES

This WSCP is an adaptive management plan. It is subject to refinements as needed to ensure that the City's shortage response actions and mitigation strategies are effective and produce the desired results. Based on monitoring described in Section 9 and the need for compliance and enforcement actions described in Section 6/TMC 6-7-410 of this WSCP, the City may adjust its response actions and may modify its WSCP. When a revised WSCP is proposed, the revised WSCP will undergo the process described in Section 12 for adoption by the City Council and distribution to the City, its customers, and the general public.

10.1 Systematic Monitoring

The City will monitor meters at its water sources to evaluate the overall effectiveness of its response actions in meeting the declared water shortage level. Should overall demands not meet or exceed the goals of the declared water shortage level, the intensity of public outreach for water conservation and the extent of enforcement of water use restrictions may be increased. Conversely, should overall demands continue to be substantially less than the goals of the declared water shortage level, the intensity of public outreach for water conservation and the extent of enforcement of water use restrictions may be decreased.

The City may implement operational changes and implement supply augmentation in combination with enforcement of its water use restrictions and prohibitions to meet the objectives of the water shortage level while maintaining overall public health and safety.

10.2 Feedback from City Staff and Customers

Feedback from City staff and the public is important in refining or incorporating new actions. The City seeks input from staff who interface with customers to gauge the effectiveness of its response actions and for response action ideas.

Customer water meter data may be evaluated for each customer sector or each individual customer. The City tracks water use violations and may evaluate their frequency to determine restrictions that customers may not be able to meet. This evaluation may also show water demand reduction actions that customers may effectively implement.

The City seeks input from its customers and the general public through its website, through public hearings, and through regularly scheduled City Council meetings.



Water Shortage Contingency Plan

11.0 SPECIAL WATER FEATURE DISTINCTION

The City distinguishes special water features, such as decorative fountains and ponds, differently from pools and spas. Special water features are regulated separately. Regulations under TMC 6-7-405 prohibit the use of water in fountains and reflective ponds in Stage 2 and more restrictive stages.

12.0 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

This WSCP is adopted concurrently with the City's 2020 UWMP, by separate resolution. Prior to adoption, a duly noticed public hearing was conducted. A hard copy of this WSCP will be submitted to the DWR within 30 days of adoption, along with an electronic copy.

No later than 30 days after submittal to DWR, copies of this WSCP will be available at the City's offices. A copy will also be provided to Stanislaus County. An electronic copy of this WSCP as well as the 2020 UWMP will also be available for public review and download on the City's website.

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Turlock Municipal Code Title 6 Chapter 7

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Chapter 6-7 WATER CONSERVATION AND EDUCATION

Sections:

Article 1. Purpose

6-7-101 Repeal.

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Article 2. Education

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Article 3. Water Conservation Schedule and Prohibitions

6-7-301 Outdoor landscape watering.

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6-7-401 Title.

6-7-402 Declaration of policy: Purpose.

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6-7-405 Water conservation stages.

6-7-406 Mandatory conservation compliance phase implementation.

6-7-407 Water wasting prohibited.

6-7-408 Acts constituting water wasting.

6-7-409 Notice of Acts Constituting Water Wasting.

6-7-410 Penalty fee assessment for water wasting.

6-7-411 Appeal.**6-7-412 Appeal hearing request.****6-7-413 Failure to pay penalty fee.****Article 1. Purpose****6-7-101 Repeal.**

Turlock City Council Resolution No. 90-68 is hereby repealed in its entirety by this section.

(1209-CS, Amended, 06/25/2015; 724-CS, Enacted, 03/26/1991)

6-7-102 Purpose.

The purpose and intent of the Council in enacting this chapter is to protect the health, safety, welfare, and interest of the public and of patrons of establishments regulated by this Code by requiring that the patrons, establishments, and persons conserve and not waste water by requiring that such establishments and persons conform to the water conservation procedures set forth in this chapter.

(1209-CS, Amended, 06/25/2015; 724-CS, Enacted, 03/26/1991)

6-7-103 Findings.

- (a) As a result of the drought and the understanding that water is a precious resource, the City Council finds that any ordinance relating to the conservation of water is an urgency matter for the health, safety, and general welfare of the public; and
- (b) The Constitution of the State of California and California Case Law provide that water shall not be wasted; and
- (c) The provisions of TMC 6-5-117(e) entitled "Prohibited acts" provides that no person shall waste water; and
- (d) To prevent the waste of water it is the intent of the City Council of the City of Turlock to adopt reasonable rules regulating the use of water for outdoor landscape watering and other ancillary uses; and
- (e) The City Council is mindful of the importance of conserving water.

(1209-CS, Amended, 06/25/2015; 724-CS, Enacted, 03/26/1991)

Article 2. Education

6-7-201 Education.

(a) The City Council, as part of supplementation of this chapter, will provide information to the public through the City Manager and City departments regarding the proper use to minimize the volume of water needed for a given function.

(b) The Council, in an effort to carry out its findings and legislative purpose, sponsors this educational program with the intent that through proper education and implementation of water conservation procedures persons and establishments may continue to function with a significant savings in the volume of water.

(1209-CS, Amended, 06/25/2015; 724-CS, Enacted, 03/26/1991)

Article 3. Water Conservation Schedule and Prohibitions

6-7-301 Outdoor landscape watering.

All users of water within the City limits of the City of Turlock are subject to the following regulations:

(a) Outdoor landscape watering is prohibited between the hours of 9:00 a.m. and 7:00 p.m.

(b) From March 1st to October 31st addresses which end with an odd number are authorized to water on Sunday, Wednesday, and Friday.

(c) From March 1st to October 31st addresses which end with an even number are authorized to water on Tuesday, Thursday, and Saturday.

(d) No watering is permitted on Monday.

(e) Winter outdoor landscape watering schedule shall be as follows: from November 1st to February 28th outdoor landscape watering is only permitted on Saturday for addresses which end with an even number and Sunday for addresses which end with an odd number.

(1222-CS, Amended, 05/12/2016; 1209-CS, Amended, 06/25/2015; 849-CS, Amended, 04/26/1994; 746-CS, Amended, 08/13/1991; 724-CS, Enacted, 03/26/1991)

6-7-302 Prohibitions.

(a) Newly planted lawns may be allowed daily watering only until the second mowing has been completed upon notification of the Municipal Services Department prior to planting.

(b) The washing down or hosing of recreational vehicles, sidewalks, gutters, outside structures, or other exterior surfaces without prior written consent of the Municipal Services Director or his designee is prohibited and a violation of this chapter. Sweeping or brushing is required unless prior approval for water use is obtained.

(c) The filling of wading pools is permitted, but "slip-n-slides" and other recreational activities requiring a constant flow of water are prohibited.

(d) The washing of vehicles at a residence is allowed only if a quick-acting automatic positive shut-off valve is used and in proper operating condition and is limited to one (1) such washing per week per vehicle during designated watering days and times.

(1209-CS, Amended, 06/25/2015; 724-CS, Enacted, 03/26/1991)

Article 4. Emergency Water Shortage Plan

6-7-401 Title.

There is hereby established the "City of Turlock Emergency Water Shortage Plan."

(1209-CS, Amended, 06/25/2015; 785-CS, Amended, 06/23/1992; 778-CS, Enacted, 04/28/1992)

6-7-402 Declaration of policy: Purpose.

(a) Declaration of policy. The City Council hereby declares that the general welfare requires that the water resources available to the City be put to the maximum beneficial use to the extent to which the City is capable, and that the waste of, unreasonable use of, or unreasonable method of use of water be prevented. The conservation of such water is to ensure the reasonable and beneficial use thereof in the interests of the people of the City of Turlock and for the public welfare.

(b) Purpose. The City Council finds and declares that consolidating the provisions of Ordinance Number 778-CS and Ordinance Number 782-CS into one (1) readily accessible document shall provide a more professional and usable work product as well as promote a better public understanding of the various procedures and provisions of the Turlock Emergency Water Shortage Plan. Additionally, adding provisions prohibiting water wasting and defining the acts which so constitute water wasting advances the purpose and policy of the Turlock Emergency Water Shortage Plan.

(1209-CS, Amended, 06/25/2015; 785-CS, Amended, 06/23/1992; 778-CS, Enacted, 04/28/1992)

6-7-403 City Manager: Authorized action.

The City Manager, or his or her designee, is hereby authorized and directed to implement the provisions of this chapter upon a determination that same is necessary to protect the public welfare and safety.

(1209-CS, Amended, 06/25/2015; 785-CS, Amended, 06/23/1992; 778-CS, Enacted, 04/28/1992)

6-7-404 Application.

The provisions of this chapter shall apply to all persons, customers, and property served by the City of Turlock.

(1209-CS, Amended, 06/25/2015; 785-CS, Amended, 06/23/1992; 778-CS, Enacted, 04/28/1992)

6-7-405 Water conservation stages.

(a) Stage 1. Mandatory water conservation compliance: Warning. Upon implementation of this chapter by the City Manager pursuant to TMC 6-7-403, and publication of notice that Stage 1 mandatory water conservation compliance measures are in effect, the following mandatory conservation compliance measures shall apply:

(1) Outdoor landscape watering. Outdoor landscape watering shall be limited to three (3) times per week on an odd-even basis. If the address ends in an even number, the water days shall be Tuesdays, Thursdays, and Saturdays. If the address ends in an odd number, the watering days shall be Wednesdays, Fridays, and Sundays. No outdoor landscape watering on Mondays. Drip irrigation systems shall be exempt.

(2) Outdoor landscape watering is prohibited between the hours of 9:00 a.m. and 7:00 p.m.

(3) Large commercial landscapes and City parks may have individual watering schedules approved by the Municipal Services Department.

(4) Residential vehicle washing. Residents shall be allowed to wash their vehicles as established by TMC 6-7-302(d).

(b) Stage 2. Mandatory water conservation compliance: Warning. Upon implementation of this chapter by the City Manager pursuant to TMC 6-7-403, and publication of notice that Stage 2 mandatory water conservation compliance measures are in effect, the following mandatory conservation compliance measures shall apply:

(1) Outdoor landscape watering. Outdoor landscape watering shall be limited to two (2) times per week. If the address ends in an even number, the watering days shall be Tuesday and Saturday. If the address ends in an odd number, the watering days shall be Wednesday and

Sunday. No outdoor landscape watering on Monday, Thursday, and Friday. Drip irrigation systems shall be exempt.

(2) Outdoor landscape watering is prohibited between the hours of 9:00 a.m. and 7:00 p.m.

(3) Large commercial landscapes and City parks shall also be limited to two (2) days per week, as scheduled by the Municipal Services Department.

(4) Residential vehicle washing. Residents shall be allowed to wash their vehicles as established by TMC 6-7-302(d).

(5) Further use of decorative fountains or reflection ponds shall be discontinued until further notice.

(c) Stage 3. Mandatory water conservation compliance: Warning. Upon implementation of this chapter by the City Manager pursuant to TMC 6-7-403, and publication of notice that Stage 3 mandatory water conservation compliance measures are in effect, the following mandatory conservation compliance measures shall apply:

(1) Outdoor landscape watering shall be limited to one (1) day per week. If the address ends in an even number, the watering day shall be Saturday. If the address ends in an odd number, the watering day shall be Sunday. No outdoor landscape watering Monday through Friday. Drip irrigation systems shall be exempt.

(2) Outdoor landscape watering is prohibited between the hours of 9:00 a.m. and 7:00 p.m.

(3) Large commercial landscaping and City parks shall be limited to one (1) day per week, as scheduled by the Municipal Services Department.

(4) Filling newly constructed or drained swimming pools with City water shall be prohibited.

(5) Construction water from City fire hydrants shall be banned but treated effluent water from the City of Turlock's Regional Water Quality Control Facility may be made available for construction water purposes.

(6) Further use of decorative fountains or reflection ponds shall be discontinued until further notice.

(7) Washing of automobiles, trucks, trailers, boats, airplanes, and other types of mobile equipment not occurring upon the immediate premises of commercial car washes and commercial service stations and not in immediate interest of the public health, safety, and welfare shall be prohibited.

(d) Stage 4. Mandatory water conservation compliance: Warning. Upon implementation of this chapter by the City Manager pursuant to TMC 6-7-403, and publication of notice that Stage 4 mandatory water conservation compliance measures are in effect, the following mandatory conservation compliance measures shall apply:

(1) Outdoor landscape watering shall be prohibited. This includes multi-purpose commercial landscapes and City parks and median strips, and drip irrigation.

(2) Industry and commercial businesses shall be required to curtail consumption in order to maintain adequate supplies of water for health and safety.

(3) If there is total well failure, disaster relief from outside the City of Turlock shall be required.

(1222-CS, Amended, 05/12/2016; 1209-CS, Amended, 06/25/2015; 785-CS, Amended, 06/23/1992; 782-CS, Amended, 06/09/1992; 778-CS, Enacted, 04/28/1992)

6-7-406 Mandatory conservation compliance phase implementation.

(a) The Municipal Services Director, or his or her designee, shall monitor the projected supply and demand for water by its customers, with heightened emphasis during the months of March through October.

(b) The Municipal Services Director, or his or her designee, shall recommend to the City Manager the extent of the conservation compliance stage required in order for the City to prudently plan for and supply water to its customers.

(c) The City Manager may order that the appropriate stage of water conservation be implemented or terminated in accordance with the applicable provisions of this chapter. When implementing mandatory water conservation compliance Stages 2, 3, and 4 said order shall be made by public announcement and shall be published a minimum of one (1) time in a daily newspaper of general circulation and shall become effective immediately upon such publication.

(1209-CS, Amended, 06/25/2015; 785-CS, Amended, 06/23/1992; 778-CS, Enacted, 04/28/1992)

6-7-407 Water wasting prohibited.

Water wasting, as defined by TMC 6-7-408, is prohibited.

(1209-CS, Amended, 06/25/2015; 785-CS, Enacted, 06/23/1992)

6-7-408 Acts constituting water wasting.

For the purposes of this title, acts constituting water wasting shall mean and include, but shall not be limited to, any of the following acts:

- (a) Failure to comply with the City of Turlock Emergency Water Shortage Plan, any conservation stage declared thereunder, and/or any guidelines or outdoor landscape watering schedules in effect pursuant thereto.
- (b) Watering outdoor landscape areas or gardens such that excess water leaves the property or area being watered.
- (c) Watering outdoor landscaping while raining and within forty-eight (48) hours following any measurable rainfall.
- (d) Washing vehicles, boats, or equipment during restricted days or hours; and/or using an open hose not equipped with a quick-action automatic shut-off valve while so doing.
- (e) Hosing down driveways, streets, sidewalks, parking lots, and building exteriors without the prior written consent of the Director of Municipal Services or his designee. If consent is given, any restrictions on the frequency, timing, or method would remain in effect unless a health or safety condition existed.
- (f) Having leaky faucets, irrigation valves, sprinkler heads, or plumbing fixtures on the premises.
- (g) Operating evaporated coolers which are not equipped with a recirculating pump.

(1209-CS, Amended, 06/25/2015; 785-CS, Enacted, 06/23/1992)

6-7-409 Notice of Acts Constituting Water Wasting.

- (a) Any person committing any act which constitutes the wasting of water, as provided in TMC 6-7-408, shall be served Notice of Acts Constituting Water Wasting.
- (b) This Notice of Acts Constituting Water Wasting shall serve as a first warning and first Notice of Acts Constituting Water Wasting and shall:
 - (1) Identify the date, time, and circumstances of the violation;
 - (2) State the amount of the potential penalty for water wasting;
 - (3) Advise the customer of his or her appeal rights as provided herein;
- (c) The Notice of Acts Constituting Water Wasting shall be served on any person committing any act which constitutes the wasting of water, as provided in TMC 6-7-408, shall be served Notice of Act

Constituting Water Wasting.

(1209-CS, Amended, 06/25/2015; 785-CS, Enacted, 06/23/1992)

6-7-410 Penalty fee assessment for water wasting.

(a) A penalty in the sum of Fifty and no/100ths (\$50.00) Dollars shall be assessed to the utility customer's account for a second violation within said one (1) year after being served with a first warning and a first Notice of Acts Constituting Water Wasting, pursuant to TMC 6-7-409. This penalty shall be waived if the owner of the premises where the violation occurred, or the occupant (if different than the owner, and the occupant committed the violation), attends a water conservation education workshop offered by the City within sixty (60) days after date of the penalty notice; provided, that only one (1) such penalty waiver shall be allowed for the premises within any twenty-four (24) month period.

(b) A penalty in the sum of One Hundred and no/100ths (\$100.00) Dollars shall be assessed to the utility customer's account for a third violation within said one (1) year after being served with a Notice of Acts Constituting Water Wasting, pursuant to TMC 6-7-409.

(c) A penalty in the sum of Two Hundred-Fifty and no/100ths (\$250.00) Dollars shall be assessed to the utility customer's account for a fourth and each subsequent violation within said one (1) year after being served with a Notice of Acts Constituting Water Wasting, pursuant to TMC 6-7-409.

(1209-CS, Amended, 06/25/2015; 785-CS, Enacted, 06/23/1992. Formerly 6-7-411)

6-7-411 Appeal.

(a) Any person issued a Notice of Acts Constituting Water Wasting shall have the right to appeal to the Municipal Services Director, or his or her designee, the Notice of Acts Constituting Water Wasting, or any water wasting penalty assessed to his or her account.

(b) The appeal hearing shall be held before the Municipal Services Director, or his or her designee. After hearing all of the evidence presented, he or she shall make the final administrative determination regarding the matter.

(c) The customer shall be allowed to present such witnesses and evidence as he or she may desire.

(d) Such appeal hearing is an administrative hearing and the rules of evidence shall not apply.

(1209-CS, Amended, 06/25/2015; 785-CS, Enacted, 06/23/1992. Formerly 6-7-412)

6-7-412 Appeal hearing request.

(a) The utility customer must request an appeal hearing in writing within fifteen (15) calendar days from the date of service of the Notice of Acts Constituting Water Wasting, or any water wasting penalty assessed to his or her account, unless the fifteenth day falls on a weekend or City observed holiday.

(b) The request for hearing shall be addressed to the Municipal Services Director and shall be deemed served only when received by the City. Failure to properly serve the request for hearing within the fifteen (15) calendar day period shall be deemed a waiver of the right to appeal the matter and the penalty will be assessed against the customer's account unless the fifteenth day falls on a weekend or City observed holiday.

(c) The hearing officer shall give written notice by mail to the utility customer of the date, time, and location of the appeal hearing, which hearing shall be held no sooner than ten (10) days from receipt of the request for hearing and no longer than thirty (30) days from receipt of such request.

(d) The decision of the hearing officer shall be final. If the Notice of Acts Constituting Water Wasting, or any water wasting penalty assessed to an account is upheld, the penalty shall be assessed to the customer's account.

(1209-CS, Amended, 06/25/2015; 785-CS, Enacted, 06/23/1992. Formerly 6-7-413)

6-7-413 Failure to pay penalty fee.

Failure of any utility customer to pay the penalty imposed pursuant to this article as required shall be grounds to discontinue utility service until compliance is obtained.

(1209-CS, Amended, 06/25/2015; 785-CS, Enacted, 06/23/1992. Formerly 6-7-415)

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6-5-501 Fees and charges. Revised 3/20

(a) All service connections shall be metered.

(b) Fees and Charges.

(1) Monthly water charges shall consist of the following three components: commodity charge, capacity charge, and a customer charge.

(2) Each service connection shall pay the fees and charges as set forth below:

Effective date >	3/1/2018	1/1/2019	1/1/2020	1/1/2021	1/1/2022
Commodity Charge, \$ per 1,000 gallons					
Single-Family	\$0.84	\$1.00	\$1.20	\$1.47	\$1.76
Multi Residential/ Commercial/Industrial/Institutional	\$0.63	\$0.75	\$0.89	\$1.08	\$1.28
Landscape	\$0.99	\$1.20	\$1.45	\$1.78	\$2.16
Capacity Charge, \$ per meter per month					
1" or less	\$28.00	\$32.70	\$38.10	\$45.20	\$52.70
1-1/2"	\$56.00	\$65.00	\$76.00	\$90.00	\$105.00
2"	\$90.00	\$104.00	\$122.00	\$145.00	\$169.00
3"	\$196.00	\$229.00	\$267.00	\$316.00	\$369.00
4"	\$336.00	\$392.00	\$457.00	\$542.00	\$633.00
6"	\$700.00	\$816.00	\$952.00	\$1,130.00	\$1,318.00
8"	\$1,344.00	\$1,567.00	\$1,829.00	\$2,170.00	\$2,531.00
10"	\$2,128.00	\$2,482.00	\$2,895.00	\$3,435.00	\$4,008.00
Customer Charge, \$ per account per month	\$3.50	\$4.10	\$4.75	\$5.65	\$6.55

(c) Inaccurate Meter. An inaccurate meter shall be charged as follows:

(1) Either an average of the three (3) months' prior usage; or

(2) The charge of the same month for the previous year, whichever is greater.

(d) Standby Charges (this rate is in addition to the water charges shown above). This charge is for customers who use the City water supply as a backup water source.

Size of Service	Effective July 1, 2007	Effective July 1, 2008
2"	\$219.00	\$230.00
4"	\$655.00	\$687.00
6"	\$1,310.00	\$1,374.00
8"	\$2,293.00	\$2,405.00

(1274-CS, Amended, 02/13/2020; 1240-CS, Amended, 02/08/2018; 1194-CS, Amended, 04/08/2014; 1155-CS, Amended, 09/22/2011; 1101-CS, Amended, 11/08/2007; 1027-CS, Amended, 06/10/2004; 1019-CS, Added, 02/12/2004)

Article 6. Non-metered Services

6-5-601 Residences (apartments, mobile home parks, recreation rooms, etc.).

(a) Per living unit:

Number of Rooms	Charge Per Living Unit	Effective July 1, 2004	Effective July 1, 2005	Effective July 1, 2006	Effective July 1, 2007	Effective July 1, 2008
0-5 Rooms	\$7.05	\$9.35	\$11.35	\$13.30	\$14.80	\$15.55
6-8 Rooms	\$7.90	\$10.50	\$12.70	\$14.90	\$16.55	\$17.40
More than 8 Rooms	\$8.70	\$11.55	\$14.00	\$16.45	\$18.25	\$19.15

(b) Landscaping - based on square footage of lot:

Square	Rate	Effective July 1				
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Footage	Rate	July 1, 2004	July 1, 2005	July 1, 2006	July 1, 2007	July 1, 2008
0 to 5,500 Square Feet	\$5.55	\$7.35	\$8.95	\$10.50	\$11.65	\$12.25
Each additional 2,000 square feet or fraction thereof	\$0.85	\$1.15	\$1.35	\$1.60	\$1.80	\$1.85

(1027-CS, Amended, 06/10/2004; 1019-CS, Added, 02/12/2004)

6-5-602 Commercial non-metered accounts.

(a) Non-water related establishments. Charges to be based on sewer fixture units as follows:

	Existing	Effective July 1, 2004	Effective July 1, 2005	Effective July 1, 2006	Effective July 1, 2007	Effective July 1, 2008
(1) 1 to 15 fixture Units	\$9.45	\$13.00	\$15.75	\$18.25	\$20.50	\$21.50
(2) Each additional 5 Units or portion thereof:	\$0.85	\$1.15	\$1.40	\$1.60	\$1.80	\$1.90
(3) When water is available but not related to fixture units, such as for landscaping: minimum charge	\$9.45	\$13.00	\$15.75	\$18.25	\$20.50	\$21.50

(b) Water related establishments. Shall be charged as follows:

	Existing	Effective July 1, 2004	Effective July 1, 2005	Effective July 1, 2006	Effective July 1, 2007	Effective July 1, 2008

(1) Barber/beauty shops or electrologists/manicurist per operator/station:	\$9.45	\$13.00	\$15.75	\$18.25	\$20.50	\$21.50
Minimum Charge:	\$10.50	\$14.45	\$17.50	\$20.30	\$22.80	\$23.90
(2) Boarding houses, convalescent hospitals, dormitories, hotels, lodging houses and rooming houses (per bed charge):	\$3.15	\$4.35	\$5.25	\$6.10	\$6.85	\$7.15
(3) Carnivals and circuses: For each water service one inch (1") or less in size (per day):	\$9.45	\$13.00	\$15.75	\$18.25	\$20.50	\$21.50
(4) Carnivals and circuses: For each water service greater than 1" (per day):	\$78.75	\$108.35	\$131.25	\$152.10	\$170.85	\$170.15
(5) Churches, halls, auditoriums						
plus fixture units:	\$15.75	\$21.65	\$26.25	\$30.40	\$34.17	\$35.85
(6) Dentists per chair:	\$6.30	\$8.65	\$10.50	\$12.15	\$13.65	\$14.35
(7) Doctors, medical (per Doctor) (includes but not limited to chiropractor, optometrist and veterinary offices):	\$12.60	\$17.35	\$21.00	\$24.35	\$27.35	\$28.65

	Existing	Effective July 1,				
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		2004	2005	2006	2007	2008
(8) Food outlets/eating and drinking establishments:						
(i) Food outlet wherein meats, fresh vegetable or groceries are sold and/or exchanged shall be charged: (plus fixture unit cost shown above)	\$15.75	\$21.65	\$26.25	\$30.40	\$34.17	\$35.85
(ii) Eating/drinking establishments (maximum occupancy load). Cost per seat:						
First 50	\$0.79	\$1.10	\$1.30	\$1.55	\$1.70	\$1.80
51-100	\$0.63	\$0.85	\$1.05	\$1.20	\$1.35	\$1.45
Over 100	\$0.47	\$0.65	\$0.80	\$0.90	\$1.00	\$1.05
Minimum Charge	\$35.70	\$49.11	\$59.50	\$68.94	\$77.44	\$81.22
(iii) Bakeries without seats, including takeout only food, establishments	\$22.05	\$30.33	\$36.75	\$42.58	\$47.83	\$50.17

	Existing	Effective July 1, 2004	Effective July 1, 2005	Effective July 1, 2006	Effective July 1, 2007	Effective July 1, 2008
(9) Kennels and stables:	\$12.60	\$17.35	\$21.00	\$24.35	\$27.35	\$28.65

(10) Laboratories (physical, chemical, photography, biological, dental):	\$24.15	\$33.20	\$40.25	\$46.65	\$52.40	\$54.95
(11) Service stations (plus food outlet rate if a Mini-Mart):	\$18.90	\$26.00	\$31.50	\$36.50	\$41.00	\$43.00
(12) Veterinary clinics/ veterinary hospitals (plus charge for kennel/stable where applicable).	\$12.60	\$7.35	\$21.00	\$24.35	\$27.35	\$28.65
(13) Car lots: Charges based on landscaping rate and fixture unit rate if there is water in the office.						

(c) Lot size used for business and industrial purposes shall be by area of landscaped/open spaces using water:

Area	Charge	Effective July 1, 2004	Effective July 1, 2005	Effective July 1, 2006	Effective July 1, 2007	Effective July 1, 2008
Less than 500 square feet	No charge	No charge	No charge	No charge	No charge	No charge
500 - 5,500 square feet, inclusive	\$5.55	\$7.65	\$9.25	\$10.70	\$12.05	\$12.65
Every 2,000 square feet thereafter, or fraction thereof	\$0.85	\$1.15	\$1.40	\$1.65	\$1.85	\$1.95

(d) The Water Service User Rate charged for commercial accounts shall be based upon the number of fixture

units, unless otherwise specified. The rate shall be charged per individual business based upon the number of fixture units regardless of whether several users share a common building or property.

(1032-CS, Amended, 08/26/2004; 1027-CS, Amended, 06/10/2004; 1019-CS, Added, 02/12/2004)

6-5-603 Fire line service charge.

This charge is for water systems using City of Turlock water lines and fire hydrants for fire protection but who supply potable water through their own water lines. This is a monthly charge.

Linear feet Existing	Effective July 1, 2004	Effective July 1, 2005	Effective July 1, 2006	Effective July 1, 2007	Effective July 1, 2008
\$ 0.011	\$ 0.15	\$ 0.18	\$ 0.21	\$ 0.24	\$ 0.25

(1027-CS, Amended, 06/10/2004; 1019-CS, Added, 02/12/2004)

Article 7. Construction Water Rates

6-5-701 Rates for off-site construction water.

(a) Construction water for off-site improvements.

(1) Off-site construction water shall be taken from hydrants designated by the Municipal Services Department and delivered directly to an approved tank truck for distribution. All water delivered to water trucks shall be taken from the two-and-one-half inch (2-1/2") discharge port of the hydrant only. Hydrants are to be operated using a hydrant spanner wrench only.

(2) Only under special conditions deemed beneficial by the Municipal Services Department shall a direct discharge from the four-and-one-half-inch (4-1/2") hydrant port be allowed. This use shall only be allowed under the direct supervision of the Municipal Services Department.

(b) A fire hydrant meter shall be obtained from the Municipal Services Department by depositing a fee as approved by City Council resolution with the Municipal Services Department. The deposit shall be refunded, less the amount for water used, upon return of the meter in good condition. In addition to actual consumption, customer shall pay a meter rental fee as follows:

Meter Size	Rate Per Month
1" or less	\$2.00
1-1/2"	\$4.50
2"	\$5.50

3"	\$13.50
4"	\$27.50
6"	\$48.50
8"	\$86.50
10"	\$140.50

(c) Hydrant meter rate (dollars per 1,000 gallons):

Existing	Effective July 1, 2004	Effective July 1, 2005	Effective July 1, 2006	Effective July 1, 2007	Effective July 1, 2008
\$0.85	\$1.17	\$1.42	\$1.64	\$1.84	\$1.93

Dollars per 1,000 gallons, provided a hydrant meter rate minimum charge:

Existing	Effective July 1, 2004	Effective July 1, 2005	Effective July 1, 2006	Effective July 1, 2007	Effective July 1, 2008
\$9.45	\$13.00	\$15.75	\$18.25	\$20.50	\$21.50

(1209-CS, Amended, 06/25/2015; 1194-CS, Amended, 04/08/2014; 1027-CS, Amended, 06/10/2004; 1019-CS, Added, 02/12/2004)

6-5-702 Rates for on-site construction water. Revised 3/20

(a) All water services shall be metered. Meter fees shall be paid on the building permit. Upon payment of the meter fee through the building permit, a utility account shall be established and a water meter installed. Water charges shall start when the utility account is established.

(b) Full utility service charges (water, garbage, and sewer) start when the building permit is finalized or the building is occupied.

(1274-CS, Amended, 02/13/2020; 1209-CS, Amended, 06/25/2015; 1027-CS, Amended, 06/10/2004; 1019-CS, Added, 02/12/2004)

DRAFT

AWWA Free Water Audit Software v5.0

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This spreadsheet-based water audit tool is designed to help quantify and track water losses associated with water distribution systems and identify areas for improved efficiency and cost recovery. It provides a "top-down" summary water audit format, and is not meant to take the place of a full-scale, comprehensive water audit format.

Auditors are strongly encouraged to refer to the most current edition of AWWA M36 Manual for Water Audits for detailed guidance on the water auditing process and targetting loss reduction levels

The spreadsheet contains several separate worksheets. Sheets can be accessed using the tabs towards the bottom of the screen, or by clicking the buttons below.

Please begin by providing the following information

Name of Contact Person:

Email Address:

Telephone (incl Ext.):

Name of City / Utility:

City/Town/Municipality:

State / Province:

Country:

Year: Calendar Year

Audit Preparation Date:

Volume Reporting Units:

PWSID / Other ID:

The following guidance will help you complete the Audit

All audit data are entered on the [Reporting Worksheet](#)

- Value can be entered by user
- Value calculated based on input data
- These cells contain recommended default values

Use of Option (Radio) Buttons: 0.25%

Select the default percentage by choosing the option button on the left

To enter a value, choose this button and enter a value in the cell to the right

The following worksheets are available by clicking the buttons below or selecting the tabs along the bottom of the page

<p><u>Instructions</u></p> <p>The current sheet. Enter contact information and basic audit details (year, units etc)</p>	<p><u>Reporting Worksheet</u></p> <p>Enter the required data on this worksheet to calculate the water balance and data grading</p>	<p><u>Comments</u></p> <p>Enter comments to explain how values were calculated or to document data sources</p>	<p><u>Performance Indicators</u></p> <p>Review the performance indicators to evaluate the results of the audit</p>	<p><u>Water Balance</u></p> <p>The values entered in the Reporting Worksheet are used to populate the Water Balance</p>	<p><u>Dashboard</u></p> <p>A graphical summary of the water balance and Non-Revenue Water components</p>
<p><u>Grading Matrix</u></p> <p>Presents the possible grading options for each input component of the audit</p>	<p><u>Service Connection Diagram</u></p> <p>Diagrams depicting possible customer service connection line configurations</p>	<p><u>Definitions</u></p> <p>Use this sheet to understand the terms used in the audit process</p>	<p><u>Loss Control Planning</u></p> <p>Use this sheet to interpret the results of the audit validity score and performance indicators</p>	<p><u>Example Audits</u></p> <p>Reporting Worksheet and Performance Indicators examples are shown for two validated audits</p>	<p><u>Acknowledgements</u></p> <p>Acknowledgements for the AWWA Free Water Audit Software v5.0</p>

If you have questions or comments regarding the software please contact us via email at: wlc@awwa.org



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association.
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Click to access definition
 Click to add a comment

Water Audit Report for: City of Turlock (CA 5010019)
Reporting Year: 2020 1/2020 - 12/2020

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

		----- Enter grading in column 'E' and 'J' ----->				Master Meter and Supply Error Adjustments	
Volume from own sources:	<input type="button" value="+"/> <input type="button" value="?"/> 3	<input type="text" value="6,742.900"/>	MG/Yr	<input type="button" value="+"/> <input type="button" value="?"/> 3	<input type="text" value=""/>	<input type="text" value=""/>	MG/Yr
Water imported:	<input type="button" value="+"/> <input type="button" value="?"/> n/a	<input type="text" value="0.000"/>	MG/Yr	<input type="button" value="+"/> <input type="button" value="?"/> 3	<input type="text" value=""/>	<input type="text" value=""/>	MG/Yr
Water exported:	<input type="button" value="+"/> <input type="button" value="?"/> 3	<input type="text" value="5.705"/>	MG/Yr	<input type="button" value="+"/> <input type="button" value="?"/> 5	<input type="text" value=""/>	<input type="text" value=""/>	MG/Yr

WATER SUPPLIED: **6,737.195** MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="button" value="+"/> <input type="button" value="?"/> 5	<input type="text" value="6,028.500"/>	MG/Yr				
Billed unmetered:	<input type="button" value="+"/> <input type="button" value="?"/> n/a	<input type="text" value="0.000"/>	MG/Yr				
Unbilled metered:	<input type="button" value="+"/> <input type="button" value="?"/> 5	<input type="text" value="241.300"/>	MG/Yr				
Unbilled unmetered:	<input type="button" value="+"/> <input type="button" value="?"/> 5	<input type="text" value="16.843"/>	MG/Yr				

AUTHORIZED CONSUMPTION: **6,286.643** MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

450.552 MG/Yr

Apparent Losses

Unauthorized consumption: **16.843** MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies: 3 MG/Yr
Systematic data handling errors: 5 MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: **159.869** MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: **290.682** MG/Yr

WATER LOSSES: **450.552** MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: **708.695** MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains: 9 miles
Number of active AND inactive service connections: 9
Service connection density: conn./mile main

Are customer meters typically located at the curbside or property line? Yes (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 psi

COST DATA

Total annual cost of operating water system: 10 \$/Year
Customer retail unit cost (applied to Apparent Losses): 9 \$/1000 gallons (US)
Variable production cost (applied to Real Losses): 5 \$/Million gallons Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 50 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Customer metering inaccuracies
- 3: Billed metered

UWMP Adoption Resolution

Not Included in this Submittal

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