

City of Ceres

2020 Urban Water Management Plan

FINAL

AUGUST 2021

Prepared for:

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**CITY OF CERES
2020 URBAN WATER MANAGEMENT PLAN**

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LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|-------------------|---|
| Annual Assessment | Annual Water Supply and Demand Assessment |
| AB | Assembly Bill |
| AF | Acre-feet |
| AFA | Acre-feet per annum |
| AFY | Acre-feet per year |
| Bay-Delta Plan | Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary |
| CII | Commercial, Industrial, and Institutional sector |
| CIMIS | California Irrigation Management Information System |
| CMC | City of Ceres Municipal Code |
| County | Stanislaus County |
| CVCWA | Central Valley Clean Water Association |
| CV-SALTS | Central Valley Salinity Alternatives for Long-Term Sustainability |
| CUWCC | California Urban Water Conservation Council |
| CWC | California Water Code |
| DBCP | Dibromochloropropane |
| DMC | Delta-Mendota Canal |
| DMM | Demand Management Measures |
| DOF | California Department of Finance |
| DRA | Drought Risk Assessment |
| DWR | California Department of Water Resources |
| EDB | Ethylenedibromide |
| EPA | Environmental Protection Agency |
| ERP | Emergency Response Plan |
| ET | Evapotranspiration |
| GAC | Granular Activated Carbon |
| GMP | Groundwater Management Plan |
| gpm | gallons per minute |
| gpcd, GPCD | gallons per capita per day |
| GSA | Groundwater Sustainability Agency |
| GSP | Groundwater Sustainability Plan |
| Legislature | State of California Legislature |
| MCL | Maximum Contaminant Level |
| MG | Million gallons |
| mg/L | Milligrams per liter |
| mgd, MGD | Million gallons per day |
| MGY | Million gallons per year |
| MID | Modesto Irrigation District |
| MOU | Memorandum of Understanding |
| NVRRWP | North Valley Regional Recycled Water Project |
| PCE | Trichloroethane |
| pCi/L | Picocuries per liter |
| ppb | Parts per billion |
| ppt | Parts per trillion |

| | |
|-------|---|
| RSWSP | Regional Surface Water Supply Project |
| RWQCF | Turlock Regional Water Quality Control Facility |
| RWQCB | Regional Water Quality Control Board |
| SB | Senate Bill |
| SED | Substitute Environmental Document |
| SGMA | Sustainable Groundwater Management Act |
| SRWA | Stanislaus Regional Water Authority |
| SWRCB | State Water Resources Control Board |
| SWTP | Surface Water Treatment Plant |
| TCP | 1,2,3-Trichloropropane |
| TDS | Total Dissolved Solids |
| TID | Turlock Irrigation District |
| ug/L | Micrograms per liter |
| UWMP | Urban Water Management Plan |
| UWMPA | Urban Water Management Plan Act |
| WDR | Waste Discharge Requirements |
| WSCP | Water Shortage Contingency Plan |
| WQCF | Modesto Water Quality Control Facility |
| WTGSA | West Turlock Groundwater Basin Association |
| WWTP | Wastewater Treatment Plant |

1 UWMP Introduction and Lay Description

1.1 Background and Purpose

Legal Requirements:

CWC Section 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.

The California Water Code (CWC) requires urban water suppliers within the state to prepare and adopt Urban Water Management Plans (UWMPs) for submission to the California Department of Water Resources (DWR). The UWMPs, which must be filed every five years, must satisfy the requirements of the Urban Water Management Planning Act (UWMPA) of 1983 including amendments that have been made to the UWMPA and other applicable regulations. The UWMPA requires urban water suppliers servicing 3,000 or more connections or supplying more than 3,000 acre-feet (AF) of water annually, to prepare an UWMP.

The purpose of the UWMP is to maintain efficient use of urban water supplies, continue to promote conservation programs and policies, ensure that sufficient water supplies are available for future beneficial use, and provide a mechanism for response during water drought conditions. This plan, which was prepared in compliance with the CWC, and as set forth in the 2020 Urban Water Management Plan Guidebook for Urban Water Suppliers (May 2021) established by DWR (UWMP Guidebook), constitutes the City of Ceres (City) 2020 UWMP. This 2020 UWMP was prepared in compliance with the UWMPA and the Water Conservation Bill of 2009 (Senate Bill [SB] X7-7) by Black Water Consulting Engineers, Inc. (Black Water) and the City.

1.2 Previous Urban Water Management Plan

The City previously updated their 2015 UWMP in June 2016. Following adoption, the 2015 UWMP was submitted to and approved by DWR. This 2020 UWMP serves as an update to the 2015 UWMP and complies with all new UWMP requirements and regulations.

1.3 Urban Water Management Planning and the California Water Code

This section summarizes the California Water Code (CWC) sections that are applicable to UWMPs.

1.3.1 Urban Water Management Planning Act of 1983

In 1983, State Assembly Bill (AB) 797 modified the CWC Division 6, by creating the UWMPA. Several amendments to the original UWMPA, which were introduced since 1983, have increased the data requirements and planning elements to be included in UWMPs. Initial amendments to the UWMPA required that total projected water use be compared to water supply sources over the next 20 years, in 5-year increments. Recent DWR guidelines also suggest projecting through a 25-year planning horizon to maintain a 20-year timeframe until the next UWMP update has been completed. This is merely a guideline and not a requirement of the UWMPA. Therefore, the use of a 25-year planning horizon as opposed to a 20-year planning horizon is left up to the discretion of the agency. The City has opted to use a 20-year planning horizon in this 2020 UWMP.

1.3.2 Applicable Changes to the Water Code Since the 2015 UWMP

Since the UWMPA was passed, the CWC has undergone significant expansion and revision since the last UWMP Guidebook was prepared in 2015. Prolonged droughts, groundwater overdraft, regulatory revisions, and changing climatic conditions not only affect each Supplier's water reliability determinations, but also the broad picture of statewide water reliability overseen by DWR, the State Water Resources Control Board (SWRCB), and the State of California Legislature (Legislature). Accordingly, the UWMPA has grown to address changing conditions and it guides California's water resource management. Applicable changes to the CWC since the completion of the City's 2015 UWMP are summarized in **Table 1-1**.

Table 1-1 – Applicable Changes to the CWC Since 2015

| Topic | CWC Sections | Legislative Bill | Summary |
|--|------------------|------------------|--|
| Five Consecutive Dry-Year Water Reliability Assessment | 10635(a) and (b) | SB 606, 2019 | The Legislature modified the dry-year water reliability planning from a “multiyear” time period to a “drought lasting five consecutive water years” designation. |
| Drought Risk Assessment | 10635(b) | SB 606, 2019 | The Drought Risk Assessment (DRA) requires a Supplier to assess water supply reliability over a five-year period from 2021 to 2025. |
| Seismic Risk | 10632.5 | SB 664, 2016 | Requires the UWMP to address seismic risk to various water system facilities and have a mitigation plan. |
| Energy Use | 10631.2(a) | SB 606, 2018 | Requires Suppliers to include readily obtainable information on estimated amounts of energy use for their water supply extraction, treatment, distribution, storage, conveyance, and other water uses. |
| Water Loss Reporting for Five Years | 10631(d) | AB 1414, 2019 | Requires inclusion of the past five years of water loss audit reports in UWMPs. |
| Water Shortage Contingency Plan (WSCP) | 10632 | SB 606, 2019 | Suppliers are required to prepare and adopt a WSCP. |
| Groundwater Supplies Coordination | 10631 | AB 1414, 2019 | Requires UWMPs to be consistent with Groundwater Sustainability Plans (GSPs) |
| Lay Description | 10630.5 | SB 606, 2019 | Requires inclusion of 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. |

1.4 UWMPs in Relation to Other Planning Efforts

The City is committed to providing a reliable and high-quality water supply to its customers. To ensure that the City will be able to continue to reliably serve the residents of Ceres in the future, the City has conducted/participated in several important planning efforts that relate to water supply planning and are related to the UWMP. Some of the most recent water planning efforts are summarized below:

- **Ceres General Plan 2035:** In May 2018, the City adopted an update to its General Plan that governs all City actions related to Ceres’ physical development through the year 2035. The General Plan outlines the City’s long-term physical and economic development and community enhancement so future planning efforts can align with the City’s goals.

- **Water Master Plan Update (Water Master Plan):** The City published its Water Master Plan in 2011. The Master Plan sets the foundation for the City to expand its water system to meet the needs of its growing population through buildout, as defined in the City's General Plan adopted in 1997.

To aid in meeting water legislation, the City has partnered at the local and state level to diversify the City's water supply portfolio to significantly increase reliability benefits while reducing the City's reliance on groundwater. Locally, the City has partnered with neighboring City of Turlock to form the Stanislaus Regional Water Authority (SRWA) to develop a future water supply plan from Turlock Irrigation District (TID). This alliance is noteworthy because the amount of groundwater in storage in each basin is dependent on the precipitation, recharge, and the total extraction of water from all the wells within the system. The groundwater management plan will be designed for the political, institutional, legal, and technical specifics of the basin, which can help adjacent agencies maintain the quality and quantity of the groundwater supply. This alliance will help the City to plan additional programs that will lead to more efficient management of water supplies.

In 2014, Governor Brown signed the Sustainable Groundwater Management Act (SGMA) which went into effect January 1st, 2015. A Memorandum of Understanding (MOU) was adopted in September of 2015, by the City stating that the City will coordinate groundwater management activities with the Turlock Groundwater Basin Association (TGBA) for the purpose of developing a basin-wide groundwater management plan (GMP) to meet compliance at the state level. As required in the SGMA, the City and all basins designated as high or medium priority and subject to critical conditions of overdraft shall be managed within a Groundwater Sustainability Agency (GSA) established by June 30, 2017. An approved Groundwater Sustainability Plan (GSP) must be adopted by each agency by January 2022.

The City continues to be committed to water conservation and its residents, making every effort to efficiently utilize its produced water supply. As a result of water conservation measures, the City has made great progress in reducing its gallons per capita, keeping the City on track to meet the water reduction goals set in the 2015 UWMP. For instance, in 2020, the City surpassed its reduction goal of 180 gallons per capita per day (gpcd) with a total of 121 gpcd.

1.5 UWMP Organization

This 2020 UWMP contains the appropriate sections and tables required per the UWMPA and has been prepared based on guidance provided by the DWR 2020 UWMP Guidebook. The required tables are included in the relevant sections and in **Appendix A**.

DWR's UWMP Checklist, as provided in the UWMP Guidebook, has been completed to demonstrate the UWMP's compliance with applicable requirements. A copy of the completed checklist is included in **Appendix B**. This plan is organized according to the recommended format provided in the UWMP Guidebook. The UWMP contains ten chapters as outlined below, followed by appendices that provide supporting documentation for the information presented in the plan.

- **Chapter 1 - UWMP Introduction and Lay Description:** This chapter provides background information for the 2020 UWMP and provides a description of the purpose of the plan.
- **Chapter 2 - Plan Preparation:** This chapter includes information on the development of the 2020 UWMP and efforts in coordination and outreach.

- **Chapter 3 - System Description:** This chapter describes the service area, population, and climate; presents an overview of the City's water distribution system; and describes the City's organizational structure and history.
- **Chapter 4 - Water Use Characterization:** This chapter describes and quantifies the current and projected water uses within the City's service area.
- **Chapter 5 - SB X7-7 Baseline and Targets, and 2020 Compliance:** This chapter describes the methods for calculating baseline and target water use consumption in the City. It also includes a calculation of the City's 2020 water use and determination of compliance with the 2020 target water use.
- **Chapter 6 - Water Supply Characterization:** This chapter describes the current and projected sources of water available to the City. A description of potential recycled water use and supply availability is also included in this chapter.
- **Chapter 7 - Water Service Reliability and Drought Risk Assessment:** This chapter describes the reliability of the City's current supply and evaluates the reliability 20 years out, including normal, single-dry years, and five consecutive dry years.
- **Chapter 8 - Water Shortage Contingency Plan:** This chapter references the City's Water Shortage Contingency Plan (WSCP) which is provided as an appendix.
- **Chapter 9 - Demand Management Measures:** This chapter describes the City's efforts to promote conservation, reduce water demand, and describes the City's demand management measures.
- **Chapter 10 - Plan Adoption, Submittal, and Implementation:** This chapter describes the steps taken to adopt and submit the 2020 UWMP and make it publicly available. This chapter will also describe the City's plan to implement the UWMP.

1.6 Lay Description

Legal Requirements:

CWC Section 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.

The UWMP describes the City's water system, characterizes water use, describes the water supply sources for the City, and analyzes the reliability of the City's water service for normal, dry, and 5-year drought conditions for the next 20 years. To further improve the reliability of the City's water system, the WSCP identifies strategies to implement during water shortages and describes procedures for identifying the potential of a water shortage in the current year.

The City water system has 13 groundwater wells with a total well capacity of 11,120 gallons per minute (gpm). In 2020, the City supplied 2,151 million gallons (MG) of potable water to 11,755 active connections. Potable water demands are projected to increase to 2,860 MG by 2040 due to increases in the City population. The City's water supply is projected to sufficiently meet expected demands through 2040 through the construction of a 15 million gallon per day (mgd) surface water treatment plant (SWTP), which will have a buildout capacity of 30 mgd. The SWTP will use surface water supplied by TID and is projected to begin operation by 2023. The project will initially provide 5 mgd of potable water to the City and 10 mgd of potable water to Turlock.

The Turlock groundwater basin, which is currently the City's only water source, is a high priority basin. The addition of surface water to the City's water portfolio, continued implementation of water conservation measures, and participation in regional activities to address the sustainable management of the groundwater basin, are critical components for the long-term reliability of the City's water system.

2 Plan Preparation

This chapter provides information on the processes used for developing the 2020 UWMP, including coordination and outreach efforts.

2.1 Basis for Preparing a Plan

Legal Requirements:

CWC Section 10617:

“Urban water supplier” means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems.

CWC Section 10620:

(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

CWC Section 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.

2.1.1 Public Water Systems

The CWC defines an urban water supplier as “a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or supplies more than 3,000 acre-feet (AF) of potable water annually at retail for municipal purposes.” **Table 2-1 (DWR Table 2-1)** documents the number of municipal connections and the volume of water supplied in 2020. The City is considered an urban retail water supplier.

Table 2-1 – Public Water Systems (DWR Table 2-1)

| 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> | | | |
| CA5010028 | City of Ceres | 11,755 | 2,151 |
| | | | |
| | | | |
| TOTAL | | 11,755 | 2,151 |
| * Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. | | | |
| NOTES: | | | |

2.2 Regional Planning

The City is a member and participant in several regional water planning groups. These groups include the SRWA and the West Turlock Groundwater Basin Association (WTGSA). Although the City is closely involved with these regional organizations, the City is not engaging in a cooperative regional UWMP with any of these entities because the City is the sole water supplier and water management agency for the area.

2.3 Individual Planning and Compliance

Water agencies are given the option to develop UWMPs individually or collectively as a regional group. While efforts to prepare the UWMP were coordinated with appropriate agencies, this 2020 UWMP was developed for the City service area only, and the City is not participating in a Regional UWMP (**Table 2-2**).

Table 2-2 – Plan Identification Type (DWR Table 2-2)

| 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: | | |

2.4 Fiscal or Calendar Year and Units of Measure

Legal Requirements:

CWC Section 10608.20:

(a)(1) Urban retail water suppliers...may determine the targets on a fiscal year or calendar year basis.

The City's 2020 UWMP has been prepared on a calendar year basis and includes planning data for the complete year of 2020. The City's reporting of water volumes in this 2020 UWMP is reported in million gallons per year (MGY). **Table 2-3 (DWR Table 2-3)** summarizes the City's reporting methods for this 2020 UWMP.

Table 2-3 – Supplier Identification (DWR Table 2-3)

| 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: | |
| | |

2.5 Coordination and Outreach

Legal Requirements:

CWC Section 10631:

(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).

The UWMPA requires that the UWMP identify the water agency's coordination with appropriate nearby agencies. While preparing the 2020 UWMP, the City coordinated its efforts with relevant agencies to ensure that the data and issues are presented accurately.

2.5.1 Wholesale and Retail Coordination

The City does not currently rely upon a wholesale agency for a source of water. However, by 2023, the City is projected to be receiving water from the SRWA in partnership with TID. The SRWA Regional Surface Water Supply Project (RSWSP) is currently in the design phase. The 2020 UWMP does include surface water deliveries from the project starting in 2023. The City has provided SRWA and TID with projected water demands from each source, in five-year increments, for the next 20 years. The 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)

| Submittal Table 2-4 Retail: Water Supplier Information Exchange | |
|--|--|
| The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631. | |
| Wholesale Water Supplier Name | |
| <i>Add additional rows as needed</i> | |
| Turlock Irrigation District | |
| | |
| | |
| NOTES: | |
| | |

2.5.2 Coordination with Other Agencies and the Community

Legal Requirements:

CWC Section 10620:

(d)(3) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

CWC Section 10642:

Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan...

The City has actively encouraged 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 describes construction projects and posts announcements of planned rate increases prior to adoption.

In June 2021, a notice of preparation was sent to stakeholders to inform them of the UWMP update process and schedule and solicit input for the update.

Following completion of the Draft 2020 UWMP, a notification of public review was placed in both the Modesto Bee and the Ceres Courier about the 2020 UWMP update process and copies of the Draft 2020 UWMP were made available at the City's Public Works Department and the City's Clerk's office during normal business hours and at the Ceres Public Library, with an electronic version placed on the City's website. Copies of the Draft UWMP were also sent directly to key stakeholder agencies (see **Table 2-4**). During the public review period, local cities and communities, as well as the general public, were encouraged to comment on the draft document.

A public hearing to discuss the Draft UWMP was held on August 13, 2021, in conjunction with the District's Board of Directors meeting. Noticing for the public hearing was conducted pursuant to Section 6066 of the Government Code prior to commencement of the public comment period. Copies of the public hearing notices and notices to city and county entities served by the City, as well as other agencies, are included in **Appendix C**.

2.5.3 Notice to Cities and Counties

Legal Requirements:

CWC Section 10621(b):

Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any 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.

In accordance with CWC Section 10621, a notice regarding the public hearing was sent to Stanislaus County 60 days prior to the public hearing date. This notification is reported in **Table 10-1** (see Chapter 10). Copies of the public hearing notices and outreach documents are included in **Appendix C**.

Additionally, notices of preparation were sent to Stanislaus County and posted on the City website. The notices included the UWMP update schedule, contact information of the UWMP preparer, and the location where the draft document will be available for public access.

3 System Description

The UWMPA requires that the UWMP include a description of the water purveyor's service area and various aspects of the area served including climate, population, and other demographic factors.

3.1 General Description

Legal Requirements:

CWC Section 10631:

(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.

The City, incorporated February 25, 1918, is in the Central San Joaquin Valley along State Highway 99. Only 80 miles south of Sacramento and 95 miles east of San Francisco, the City is nestled in the heart of Stanislaus County. The City is approximately 5 miles south of the City of Modesto, south of the Tuolumne River. Ceres is a full-service City providing police, emergency services, parks and recreation, street maintenance, water distribution, wastewater collection, and general government services. While the existing water service area is generally contiguous with the City limit, there are some county pockets located in the northwest portion of the City that receive water service from the City of Modesto. The City also provides water service to a small number of customers who are located outside of the current City limit.

The City has a City Council/City Manager form of local government. General Municipal elections are held on the first Tuesday of November in even-numbered years. The Mayor is elected at-large by the entire City for a four-year term. Council members are elected by the residents within their respective district, for four-year overlapping terms. The City Council serves as the legislative policy making body.

The Ceres water system serves its population of about 48,430 people through 13 active wells. The distribution system consists of approximately 154 miles of water lines, with plans for expansion for the future surface water distribution (see more discussion in Chapter 6). The City has two at-grade reservoirs with combined storage capacity of 3.8 MG. The water system has one booster pump station with six booster pumps rated at 1,500 gpm each. More information about the water system can be found in the City's Water Master Plan, adopted in June 2011.

3.2 Service Area Boundary Maps

The City and water service area encompass an area of approximately 5,989 acres, or about 9.4 square miles. While the City's existing service area is generally contiguous with the City limit, there is a section in the northwest portion of the City that receives water service from the City of Modesto as well as a section that is outside of the City limits that receives water from the City. The City provides water to approximately 11,755 residential, commercial, industrial, and institutional/government service connections. Municipal water supply for the City is currently based solely on groundwater supplies (see more discussion in Chapter 6). **Figure 3-1** provides a location map of the service area. **Figure 3-2** shows a map of the existing water system.

Figure 3-1 – Service Area Map

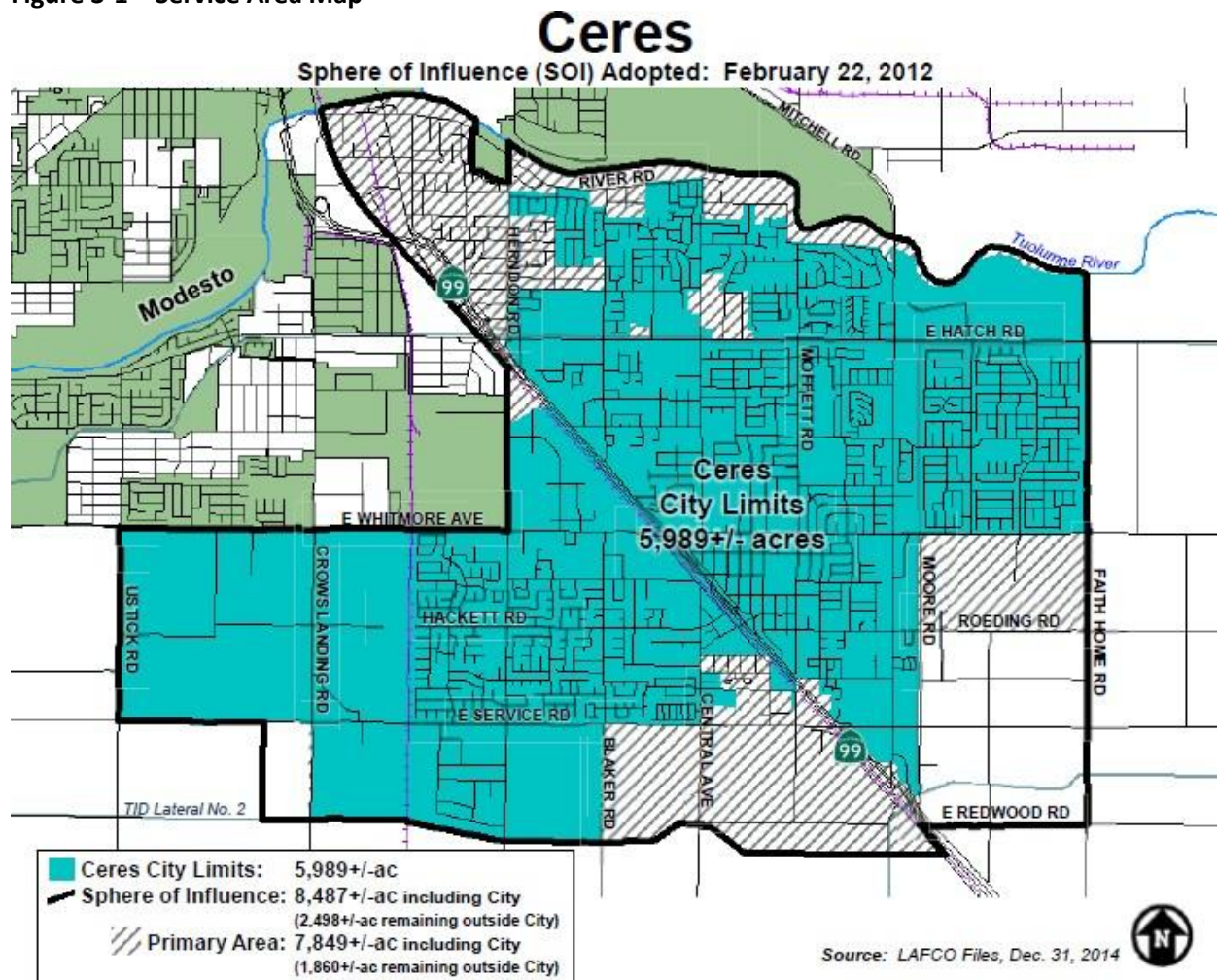
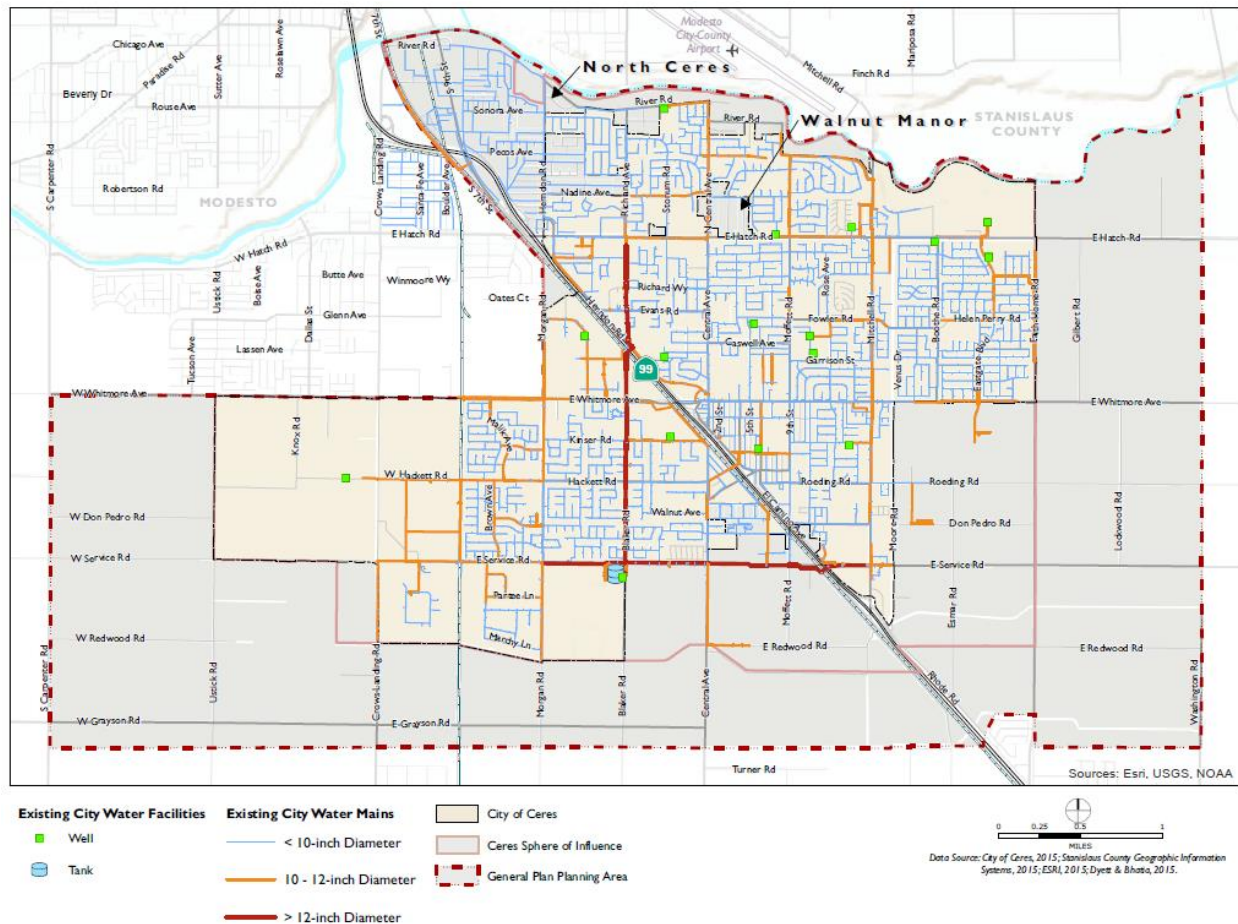


Figure 3-2 – City of Ceres Water System Map



3.3 Service Area Climate

Legal Requirements:

CWC Section 10631(a):

A plan shall... Describe the service area of the supplier, including ... climate...

CWC Section 10630:

It is the intention of the Legislature, in enacting this part, to permit levels of water management planning... while accounting for impacts of climate change.

Water use within the City's service area is dependent on various climate factors such as temperature, precipitation, and evapotranspiration (ET). ET is a term used to describe water lost through evaporation from the soil and surface water bodies, combined with plant transpiration. Climate data, including temperature and precipitation estimates, were obtained from the California Irrigation Management Information System (CIMIS) Station #71, located west of Modesto, for the period from January 1988 to December 2020. The climatic data for the City is summarized in **Table 3-1**.

Table 3-1 – City of Ceres Climate Data

| | Average ETo inches | Average Max Temperature °F | Average Min Temperature °F | Average Rainfall inches |
|---|-----------------------|-------------------------------|-------------------------------|----------------------------|
| Jan | 1.13 | 55.4 | 36.1 | 2.1 |
| Feb | 1.95 | 61.2 | 37.7 | 1.91 |
| Mar | 3.64 | 66.6 | 40.3 | 1.36 |
| Apr | 5.19 | 71.6 | 43.4 | 0.78 |
| May | 6.88 | 78.5 | 47.8 | 0.56 |
| Jun | 7.88 | 85.4 | 52.2 | 0.07 |
| Jul | 8 | 90.5 | 55.6 | 0.02 |
| Aug | 6.91 | 88.7 | 54.8 | 0.04 |
| Sep | 5.17 | 85.3 | 51.7 | 0.13 |
| Oct | 3.51 | 76.6 | 45.7 | 0.7 |
| Nov | 1.78 | 64.5 | 38.5 | 0.95 |
| Dec | 1.1 | 55.1 | 34.8 | 1.69 |
| Total | 53.14 | 73.3 | 44.9 | 10.31 |
| Source: CIMIS Website: www.cimis.water.ca.gov , Station 71 Modesto, California, Monthly Report (January 1988 to December 2020), Printed April 2021. | | | | |

These climate characteristics 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

Legal Requirements:

CWC Section 10631(a):

Describe the service area of the supplier, including current and projected population ...The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

The City's current (2020) service area population of 48,430 has been estimated using the California Department of Finance (DOF) tables. The City's population has grown at an average annual rate of 3.2 percent from 2015 through 2020 according to population estimates from the DOF. The DOF estimates that households in Ceres have an average of 3.66 persons per household with approximately 13,900 total households in 2020.

Growth and development within the City's service area are subject to City and County growth management policies. Projections of future population within the City's service area have been made by assuming a uniform growth rate and a buildout population of 79,000 achieved in 2035 based on the Ceres

General Plan 2035. This equates to an average annual growth rate of 3.3%. The projected service area population from 2020 – 2040 is summarized in **Table 3-2 (DWR Table 3-1)**.

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

| Submittal Table 3-1 Retail: Population - Current and Projected | | | | | | |
|---|--------|--------|--------|--------|--------|-----------|
| Population Served | 2020 | 2025 | 2030 | 2035 | 2040 | 2045(opt) |
| | 48,430 | 57,010 | 67,110 | 79,000 | 79,000 | |
| <p>NOTES: 2020 population served is from DOF, Report E-4, Table 2 for 1/1/2020. Year 2035 population served is from the Ceres General Plan 2035, Table 2-4. Population served for 2025 and 2030 is estimated assuming a uniform growth rate from 2020 to 2035 of 3.3 percent. Ceres is assumed to be built-out in 2035, with minimal population increasing afterwards. Therefore, the 2040 population is the same as the 2035 population. The projections for population served differ from the 2015 UWMP. The 2015 UWMP relied on projections from the 2010 Water Master Plan.</p> | | | | | | |

3.4.2 Other Social, Economic, and Demographic Factors

Legal Requirements:

CWC Section 10631:

(a) Describe the service area of the supplier, including... other social, economic and demographic factors affecting the supplier's water management planning.

According to data available through the US Census Bureau American Community Survey and the most recent City application for Disadvantaged Community Water System Fee Rate, the median household income in the City was \$51,113. The percent of the population below the poverty level is 15.1%. The median age in the City is 30 years old. Nearly half of the population in the City speaks Spanish, and over half of the population speaks a language other than English at home. 73.5% of the population has attained a high school diploma, and 10.2% has a bachelor's degree or higher.

3.5 Land Uses within Service Area

Legal Requirements:

CWC Section 10631(a):

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...

Figure 3-3 – Land Use Diagram



4 Water Use Characterization

This chapter describes and quantifies the current and projected water demands within the City's service area.

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 is the sole source of water supply for the City. Raw water, from non-potable, shallow, park wells are utilized for some irrigation uses at public parks because they do not require the same standards as drinking water. Additional discussion of recycled water can be found in Chapter 6.

4.2 Past, Current, and Projected Water Use by Sector

Legal Requirements:

CWC Section 10635:

(a) Every urban water Supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry 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.

CWC Section 10631(d):

(1) 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...

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

(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.

The following sections describe past, current, and projected water use within the City for each of the 10 water use sectors identified in CWC Section 10631(d).

4.2.1 Water Use Sectors Listed in Water Code

Legal Requirements:

CWC Section 10631(d):

(1) 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.

The water use sectors that are served by the water system, include single-family residential, multifamily 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 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.
- **Institutional/Governmental** – A water user dedicated to public service. This type of user includes, among other users, higher-education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.
- **Landscape** – Water connections supplying water solely for landscape irrigation.
- **Distribution System Water Losses** – Water losses which occur due to distribution system leaks and other unmetered water uses (such as firefighting, main flushing, etc.).

As of October 2019, the City no longer separately measures industrial water use. Instead, industrial connections are included in the commercial sector. Additional sectors that are not applicable to the water system include: sales to other agencies, groundwater recharge, saline water intrusion barriers, or conjunctive use, and agricultural.

4.2.2 Water Use sectors in Addition to Those Listed in Water Code

The water system does not serve additional water use sectors.

4.2.3 Past Water Use

The City's past water use for 2016-2019 is shown in **Table 4-1**. The M1 through M12 categories for the table columns represent the months of the year, similar to the format used in the DWR Planning Tool tables.

Table 4-1 – Past Water Use (2016-2019)

| Year | M1 | M2 | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M10 | M11 | M12 | Total |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| 2016 | 108 | 103 | 114 | 143 | 194 | 230 | 246 | 228 | 204 | 176 | 125 | 110 | 1,980 |
| 2017 | 103 | 95 | 119 | 138 | 211 | 238 | 268 | 254 | 224 | 196 | 139 | 125 | 2,109 |
| 2018 | 115 | 115 | 121 | 148 | 214 | 248 | 255 | 238 | 214 | 200 | 162 | 108 | 2,138 |
| 2019 | 113 | 98 | 116 | 154 | 182 | 212 | 234 | 231 | 198 | 172 | 132 | 116 | 1,959 |

4.2.4 Distribution System Water Losses

Legal Requirements:

CWC Section 10631(d)(1):

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...

(J) Distribution system water loss....

CWC Section 10631(d)(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.

The last five years of water loss audit reporting are summarized in **Table 4-2 (DWR Table 4-4)**. The water loss audits for 2016-2019 are in **Appendix D**. Water losses for 2020 were estimated because the water loss audit for 2020 was not available at the time the 2020 UWMP was prepared.

Table 4-2 – 12 Month Water Loss Audit Reporting (DWR Table 4-4)

| 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} |
| 01/2020 | 101.00 |
| 01/2019 | 42.12 |
| 01/2018 | 126.93 |
| 01/2017 | 104.27 |
| 01/2016 | 85.85 |
| 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: Water loss audit for 2020 was estimated based on water production and demand data for 2020. The audit was not available prior to publication of the 2020 UWMP. | |

CWC Section 10608.34(i) directs the SWRCB to “adopt rules requiring urban retail water suppliers to meet performance standards for the volume of water losses.” The proposed regulation would require urban water suppliers to meet individual volumetric water loss standards determined through a water system-specific economic model developed by the SWRCB. Pursuant to this law, urban retail water suppliers, such as the City, have annually submitted water loss audits to DWR since October 2017. Pre-rulemaking meetings and workshops were held in 2018-2020 and adoption of the proposed regulation is anticipated to occur in 2021. Once the economic model is finalized, the City can determine their individual volumetric water loss standard.

4.2.5 Current Water Use

Table 4-3 (DWR Table 4-1) shows potable water use for 2020 by water use type.

Table 4-3 – Current (2020) Gross Water Use (DWR Table 4-1)

| Submittal Table 4-1 Retail: Demands for Potable and Non-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 | 1,324 |
| Multi-Family | | Drinking Water | 234 |
| Commercial | | Drinking Water | 181 |
| Institutional/Governmental | | Drinking Water | 106 |
| Landscape | | Drinking Water | 181 |
| Losses | | Drinking Water | 125 |
| TOTAL | | | 2,151 |
| * Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. | | | |
| NOTES: Losses are estimated as the difference between well production and metered water use. | | | |

4.2.6 Projected Water Use

Legal Requirements:

CWC Section 10635 (a):

Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry 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.

Water Code Section 10631:

(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).

CWC Section 10631(d)(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.

Table 4-4 (DWR Table 4-2) summarizes the projected water use by type for 2025 through 2040. The table was calculated using the following assumptions:

- 2020 Target SB X7-7 of 180 gallons per capita day, further described in Chapter 5
- Population projections presented in **Table 3-2 (DWR Table 3-1)**
- Percentage water use by type for future years was the same as for 2020
- 20 percent reduction in per capita water use due to implementation of Stage 3 Shortage Response Actions. Refer to the WSCP. Stage 3 shortage response actions are anticipated to apply to future years due to high priority status of Turlock groundwater basin.

The projections are conservative and do not consider potential water use reductions from codes, standards, ordinances, or transportation and land use plans.

Table 4-4 – Projected Gross Water Use by Use Type (DWR Table 4-2)

| Submittal Table 4-2 Retail: Use for Potable and Non-Potable Water - Projected | | | | | | |
|---|---------------------------------------|--|-------|-------|-------|---------------|
| Use Type | Additional Description (as needed) | Projected Water Use* <i>Report To the Extent that Records are Available</i> | | | | |
| <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 | | 1,844 | 2,171 | 2,556 | 2,556 | |
| Multi-Family | | 326 | 384 | 452 | 452 | |
| Commercial | | 252 | 297 | 349 | 349 | |
| Institutional/Governmental | | 148 | 174 | 205 | 205 | |
| Landscape | | 252 | 297 | 349 | 349 | |
| Losses | | 174 | 205 | 241 | 241 | |
| TOTAL | | 2,996 | 3,527 | 4,152 | 4,152 | 0 |
| * Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. | | | | | | |
| NOTES: Projected water use based on population projections from Table 3-1, and an assumed water demand of 180 gpcd, equivalent to the SB X7-7 2020 Target. An additional 20 percent reduction in demand due to implementation of Stage 3 Shortage Response Actions were included. Projected water uses for each use type were proportionally increased based on their percentage of the total water use for 2020. | | | | | | |

Table 4-5 (DWR Table 4-3) summarizes the total gross water use projected in five-year increments from 2020 to 2045.

Table 4-5 – Projected Total Gross Water Use (DWR Table 4-3)

| Submittal Table 4-3 Retail: Total Water Use (Potable and Non-Potable) | | | | | | |
|--|-------|-------|-------|-------|-------|---------------|
| | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 (opt) |
| Potable Water, Raw, Other Non-potable <i>From Tables 4-1R and 4-2 R</i> | 2,151 | 2,996 | 3,527 | 4,152 | 4,152 | 0 |
| Recycled Water Demand ¹ <i>From Table 6-4</i> | 0 | 0 | 0 | 0 | 0 | 0 |
| Optional Deduction of Recycled Water Put Into Long-Term Storage ² | | | | | | |
| TOTAL WATER USE | 2,151 | 2,996 | 3,527 | 4,152 | 4,152 | 0 |
| 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: | | | | | | |

4.2.7 Characteristic Five-Year Water Use

Legal Requirements:

CWC Section 10635(b):

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

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

(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.

Table 4-6 shows the summarized characteristic five-year water use. The projections assume a per capita water use of 144 gpcd and project that water use will increase by 0.96% per year, with population growth as the primary influencing factor. The per capita water use is based on the SB X7-7 2020 target demand

of 180 gpcd and includes a 20 percent reduction due to implementation of Stage 3 shortage response actions.

Table 4-6 – Characteristic Five-Year Water Use

| Description | Year | | | | |
|---|--------|--------|--------|--------|--------|
| | 2021 | 2022 | 2023 | 2024 | 2025 |
| Per capita water use, gpcd ^a | 144 | 144 | 144 | 144 | 144 |
| Population ^b | 50,146 | 51,862 | 53,578 | 55,294 | 57,010 |
| Total water use, MG | 2,636 | 2,726 | 2,816 | 2,906 | 2,996 |

^a Assumes an unconstrained water demand of 180 gpcd, equivalent to the SB X7-7 2020 target demand from **Table 5-1 (DWR Table 5-1)** and a 20% reduction due to implementation of Stage 3 shortage response actions.

^b Projections assume a straight line increase in population from the 2020 and 2025 population data presented in **Table 3-2 (DWR Table 3-1)**.

4.3 Water Use for Lower Income Households

Legal Requirements:

CWC Section 10631.1:

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

California Health and Safety Code Section 50079.5 (a):

“Lower income households” means persons and families whose income does not exceed the qualifying limits for lower income families... In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.

Senate Bill 1087 (SB 1087) approved on October 7, 2005 added certain provisions to the Government Code and amended a portion of the UWMPA. As it relates to the UWMPA, 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 lower income household is any household that has an income below 80 percent of the area median income, adjusted for family size.

U.S. Census data from the 2015-2019 American Community Survey 5-Year Estimates reports approximately 18,580 residents live in lower income households in the City. Projected water demands associated with lower income residential water users through year 2040 are presented in **Table 4-7**. The projections assume the proportion of lower income residents to total residents remains constant and per capita water demands of 122 for 2020 and 144 gpcd for 2025 and beyond.

Table 4-7 – City of Ceres Low Income Projected Water Demands

| Description | Year | | | | |
|------------------------------------|--------|--------|--------|--------|--------|
| | 2020 | 2025 | 2030 | 2035 | 2040 |
| Total water use, MG ^a | 2,151 | 2,996 | 3,527 | 4,152 | 4,152 |
| Total population ^b | 48,430 | 57,010 | 67,110 | 79,000 | 79,000 |
| Low-income population ^c | 18,756 | 22,079 | 25,991 | 30,596 | 30,596 |
| Low-income water demand, MG | 833 | 1,160 | 1,366 | 1,608 | 1,608 |

^a Total water use is from **Table 4-5 (DWR Table 4-3)**.

^b Total population is from **Table 3-2 (DWR Table 3-1)**.

^c Lower income population data for 2020 is based on the 2017 American Community Survey estimates for median household income, household income distribution, and persons per household. Projected lower income population to total population was assumed to be the same as for 2020.

Table 4-8 (DWR Table 4-5) shows that both future water savings estimates and lower income residential demands have been included in the water demand projections.

Table 4-8 – Inclusion in Water Use Projections (DWR Table 4-5)

| 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> | Yes |
| 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. | Stage 3 Shortage Response Actions per the WSCP |
| Are Lower Income Residential Demands Included In Projections? <i>Drop down list (y/n)</i> | Yes |
| NOTES: | |

4.4 Climate Change Considerations

Legal Requirements:

CWC Section 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.

CWC Section 10635(b):

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

(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.

The sections below discuss how climate change may impact the City's water supplies.

- **Water Demand:** Hotter days and nights, as well as a longer irrigation season, will increase landscaping and irrigation water needs, and industrial processes will have increased cooling water needs. Peak water demands may also be impacted.
- **Water Supply and Quality:** Reduced snowpack, shifting spring runoff to earlier in the year, increased potential for algal bloom, and increased potential for seawater intrusion; each has the potential to impact water supply, supply reliability, and water quality.
- **Sea Level Rise:** It is expected that sea level will continue to rise, resulting in near shore ocean changes such as stronger storm surges, more forceful wave energy, and more extreme tides. This will also affect levee stability in low-lying areas and increase flooding.
- **Natural Disaster:** Natural disasters are expected to become more frequent as climate change brings increased climate variability, resulting in more extreme droughts and floods. This will challenge water supplier operations in several ways as wildfires are expected to become larger and hotter, droughts will become deeper and longer, and floods can become larger and more frequent.

The Turlock Subbasin is divided into two GSAs: The West Turlock Subbasin GSA and the East Turlock Subbasin GSA. The City is a member of the West Turlock Subbasin GSA. The two GSAs are jointly developing a Groundwater Sustainability Plan (GSP) that will be submitted to the Department of Water Resources (DWR) prior to January 31, 2022. Additional climate change information related to the Turlock Subbasin will be made available upon publication of the GSP.

5 SB X7-7 Baselines, Targets, and 2020 Compliance

With the adoption of the Water Conservation Act of 2009, also known as the SB X7-7, the State of California was required to reduce urban per capita water use by 20 percent by the year 2020 (i.e., “20 by 2020”). CWC Section 10608.16(a) states: “The state shall achieve a 20-percent reduction in urban per capita water use in California on or before December 31, 2020.” To achieve this statewide objective, the California Legislature required each urban retail water supplier (Retail Supplier) subject to the UWMPA to develop an urban water use target to help the state collectively achieve a 20-percent reduction.

This chapter provides a description of the methodology used to calculate the City’s compliance with SB X7-7 requirements. The SB X7-7 Verification Form from the 2015 UWMP and the SB X7-7 Compliance Form are included in **Appendix E**.

5.1 Baseline and Target Calculations for 2020 UWMPs

Legal Requirements:

CWC Section 10608.20 (g):

(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).

The City calculated their SB X7-7 baselines and targets in their 2015 UWMP and did not have a situation, such as a change to the service area or customer base, to warrant recalculation of the baselines and targets. **Table 5-1 (DWR Table 5-1)** summarizes the SB X7-7 baseline and confirmed 2020 target from the SB X7-7 Verification Form.

Table 5-1 – Baselines and Targets Summary (DWR Table 5-1)

| Submittal Table 5-1 Baselines and Targets Summary From SB X7-7 Verification Form <i>Retail Supplier or Regional Alliance Only</i> | | | | |
|---|--------------|------------|------------------------|------------------------|
| Baseline Period | Start Year * | End Year * | Average Baseline GPCD* | Confirmed 2020 Target* |
| 10-15 year | 2001 | 2010 | 224 | 180 |
| 5 Year | 2005 | 2009 | 219 | |
| <i>*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)</i> | | | | |
| NOTES: | | | | |

5.2 Methods for Calculating Population and Gross Water Use

This section describes the methods used for calculating population and gross water use for determining 2020 compliance with the SB X7-7 target.

5.2.1 Service Area Population

Legal Requirements:

CWC Section 10608.20(e):

An urban retail water supplier shall include in its urban water management plan due in 2010...the baseline per capita water use...along with the bases for determining those estimates, including references to supporting data.

(f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.

CWC Section 10644:

(a)(2) The plan...shall include any standardized forms, tables or displays specified by the department.

To calculate the compliance year GPCD, the population served in 2020 was estimated using DOF data. U.S. Census 2020 decennial data was not available in time for completion of the 2020 UWMP. The service area boundaries for the City water system correspond by 95 percent or more with the boundaries of the City and, therefore, the DOF data for the City could be used for the service area population according to the 2020 DWR Guidebook.

5.3 Gross Water Use

Legal Requirements:

CWC Section 10608.12:

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

- (1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier*
- (2) The net volume of water that the urban retail water supplier places into long term storage*
- (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier*
- (4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.*

California Code of Regulations Title 23 Division 2 Chapter 5.1 Article Section 596 (a):

An urban retail water supplier that has a substantial percentage of industrial water use in its service area is eligible to exclude the process water use of existing industrial water customers from the calculation of its gross water use to avoid a disproportionate burden on another customer sector.

Gross water use is defined as the measurable amount of water that enters the distribution system over a 12-month period, minus allowable exclusions. The gross water use for 2020 was 2,151 MG, as reported in **Table 4-3 (DWR Table 4-1)** and SB X7-7 Table 4 of the SB X7-7 2020 Compliance Form provided in **Appendix E**.

5.4 2020 Compliance Daily Per-Capita Water Use (GPCD)

Legal Requirements:

CWC Section 10608.12:

(f) "Compliance daily per-capita water use" means the gross water use during the final year of the reporting period...

CWC Section 10608.20:

(e) An urban retail water supplier shall include in its urban water management plan due in 2010 . . . compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

The City has calculated its actual 2020 water use for the 2020 calendar year in accordance with Methodology 3 of DWR's *Methodologies* document. As shown in **Table 5-2 (DWR Table 5-2)**, per capita water use in 2020 was 121 GPCD, which is below the 2020 target of 180 GPCD.

Table 5-2 – 2020 Compliance (DWR Table 5-2)

| Submittal Table 5-2: 2020 Compliance From SB X7-7 2020 Compliance Form <i>Retail Supplier or Regional Alliance Only</i> | | | | |
|--|----------------------------|---|-----------------------------------|---|
| 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) | | |
| 121 | 0 | 121 | 180 | Yes |
| <i>*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)</i> | | | | |
| NOTES: | | | | |

As detailed in CWC Section 10608.4, there are allowable adjustments that can be made to an agency's gross water use in 2020 for differences in evapotranspiration and rainfall, substantial changes to commercial or industrial water use, and/or substantial changes to institutional water use. However, because the City's per capita water use complies with SB X7-7, the City did not elect to include the allowable adjustments.

5.5 Regional Alliance

The City has chosen to comply with the requirements of SB X7-7 on an individual basis and is, therefore, not a participant in a regional alliance for SB X7-7 compliance.

6 Water Supply Characterization

Legal Requirements:

CWC Section 10631(b):

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

CWC 10631 (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).

The UWMPA requires that the UWMP include a description of the agency's existing and future water supply sources for the next 20 years. This chapter will provide the following information:

- Existing and planned sources of water
- Projections of the water supplies over five-year increments through 2040
- Description of anticipated availability under normal, single dry, and five-year droughts
- Description of the management of each supply in correlation
- Description of information pertinent to the reliability of the supplies, including considerations for climate change effects

6.1 Narrative Sections for Supplier's UWMP Water Supply Characterization

6.1.1 Purchased or Imported Water

The City does not currently purchase or import water from any other water supply or entity. However, the City, as a member of the SRWA, has entered into a water sales agreement for delivery of 1,825 MG

per year (5 MGD) of treated TID surface water in mid-2023. The amount delivered to the City is projected to increase to 15 MGD at buildout [2]. For the purposes of this document, it is assumed that the SRWA RSWSP will be operational in 2025 and buildout will occur in 2035. A Water Sales Agreement was signed between the SRWA and TID on July 28, 2015 and amended on April 16, 2020. The agreement allows for up to 30,000 AF per year of water transfer from TID to the SWRA. The water may be used for agricultural, industrial, or municipal purposes. Water availability will vary annually and the amount to be transferred shall be set by March 1 for the year beginning on April 1.

6.1.2 Groundwater

Legal Requirements:

CWC Section 10631(b)(4):

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

(A) 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.

(B) 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).

(C) 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.

(D) 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.

Through 2020, groundwater supplies were used to meet all water needs in the management area. The local groundwater source is the Turlock Subbasin, which is a sub-unit of the San Joaquin Valley Groundwater Basin. The Turlock Subbasin is designated as a DWR high priority basin. The City currently possesses 27 wells. The number of wells considered active, inactive/abandoned, or non-potable is as follows:

- 13 active (Wells 14, 16, 22, 23, 27, 28, 32, 34, 35, 38, 39, 40, and 41)
- 5 inactive/abandoned (Wells 6, 20, 21, 25, and 36)
- 9 non-potable (irrigation only)

Since the 2015 UWMP, two wells which were drilled, have been equipped, and are active and one well has been removed from active status. Diversification of supplies away from groundwater (surface water from the SRWA RSWSP, 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 groundwater supply available to the City is calculated as the summation of the well capacities with the largest well out-of-service. The capacities of wells currently in service are shown in **Table 6-1**, and the estimated peak well capacity available is 9,805 gpm. On an annual basis, the City Water Master Plan estimates that 3,258 MG is a sustainable groundwater yield based on historical data.

Table 6-1 – Well Capacity

| Well Name | Well Capacity (gpm) |
|--|---------------------|
| Well 14 | 160 |
| Well 16 | 185 |
| Well 22 | 937 |
| Well 23 | 1,498 |
| Well 27 | 1,458 |
| Well 28 | 1,195 |
| Well 32 | 800 |
| Well 34 | 398 |
| Well 35 | 700 |
| Well 38 | 1,152 |
| Well 39 | 1,055 |
| Well 40 | 1,015 |
| Well 41 | 750 |
| Total | 11,303 |
| Peak well capacity ^a | 9,805 |

^a Peak well capacity is calculated as the summation of the well capacities with the largest well out of service.

6.1.2.1 Groundwater Basin Description

The Turlock Subbasin is discussed in detail in the 2008 Turlock Groundwater Basin Groundwater Management Plan (Turlock GMP), produced by the TGBA, and summarized as follows. 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 bound 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.

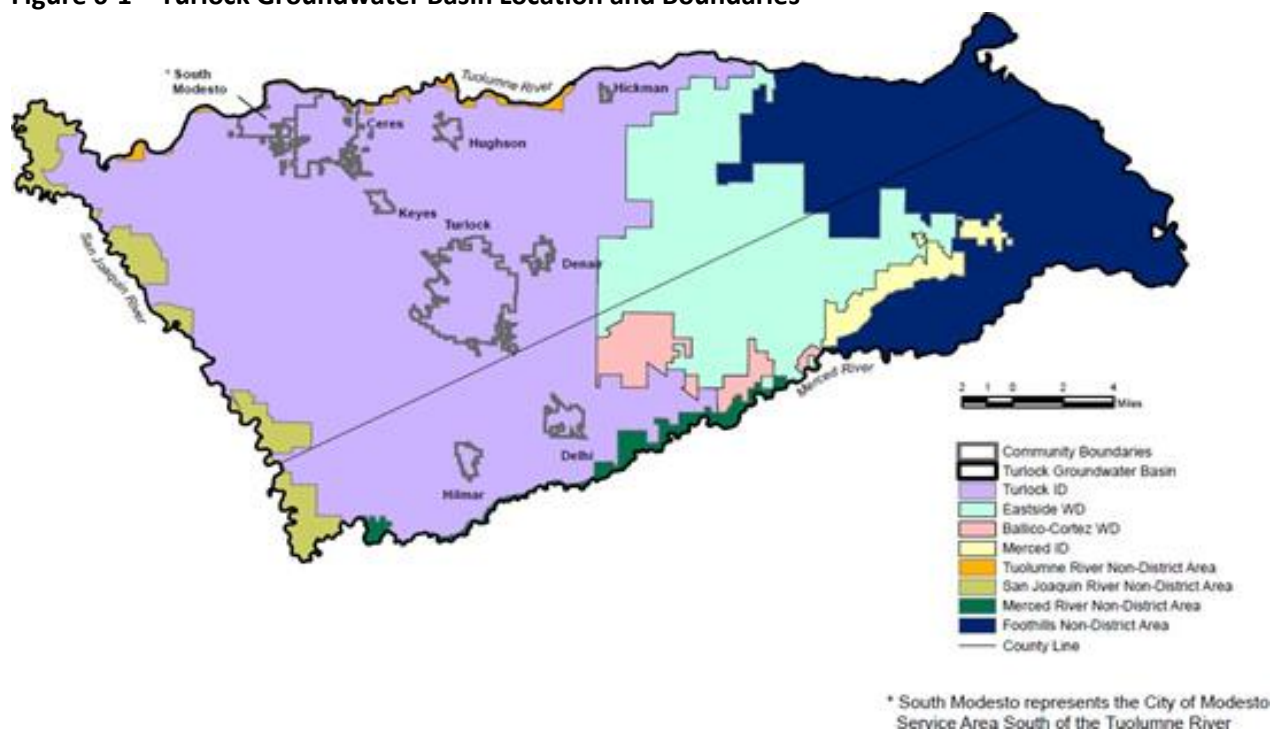
The Turlock Subbasin underlies an area of approximately 347,000 acres, with irrigated crops (245,000 acres), native vegetation (69,000 acres), and urban development (20,000 acres) as the predominant land uses. The general trend in land use throughout the Subbasin has been an increase in urbanization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

Most 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 Turlock 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.

Urban land uses, irrigators in the Eastside and Ballico-Cortez Water Districts, and irrigators in the foothills and other non-District areas depend on groundwater for water supply. Increases in these types of land uses throughout the Turlock Subbasin increase the demands on the groundwater supply. Consequently, evaluating the status of the groundwater supply and continuing coordination of water agencies are essential for maintaining the viability of the groundwater basin.

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

Figure 6-1 – Turlock Groundwater Basin Location and Boundaries



Source: Figure 2 from TGBA Groundwater Management Plan, March 2008.

The Turlock Subbasin is not adjudicated, meaning that there is no court-appointed “watermaster” to resolve groundwater pumping issues and there are no current specific limits on the amount of groundwater that individuals and agencies may extract from the basins.

SGMA requires local agencies to form GSAs and develop and implement a GSP to achieve sustainability and prevent undesirable results. The Turlock Subbasin’s local agencies eligible to form GSAs entered lengthy discussions and decided to form two GSAs within the Turlock Subbasin: the West Turlock Subbasin GSA (West Turlock Subbasin GSA) and the East Turlock Subbasin GSA (East Turlock Subbasin GSA). The boundary separating the two GSAs is generally TID’s eastern irrigation service area boundary. The City is part of the West Turlock Subbasin GSA. Other agencies in the West Turlock Subbasin GSA include Hughson, Modesto, Turlock, Waterford, Delhi County Water District, Denair Community Services District, Hilmar County Water District, Keyes Community Services District, Stanislaus County, Merced County, and TID.

Both GSAs held public hearings and took official action electing to be the GSA for their respective areas. The GSAs submitted the necessary documentation to the DWR prior to the July 2017 deadline. The West Turlock Subbasin GSA (consisting of 12 public agencies) and the East Turlock Subbasin GSA (five agencies) are jointly developing a single GSP to manage groundwater sustainably through at least 2042. The GSP is due to DWR before January 31, 2022. Tasks which have been completed to date for the GSP include developing a hydrogeologic model and defining and developing sustainable management criteria.

6.1.2.2 Past Five Years

Table 6-2 (DWR Table 6-1) lists the groundwater volume pumped by the City from the Turlock Subbasin for the past five years.

Table 6-2 – Groundwater Volume Pumped (DWR Table 6-1 R)

| 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> <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 | 1980 | 2109 | 2138 | 1959 | 2151 |
| TOTAL | | 1,980 | 2,109 | 2,138 | 1,959 | 2,151 |
| * Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. | | | | | | |
| NOTES: | | | | | | |

6.1.3 Surface Water

The City does not currently use any surface water supply. As mentioned in Section 6.1, as a member of the SRWA, the City has entered into a water sales agreement for delivery of 1,825 MG per year (5 MGD) of TID surface water.

TID and Modesto Irrigation District (MID) jointly operate the Don Pedro Reservoir, from which water is diverted for end use with both TID and MID's agricultural, municipal, and industrial 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), and State Water Resource Control Board MCL requirements.

TID jointly holds appropriate Water Right License 11058 with MID, which allows for diversion to storage of up to 1,046,800 acre-feet per year (AFY) from the Tuolumne River at the New Don Pedro Dam. TID also holds several other water rights that are not affected by the proposed SRWA project.

Surface water supplies more than 50% 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. A significant part of applied irrigation water percolates past the root zone to become groundwater, with deep percolation of applied surface water the largest single component of groundwater recharge. It is likely that the City's addition of surface water supply will not only reduce the necessity for groundwater pumping but will also increase the rate of groundwater recharge in the Turlock Subbasin.

6.1.4 Stormwater

The City's stormwater system includes over 80 miles of storm drain pipeline, detention/retention basins, lift stations, and rock wells and french drains. Disposal of collected stormwater is either by percolation, discharge to TID canals by agreement for eventual discharge to Tuolumne River or discharge to the Tuolumne River.

Most of the City's storm water drains to local basins. Although the primary purpose of these detention/retention basins is for urban runoff and flood control, they passively contribute to groundwater recharge through percolation of stored supplies. The detention basins are managed in a way to maximize stored volume for groundwater recharge provided flood control concerns are low. When wet weather events are in the forecast, the facilities are drained to create more space for storm water detention.

6.1.5 Wastewater and Recycled Water

Legal Requirements:

CWC Section 10633:

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

(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.

The City manages wastewater collection and treatment for all except the northwest portion of the City. The City's wastewater treatment plant (WWTP) has been in its current location since before 1970. The City's WWTP treated an average flow of 1.5 MGD in 2020. In the northwest portion of the City, the City manages the collection system, but conveys wastewater to the Modesto trunk sewer system for treatment and disposal at the Modesto Water Quality Control Facility (WQCF). The City also exports a significant portion of the wastewater treated at the City's WWTP to the Turlock Regional Water Quality Control Facility (RWQCF). Treated effluent from the City's WWTP is discharged into on-site ponds for evaporation and percolation or exported to Turlock. The waste discharge requirements for the WWTP are in the process of being updated and more stringent effluent requirements may be applied. Depending on the effluent requirements, the City may upgrade the treatment capabilities of the WWTP in the future. The following sections provide more details regarding wastewater collection, treatment, and disposal and recycled water.

6.1.5.1 Recycled Water Coordination

Legal Requirements:

CWC Section 10633:

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

The Cities of Modesto and Turlock and the Del Puerto Water District are partner agencies for the North Valley Regional Recycled Water Program (NVRWP). The NVRWP is a program, regulated under NPDES Permit No. CA0085316 (NPDES Permit), which involves the transfer of discharges from the RWQCF and the WQCF to the Delta-Mendota Canal (DMC), a water of the United States, via a joint outfall. The NPDES Permit allows for the discharge of 14.2 MGD and 14.8 MGD of recycled water from the RWQCF and the WQCF where it will be beneficially reused by agricultural users within the Del Puerto Water District. The NVRWP will also provide recycled water to supplement the irrigation of refuges downstream of the Delta-Mendota Canal. At build out, the NVRWP may be expanded to discharge up to 59,000 AFY (52.7 MGD) of recycled water. The wastewater discharged from the City to the Cities of Modesto and Turlock is part of this recycled water program.

6.1.5.2 Wastewater Collection, Treatment, and Disposal

Legal Requirements:

CWC Section 10633(a):

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

Wastewater treatment and disposal at the City's existing WWTP is regulated under Waste Discharge Requirements Order No. 93-237 (WDRs). These WDRs were prepared pursuant to the requirements of the Porter-Cologne Water Quality Control Act (Porter-Cologne) and the Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board, Central Valley Region (RWQCB), which includes Resolution No. 68-16, the State's anti-degradation policy.

The following summarizes the City's current methods of wastewater disposal:

- Approximately 0.9 MGD of wastewater flow from the northwestern portion of the City and an unincorporated county area adjacent to City limits is sent to the Modesto trunk sewer system for treatment and disposal at the WQCF.
- Wastewater flows from the remainder of the City are sent to the WWTP for treatment. Up to 2.0 MGD is disposed of through on-site percolation ponds for evaporation and incidental groundwater recharge. The City is currently permitted to dispose of up to 2,800 AFY of wastewater at its on-site percolation ponds.
- Approximately 0.9 MGD of treated effluent is sent to the City of Turlock for treatment and disposal at the RWQCF. The City is in the process of increasing its export capacity to 2.0 MGD.

Tables 6-3 (DWR Table 6-2 R) and 6-4 (DWR Table 6-3) summarize information regarding the wastewater collection, treatment, and discharge within the service area in 2020.

Table 6-3 – Wastewater Collected within Service Area in 2020 (DWR Table 6-2)

| 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 2015 service area covered by wastewater collection system <i>(optional)</i> | | | | | |
| | Percentage of 2015 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 Ceres | Metered | 334 | City of Turlock | Turlock Regional Water Quality Control Facility | No | |
| City of Ceres | Estimated | 333 | City of Modesto | Water Quality Control Facility | No | |
| City of Ceres | Metered | 543 | City of Ceres | Wastewater Treatment Plant | Yes | |
| Total Wastewater Collected from Service Area in 2020: | | 1,210 | | | | |
| * Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3 . | | | | | | |
| NOTES: | | | | | | |

Table 6-4 – Wastewater Treatment and Discharge within Service Area in 2020 (DWR Table 6-3)

| Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020 | | | | | | | | | | | |
|--|---|--------------------------------|---|-----------------------------------|---|--------------------------------|--------------------|-------------------------------|--------------------------------|----------------------------------|----------------------------------|
| <input type="checkbox"/> | No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below. | | | | | | | | | | |
| Wastewater Treatment Plant Name | Discharge Location Name or Identifier | Discharge Location Description | Wastewater Discharge ID Number (optional) 2 | Method of Disposal Drop down list | Does This Plant Treat Wastewater Generated Outside the Service Area? Drop down list | Treatment Level Drop down list | 2020 volumes 1 | | | | |
| | | | | | | | Wastewater Treated | Discharged Treated Wastewater | Recycled Within Service Area 3 | Recycled Outside of Service Area | Instream Flow Permit Requirement |
| Ceres Wastewater Treatment Plant (WWTP) | Percolation Ponds | On Site | | Percolation ponds | No | Secondary, Undisinfected | 543 | 543 | 0 | 0 | |
| Total | | | | | | | 543 | 543 | 0 | 0 | |
| 1Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. | | | | | | | | | | | |
| 2If 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: | | | | | | | | | | | |

6.1.5.3 Recycled Water System Description

Legal Requirements:

CWC Section 10633 (c):

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

No recycled water is currently being used in the City's service area. However, wastewater discharged from the service area to Modesto and Turlock is part of a recycled water program as described in Section 6.1.5.1.

6.1.5.4 Potential, Current, and Projected Recycled Water Uses

Legal Requirements:

CWC Section 10633:

(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.

(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.

Due to the high cost associated with providing recycled water uses within the City compared with the current wastewater disposal option, the City does not plan to implement improvements to allow for recycled water use. The option of diverting additional flow to both the City of Modesto and the City of Turlock for discharge as part of the NVRRWP is considered the most economically feasible long-range plan

for recycled water use based on the City's current situation, past studies, current and anticipated regulatory requirements, and evaluation of costs needed to implement potentially feasible alternatives.

Tables 6-5 (DWR Table 6-4) and 6-5 (DWR Table 6-5) show that the City does not use or plan to use recycled water, similar to the projections provided in the 2015 UWMP.

Table 6-5 – Current and Projected Recycled Water Direct Beneficial Uses Within Service Area (DWR Table 6-4)

| Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area | | | | | | | | | | |
|---|---|--|--|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------------|
| <input checked="" 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: | | | | | | | | | | |
| Name of Supplier Operating the Recycled Water Distribution System: | | | | | | | | | | |
| Supplemental Water Added in 2020 (volume) <i>Include units</i> | | | | | | | | | | |
| Source of 2020 Supplemental Water | | | | | | | | | | |
| 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 | | | | | | | | | | |
| Landscape irrigation (exc golf courses) | | | | | | | | | | |
| Golf course irrigation | | | | | | | | | | |
| Commercial use | | | | | | | | | | |
| Industrial use | | | | | | | | | | |
| Geothermal and other energy production | | | | | | | | | | |
| Seawater intrusion barrier | | | | | | | | | | |
| Recreational impoundment | | | | | | | | | | |
| Wetlands or wildlife habitat | | | | | | | | | | |
| Groundwater recharge (IPR) | | | | | | | | | | |
| Reservoir water augmentation (IPR) | | | | | | | | | | |
| Direct potable reuse | | | | | | | | | | |
| Other (Description Required) | | | | | | | | | | |
| Total: | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| 2020 Internal Reuse | | | | | | | | | | |

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

NOTES:

Table 6-6 – 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual (DWR Table 6-5)

| Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual | | |
|--|---|------------------------------|
| <input checked="" 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 | | |
| Landscape irrigation (exc golf courses) | | |
| Golf course irrigation | | |
| Commercial use | | |
| Industrial use | | |
| Geothermal and other energy production | | |
| Seawater intrusion barrier | | |
| Recreational impoundment | | |
| Wetlands or wildlife habitat | | |
| Groundwater recharge (IPR) | | |
| Reservoir water augmentation (IPR) | | |
| Direct potable reuse | | |
| Other (Description Required) | | |
| Total | 0 | 0 |
| ¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. | | |
| NOTE: | | |

6.1.5.5 Actions to Encourage and Optimize Future Recycled Water Use

Legal Requirements:

CWC Section 10633:

The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier... and shall include the following:

(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.

The City has conceptually explored the possibility of upgrading its WWTP to produce disinfected tertiary recycled water which could be used for unrestricted irrigation purposes (and thus offset current and future potable water demands). Recycled water is a reliable water source because it is consistently available. A study was done to examine areas in the City where recycled water could be used (such as parks, landscape medians, golf courses, etc.). Detailed analyses showed that it would not be cost effective to build a tertiary treatment plant, and install dual piping (e.g., purple pipe) to parks and other large, landscaped areas within the City.

In addition to the available non-potable water pumped from the City's irrigation wells to irrigate several of its public parks, many areas within the City have access to inexpensive and high quality TID water for irrigation. In 2008, a total of 231 parcels within the City received irrigation water from TID. Because of the low cost and satisfactory nature of the current TID supplied irrigation water, it is unlikely that this can be replaced cost effectively by new, highly treated recycled water supplies. As a result of these factors, the City has determined that it is not economically feasible to implement recycled water and does not anticipate any future recycled water use, based on the economics of developing recycled water, compared with other wastewater disposal options.

Table 6-7 (DWR Table 6-6) shows that there are no identified measures to promote recycled water use within the service area. However, through coordination with the City of Modesto and City of Turlock, recycled water use is being encouraged and optimized as part of the NVRRWP.

Table 6-7 – Methods to Expand Future Recycled Water Use (DWR Table 6-6)

| Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use | | | |
|---|---|-----------------------------|---|
| <input checked="" type="checkbox"/> | Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation. | | |
| | 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> | | | |
| | | | |
| | | | |
| | | | |
| Total | | | 0 |
| *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. | | | |
| NOTES: | | | |

6.1.6 Desalinated Water Opportunities

Legal Requirements:

CWC Section 10631(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.

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.

6.1.6.1 Water Exchanges and Transfers

Legal Requirements:

CWC Section 10631(c):

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

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.

The City, as a member of the SRWA, has entered into a water sales agreement for TID surface water. See Sections 6.1.3 and 6.1.8 for more information.

6.1.7 Future Water Projects

Legal Requirements: CWC Section 10631 (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.

As stated in Section 6.1, as a member of the SRWA, the City has entered into a water sales agreement for delivery of 1,825 MG per year (5 MGD) of TID surface water. A summary of the City's expected future water supply programs is provided in **Table 6-8 (DWR Table 6-7)**.

Table 6-8 – Expected Future Water Supply Projects or Program (DWR Table 6-7)

| 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> | | | | | | |
| SWRA Regional Surface Water Supply Project | Yes | City of Turlock, Turlock Irrigation District | | 2023 | All Year Types | 1,825 |
| | | | | | | |
| | | | | | | |
| *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. | | | | | | |
| NOTES: | | | | | | |

6.1.8 Summary of Existing and Planned Sources of Water

Legal Requirements:

CWC Section 10631:

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a), providing supporting and related information, including all of the following...

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

(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).

This section describes the types of water that is supplied to the City and the quantity supplied by each water source.

6.1.8.1 Description of Supplies

Currently the City exclusively uses groundwater. When the SRWA RSWSP is completed, the City will use the contractual amount of surface water available and supplement the remaining demand with groundwater.

6.1.8.2 Quantification of Supplies

The actual (2020) water supplies for the City are summarized in **Table 6-9 (DWR Table 6-8)**. The projected water supplies for the City are summarized in **Table 6-10 (DWR Table 6-9 R)**.

Table 6-9 – Water Supplies – Actual (DWR Table 6-8)

| Submittal Table 6-8 Retail: Water Supplies — Actual | | | | |
|--|-----------------------------------|----------------|------------------------------|---------------------------------------|
| 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) | | 2,151 | Drinking Water | |
| Total | | 2,151 | | 0 |
| *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. | | | | |
| NOTES: | | | | |

Table 6-10 – Water Supplies – Projected (DWR Table 6-9)

| Submittal Table 6-9 Retail: Water Supplies — Projected | | | | | | | | | | | |
|---|-----------------------------------|--|--------------------------------------|-----------------------------|--------------------------------------|-----------------------------|--------------------------------------|-----------------------------|--------------------------------------|-----------------------------|--------------------------------------|
| Water Supply | Additional Detail on Water Supply | Projected Water Supply * Report To the Extent Practicable | | | | | | | | | |
| Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEDA online submittal tool | | 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) | Groundwater | 3,258 | | 3,258 | | 3,258 | | 3,258 | | | |
| Surface water (not desalinated) | Purchased from TID | 5,000 | | 5,000 | | 5,000 | | 5,000 | | | |
| Total | | 8,258 | 0 | 8,258 | 0 | 8,258 | 0 | 8,258 | 0 | 0 | 0 |
| *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. | | | | | | | | | | | |
| NOTES Groundwater supply is based on Water Master Plan which estimated 3,258 MG per year as the sustainable average groundwater production. | | | | | | | | | | | |

6.1.9 Special Conditions

Numerous special conditions may affect water supplies. Potential climate change impacts were discussed in Section 4.4. Water demand in the City has generally decreased over the past decade due to measures

taken by the City that are further discussed in Chapter 9. Regulatory conditions and other locally applicable criteria are not anticipated to affect the City's water supply.

6.2 Energy Use

Legal Requirements:

CWC Section 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.*

The City uses energy to pump groundwater from well sites into the distribution system. Additionally, five of the wells have on-site treatment. Energy intensity was calculated using the tables provided by DWR. DWR Table O-1B was selected for reporting the water delivery product energy usage. The energy use tables for retail water delivery, wastewater, and recycled water are provided in **Appendix F**.

7 Water Service Reliability and Drought Risk Assessment

The UWMPA requires that the UWMP address the reliability of the City's long term water supplies. This includes a description of supply constraints which may impact the supply. Also included is a comparison between the City's supply and demand for a normal year, single-dry year, and five-consecutive year drought.

7.1 Water Service Reliability Assessment

Legal Requirements:

CWC Section 10635(a):

Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry 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.

Expected water service reliability pursuant to Section 10631 of the Water Code is assessed in the following sections.

7.1.1 Service Reliability – Constraints on Water Sources

Legal Requirements:

CWC Section 10631 (b)(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.

Given there are a variety of circumstances that can render a source inconsistent, determining the supply reliability for the City is difficult because of the complex factors that accompany a water source. These factors include legal issues, environmental constraints, water quality, and climatic variations.

7.1.1.1 Legal

Legal issues, including place of use and water rights issues, are not expected to limit supply reliability for the City. 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 6.1.2, has introduced requirements to develop and implement a GSP to sustainably manage groundwater basins. The process for developing a GSP for the Turlock Subbasin has begun and will be completed in January 2022. The GSP will include groundwater management criteria which could impact the amount of groundwater the City is allowed to pump.

A portion of TID's water rights will need to be modified for the change in use from agricultural to municipal and industrial supply for the City, through the SRWA, to purchase Tuolumne River water from TID and use it for a municipal supply (further described in Chapter 6). No major legal constraints associated with this process have been experienced and are expected.

Another potential legal constraint is SWRCB Resolution 2018-0059, adopted on December 12, 2018, which approved amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan) and approved the accompanying Final Substitute Environmental Document (SED) which establishes flow objectives for the Lower San Joaquin River and revised salinity objectives for the southern portion of the Delta. The amendments allow the flows of several rivers (including the Tuolumne) to be reduced to support and maintain the natural production of viable native Lower San Joaquin River watershed fish populations migrating through the Delta. The SED mandates flow objectives for the Lower San Joaquin River which could affect the Tuolumne River and result in reduced availability of surface water for withdrawal by TID (and therefore the City through the SRWA).

7.1.1.2 Environmental

The status of environmental regulation in California changes due to new legislation, endangered species statuses, and other factors. Should new environmental legislation come into existence, it could potentially impact the City's available supply. The recent water supply reductions in the Bay-Delta are an example of environmental water needs versus community water supplies. The City does not anticipate environmental factors influencing groundwater reliability.

7.1.1.3 Future Constraints on Water Supply

Groundwater levels and mechanical failures threaten the City's water supply. The addition of surface water to the system will assist in this future constraint. In 2019 and 2020, there were mechanical failures at Wells 23, 32, and 34. Pumps and motors are strained due to the lowering water table. The lowering water table also causes the perforations to become plugged with sand, silt, and occasionally bacteria. After rehabilitating wells, the City has observed decreased water production.

7.1.1.4 Water Quality

Water quality testing, as summarized in the City's Consumer Confidence Reports for 2016 – 2020 (provided in **Appendix G**) shows that the City consistently meets or surpasses all U.S. Environmental Protection Agency (EPA) and State drinking water health standards with one exception. In 2018 the City surpassed the newly established 1,2,3-Trichloropropane (TCP) maximum contaminant level (MCL) of 5 parts per trillion (ppt). Through the installation of well treatment systems, the City has complied with the TCP MCL since 2019.

The Turlock GMP identified several groundwater constituents that may lead to groundwater quality concerns in the basin. Contaminants in the area include salinity, nitrate, arsenic, pesticides, iron,

manganese, radio-nucleotides, TCP, bacteria and other petroleum hydrocarbons. The contaminants with the highest potential for future impacts are further detailed below. As testing methods become more discerning and regulations become more stringent, additional treatment may be required in the future to maintain compliance.

Salinity

Salinity has been identified as a source of contamination in the Turlock Groundwater Subbasin. Salinity levels within the subbasin range from 90 to greater than 1,250 milligrams per liter (mg/L), as measured by total dissolved solids (TDS). Groundwater salinity is generally lowest in the easterly portion of the Turlock Subbasin and the City reported total dissolved solids values ranging from 320 – 1,500 mg/L in its drinking water supply between 2016-2020. While salinity appears to be increasing, it is an unregulated contaminant, and the City does not consider it a threat to its water supply.

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.

Nitrates

Nitrates have been identified as a source of contamination in the Turlock Groundwater Subbasin. The MCL for nitrate is 10 mg/L. In the 2020 Consumer Confidence Annual Report, the City reported an average nitrate concentration of 5.6 mg/L. In the fall of 2019, Well 38 has had nitrate concentrations near 10 mg/L. Through blending with Well 28, the nitrate concentrations have been reduced. Well 35 has had nitrate concentrations above 10 mg/L and is not currently operating. The City is working on plans to remove nitrates from the Well 35 drinking water supply.

Arsenic

Arsenic has been identified as a source of contamination in the Turlock Groundwater Subbasin. In the 2019 Annual Water Quality Report, the highest arsenic result found in the City's water supply was 9.5 micrograms per liter (ug/L) with an average of 5.8 ug/L. The MCL for arsenic was reduced from 50 parts per billion (ppb) to 10 ppb in 2006. Well 32 is currently being treated for arsenic and manganese. The City continues to regularly monitor arsenic levels in its water supplies.

Radiological

Radiologicals have been identified as a source of contamination in the Turlock Groundwater Subbasin. In the 2019 Annual Water Quality Report, the City reported an average uranium concentration of 10.11 picocuries per liter (pCi/L) in its drinking water supply. The MCL for uranium is 20 pCi/L. The City measured uranium concentrations slightly over the MCL value in Well 21 and is currently using that well for park irrigation only. A uranium removal system was added to Well 22.

Pesticides

Two pesticides resulting from past agricultural activities have been detected in the Turlock Subbasin: Dibromochloropropane (DBCP) and Ethylenedibromide (EDB). The use of DBCP and EDB has been banned for several decades, so neither is considered a future threat to groundwater supplies. The City will continue to monitor contamination from other known pesticides in its groundwater wells.

TCP

TCP has been identified as a source of contamination in the Turlock Groundwater Subbasin. Prior to 2018, TCP was an unregulated contaminant. However, the SWRCB adopted a new MCL of 5 ppt that went into effect on January 1st of 2018. The average TCP level detected in the City water supply during the 2019 calendar year was 0.039 ppt. Granular Activated Carbon (GAC) treatment systems to remove TCP. The City has started construction of a GAC treatment system for Well 29, planning for Well 16, and are looking into acquiring more property for installation of a treatment system at Well 22.

7.1.1.5 Climatic Factors

Climate change adds uncertainties to water supply planning. Changes to temperatures and precipitation patterns may impact water demands and supply availability. As discussed in Section 4.4, resource management strategies are being implemented to mitigate the effects of the potential impacts due to climate change.

7.1.2 Service Reliability – Year Type Characterization

This section addresses the reliability of the City’s water supply in average, single dry, and multiple dry water years. The City uses the following water year definitions from the DWR 2020 Guidebook:

- **Normal Year:** a year, or an averaged range of years, that most closely represents the average water supply available to the agency. For the purposes of this UWMP, the terms “normal” and “average” are used interchangeably.
- **Single-Dry Year:** the year that represents the lowest water supply available to the agency.
- **Five-Consecutive-Year Drought:** the driest five-year historical sequence for the Supplier (Water Code Section 10612).

As discussed in Section 6.1, groundwater supplies are used to meet all the City’s current water needs. Additionally, the SRWA RSWSP is expected to have a positive impact on groundwater recharge within the region as 1) a portion of the recharge water will have originated outside of the basin, contributing towards a net basin inflow, and 2) the quantity of groundwater pumping by the City will decrease. Therefore, the ability of groundwater supply wells to produce water is not expected to be affected by severe or prolonged drought conditions.

Table 7-1 (DWR Table 7-1) shows the basis of water year data as a percentage of average supply. The base years were selected using rainfall data provided by the CIMIS. Due to the SRWA RSWSP not previously being available to the City, historic base year data for average, single-dry, and multiple-dry years for surface water and groundwater are not separated.

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

| 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 | 2019 | 1959 | 100% |
| Single-Dry Year | 2011 | 2675 | 140% |
| Consecutive Dry Years 1st Year | 2011 | 2675 | 140% |
| Consecutive Dry Years 2nd Year | 2012 | 2625 | 130% |
| Consecutive Dry Years 3rd Year | 2013 | 2605 | 130% |
| Consecutive Dry Years 4th Year | 2014 | 2441 | 120% |
| Consecutive Dry Years 5th Year | 2015 | 2104 | 110% |
| <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: Volume available was estimated based on the volume pumped for the base year listed. % of average water supply is averaged to the nearest 10%.</p> | | | |

7.1.3 Service Reliability – Supply and Demand Comparison

Legal Requirements:

CWC Section 10635(a):

Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry 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.

The water service reliability for a Normal Year, Single-Dry Year, and Five-Consecutive-Dry Years is discussed in the following sections.

7.1.3.1 Water Service Reliability – Normal Year

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

- 3,258 MG of groundwater from the City’s wells in the Turlock Subbasin, based on well capacity.
- 1,825 MG (year 2025-2035) of surface water from the Stanislaus Regional Water Supply Project.

As shown in **Table 7-2 (DWR Table 7-2)**, the City’s Normal Year supplies are adequate to meet projected Normal Year demands. This was calculated using the current well production and the amount of water contracted for purchase through TID beginning in 2025. The primary source of water is expected to be surface water, and as necessary, the City plans to meet any additional demand through groundwater pumping, ensuring the City will maintain 100% supply reliability. Alternatively, if there is any disruption in surface water supply, the City will increase groundwater pumping to compensate.

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

| Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison | | | | | |
|--|-------|-------|-------|-------|------------|
| | 2025 | 2030 | 2035 | 2040 | 2045 (Opt) |
| Supply totals (autofill from Table 6-9) | 8,258 | 8,258 | 8,258 | 8,258 | 0 |
| Demand totals (autofill from Table 4-3) | 2,996 | 3,527 | 4,152 | 4,152 | 0 |
| Difference | 5,262 | 4,731 | 4,106 | 4,106 | 0 |
| NOTES: | | | | | |

7.1.3.2 Water Service Reliability – Single-Dry Year

The City's water supplies and demands for the Single-Dry Year are assumed to be equivalent to those for a Normal Year for planning purposes.

As shown in **Table 7-3 (DWR Table 7-3)**, the City's Single-Dry Year supplies are adequate to meet projected Single-Dry Year demands. All wells will stay active and the groundwater supply via wells will be maintained to meet water demand if sufficient surface water is not available.

Table 7-3 – Single-Dry Year Supply and Demand Comparison (DWR Table 7-3 R)

| Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison | | | | | |
|---|-------|-------|-------|-------|------------|
| | 2025 | 2030 | 2035 | 2040 | 2045 (Opt) |
| Supply totals* | 8,258 | 8,258 | 8,258 | 8,258 | |
| Demand totals* | 4,195 | 4,938 | 5,813 | 5,813 | |
| Difference | 4,063 | 3,320 | 2,445 | 2,445 | 0 |
| <i>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i> | | | | | |
| NOTES: | | | | | |

7.1.3.3 Water Service Reliability – Five-Consecutive-Dry Years

Per Water Code Section 10612, the Five-Consecutive-Year Drought is the driest five-year historical sequence for the Supplier. The City's water supplies for the Five-Consecutive-Year Drought are assumed to be equivalent to those for the Normal Year and Single-Dry Year.

As shown in **Table 7-4 (DWR Table 7-4)**, the City's Five-Consecutive-Year Drought supplies are adequate to meet projected demands. If necessary, the City plans to meet any additional demand through increased groundwater pumping and water conservation, ensuring that the City will maintain 100% supply reliability. Alternatively, if there is any disruption in surface water supply, the City will increase groundwater pumping to compensate.

Table 7-4 – Multiple-Dry Years Supply and Demand Comparison (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 | 8,258 | 8,258 | 8,258 | 8,258 | |
| | Demand totals | 4,195 | 4,938 | 5,813 | 5,813 | |
| | Difference | 4,063 | 3,320 | 2,445 | 2,445 | 0 |
| Second year | Supply totals | 8,258 | 8,258 | 8,258 | 8,258 | |
| | Demand totals | 3,895 | 4,586 | 5,398 | 5,398 | |
| | Difference | 4,363 | 3,672 | 2,860 | 2,860 | 0 |
| Third year | Supply totals | 8,258 | 8,258 | 8,258 | 8,258 | |
| | Demand totals | 3,895 | 4,586 | 5,398 | 5,398 | |
| | Difference | 4,363 | 3,672 | 2,860 | 2,860 | 0 |
| Fourth year | Supply totals | 8,258 | 8,258 | 8,258 | 8,258 | |
| | Demand totals | 3,596 | 4,233 | 4,983 | 4,983 | |
| | Difference | 4,662 | 4,025 | 3,275 | 3,275 | 0 |
| Fifth year | Supply totals | 8,258 | 8,258 | 8,258 | 8,258 | |
| | Demand totals | 3,296 | 3,880 | 4,567 | 4,567 | |
| | Difference | 4,962 | 4,378 | 3,691 | 3,691 | 0 |
| Sixth year (optional) | Supply totals | | | | | |
| | Demand totals | | | | | |
| | Difference | 0 | 0 | 0 | 0 | 0 |
| *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. | | | | | | |
| NOTES: | | | | | | |

7.1.4 Description of Management Tools and Options

Legal Requirements:

CWC Section 10620(f):

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

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.

7.2 Drought Risk Assessment

Legal Requirements:

CWC Section 10635(b):

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

- (1) A description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive water years, starting from the year following when the assessment is conducted.*
- (2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.*
- (3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.*
- (4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.*

This section provides a DRA based on the five driest consecutive years on record and plausible changes in climate, regulations, and other locally applicable criteria. A description of the data and methods used, basis for the supply shortage conditions, determination of the reliability of each source, and comparison of total water supplies and uses during a drought is provided below.

7.2.1 DRA Data, Methods, and Basis for Water Shortage Conditions

The data used for the DRA is historical well data for 2011-2015, the driest five-year historical sequence for the City, and other historical records regarding the water system. Additional information, which was not available at this time, but which will be a resource for assessing source reliability in the future, will be the Turlock Subbasin GSP and information regarding the RSWSP.

7.2.2 DRA Water Source Reliability

Based on historical well production data for 2011-2015, well production was not affected by drought conditions during a five-year drought period. Therefore, this DRA assumes that the total water supply is projected to be equivalent to a sustainable average groundwater production of 3,258 MG per year (10,000 AFY) per the Water Master Plan. Recent water quality issues, potential regulations regarding new contaminants, and changes to the aquifer conditions may have adverse impacts on the water supply and should be monitored closely.

7.2.3 Total Water Supply and Use Comparison

The total water supply and use comparison was performed using the Planning Tool Worksheet and is shown in **Table 7-5 (DWR Table 7-5)**. The total water use assumes the City will implement Stage 2 shortage reduction actions during drought conditions. The comparison indicates that the City has sufficient water supply to meet projected demands during a five-year drought. The WSCP discusses measures for reducing water demands in case of water shortage conditions.

Table 7-5 – Five-Year Drought Risk Assessment Tables (DWR Table 7-5)

| Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b) | |
|--|-------|
| 2021 | Total |
| Total Water Use | 2,636 |
| Total Supplies | 3,258 |
| Surplus/Shortfall w/o WSCP Action | 623 |
| Planned WSCP Actions (use reduction and supply augmentation) | |
| WSCP - supply augmentation benefit | |
| WSCP - use reduction savings benefit | |
| Revised Surplus/(shortfall) | 623 |
| Resulting % Use Reduction from WSCP action | 0% |
| 2022 | Total |
| Total Water Use | 2,726 |
| Total Supplies | 3,258 |
| Surplus/Shortfall w/o WSCP Action | 532 |
| Planned WSCP Actions (use reduction and supply augmentation) | |
| WSCP - supply augmentation benefit | |
| WSCP - use reduction savings benefit | |
| Revised Surplus/(shortfall) | 532 |
| Resulting % Use Reduction from WSCP action | 0% |
| 2023 | Total |
| Total Water Use | 2,816 |
| Total Supplies | 8,258 |
| Surplus/Shortfall w/o WSCP Action | 5,442 |
| Planned WSCP Actions (use reduction and supply augmentation) | |
| WSCP - supply augmentation benefit | |
| WSCP - use reduction savings benefit | |
| Revised Surplus/(shortfall) | 5,442 |
| Resulting % Use Reduction from WSCP action | 0% |
| 2024 | Total |
| Total Water Use | 2,906 |
| Total Supplies | 8,258 |
| Surplus/Shortfall w/o WSCP Action | 5,352 |
| Planned WSCP Actions (use reduction and supply augmentation) | |
| WSCP - supply augmentation benefit | |
| WSCP - use reduction savings benefit | |
| Revised Surplus/(shortfall) | 5,352 |
| Resulting % Use Reduction from WSCP action | 0% |
| 2025 | Total |
| Total Water Use | 2,996 |
| Total Supplies | 8,258 |
| Surplus/Shortfall w/o WSCP Action | 5,262 |
| Planned WSCP Actions (use reduction and supply augmentation) | |
| WSCP - supply augmentation benefit | |
| WSCP - use reduction savings benefit | |
| Revised Surplus/(shortfall) | 5,262 |
| Resulting % Use Reduction from WSCP action | 0% |

8 Water Shortage Contingency Plan

In response to the severe drought of 2012-2016, legislation was adopted in 2018 mandating that the UWMP include a WSCP that provides a detailed proposal for assessing water supply availability and response actions to water shortage conditions. The WSCP is to be a stand-alone document which will allow for amending the plan without amending the 2020 UWMP. The City WSCP is provided in **Appendix H**. Refer to the WSCP for the following DWR Tables:

- DWR Tables 8-1: WSCP Levels
- DWR Tables 8-2: Demand Reduction Actions
- DWR Tables 8-3: Supply Augmentation and Other Actions

9 Demand Management Measures

This chapter describes the City's historical and existing water conservation program, status of implementation of Demand Management Measures (DMM), and projected future conservation implementation. DMM are mechanisms a water supplier implements to increase water conservation. The CWC requires that UWMPs include a comprehensive description of historical, current, and projected water conservation programs.

9.1 Existing Demand Management Measures for Retail Suppliers

Legal Requirements:

CWC Section 10631:

(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 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.

The UWMPA presents two distinct methods for providing information related to DMMs. One method is to be a signatory to the California Urban Water Conservation Council (CUWCC) MOU regarding urban water conservation. The MOU requires the preparation of an annual report, which can be used to fulfill the DMM requirements of the UWMP. The City is not a signatory to the MOU, and therefore this method of compliance cannot be used in the UWMP.

The other method for a water supplier who is not member of the CUWCC is to describe their current water conservation programs and demonstrate how they comply with the DMMs specified in CWC Section 10631. The UWMPA was amended in 2014 to streamline DMMs from 14 specific measures to six more general requirements and an "other" category.

9.1.1 Water Waster Prevention Ordinances

Title 13, Section 13.08.020 of the Ceres Municipal Code (CMC), included in **Appendix I**, contains a water wasting prohibition section that prohibits the wasteful use of water. This section prohibits specific water wasting appurtenances (such as "once-through" cooling systems), general water waste, and requires

proper maintenance of water pipes and fixtures to prevent leaks. This ordinance is in line with the goals of the CUWCC MOU.

Table 9-1 lists documented water waste violations, warnings, and excessive consumption notices recorded by the City in 2015 and 2020. Per capita water use reduced from 160 gpcd in 2011 to 123 gpcd in 2015 – a decline of 15.9 percent. Five years after the resolution was passed, the number of recorded violations has significantly decreased while the gallons per capita per day has remained low, with 2020 water usage at 121 gpcd.

Table 9-1 – Documented Water Waste Violations

| Type | 2015 | 2020 |
|---------------------------------------|-------|-------|
| Number of Violations | 259 | 20 |
| Number of Warnings | 1,351 | 210 |
| Number of Excess Consumption Fines | 6,784 | 1,544 |
| Number of Excess Consumption Warnings | 2,117 | 1,215 |

For dry year conditions and other water supply shortages, the City shall follow the steps outlined in the WSCP. 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.

9.1.2 Metering

Legal Requirements:

CWC Section 526:

(a) Notwithstanding any other provisions of law, an urban water supplier that, on or after January 1, 2004, receives water from the federal Central Valley Project under a water service contract or subcontract... shall do both of the following:

(1) On or before January 1, 2013, install water meters on all service connections to residential and nonagricultural commercial buildings... located within its service area.

Water Code section 527

(a) An urban water supplier that is not subject to Section 526 shall do both the following:

(1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.

The City commenced meter-based billing for most of 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.

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. Each meter sends several hundred hourly readings 4 times per day. With this information, customers have access to graphs for usage on hourly, daily, weekly, monthly, and yearly time increments.

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.

9.1.3 Conservation Pricing

The City of Ceres conducted a water rate and connection fee update in September 2017. Based on that study, the City adopted changes to the water service fee rate structure on November 13, 2017 that went into effect for five years, starting on January 1, 2018. The current pricing structure is comprised of two components. The volumetric charge is based on gallons of water use and has rates for two categories: single-family and non-single family. The single-family volumetric charges have a two-tier conservation pricing structure that is set as follows; Tier 1: 0 to 75,000 gallons per month and Tier 2: usage over 75,000 gallons in a month. The second component of the pricing structure is the service charge. This charge accounts for the cost of the meter, operation and maintenance, and other facility costs. This charge is based on the meter size.

9.1.4 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, and water conservation tips and videos on the City's webpage.

Since 2008, the City has implemented an aggressive and prominent water conservation program. The program is broad but focuses specifically on conservation education. Program components include water use efficiency and conservation, storm water pollution prevention, recycling, composting, and sanitary sewer overflow prevention. The educational activities related to water conservation over the past eight 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
- Schools / Career Day
- Presentation to local service organizations and similar groups

The City's primary school-age public education campaign is available year-round, which engages students in activities that teach the importance of environmentally responsible behavior. Through a partnership of City staff, teachers, administrators, community organizations, and volunteers, the City sponsors an annual recycling poster contest where students learn about conservation and pollution prevention strategies such as recycling, composting, water conservation, and waste reduction.

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.

9.1.5 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 water use. The City uses American Water Works Association's software to complete an annual water audits and balance analysis. The City audits have been submitted to the State annually since 2017.

In addition to the 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 topography 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 57 leak repairs per year. 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.

9.1.6 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. The City has two part-time water conservation positions and two full-time field service technicians. These employees are responsible for responding to water complaints, monitoring water waste, issuing warnings and violations, and checking for excess landscape water use.

The effectiveness of this DMM is evaluated in conjunction with the success of the City's water conservation efforts. As the City grows and water resources become more limited and expensive, the water conservation programs will continue grow and promote the importance of water conservation.

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.

9.1.7 Other Demand Management Measures

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

- Residential Water Survey Program
- Distribution of Free Water Conservation Devices (showerheads, aerators, etc.)
- WaterSense Toilet Rebate Program
- High-Efficiency Washing Machine Rebate Program
- Smart Irrigation Controller Rebate Program
- Energy Efficient Dishwasher Rebate Program
- Turf Replacement Rebate Program
- Water Meter Portal

These programs are described below.

9.1.7.1 Residential Water Survey Program

The City began implementation of its residential water survey program in 2015. The program was developed by City staff to allow for an increased water allotment for usage targets and to gauge how efficient residents are with their water use. The survey allows City staff to make modifications to monthly targets due to number of residents in the home, square footage, and special circumstances such as a pool on property. By performing the audit, the customer can 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 on site once the survey has been completed.

9.1.7.2 Distribution of Free Water Conservation Devices

The City provides the following free water conservation devices to Ceres residents:

- 1.25 GPM Showerhead
- 1.0 GPM Aerator
- Toilet Tank Bank
- Shower Timer
- Toilet Leak Detector Dye Tablets
- Water Efficient Hose Nozzle

9.1.7.3 Ultra-Low Flow Toilet Rebate Program

The City offers an ultra-low flow toilet rebate program (**Appendix I**) which provides financial incentives to qualifying customers who install ultra-low flush toilets in their homes. This program provides a \$75 rebate for the first 150 city customers per year to replace existing toilets with high efficiency models that meet the EPA's WaterSense specifications and utilize 1.6 gallons per flush or less.

9.1.7.4 High-Efficiency Washing Machine Rebate Program

The City offers a high-efficiency washing machine rebate program (**Appendix I**) 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 \$75 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.

9.1.7.5 Smart Irrigation Controller Rebate Program

The City offers a smart irrigation controller rebate program (**Appendix I**) which provides financial incentives to qualifying customers who install a water sense labeled smart irrigation controller in their homes. This program provides a \$50 rebate for City customers to replace existing controllers with models that meet the EPA's WaterSense specifications and creates or modifies irrigation schedules based on evapotranspiration (ET) principles.

9.1.7.6 Energy Efficient Dishwasher Rebate Program

The City offers an energy efficient dishwasher rebate program (**Appendix I**) which provides financial incentives to qualifying customers who install an energy star labeled dishwasher in their homes. This program provides a \$75 rebate for city customers to replace an existing dish washer machines with models that meet the EPA's specifications and utilize 4.25 gallons per cycle of water for standard models and 3.50 gallons per cycle for compact models.

9.1.7.7 Turf Replacement Rebate Program

The City offers a turf replacement rebate program (**Appendix I**) which provides financial incentives to qualifying customers who install drought tolerant landscapes at their homes. This program provides \$1.00 for every square foot of grass removed for residents and non-residential accounts. The rebate caps at 500 square feet for residential accounts and 1,000 square feet for non-residential accounts.

9.1.7.8 The Water Meter Portal Program

The City has developed a free Water Meter Portal that allows residents to monitor their own water usage, receive leak notification and view monthly water targets. The portal is an updated daily and gives residents the ability to view their data on a daily, weekly, monthly, and annual format. The portal will also generate a leak notification to the residents' email and or send a text message. Other features the portal offers are customizable usage alerts that can be set to a daily, weekly, monthly, and while away on vacation. The alerts are sent to inform the resident of their water consumption and allow residents to make modification to their water schedule if needed.

9.2 Reporting Implementation

9.2.1 Implementation over the Past Five Years

Legal Requirements:

CWC Section 10631:

(e) 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.

All DMM discussed in Section 9.2 have been implemented over the past five years and are continuing to be implemented.

9.2.2 Implementation to Achieve Water Use Targets

Legal Requirements:

CWC Section 10631:

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

The City implemented the DMM discussed in Section 9.1 and was able to achieve the SB X7-7 2020 target as shown in **Table 5-2 (DWR Table 5-2)**.

10 Plan Adoption, Submittal, and Implementation

This chapter provides information regarding addressing the CWC requirements for public hearing, the UWMP adoption process, submitting an adopted UWMP and making the document available to the public, plan implementation, and the process for amending an adopted UWMP.

10.1 Inclusion of All 2020 Data

As indicated in Chapter 2, 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

10.2.1 Notice to Cities and Counties

Legal Requirements:

CWC Section 10621:

(b) Every urban water supplier required to prepare a plan shall...at least 60 days prior to the public hearing on the plan...notify any city or county within which the supplier provides waters supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

Water Code Section 10642

...The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area...

The City has provided formal written notification that the City's UWMP was being updated for 2020 to the City and Stanislaus County. As shown in **Table 10-1 (DWR Table 10-1)**, this notification was provided at least 60 days prior to the public hearing of the plan. Copies of notification letters are included in **Appendix C**.

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

| 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> | | |
| Modesto | Yes | Yes |
| Turlock | Yes | Yes |
| Hughson | 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 |
| Merced County | Yes | Yes |
| NOTES: | | |

Other agencies notified include the following:

- Denair Community Services District
- East Stanislaus Regional Water Management Partnership
- Eastside Water District
- Keyes Community Services District
- Merced Irrigation District
- Modesto Irrigation District
- Stanislaus Regional Water Authority
- Turlock Groundwater Basin Association
- Turlock Irrigation District

10.2.2 Notice to the Public

Legal Requirements:

CWC Section 10642:

...Prior to adopting either [the plan or water shortage contingency plan], the urban water supplier shall make both of 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 [see below]. 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. Government Code section 6066

Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.

Public hearing notifications for adopting the UWMP were published in the local newspaper Ceres Courier and the Modesto Bee because the City serves a portion of Modesto residents. The public hearing was noticed in the newspapers for two times in two successive weeks with at least five days between publication dates. Copies of the published Notice of Public Hearing are included in **Appendix C**.

The Draft 2020 UWMP and Draft WSCP were made available for public inspection at the City of Ceres Public Works Department, located at 2220 Hackett Road. In addition, the City posted a copy of the Draft 2020 UWMP and Draft WSCP on its website (www.ci.ceres.ca.us).

10.3 Public Hearing and Adoption

Legal Requirements:

CWC Section 10642:

...Prior to adopting either, the [plan or water shortage contingency plan], 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.

Water Code Section 10608.26

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

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

The City has encouraged community and public interest involvement in the UWMP update using mailings, public meetings, and web-based communication. Copies of the City's outreach efforts are included in **Appendix C**.

10.3.1 Public Hearing

A public hearing for the UWMP and WSCP was held on August 13, 2021, at the City Council Chamber. The hearing provided an opportunity for the City's customers, residents, and employees to learn and ask questions about the current and future water supply of the City. The plan adoption by City Council occurred on August 13, 2021. The City Resolution is included in **Appendix J**.

10.3.2 Adoption

Legal Requirements:

CWC Section 10642:

...After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing.

This UWMP was adopted by the City Council on August 13, 2021. The WSCP is scheduled for adoption by the City Council on October 25, 2021. A copy of the adopted resolution for the UWMP is provided in **Appendix J**.

10.4 Plan Submittal

Legal Requirements:

CWC Section 10621:

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

CWC Section 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.

CWC Section 10635:

(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.

10.4.1 Submitting a UWMP and Water Shortage Contingency Plan to DWR

A copy of this 2020 UWMP, including the WSCP, will be submitted to electronically to DWR within 30 days of adoption.

10.4.2 Electronic Data Submittal

Legal Requirements:

CWC Section 10644 (a)(2):

The plan, or amendments to the plan, submitted to the department ... shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.

This 2020 UWMP, including the WSCP, and associated data will be submitted to DWR electronically using the WUEdata submittal tool.

10.4.3 Submitting a UWMP, including WSCP, to the California State Library

The 2020 UWMP, including WSCP, will be submitted in electronic or hardcopy format to the California State Library within 30 days of adoption.

10.4.4 Submitting a UWMP to Cities and Counties

The 2020 UWMP will be submitted in electronic format to Stanislaus County and other agencies listed in Section 10.2.1 within 30 days of adoption.

10.5 Public Availability

Legal Requirements:

CWC Section 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.

Upon submittal to DWR, this 2020 UWMP will be available for public review at the City's Public Works Department during normal business hours and at the Ceres Public Library. An electronic copy of this UWMP will also be available for review and download on the City's website (www.ci.ceres.ca.us).

10.6 Notification to Public Utilities Commission

Legal Requirements:

CWC Section 10621 (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.

The City is not regulated by the California Public Utilities Commission.

10.7 Amending an Adopted UWMP or Water Shortage Contingency Plan

Legal Requirements:

CWC Section 10621:

(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).

CWC Section 10644:

(a)(1) 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.

10.7.1 Amending a UWMP

The plan may be updated at any time when the urban water supplier believes significant changes have occurred in population, land use, and/or water sources that may affect the contents of the plan. If major changes are made to the 2020 UWMP, the City will hold an additional public hearing and City Council will re-adopt the plan. Copies of amendments or changes to the plans will be submitted to DWR, the Ceres Public Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

10.7.2 Amending a Water Shortage Contingency Plan

Legal Requirements:

CWC Section 10644 (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...no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.

If the City revises the WSCP after DWR has approved the 2020 UWMP, copies of amendments or changes to the plans will be submitted electronically to the DWR through the WUEdata Portal within 30 days of its adoption.

Copies of the amended WSCP will also be sent to the California State Library and any city or county within which the supplier provides water supplies within 30 days after adoption.

11 References

- [1] Ceres General Plan 2035, adopted May 14, 2018.
- [2] Stanislaus Regional Water Authority Surface Water Supply Project Final Environmental Impact Report, Horizon Water and Environment, July 2018.
- [3] Turlock Groundwater Basin Groundwater Management Plan, Turlock Groundwater Basin Association, March 18, 2008.

City of Ceres

Water Shortage Contingency Plan

AMENDED FINAL

OCTOBER 2022

Prepared for:

CITY OF CERES
2720 Second Street
Ceres, CA 95307

Prepared by:

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LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|-------------------|--|
| Annual Assessment | Annual Water Supply and Demand Assessment |
| AWSAR | Annual Water Shortage Assessment Report |
| City | City of Ceres |
| CMC | Ceres Municipal Code |
| CWC | California Water Code |
| DPRP | Drought Preparedness & Response Planning for the City of Ceres |
| DWR | California Department of Water Resources |
| ERP | Emergency Response Plan |
| gpcd | gallons per capita per day |
| MGD | million gallons per day |
| PW | Department of Public Works |
| RSWSP | Regional Surface Water Supply Project |
| SB | Senate Bill |
| SRWA | Stanislaus Regional Water Authority |
| TID | Turlock Irrigation District |
| UWMP | Urban Water Management Plan |
| WSCP | Water Shortage Contingency Plan |

1 Introduction

In response to the severe drought of 2012-2016, legislation was adopted in 2018 mandating that the Urban Water Management Plan (UWMP) include a Water Shortage Contingency Plan (WSCP) that provides a detailed proposal for assessing water supply availability and response actions to water shortage conditions. Although required to be included with the 2020 UWMP, the WSCP is a stand-alone document and can be amended on its own.

The WSCP is required to include:

- Key attributes of the water supply reliability analysis conducted pursuant to California Water Code (CWC) Section 10632. [CWC Section 10632(a)(1)]
- 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. [CWC Section 10632(a)(3)(A)]
- Locally appropriate “shortage response actions” for each shortage level, with a corresponding estimate of the extent the action will address the gap between supplies and demands. [CWC Section 10632(a)(4)]
- Procedures for conducting an Annual Water Supply and Demand Assessment (Annual Assessment) with prescribed elements. Under CWC 10632.1, urban water suppliers are required to submit, by July 1 of each year, beginning in the year following adoption of the 2020 UWMP, an annual water shortage assessment report (AWSAR) to the California Department of Water Resources (DWR). [CWC Section 10632(a)(2)]
- Communication protocols and procedures to inform customers, the public, and government entities of any current or predicted water shortages and associated response actions. [CWC Section 10632(a)(5)]
- Monitoring and reporting procedures to assure appropriate data is collected to monitor customer compliance and to respond to any state reporting requirements. [CWC Section 10632(a)(9)]
- A re-evaluation and improvement process to assess the functionality of the WSCP and to make appropriate adjustments as warranted. [CWC Section 10632(a)(10)]

2 Water Supply Reliability Analysis

Water Code Section 10632(a)(1)

The analysis of water supply reliability conducted pursuant to Section 10635.

Pursuant to CWC Section 10632(a)(1), this section examines the (a) findings related to water system reliability conducted pursuant to CWC Section 10632, and (b) the key issues that may create a shortage condition based on the City’s water asset portfolio. These topics are described in Chapters 6 and 7 of the 2020 UWMP, but are summarized below, recognizing that the WSCP is a stand-alone document.

The City's sole source of drinking water is from the groundwater aquifer underlying the community. The City currently obtains groundwater from 13 wells. The City's wells pump from a non-adjudicated groundwater basin (Turlock Subbasin) with no limits on pumping.

The City has partnered at the local and state level to diversify the City's water supply portfolio to significantly increase reliability benefits while reducing the City's reliance on groundwater. Locally, the City has partnered with neighboring City of Turlock to form the Stanislaus Regional Water Authority (SRWA) to develop a future water supply plan from Turlock Irrigation District (TID). The City, as a member of the SRWA, has entered into a water sales agreement for delivery of 1,825 MG per year (5 million gallons per day (MGD)) of treated TID surface water from the SRWA Regional Surface Water Supply Project (RSWSP) in mid-2023. The amount delivered to the City is projected to increase to 15 MGD at buildout.

The City's 2020 UWMP evaluated the long-term (20-year) and near-term (5-year) supply reliability of the City's water system, including consideration for a normal year, single dry year, and a 5-year dry period. Constraints on the water supply reliability for the City are primarily water quantity, water quality, and climate change. The 2020 UWMP estimated that the reliability of the City's water supply is sufficient to meet long-term and near-term demands based on positive impacts from State requirements for sustainable groundwater management and the addition of a surface water supply source starting in 2025.

3 Annual Water Supply and Demand Assessment Procedures

Water Code Section 10632(a)(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.

Water Code Section 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 July 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 July 1 of each year, whichever is later.

Beginning in 2022, CWC Section 10632.1 requires the City to conduct an Annual Water Supply and Demand Assessment (Annual Assessment) on or before July 1 of each year and submit an Annual Water Shortage Assessment Report (AWSAR) by July 1 of every year. The purpose of the Annual Assessment and AWSAR is to forecast near-term water supply conditions (for the current year) and ensure appropriate shortage response actions are triggered in a timely manner. This section of the WSCP details the procedures used to prepare the Annual Assessment. The intent of the procedures is to provide a description of annual timing and steps to complete the document. The Annual Assessment will be a part of the AWSAR.

On April 20, 2022, the DWR finalized the Annual Water Supply and Demand Assessment Guidance (Annual Assessment Guidance) and accompanying tables. The Annual Assessment will be performed annually by the City using the most current version of the Annual Assessment Guidance. The Annual Assessment shall then be used to complete the AWSAR, which will include recommendations for triggering shortage response actions consistent with the WSCP.

This section describes methods and processes related to the Annual Assessment. All information provided in this section is subject to guidance from the DWR. If the DWR provides modified guidance, then the methods used to perform the Annual Assessment shall change accordingly.

3.1 Decision-Making Process

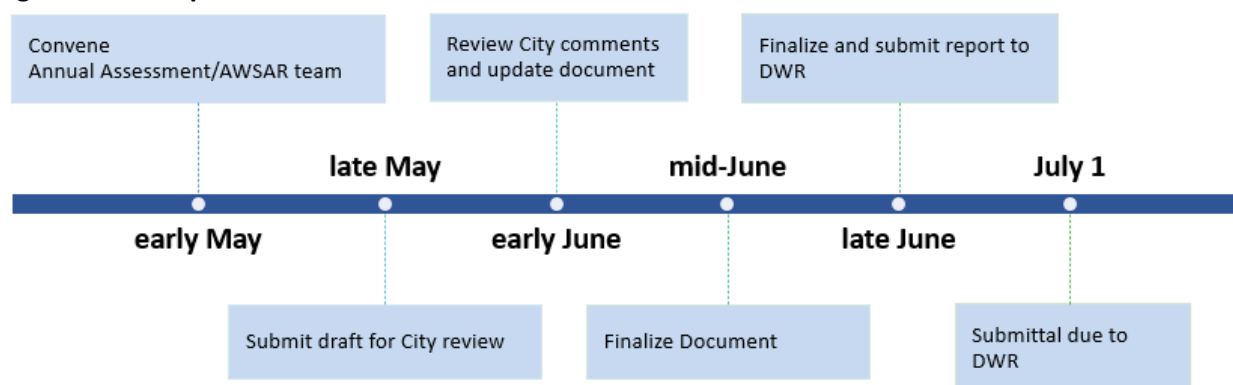
The City Department of Public Works (PW) will be responsible for preparation, obtaining formal approval, and submitting the AWSAR to the DWR. Key responsibilities for preparation of the Annual Assessment and AWSAR are listed in **Table 3-1**. Early in the process, the key team members will be selected and assigned responsibilities to ensure accurate and timely completion of the documents. The Director of Public Works or their designee shall be responsible for approving the AWSAR and presenting recommended shortage response actions to the City for approval (if applicable).

Table 3-1 – Annual Assessment Key Responsibilities

| # | Activity |
|---|--|
| 1 | Convene Annual Assessment and AWSAR team |
| 2 | Information collection and review (see Section 3.2, Key Data Inputs and Methodologies) |
| 3 | Prepare draft AWSAR |
| 4 | Finalize AWSAR |
| 5 | Submit AWSAR to DWR |

An example timeline for the decision-making process is provided in **Figure 3-1**. Actual dates for each activity may vary, however the Annual Assessment is required to be submitted to DWR by July 1 each year, starting in 2022.

Figure 3-1 Example Annual Assessment and AWSAR Timeline



3.2 Key Data Inputs and Methodologies

The following sections describe the key data inputs and methodologies which may be used to evaluate the water system reliability for the current year, while considering that the year to follow will be a dry year. To be consistent with the Annual Assessment Guidance, the current year is defined as the twelve-month period which ends on June 30th, preceding the July 1st due date of the AWSAR and the year to follow is defined as the subsequent calendar year. If the definition of current year and dry year is changed by the DWR, then the City shall use the updated definitions for its Annual Assessment.

Key data inputs may include, but are not required to include, the following:

- Summary of active water supply sources and their capacities.
- Monthly water production data for the previous calendar year.
- Available weather data for the previous calendar year and current year.
- Population data for the previous calendar year and current year.
- Growth projections in terms of land use and/or population for the current year.
- Recently completed documents and studies related to the water system and water supply sources.
- Recent regulatory documents.
- Water quality data for the previous calendar year.
- Water system improvements completed in the previous calendar year and planned for the next two years.
- Information on issues encountered in water system for the previous calendar year. Issues may include exceeding contaminant limits, breaks in pipeline, and decreased well production.
- Current and projected hydrological conditions.
- Other data which affects the water system.

Data for additional years prior to the current year may be analyzed as part of the assessment. The data will be used to develop projections for available water supply and unconstrained customer demands for the current calendar year, considering a dry subsequent year. The criteria used in the calculations should be described and be consistent with the most recently prepared City documents and regulatory requirements.

3.3 Evaluation Criteria

The Annual Assessment will compare the projected water supply and the unconstrained average customer demand. If unconstrained average customer demands are higher than the projected water supply, shortage response actions corresponding to the projected WSCP shortage level should be activated.

3.4 Water Supply

The Annual Assessment will describe and quantify each source of water supply. This shall include descriptive text and methods used to determine the supply values.

3.5 Unconstrained Customer Demand

Unconstrained customer demand for the current year will be developed as part of the Annual Assessment. The methodology for the calculations will be described in the Annual Assessment. References for the sources and assumptions used should be provided. Unconstrained customer demands for subsequent years may be calculated and included.

Various methods could be used to calculate unconstrained customer demand. The method should be consistent with previous City documents, including the 2020 UWMP. If an alternative method is used, reasons for the change in approach shall be provided. The most common methods will either involve:

- Population data and projections and a per capita water demand, or

- Water demand factors for various types of land uses and estimates for developed areas, by land use type.

The projected unconstrained customer demands are likely to be higher than historical water demands because the City has been implementing shortage response actions that reduce water usage.

3.6 Current Year Available Supply

The current year available supply shall be analyzed as part of the Annual Assessment. The available supply shall consider hydrological and regulatory conditions in the current year and one dry year. The City may, but is not required to, consider more than one dry year.

3.7 Infrastructure Considerations

This section is to include an evaluation of how the infrastructure capabilities and constraints may affect the City's ability to deliver supplies to meet customer demands in the coming year. Anticipated capital projects that may influence capabilities, such as repairs that may constrain capabilities (e.g., planned treatment plant upgrades, well rehabilitation or replacement) or new projects that may add capacity (e.g., a new groundwater well or system intertie) may be described in the AWSAR.

3.8 Other Factors

Other factors that can influence or disrupt the water supply, along with unique local considerations should be described in the Annual Assessment. These factors may include recent regulatory requirements, documents and studies related to the water system and water supply sources, and weather conditions.

4 Six Standard Water Shortage Levels

Water Code Section 10632(a)(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.

CWC Section 10632(a)(3) requires water suppliers to define six shortage levels based on the supplier's 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. **Table 4-1 (DWR Table 8-1)** lists the six standard WSCP levels that were introduced for the 2020 UWMP by the DWR. The six standard water shortage levels

are used in the City's WSCP instead of the three levels of water supply restrictions listed in the 2015 UWMP to correspond with the changes to the CWC. **Table 4-2** shows the supply restriction levels that were adopted in Resolution No. 2014-27 by the City Council and how they correspond with the six standard water shortage levels.

Table 4-1 – WSCP Levels (DWR Table 8-1)

| Submittal Table 8-1 Water Shortage Contingency Plan Levels | | |
|---|------------------------|--|
| Shortage Level | Percent Shortage Range | Shortage Response Actions (Narrative description) |
| 1 | Up to 10% | Provision of rebates, water surveys, and water usage data to customers; landscape irrigation limitations; timely leak repair requirement. |
| 2 | Up to 20% | Same as Level 1 |
| 3 | Up to 30% | Increased landscape irrigation limitations; water served upon request at restaurants; vehicle washing limitations; decorative water feature limitations. |
| 4 | Up to 40% | Same as Level 3 |
| 5 | Up to 50% | Same as Level 3 |
| 6 | >50% | Prohibit all landscape irrigation; vehicle washing limitations; additional water feature limitations; no new potable water service permitted. |
| NOTES: | | |

Table 4-2 – Previous Drought Condition Stages

| 2020 WSCP Level | Shortage Level | Previous Drought Condition Stages | |
|-----------------|----------------|-----------------------------------|-------------|
| | | Stage | Stage Title |
| 1 | ≤ 10% | I | Normal |
| 2 | 10 - 20% | I | Normal |
| 3 | 20 - 30% | II | Critical |
| 4 | 30 - 40% | II | Critical |
| 5 | 40 - 50% | II | Critical |
| 6 | > 50% | III | Emergency |

5 Shortage Response Actions

Water Code Section 10632 (a)(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.

(B) Locally appropriate demand reduction actions to adequately respond to shortages.

(C) Locally appropriate operational changes.

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

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

CWC Section 10632(a)(4) requires shortage response actions that align with the shortage levels defined in **Table 4-1 (DWR Table 8-1)** and include locally appropriate supply augmentation actions, demand reduction actions, operational changes, and additional mandatory prohibitions against specific water use practices. An estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the actions must be provided.

In 2014, the City adopted a resolution for a program of mandatory prohibitions related to water conservation. The City adopted this ordinance in response to the water shortage emergency associated with the drought of 2012 through 2016. The Drought Preparedness & Response Planning for the City of Ceres Public Water System (DPRP) dated February 23, 2016, outlines practices for the City to manage water use demand and evaluates alternative water supply sources. The DPRP includes general provisions, definitions, application of regulations, and water conservation restrictions. The water conservation restrictions are described in more detail in this section.

5.1 Supply Augmentation Actions

The City solely relies on groundwater and does not currently have alternate water sources for normal or emergency conditions. In the future, surface water will be acquired through TID and utilized to lower groundwater usage. This will be done during normal conditions and does not qualify as a supply augmentation action. However, it is likely that in the future, certain groundwater wells will be unused except during a water shortage event. **Table 5-1 (DWR Table 8-3)** lists the supply augmentation strategies that the City currently uses.

Table 5-1 – Supply Augmentation and Other Actions (DWR Table 8-3)

| Submittal 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 WUdata online submittal tool</i> | How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i> | Additional Explanation or Reference <i>(optional)</i> |
| <i>Add additional rows as needed</i> | | | |
| 1 | Expand Public Information Campaign | 0 | Drought Preparedness & Response Plan Section 12.1.2, 12.2.2, 12.3.2 |
| 2 | | 0 | No action taken. |
| 3 | Implement or Modify Drought Rate Structure or Surcharge | 0 | Resolution No. 2015-64 |
| 4 | | 0 | No action taken. |
| 5 | | 0 | No action taken. |
| 6 | | 0 | No action taken. |
| NOTES: | | | |

5.2 Demand Reduction Actions

Increasing demand reduction actions will be enforced with increasing WSCP levels. **Table 5-2 (DWR Table 8-2)** summarizes demand reduction actions and the WSCP shortage level at which the action will be mandated. The demand reduction actions column was limited to a drop-down list provided by DWR. Additional explanation or reference information is listed to provide details specific to the City. Some demand reduction actions listed in the table correspond to operational changes which are described in Section 5.3. Because the City relies solely on groundwater for water supply and to prevent groundwater basin overdraft, the City urges residents to conserve water and is currently enforcing DPRP Stage II demand reduction actions which limits outdoor watering to two days per week.

Table 5-2 – Demand Reduction Actions (DWR Table 8-2)

| Submittal Table 8-2: Demand Reduction Actions | | | | |
|---|--|---|--|---|
| Shortage Level | Demand Reduction Actions <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.</i> | How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i> | Additional Explanation or Reference <i>(optional)</i> | Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i> |
| Add additional rows as needed | | | | |
| 1 | Expand Public Information Campaign | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | | No |
| 1 | Provide Rebates on Plumbing Fixtures and Devices | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | Toilets, washing machines, dishwasher, and smart irrigation controller | No |
| 1 | Provide Rebates for Turf Replacement | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | \$1/sf of lawn removed | No |
| 1 | Offer Water Use Surveys | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | | No |
| 1 | Other | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | Water usage available for customer viewing; leak notifications available | No |
| 1 | Landscape - Limit landscape irrigation to specific times | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | No watering from 12 PM to 7 PM | Yes |
| 1 | Landscape - Limit landscape irrigation to specific days | 60 gpcd | Three days per week | Yes |

| Submittal Table 8-2: Demand Reduction Actions | | | | |
|---|---|---|--|---|
| Shortage Level | Demand Reduction Actions <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.</i> | How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i> | Additional Explanation or Reference <i>(optional)</i> | Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i> |
| 1 | Landscape - Restrict or prohibit runoff from landscape irrigation | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | Ceres Municipal Code: A-1 (b) | Yes |
| 1 | Landscape - Prohibit certain types of landscape irrigation | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | Ceres Municipal Code: A-1 (c) | Yes |
| 1 | Other - Require automatic shut of hoses | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | Ceres Municipal Code: A-1 (d) | Yes |
| 1 | Other - Prohibit use of potable water for washing hard surfaces | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | Ceres Municipal Code: A-1 (e) | Yes |
| 1 | Other - Customers must repair leaks, breaks, and malfunctions in a timely manner | 3-6 gpcd | Within 24 hours of notification by City | Yes |
| 1 | Decrease Line Flushing | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | | No |
| 1 | Increase Water Waste Patrols | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | | Yes |
| 2 | Other | 0 | No action taken | |
| 3 | Landscape – Limit landscape irrigation to specific days | 20 gpcd | Two days per week | Yes |
| 3 | CII – Other CII restriction or prohibition | 1.5 gpcd | CII users required to remove all grass | Yes |

| Submittal Table 8-2: Demand Reduction Actions | | | | |
|---|---|---|--|---|
| Shortage Level | Demand Reduction Actions <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.</i> | How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i> | Additional Explanation or Reference <i>(optional)</i> | Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i> |
| 3 | Other | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | No outdoor water is permitted with use of a hose or shutoff nozzle | Yes |
| 3 | Water Features – Restrict water use for decorative water features, such as fountains | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | Drought Preparedness & Response Plan Section 11.2 | Yes |
| 3 | CII – Restaurants may only serve water upon request | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | Drought Preparedness & Response Plan Section 11.1 | Yes |
| 3 | Landscape – Limit landscape irrigation to specific times | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | Sprinklers can run no more than 10 minutes per day | Yes |
| 4 | Other | 0 | No action taken | |
| 5 | Other | 0 | No action taken | |
| 6 | Landscape - Prohibit all landscape irrigation | 20 gpcd | Drought Preparedness & Response Plan Section 11.3 | Yes |
| 6 | Other - Prohibit vehicle washing except at facilities using recycled or recirculating water | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | High pressure/low volume wash systems are | Yes |

| Submittal Table 8-2: Demand Reduction Actions | | | | |
|--|---|---|--|--|
| Shortage Level | Demand Reduction Actions <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.</i> | How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i> | Additional Explanation or Reference <i>(optional)</i> | Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only</i> <i>Drop Down List</i> |
| | | | also permitted | |
| 6 | Other water feature or swimming pool restriction | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | Prohibit re-filling of ornamental lakes or ponds | Yes |
| 6 | Other | Supports other demand reduction actions. Less than 2 gpcd (1% of baseline water demand) | No new potable water service provided | No |
| NOTES: Per Ceres Municipal Code and Corresponding Ordinances | | | | |

Water use reductions for each demand reduction action included in **Table 5-2** were estimated based on information from water conservation studies and an analysis of historical per capita water production data for the City between 2001 – 2020. Most of the demand reduction is assumed to occur from restrictions on landscape irrigation.

Water use reduction associated with the demand reduction actions for shortage levels 1 and 3 were primarily assigned to limiting landscape irrigation to a two-day water schedule and estimated to be the difference between the 2020 target per capita gross water use of 180 gpcd from the SB X7-7 tables in the 2020 UWMP and the average per capita baseline water use of 118 gpcd, achieved between 2016 – 2020. SB X7-7 refers to the Water Conservation Act of 2009 which required that all California water suppliers increase their water use efficiency, including achieving a 20 percent reduction in urban in per capita water use by December 31, 2020.

Water use reduction associated with reducing landscape irrigation by one day was estimated by comparing the average water use for the three lowest months of each year with the annual average water use for the year on a per capita basis for 2016 – 2020, and assuming that outdoor water use was occurring two days per week. The overall difference between outdoor water use and baseline water use was divided by two to estimate landscape irrigation water use per day. **Tables 5-3** and **5-4** summarize the calculations for estimating the impacts from the demand reduction actions.

Table 5-3 – Historical Water Production Data

| Month | # of days | Water Pumped (MG) | | | | |
|---|-----------|-------------------|---------|---------|---------|---------|
| | | Year | | | | |
| | | 2016 | 2017 | 2018 | 2019 | 2020 |
| January | 31 | 108.0 | 103.4 | 114.5 | 112.6 | 120.2 |
| February | 28 | 103.0 | 95.3 | 114.8 | 98.4 | 114.5 |
| March | 31 | 113.7 | 118.9 | 120.7 | 116.0 | 137.2 |
| April | 30 | 142.5 | 137.7 | 147.6 | 154.4 | 151.1 |
| May | 31 | 194.3 | 210.7 | 214.0 | 182.5 | 222.1 |
| June | 30 | 229.6 | 237.8 | 248.3 | 212.4 | 218.8 |
| July | 31 | 245.9 | 268.0 | 255.4 | 233.8 | 245.7 |
| August | 31 | 227.6 | 253.7 | 237.9 | 230.5 | 231.5 |
| September | 30 | 203.9 | 224.4 | 214.2 | 197.7 | 218.4 |
| October | 31 | 176.2 | 195.7 | 199.9 | 172.4 | 197.8 |
| November | 30 | 125.1 | 138.8 | 161.9 | 131.5 | 155.9 |
| December | 31 | 110.5 | 125.1 | 108.4 | 116.4 | 137.9 |
| Total | | 1,980.3 | 2,109.5 | 2,137.5 | 1,958.5 | 2,151.1 |
| Population | | 47,325 | 47,823 | 47,915 | 48,027 | 48,430 |
| Average water use, gpcd | | 115 | 121 | 122 | 112 | 122 |
| 5-year average water use, gpcd | | 118 | | | | |
| Baseline water use(lowest 3 months), MG | | 321.49 | 317.63 | 337.70 | 326.92 | 372.60 |
| Baseline, gpcd | | 75 | 74 | 78 | 76 | 85 |
| 5-year baseline water use, gpcd | | 78 | | | | |
| Estimated outdoor water use, gpcd | | 39 | 47 | 44 | 36 | 36 |
| 5-year average outdoor water use, gpcd | | 40 | | | | |

Table 5-4 – Shortage Gap Estimates

| # | Description | Value |
|-----|--|-------|
| (1) | Average Water Use without Demand Reduction Actions, gpcd (SB X7-7 2020 Target) | 180 |
| (2) | Average Water Use after Shortage Level 1, 2, and 3 Actions, gpcd (Average water use, 2016-2020) | 118 |
| (3) | Estimated Reduction in Shortage Gap from Level 1, 2, and 3 Actions, gpcd | 62 |
| (4) | Average outdoor water use (2-day watering schedule), gpcd | 40 |
| (5) | Reduction in Shortage Gap by one day reduction in watering schedule, gpcd | 20 |

Notes:

(2) Average Water Use after Shortage Level 1, 2, and 3 Actions = Average water use from Table 5-3.

(3) Estimated Reduction in Shortage Gap from Level 1, 2, and 3 Actions = (1) Average Water Use without Demand Reduction Actions - (2) Average Water Use after Shortage Level 1, 2, and 3 Actions.

(4) Average outdoor water use (2-day watering schedule) = Average outdoor water use from Table 5-3.

(5) Reduction in Shortage Gap by one day reduction in watering schedule = (4) ÷ 2, rounded.

5.3 Operational Changes

Operational changes to address water shortages will be focused on implementing and enforcing the supply augmentation and demand reduction actions. The following operational changes were listed in **Tables 5-1 and 5-2 (DWR Tables 8-2 and 8-3)** and assist with reduction of water demands.

- Expand public information campaign.
- Implement or modify drought rate structure or surcharge.
- Offer water use surveys.
- Decrease line flushing.
- Increase water waste patrols.

5.4 Additional Mandatory Prohibitions

Additional mandatory prohibitions related to water usage are detailed in Title 13, Chapter 8 of the Ceres Municipal Code (CMC) which includes rules and regulations for the City's water conservation program.

6 Seismic Risk Assessment and Mitigation Plan

Water Code Section 10632.5

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

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

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

The City falls under the Stanislaus County Local Hazard Mitigation Plan, which was updated in July 2017. The plan addresses seismic risk and satisfies the requirement of CWC Section 10632.5(a). A copy of the 2017 Local Hazard Mitigation Plan can be found at this website:

<https://www.stanoes.com/lhmp.shtm>

Another useful reference for assessing and mitigating seismic risks to the water system is the City's Emergency Response Plan (ERP). The ERP includes findings of the City's risk and resilience assessment and describes strategies, resources, plans, and procedures utilities can use to prepare for and respond to an incident, natural or man-made, that threatens life, property, or the environment.

7 Communication Protocols

Water Code Section 10632 (a)(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

In accordance with CWC 10632(a)(5), the City shall initiate communication procedures to inform customers, the public, interested parties, and local, regional, and state governments when the AWSAR predicts a current or predicted shortage and the shortage response actions that will be triggered or anticipated to be triggered. Communication protocols are included in the DPRP and ERP.

8 Compliance and Enforcement

Water Code Section 10632 (a)(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.

Title 13, Chapter 09 of the CMC describes enforcement, appeal, and exemption procedures for City water code violations which apply to violations of City shortage response actions.

9 Legal Authorities

Water Code Section 10632 (a)(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. [see below]

(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.

Water Code Section Division 1, Section 350

Declaration of water shortage emergency condition. The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, 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.

Title 13 of the CMC gives the City the authority to implement and enforce its shortage response actions. When the conditions deem it necessary, the City shall declare a water shortage emergency in accordance with Water Code Chapter 3 (commencing with Section 350) of Division 1 general provision regarding water shortage emergencies. Because the City is also the water supplier, City staff can coordinate the possible proclamation of a local emergency under California Government Code, California Emergency Services Act (Article 2, Section 8558).

10 Financial Consequences of WSCP

Water Code Section 10632(a)(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.

Revenues for the cost of operating the City water system are collected from customer water rates. The City conducted a Water Rate and Connection Fee Update in September 2017 (Water Rate Study) [1]. Based on that study, the City adopted changes to the water service fee rate structure on November 13, 2017 that went into effect for five years, starting on January 1, 2018.

The current pricing structure is comprised of two components. The volumetric charge is based on gallons of water use and has rates for two categories: single-family and non-single family. The volumetric charges have a two-tier conservation pricing structure with targets for each tier that change depending on the season. The second component of the pricing structure is the service charge. This charge accounts for the cost of the meter, operation and maintenance, and other facility costs and is based on the meter size.

When shortage response actions are activated, revenues will be reduced due to reduced consumption. However, the costs for operating the water system will not correspondingly decrease. There may also be additional costs associated with implementing the shortage response actions and enforcing compliance. The adopted rates from the Water Rate Study are anticipated to provide the City with sufficient funds for revenue reductions and expense increases associated with activated shortage response actions. The Water Rate Study included maintaining operations and capital reserves and was based on a water demand of 10,000 gallons per month for a single-family customer, equating approximately to 90 gpcd (using a household size of 3.66 persons) or 50% of the SB X7-7 2020 target water use.

The cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1 of the CWC is not projected to be significant because the Water Rate Study was recently completed and assumed a conservative customer water demand and a low customer growth rate of 0.07%.

If needed, the City may implement additional strategies to address decreased revenue from water sales. These strategies may include use of financial reserves, deferring capital improvement projects, reducing current and future operation and maintenance expenses, and conducting a rate study.

11 Monitoring and Reporting

Water Code Section 10632(a)(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.

The City's water system has water meters on all production sources and customers. The City will use the production meters and customer usage meters to determine actual water use reductions. Monthly water pumping volumes and water billing data analyzed for the previous year will be summarized in the Annual Assessment and will assist with monitoring and reporting the adequacy of the shortage response actions.

12 Refining

Water Code Section 10632 (a)(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.

The Annual Assessment, including monitoring and reporting procedures, will provide data to determine if the water shortage mitigation strategies are adequate for reducing water demands. If the data indicates that the strategies are not adequate or can be reduced, the WSCP should be amended and formally approved as described in Section 12.2.

12.1 Special Water Feature Distinction

Water Code Section 10632 (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.

In accordance with Water Code Section 10632 (b), swimming pools and spas are considered different from other water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains. The City follows the definition of a swimming pool found in the Swimming Pool Safety Act.

12.2 Plan Adoption, Submittal and Availability

12.2.1 Notice to the Public

Water Code Section 10642

...Prior to adopting either [the plan or water shortage contingency plan], the urban water supplier shall make both of 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 [see below]. 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.

Government Code section 6066

Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.

The City is committed to encouraging the active involvement of diverse social, cultural, and economic elements of its citizenry. The City placed a notice in the local newspaper stating that its WSCP has been prepared and that a public hearing would be conducted to take testimony from members of the community. A copy of this notification is included in **Appendix A**. The WSCP was made available for public inspection at the City Public Works Department, located at 2220 Hackett Road, and posted a copy of the WSCP on its website (www.ci.ceres.ca.us), prior to the public hearing.

12.2.2 Public Hearing and Adoption

Water Code Section 10642

...Prior to adopting either, the [plan or water shortage contingency plan], 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.

Water Code Section 10608.26

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

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

The City has encouraged community and public interest involvement in the WSCP using mailings, public meetings, and web-based communication. Copies of the City's outreach efforts are included in **Appendix A**.

12.2.3 Public Hearing

A public hearing was held on October 10, 2022 at the City Council Chamber. The hearing provided an opportunity for the City's customers, residents, and employees to learn and ask questions about the current and future water supply of the City.

12.2.4 Adoption

Water Code Section 10642

...After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing.

This WSCP was adopted by the City Council on October 10, 2022. A copy of the adopted resolution is included in **Appendix B**.

12.2.5 Plan Submittal

A copy of the adopted WSCP will be submitted to DWR electronically using the WUE Data Portal submittal tool.

12.2.6 Submitting a UWMP to Cities and Counties

The 2020 UWMP will be submitted in electronic format to Stanislaus County within 30 days of adoption.

12.2.7 Public Availability

Water Code Section 10632 (a)(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.

Water Code Section 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.

Within 30 days of submitting the WSCP to DWR, the adopted WSCP will be available for public review during normal business hours at the City Public Works Department. The City will also post a copy of the adopted WSCP on its website (<https://www.ci.ceres.ca.us/>).

12.2.8 Notification to Public Utilities Commission

The City is not regulated by the California Public Utilities Commission.

12.2.9 Amending an Adopted Water Shortage Contingency Plan

Water Code Section 10644 (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...no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.

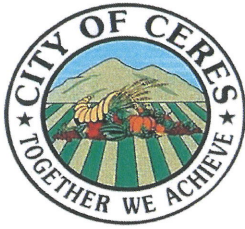
If the City revises the WSCP, copies of amendments or changes to the plans will be submitted electronically to the DWR through the WUE Data Portal within 30 days of its adoption.

13 References

- [1] City of Ceres Water Rate and Connection Fee Update, HF&H Consultants, LLC, September 12, 2017

Appendix A

**Notices to Public
and Public Outreach Efforts**



**Office of the
Public Works Director**
2220 Hackett Road
Ceres, CA 95307
(209) 538-5732

CITY COUNCIL

Javier Lopez, Mayor
James Casey, Dist. 1
VACANT, Dist. 2
Bret Silveira, Dist. 3
Mike Kline, Dist. 4

DATE: July 20, 2022
TO: All Interested Parties
FROM: Samir Royal, Interim Public Works Director
SUBJECT: Notice of Preparation of the Amended City of Ceres Water Shortage Contingency Plan

The City of Ceres (City) is in the process of updating its Water Shortage Contingency Plan (WSCP). The WSCP is detailed proposal for how the City intends to act in the case of an actual water shortage condition. As part of this process, the City is required to notify Stanislaus County and agencies within the County of this planned update at least 60 days prior to the proposed public hearing. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision (California Water Code § 10621).

Per Water Code § 10642, prior to adopting the WSCP the City will make it available for inspection to the public within the jurisdiction of the City. In addition, the City will provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. If you have any questions or comments regarding the update, please contact the undersigned.

Sincerely,

Samir Royal
Interim Public Works Director
City of Ceres
2220 Hackett Road
Ceres, CA 95307
(209) 538-2126
Samir.Royal@ci.ceres.ca.us

THE CERES COURIER

121 S. CENTER ST. 2ND FLOOR
TURLOCK, CA 95380

PH 209-537-5032 FAX 209-633-6140



ADVERTISING STATEMENT

CITY OF CERES-PUBLIC WORKS
DEPT/Jackie Hamrick
2220 HACHETT RD.
CERES CA 95307

Transaction Period: 9/1/2022 - 9/30/2022

Advertiser Number: 17895

Billing Date: 9/30/2022

Due Date: 10/31/2022

Amount Due: \$405.00

Amount Enclosed: _____

52735.299

Please detach top portion and return with your payment.

STATEMENT

Ceres Courier

9/30/2022

| Date | Ref No. | Transaction | Details | Debit | Credit |
|------------------|---------|---|-------------------------|---------------|--------|
| | | | | | \$0.00 |
| Balance Forward: | | | | | |
| 9/30/2022 | 322769 | Invoice | CC#09-11 WATER SHORTAGE | \$405.00 | |
| | | Order No. 128046 Legal AD: Miscellaneous Le | als: CC#09-11 WATER | \$405.00 | |
| | | SHORTAGE | | | |
| | | Ads: 6 | 9/21/2022 - 10/12/2022 | 8,3708 Inches | |
| | | CC - Ceres Courier, CC - Ceres Courier Online | | | |
| | | Ad Text: PUBLIC NOTICE | | | |

CITY OF CERES-PUBLIC WORKS
DEPT/Jackie Hamrick
Advertiser No: 17895

0

AGING

| Current | 1 - 30 | 31 - 60 | 61 - 90 | 91+ |
|----------|--------|---------|---------|--------|
| \$405.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |

Balance Forward: \$0.00
Debits: \$405.00
Credits: \$0.00
Amount Due: \$405.00

Please return this Portion with your Remittance
Make checks payable to: Ceres Courier, P.O. Box 1958 Manteca, CA 95336
For billing questions please contact Accounts Receivable at 209-634-9141

Payment in full is due upon receipt of statement. A finance charge on all balances over 30 days will be computed by a "periodic rate" of 1.5% per month, which is AN ANNUAL PERCENTAGE RATE OF 18%. Customer will be responsible for the cost of collection and attorney fees.

Thank you for advertising with us

PUBLIC NOTICE ATTACHMENT 2

**NOTICE OF PUBLIC HEARING BY THE
CITY COUNCIL
OF THE CITY OF CERES**

A Public Hearing will be held on **MONDAY, October 10, 2022, AT 6:00 P.M.**, in the **City Council Chambers** at the Community Center located at **2701 Fourth Street, Ceres CA**, to consider the adoption of the **Amended 2020 Water Shortage Contingency Plan** (2020 WSCP). In accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 – 10657, and 10608).

The City of Ceres will release the 2020 WSCP on September 26, 2022. The 2020 WSCP is available for public review and comment through the end of the public hearing described above. The 2020 WSCP can be viewed at the City of Ceres Public Works Department (2220 Hackett Road) or the City of Ceres website (<https://www.ci.ceres.ca.us/169/City-of-Ceres-Water-System-Historical-Info>). For questions or more information on the Draft WSCP please contact Samir Royal, Interim Director of Public Works, City of Ceres Public Works Department at (209) 538-5732.

Both verbal and written public comments on the proposed updates to the 2020 WSCP are invited at the public hearing. Written comments may also be provided prior to the public hearing via mailed letter to the City of Ceres, Public Works Department, Attn: Samir Royal, 2220 Hackett Road, Ceres, CA 95307 or e-mailed to Samir.Royal@ci.ceres.ca.us. Written comments submitted in advance will receive the same attention as comments received at the public hearing. They must be received no later than one hour before the beginning of the Public Hearing on Monday, October 10, 2022 at 6:00 p.m.

The public hearing will be held to consider and adopt proposed revisions and updates to the 2020 WSCP.

Challenges in court to any of the items identified in this public notice may be limited to only those issues raised at the public hearing described in this notice, or in written correspondence delivered to the Ceres City Council at, or prior to, the public hearing.

Pursuant to California Constitution Article III, Section 6, establishing English as the official language for the State of California, notice is hereby given that all proceedings before the Ceres City Council shall be in English and anyone wishing to address the Council is required to have a translator present who will take an oath to make an accurate translation from any language not English into the English language.

Fallon Martin, City Clerk

PUBLISHED: September 21, 2022,
September 28, 2022
RUN DATE: 9/21/22

THE CERES COURIER121 S. CENTER ST. 2ND FLOOR
TURLOCK, CA 95380

PH 209-537-5032 FAX 209-633-6140

**ADVERTISING
INVOICE**

Invoice Number

322769

Invoice Date

9/30/2022

Advertiser No.

17895

Amount Due

\$405.00

Due Date

10/31/2022CITY OF CERES-PUBLIC WORKS
DEPT/Jackie Hamrick
2220 HACHETT RD.
CERES CA 95307**Amount Enclosed**

Please detach top portion and return with your payment.

INVOICE

| Ceres Courier | | CITY OF CERES-PUBLIC WORKS DEPT/Jackie Hamrick | | | | Invoice No. 322769 | | 9/30/2022 |
|-----------------------|--------|--|---|--|---------------|--------------------|-----------|-----------|
| Date | Order | | Description | | Ad Size | SubTotal | Sales Tax | Amount |
| 9/21/2022 | 128046 | CC | Legal AD: Miscellaneous Legals: CC#09-11 WATER SHORTAGE PUBLIC NOTICE | | 8.3708 Inches | | | \$121.50 |
| 9/21/2022 | 128046 | CCO | Legal AD: Miscellaneous Legals: CC#09-11 WATER SHORTAGE PUBLIC NOTICE | | 8.3708 Inches | | | \$13.50 |
| 10/5/2022 | 128046 | CC | Legal AD: Miscellaneous Legals: CC#09-11 WATER SHORTAGE PUBLIC NOTICE | | 8.3708 Inches | | | \$121.50 |
| 10/5/2022 | 128046 | CCO | Legal AD: Miscellaneous Legals: CC#09-11 WATER SHORTAGE PUBLIC NOTICE | | 8.3708 Inches | | | \$13.50 |
| 10/12/2022 | 128046 | CC | Legal AD: Miscellaneous Legals: CC#09-11 WATER SHORTAGE PUBLIC NOTICE | | 8.3708 Inches | | | \$121.50 |
| 10/12/2022 | 128046 | CCO | Legal AD: Miscellaneous Legals: CC#09-11 WATER SHORTAGE PUBLIC NOTICE | | 8.3708 Inches | | | \$13.50 |
| | | | | | | Sub Total: | | \$405.00 |
| Total Transactions: 6 | | | | | | Total: | | \$405.00 |

| | | | | | | |
|----------------|-----------------------|-------|--------------------|--------|-----------------------|----------|
| SUMMARY | Advertiser No. | 17895 | Invoice No. | 322769 | Invoice Amount | \$405.00 |
|----------------|-----------------------|-------|--------------------|--------|-----------------------|----------|

Please return this Portion with your Remittance
Make checks payable to: Ceres Courier, P.O. Box 1958 Manteca, CA 95336
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PUBLIC NOTICE

NOTICE OF PUBLIC HEARING BY THE CITY COUNCIL OF THE CITY OF CERES

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Fallon Martin, City Clerk

PUBLISHED: September 21, 2022, October 5, 2022, October 12, 2022

Appendix B

City Resolution Adopting WSCP

RESOLUTION NO. 2022-133

**APPROVING THE 2020 WATER SHORTAGE CONTINGENCY PLAN
AMENDMENT**

THE CITY COUNCIL
City of Ceres

WHEREAS, the City adopted the 2020 Water Shortage Contingency Plan on October 25, 2021; and

WHEREAS, adoption of the Water Shortage Contingency Plan is required every five (5) years; and

WHEREAS, the Water Supply and Demand Assessment was completed on June 29, 2022; and

WHEREAS, adoption of the Water Supply and Demand Assessment is currently required annually; and

WHEREAS, the City of Ceres released the Water Shortage Contingency Plan Amendment on September 26, 2022 which removes the requirement for council to approve and adopt the Water Supply and Demand Assessment annually; and

WHEREAS, the Water Supply and Demand Assessment will now be approved and adopted along with the Water Shortage Contingency Plan every five (5) years.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Ceres does hereby approve the 2020 Water Shortage Contingency Plan Amendment.

PASSED AND ADOPTED by the Ceres City Council at a regular meeting thereof held on the 10th day of October 2022, by the following vote:

| | |
|----------|--|
| AYES: | Councilmembers: Casey, Kline, Silveira and Mayor Lopez |
| NOES: | Councilmembers: None |
| ABSENT: | Councilmembers: None |
| ABSTAIN: | Councilmembers: None |

ATTEST:


Fallon Martin, City Clerk


Javier Lopez, Mayor