FINAL

City of Hanford

OCTOBER 2021

2020 Urban Water Management Plan

AKEL
ENGINEERING GROUP, INC.

CITY OF HANFORD

2020

URBAN WATER MANAGEMENT PLAN

Final

October 2021

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Smart Planning Our Water Resources

November 8th, 2021

City of Hanford
319 North Douty Street
Hanford California, 93230

Attention: James Ross, Deputy Public Works Director

Subject: **2020 Urban Water Management Plan**

Dear Jim:

We are pleased to submit the City of Hanford 2020 Urban Water Management Plan (2020 UWMP) which is intended to address the Urban Water Management Planning Act (UWMPA) of 1983 and amendments thereof.

The City's 2015 UWMP received letters of review and completeness from the Department of Water Resources. This 2020 UWMP addresses additional amendments to the UWMPA and new guidelines established by the Department of Water Resources, including a 2020 Water Shortage Contingency Plan (2020 WSCP), as a separate document. Water supply reliabilities and demands are projected through a planning horizon of 2045.

We extend our thanks to you; John Doyel, Public Works Director; Christine Baca, Regulatory Compliance Analyst; Bob Williams, Utilities Supervisor, and other City staff whose courtesy and cooperation were valuable in reviewing and completing this study.

Sincerely,

AKEL ENGINEERING GROUP, INC.

Tony Akel, P.E.
Principal

Enclosure: 2020 Urban Water Management Plan

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City of Hanford
2020 Urban Water Management Plan

Contact Sheet

Date this plan was submitted to the Department of Water Resources:

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The Water supplier is a Municipality

The Water supplier is a Retailer

Utility Services provided by the water supplier include: Water, Sewer, Recycled Water

Is this Agency a Bureau of Reclamation Contractor? No

Is this Agency a State Water Project Contractor? No

Acknowledgements

City Council

Francisco Ramirez, Mayor

Diane Sharp, Vice Mayor

Amanda Saltray

Kalish Morrow

Art Brieno

Management Personnel

John Doyel, Director of Public Works

Jim Ross, Deputy Public Works Director

Christine Baca, Regulatory Compliance Analyst

Bob Williams, Utilities Supervisor

City of Hanford
2020 Urban Water Management Plan

Table of Contents

Page No.

CHAPTER 1 – INTRODUCTION AND OVERVIEW 1-1
1.1 BACKGROUND AND PURPOSE 1-1
1.2 URBAN WATER MANAGEMENT PLANNING AND THE CALIFORNIA WATER CODE 1-2
1.3 REPORT ORGANIZATION 1-3
1.4 PUBLIC PARTICIPATION AND PLAN ADOPTION 1-4
1.5 UWMP AND GRANT OR LOAN ELIGIBILITY 1-5
1.6 PREVIOUS URBAN WATER MANAGEMENT PLANS 1-5

CHAPTER 2 – PLAN PREPARATION 2-1
2.1 BASIS FOR PREPARING A PLAN 2-1
2.2 REGIONAL PLANNING 2-1
2.3 INDIVIDUAL OR REGIONAL PLANNING AND COMPLIANCE 2-2
2.4 FISCAL OR CALENDAR YEAR AND UNITS OF MEASURE 2-2
2.5 COORDINATION AND OUTREACH 2-2

CHAPTER 3 – SYSTEM DESCRIPTION 3-1
3.1 GENERAL DESCRIPTION 3-1
3.1.1 Location 3-1
3.1.2 Water Service Area 3-1
3.1.3 Land Use 3-1
3.1.4 Socioeconomic Conditions 3-6
3.2 CLIMATE DATA 3-6
3.2.1 Historic Climate Data 3-6
3.2.2 Climate Change 3-7
3.3 SERVICE AREA POPULATION AND DEMOGRAPHICS 3-8

CHAPTER 4 – SYSTEM WATER USE 4-1
4.1 NON-POTABLE VERSUS POTABLE WATER USE 4-1
4.2 WATER USES BY SECTOR 4-1
4.2.1 Historical Water Use 4-2
4.2.2 Projected Water Use 4-3
4.2.3 Maximum Day Demand 4-5
4.3 DISTRIBUTION SYSTEM WATER LOSSES 4-5
4.4 ESTIMATING FUTURE WATER SAVINGS 4-6
4.4.1 Active Conservation Program Savings 4-6
4.4.2 Passive Water Savings 4-7
4.5 WATER USE FOR LOWER INCOME HOUSEHOLDS 4-8
4.6 CLIMATE CHANGE 4-8

CHAPTER 5 – BASELINES AND TARGETS 5-1
5.1 2010 UWMP BASELINE AND TARGETS 5-1
5.3 BASELINE PERIODS 5-2
5.3.1 Determination of the 10-15 Year Baseline Period (Baseline GPCD) 5-2
5.3.2 Determination of the 5-year Baseline Period (Target Confirmation) 5-3

Table of Contents

Page No.

5.4 SERVICE AREA POPULATION 5-4
5.5 GROSS WATER USE 5-6
5.6 BASELINE DAILY PER CAPITA WATER USE 5-9
5.7 2020 FINAL TARGETS 5-9
5.7.1 5-Year Baseline – 2020 Target Confirmation 5-13
5.8 2020 COMPLIANCE DAILY PER CAPITA WATER USE 5-13
5.9 REGIONAL ALLIANCE 5-14

CHAPTER 6 – SYSTEM SUPPLIES 6-1
6.1 PURCHASED OR IMPORTED WATER 6-1
6.2 GROUNDWATER 6-1
6.2.1 Basin Description 6-1
6.2.2 Groundwater Management 6-3
6.2.3 Overdraft Conditions 6-4
6.2.4 Historical Groundwater Pumping 6-5
6.3 SURFACE WATER 6-7
6.4 STORMWATER 6-7
6.5 WASTEWATER AND RECYCLED WATER 6-7
6.5.1 Recycled Water Coordination 6-7
6.5.2 Wastewater Collection, Treatment, and Disposal 6-7
6.5.2.1 Wastewater Collected Within Service Area 6-7
6.5.2.2 Wastewater Treatment and Discharge Within Service Area 6-8
6.5.3 Recycled Water System 6-9
6.5.4 Recycled Water Beneficial Uses 6-9
6.5.4.1 Current and Planned Uses of Recycled Water 6-10
6.5.4.2 Planned Versus Actual Use of Recycled Water 6-10
6.5.5 Actions to Encourage and Optimize Future Recycled Water Use 6-11
6.6 DESALINATED WATER OPPORTUNITIES 6-12
6.7 EXCHANGES OR TRANSFERS 6-12
6.8 FUTURE WATER PROJECTS 6-12
6.9 SUMMARY OF EXISTING AND PLANNED SOURCES OF WATER 6-13
6.10 CLIMATE CHANGE CONSIDERATIONS 6-15
6.11 ENERGY INTENSITY 6-15

CHAPTER 7 – WATER SUPPLY RELIABILITY ASSESSMENT 7-1
7.1 CONSTRAINTS ON WATER SOURCES 7-1
7.1.1 Legal Factors 7-1
7.1.2 Environmental Factors 7-1
7.1.3 Water Quality Factors 7-2
7.1.3.1 Arsenic 7-2
7.1.4 Climatic Factors 7-3
7.2 RELIABILITY BY TYPE OF YEAR 7-3
7.2.1 Types of Years 7-3
7.2.2 Sources for Water Data 7-4
7.3 SUPPLY AND DEMAND ASSESSMENT 7-4

Table of Contents

Page No.

7.4 REGIONAL SUPPLY RELIABILITY 7-8
7.5 DROUGHT RISK ASSESSMENT 7-8
7.5.1 DRA Data, Methods, and Basis for Water Shortage Conditions 7-9
7.5.2 DRA Individual Water Source Reliability 7-9
7.5.3 DRA Total Water Supply and Use Comparison 7-9
7.5.1 Management Tools and Options 7-9

CHAPTER 8 – WATER SHORTAGE CONTINGENCY PLANNING 8-1
8.1 WATER SUPPLY RELIABILITY ANALYSIS 8-1
8.2 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT 8-1
8.3 WATER SHORTAGE LEVELS 8-2
8.4 SHORTAGE RESPONSE ACTIONS 8-3
8.5 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY 8-3

CHAPTER 9 – DEMAND MANAGEMENT MEASURES 9-1
9.1 DEMAND MANAGEMENT MEASURES AND IMPLEMENTATION 9-1
9.1.1 Waste Water Prevention Ordinances 9-1
9.1.2 Metering 9-2
9.1.3 Conservation Pricing 9-2
9.1.4 Public Outreach 9-2
9.1.4.1 Public Information Programs 9-2
9.1.4.2 School Education Program 9-3
9.1.4.3 Residential Water Audits 9-3
9.1.5 Programs to Assess and Manage Distribution System Real Loss 9-3
9.1.6 Water Conservation Program Coordination and Staffing Support 9-4
9.1.7 Other Demand Management Measures - Large Landscape Conservation Program 9-4

CHAPTER 10 – PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION 10-1
10.1 INCLUSION OF 2015 DATA 10-1
10.2 NOTICE OF PUBLIC HEARING 10-1
10.2.1 Notice to Cities and Counties 10-1
10.2.2 Notice to the Public 10-2
10.3 PUBLIC HEARING AND ADOPTION 10-2
10.4 PLAN SUBMITTAL 10-2
10.5 PUBLIC AVAILABILITY 10-2
10.6 AMENDING AND ADOPTED UWMP 10-3

CHAPTER 11 – DWR CHECKLIST 11-1

City of Hanford
2020 Urban Water Management Plan

Figures

		Page No.
Figure 3-1	Regional Location Map	3-2
Figure 3-2	Existing Service Area	3-3
Figure 3-3	Existing Land Use	3-4
Figure 3-4	Future Land Use	3-5
Figure 3-5	Historical Annual Rainfall	3-7
Figure 4-1	Historical Water Use and Population	4-3
Figure 6-1	Groundwater Subbasins	6-2
Figure 6-2	Existing Groundwater Well Locations	6-6
Figure 7-1	Historic Per Capita Demand Variation	7-5
Figure 8-1	Annual Assessment Reporting Timeline	8-2

Tables

		Page No.
Table 2-1	Public Water Systems	2-1
Table 2-2	Plan Identification	2-1
Table 2-3	Supplier Identification	2-2
Table 2-4	Water Supplier Information Exchange	2-3
Table 3-1	Average Climate Data	3-6
Table 3-2	Population – Current and Projected	3-8
Table 4-1	Demands for Potable and Non-Potable Water – Actual	4-2
Table 4-2	Demands for Potable and Non-Potable Water – Projected	4-4
Table 4-3	Total Water Use (Potable and Non-Potable)	4-4
Table 4-4	Last Five Years of Water Loss Audit Reporting	4-6
Table 4-5	Inclusion in Water Use Projections	4-7
Table 5-1	Baselines and Targets Summary	5-1
Table 5-2	2020 Compliance	5-13
SBX7-7 Table 1	Baseline Period Ranges	5-3
SBX7-7 Table 2	Method for Population Estimates	5-4
SBX7-7 Table 3	Service Area Population	5-5
SBX7-7 Table 4	Annual Gross Water Use	5-7
SBX7-7 Table 4-A	Volume Entering the Distribution	5-8
SBX7-7 Table 5	Gallons Per Capita Per Day (GPCD)	5-10
SBX7-7 Table 6	Gallons Per Capita Per Day Summary	5-11
SBX7-7 Table 7	2020 Target Method	5-11
SBX7-7 Table 7-E	Target Method 3	5-12
SBX7-7 Table 7-F	Confirm Minimum Reduction for 2020 Target	5-13
SBX7-7 Table 9	2020 Compliance	5-13
Table 6-1	Groundwater Volume Pumped	6-5
Table 6-2	Wastewater Collected Within Service Area in 2020	6-8
Table 6-3	Wastewater Treatment and Discharge Within Service Area in 2020	6-8
Table 6-4	Current and Projected Recycled Water Direct Beneficial Uses Within Service Area	6-10
Table 6-5	2015 UWMP Recycled Water Use Projection Compared to 2020 Actual	6-11

Tables

Page No.

Table 6-6 Methods to Expand Future Recycled Water Use 6-11
Table 6-7 Expected Future Water Supply Projects or Programs 6-13
Table 6-8 Water Supplies – Actual 6-14
Table 6-9 Water Supplies – Projected 6-14
Table 7-1 Basis of Water Data 7-4
Table 7-2 Normal Year Supply and Demand Comparison 7-6
Table 7-3 Single Dry Year Supply and Demand Comparison 7-6
Table 7-4 Multiple Dry Years Supply and Demand Comparison 7-7
Table 7-5 Five-Year Drought Risk Assessment 7-10
Table 8-1 Water Shortage Contingency Plan Levels 8-3
Table 10-1 Notification to Cities and Counties 10-1
Table 11-1 DWR Checklist 11-1

Appendices

Appendix A DWR Recommended Tables
Appendix B Reclamation Project Agreement
Appendix C Groundwater Sustainability Analysis
Appendix D Water Shortage Contingency Plan
Appendix E Water Rate Structure
Appendix F Urban Water Management Plan Adoption Resolution and Notifications

CHAPTER 1 – INTRODUCTION AND OVERVIEW

This chapter introduces the purpose of the Urban Water Management Plan (UWMP) and its importance to the City of Hanford (City) as well as Department of Water Resources (DWR). This chapter also includes the coordination and outreach that took place for this UWMP to come to fruition as well as documenting the milestones for adopting the UWMP and for submitting it to the DWR.

1.1 BACKGROUND AND PURPOSE

Water suppliers must submit an Urban Water Management Plan to the Department of Water Resources in accordance with California Water Code requirements. The purpose of the UWMP is to review and maintain the reliability of urban water supplies, ensure that future beneficial use can be complemented by sufficient water supply, continue to promote policies and programs that benefit water conservation, and provide a means for response during water supply shortages and drought conditions. In addition to being filed every five years, the Urban Water Management Plan must satisfy requirements defined in the Urban Water Management Planning Act (UWMPA) of 1983 and any amendments thereof.

Since the passage of the UWMPA, there have been more than 20 amendments to the Act. According to the UWMPA, a UWMP must be prepared by an urban water supplier that supplies over 3,000 acre-feet (AF) of water a year, or services 3,000 or more connections.

In October 2017, DWR completed the review of the City's 2015 UWMP and its supplements, and issued a letter of completeness. The UWMPA has undergone significant expansion and revision since the last UWMP Guidebook was prepared in 2015. Prolonged droughts, groundwater overdrafts, and regulatory revisions affect not only each Supplier's water reliability determinations, but also the broad picture of statewide water reliability overseen by DWR, the State Water Resources Control Board (State Water Board), and the Legislature. Accordingly, the Act has grown to address changing conditions and it guides California's water resources management.

Thus, this 2020 UWMP includes updates to the 2015 UWMP and addresses additional amendments to the UWMPA and new guidelines established by DWR. This report references the tables required by DWR in their 2020 UWMP Guidebook published in March 2021, which have been completed and included in **Appendix A**.

1.2 URBAN WATER MANAGEMENT PLANNING AND THE CALIFORNIA WATER CODE

The drought of 1976-1977 created shortages of water supplies throughout California. With several cities and water districts/agencies witnessing reductions in their water supplies and having to look for additional water sources elsewhere, an immediate need for a statewide, local level, long-term water management planning arose. To dramatically reduce future emergencies caused by inadequate planning of water resources, the Urban Water Management Planning Act was proposed and adopted in 1983. State Assembly Bill 797 modified the California Water Code Division 6 in 1983, creating the UWMPA. Since this Assembly Bill, more than 20 amendments have changed the quantity of data required, as well as increasing the planning elements included in this 2020 plan.

Early amendments to the UWMPA required 20-year planning horizons in 5-year increments for the comparison of water use to sources of water supply. More recently, these planning projections have been extended to 25-year planning horizons in order to maintain the 20-year projections, while the subsequent UWMP is completed.

Additional amendments included requirements that water supplier's UWMP provides provisions for a Water Shortage Contingency Plan, which would meet the specifications set forth in the UWMPA; demand management measures; and provisions for recycled water use. Recycled water use was added to reporting requirements due to its additional reliability for alternative water supply, and most notably, as an additional supply for future water use demand. Individual water purveyors, in coordination with other water purveyors in the same general area and to the extent practicable, must work to prepare the Water Shortage Contingency Plan. The individual water supplier must also describe the water demand management measures that are currently in practice, or those scheduled to be practiced.

More than 15 amendments have been passed since the year 2000, amending the UWMPA and increasing reporting for the UWMP. Included in these amendments are SB 610 (Costa, 2001) and AB 901 (Daucher, 2001), which require urban water purveyors to review information regarding water to supply new large developments. Additionally, SB 318 (Alpert, 2004) requires the plan to review opportunities involved in the development of desalinated water, included but not limited to, ocean, brackish, and groundwater, as a long-term supply. AB 105 (Wiggins, 2004) requires suppliers to submit their completed UWMP to the California State Library. SBX7-7 requires the state and its municipal water purveyors to achieve a 20 percent reduction in urban per capita water usage by the year 2020. The "20X2020" plan is intended to reduce water usage per capita by 10% by the year 2015, and 20% by the year 2020.

The most recent of these amendments are:

- AB2242 (2018) requires an urban water supplier to include in its UWMP an assessment of the reliability of its water service to customers during normal, dry, and multiple dry years,

including a repeat of the five consecutive historic driest years the urban water supplier has experienced.

- SB606 (2018) adds new requirements to the UWMP process as well as established updated urban water use objectives and water use reporting requirements,
    - Prepare a drought risk assessment that examines water shortage risks for a drought lasting for the next five years.
    - Prepare a comprehensive Water Shortage Contingency Plan that will include water budgeting forecast procedures, standard water shortage levels, shortage response actions, and other protocols.

Enacts an annually required water supply and demand assessment wherein an urban water supplier will assess local demand and supply conditions and provide that information to DWR.

1.3 REPORT ORGANIZATION

This report is organized in accordance with the outline suggested by the Department of Water Resources for the 2020 Urban Water Management Plans.

Chapter 1 – Introduction and Overview. This chapter introduces the purpose of the Urban Water Management Plan (UWMP) and its importance to the City of Hanford (City) as well as the Department of Water Resources (DWR).

Chapter 2 – Plan Preparation. This chapter describes the process that was used for the development of the UWMP. This chapter also includes the coordination and outreach that took place for this UWMP to come to fruition, as well as documenting the milestones for adopting the UWMP and for submitting it to the DWR.

Chapter 3 – System Description. This chapter describes the City's water service area. This description includes discussion of the City's location, the boundaries of the water service area, existing and future land use types, and climate. This chapter also summarizes the historical and projected population as well as a review of the City's demographics and socioeconomic conditions.

Chapter 4 – System Water Use. This chapter provides a description of the current and projected water uses within the City's service area. Additionally, a description of potential recycled water uses is provided. Water demands are projected through the year 2045.

Chapter 5 – Baseline and Targets. This chapter summarizes the methods used to estimate the target water use. As part of the 2020 UWMP update, this chapter evaluates if the City achieved the required water use reduction target.

Chapter 6 – System Supplies. The purpose of this chapter is to summarize the City's current and planned water supply sources and volumes. This includes a description of the groundwater basins used by the City as a source of supply. Ongoing planning efforts for the potential use of recycled water within the City's service area are also summarized.

Chapter 7 – Water Supply Reliability. This chapter assesses the reliability of the City's water supply under normal conditions, single year dry conditions, and five-year dry conditions. The reliability assessment includes a comparison of projected water use versus expected water supply for the next 25 years. This chapter also includes the newly required Drought Risk Assessment, which is a review of the capability of the City's water supplies to meet the demand for the next five years assuming a five-year drought occurs.

Chapter 8 – Water Shortage Contingency Plan. This chapter summarizes the City's Water Shortage Contingency Plan (WSCP). The WSCP is a separately adopted planning document that most notably outlines levels of water shortage conditions, demand reduction methods to be implemented in the event of a water shortage and the process the City will implement to perform an annual Supply and Demand assessment. The WSCP also includes discussion of the City's communication protocols during a water shortage, methods of determining compliance and enforcing water use prohibitions, estimating the financial consequences of a water shortage, and the methods the City has in place to monitor and report the effectiveness of any water demand reduction methods implemented.

Chapter 9 – Demand Management Measures. This chapter summarizes the demand management measures, which are additional measures the supplier plans on implementing to achieve its water use targets and maintain ongoing water conservation.

Chapter 10 – Plan Adoption, Submittal and Implementation. This chapter summarizes the process for adopting and submitting the UWMP as well as the ways the public can access the adopted UWMP.

1.4 PUBLIC PARTICIPATION AND PLAN ADOPTION

Law

> *10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published ... After the hearing, the plan shall be adopted as prepared or as modified after the hearing.*

In accordance with the stated law, the City held a public hearing for members of the community to provide comments, learn about existing and future water supplies of the city, and raise concerns towards the plan being adopted. A notice of the public hearing was published in the local

newspaper on September 20th and September 28th, 2021, notifying interested parties that the draft 2020 UWMP was available at various City facilities and on the City's web page (www.cityofhanfordca.com) for review two successive weeks prior to adoption. After public review, the plan was adopted on October 19th, 2021 and subsequently submitted to DWR for approval on October 26th, 2021.

1.5 UWMP AND GRANT OR LOAN ELIGIBILITY

Law

10608.56	*(a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.* *(c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier …applicable to the water funds.* *(e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier … as a disadvantaged community.* *(f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier … is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).*
10656	*An urban water supplier is not eligible for a water grant or loan awarded or administered by the state unless the urban water supplier complies with this part.*

Beginning in 2016, changes to California law require that urban retail water suppliers must comply with water conservation requirements established by the Water Conservation Act of 2009 in order to be eligible for State water grants or loans. For 2020 UWMPs, compliance with the Water Conservation Act of 2009 means that a water agency must have met its 2020 Urban Water Use Target, discussed further in Chapter 5; this compliance must be reported in the 2020 UWMP.

1.6 PREVIOUS URBAN WATER MANAGEMENT PLANS

The City of Hanford prepared a 2015 UWMP, which was adopted on June 21st, 2016. This UWMP documented the SBX7-7 baseline per capita was use, as well as the interim and 2020 water use targets. This UWMP documented the groundwater conditions, future water supply projects, the water shortage contingency plan, and demand management measures implemented to reduce water demands. The 2015 UWMP serves as a benchmark for the 2020 UWMP, as the 2020 UWMP will update the target projections consistent with the final Guidebook release from the Department of Water Resources.

CHAPTER 2 – PLAN PREPARATION

This chapter describes the process that was used for the development of the UWMP. This chapter also summarizes the coordination and outreach that was conducted during the preparation of the UWMP.

2.1 BASIS FOR PREPARING A PLAN

The California Water Code (CWC) defines an "Urban water supplier" as a publicly or privately owned supplier of 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. At the time of preparation of the 2020 UWMP, the City supplied water to over 17,900 active service connections, as summarized in Table 2-1, thereby qualifying as an urban water supplier and required to prepare an Urban Water Management Plan every five years.

Table 2-1 Public Water Systems

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 (AF)
1610003	City of Hanford	17,965	11,714

2.2 REGIONAL PLANNING

The City's 2020 UWMP is prepared as an individual UWMP and the City is not part of any regional alliance for planning purposes, as summarized in Table 2-2.

Table 2-2 Plan Identification

Select Only One	Type of Plan		Name of RUWMP or Regional Alliance
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		

2.3 INDIVIDUAL OR REGIONAL PLANNING AND COMPLIANCE

Consistent with the 2015 UWMP, the 2020 UWMP reports solely on the City's service area and is not a part of a regional alliance or regional urban water management plan (RUWMP).

2.4 FISCAL OR CALENDAR YEAR AND UNITS OF MEASURE

This UWMP has been prepared using calendar year data and includes complete 2020 data, as required by the DWR guidelines. The units of measure reported in all tables are acre-feet (AF), as shown in **Table 2-3**.

Table 2-3 Supplier Identification

Type of Supplier	
☐	Supplier is a wholesaler
☑	Supplier is a retailer
Fiscal or Calendar Year	
☑	UWMP Tables Are in Calendar Years
☐	UWMP Tables Are in Fiscal Years
Units of Measure Used in UWMP[1]	
AF	

Notes:

1. Units of DWR required tables are consistent in SBX7-7 verification tables

2.5 COORDINATION AND OUTREACH

The City's 2020 UWMP is an update to the 2015 UWMP and is intended to address those aspects of the UWMPA which are under the control of the City, specifically water supply and water use. The City submitted its draft plan to regional stakeholders, and made the draft plan available to the public in hard copy form and electronic form. The City did notify wholesale water suppliers, as shown in **Table 2-4**.

Table 2-4 Water Supplier Information Exchange

Wholesale Water Supplier Informed of Projected Water Use
Kings County Water District
Kings County Water Commission

CHAPTER 3 – SYSTEM DESCRIPTION

This chapter describes the City's water service area. This description includes discussion of the City's location, the boundaries of the water service area, existing and future land use types, and climate. This chapter also summarizes the historical and projected population as well as a review of the City's demographics and socioeconomic conditions.

3.1 GENERAL DESCRIPTION

This section documents the City's location, service area, land use, and socioeconomic conditions.

3.1.1 Location

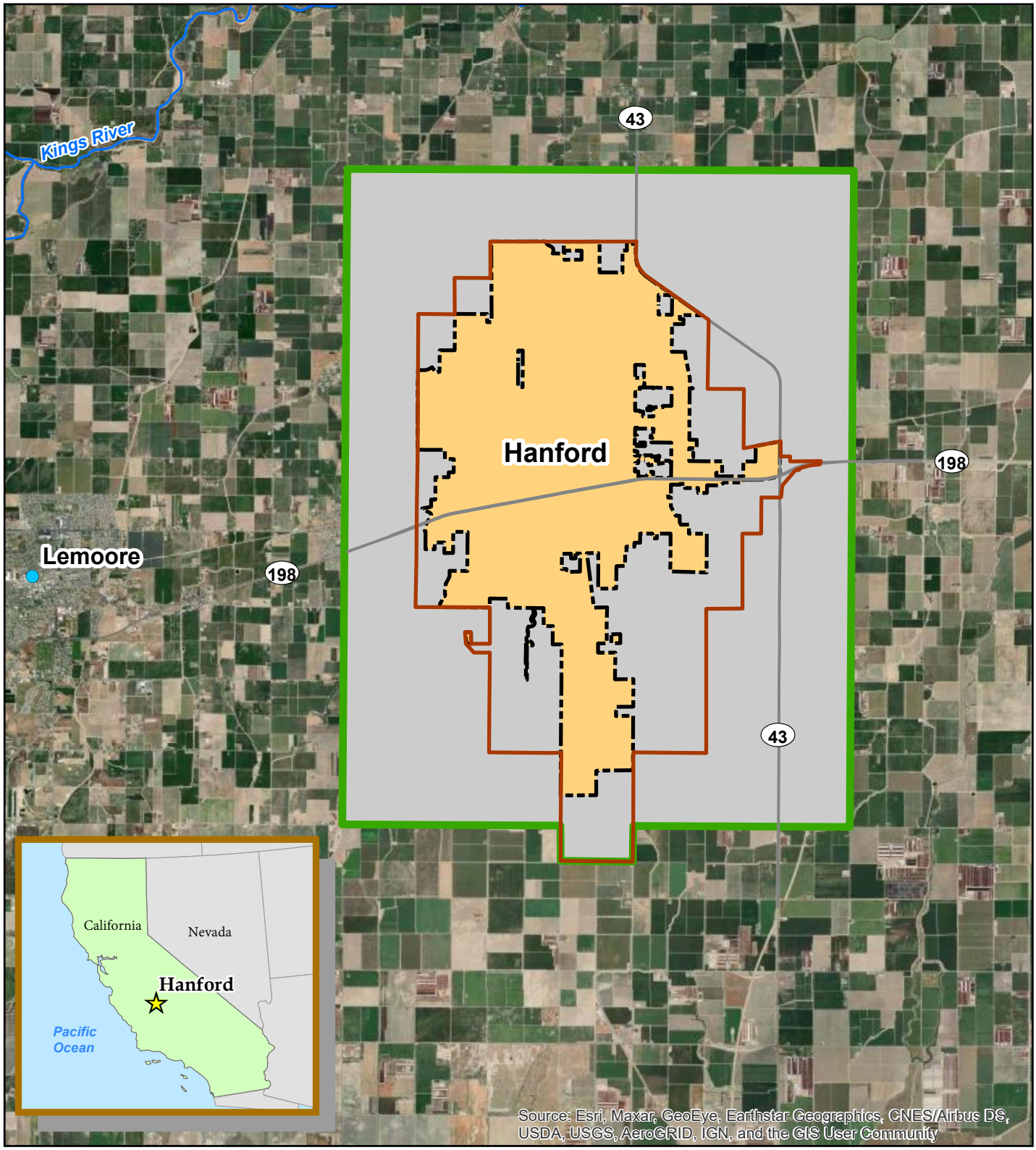
The City is located in Kings County, approximately 30 miles southeast of the city of Fresno and 20 miles west of the city of Visalia (**Figure 3-1**). The City's closest neighbor, the city of Lemoore, is located 8 miles to the west. Highway 198 bisects the southern boundary of the City in the east-west direction, and Highway 43 lies just east of the City's eastern boundary. In 2002, the City outlined the long-term Ultimate Growth Boundary (UGB), which was approved by City Council, and identified lands intended for future urbanization within the City service area.

3.1.2 Water Service Area

The City's most recent General Plan, adopted in April 2017, outlines the boundary for future growth for the City. The planned area boundary outlined in the 2035 General Plan update encompasses a gross area of approximately 31.3 square miles and it is assumed to describe the future water system service area. The City limits currently describe the existing water service area, as shown in **Figure 3-2**.

3.1.3 Land Use

The planning area boundary of the City's 2035 General Plan includes an approximate net area of 16,032 acres, which includes the following land use types: 6,872 acres of residential; 826 acres of mixed use; and 8,334 acres of non-residential, which includes commercial, industrial, institutional, and open space land use types. The residential component can be further subdivided, with 82 percent of the units as low density, and 15 and 3 percent of units being medium and high densities, respectively. The City's 2017 Water System Master Plan used the 2035 General Plan Land use as the basis for estimating future demands, and this future land use is considered acceptable for incorporation as part of the 2020 UWMP update. The City's existing and future land use maps are shown in **Figure 3-3** and **Figure 3-4**, respectively.



Legend

PRELIMINARY

- Cities
- City Limits Area
- 2035 Growth Boundary
- General Plan Area
- Highways
- River

N W GIS E S

0 0.5 1 2 Miles

Update: May 20, 2021

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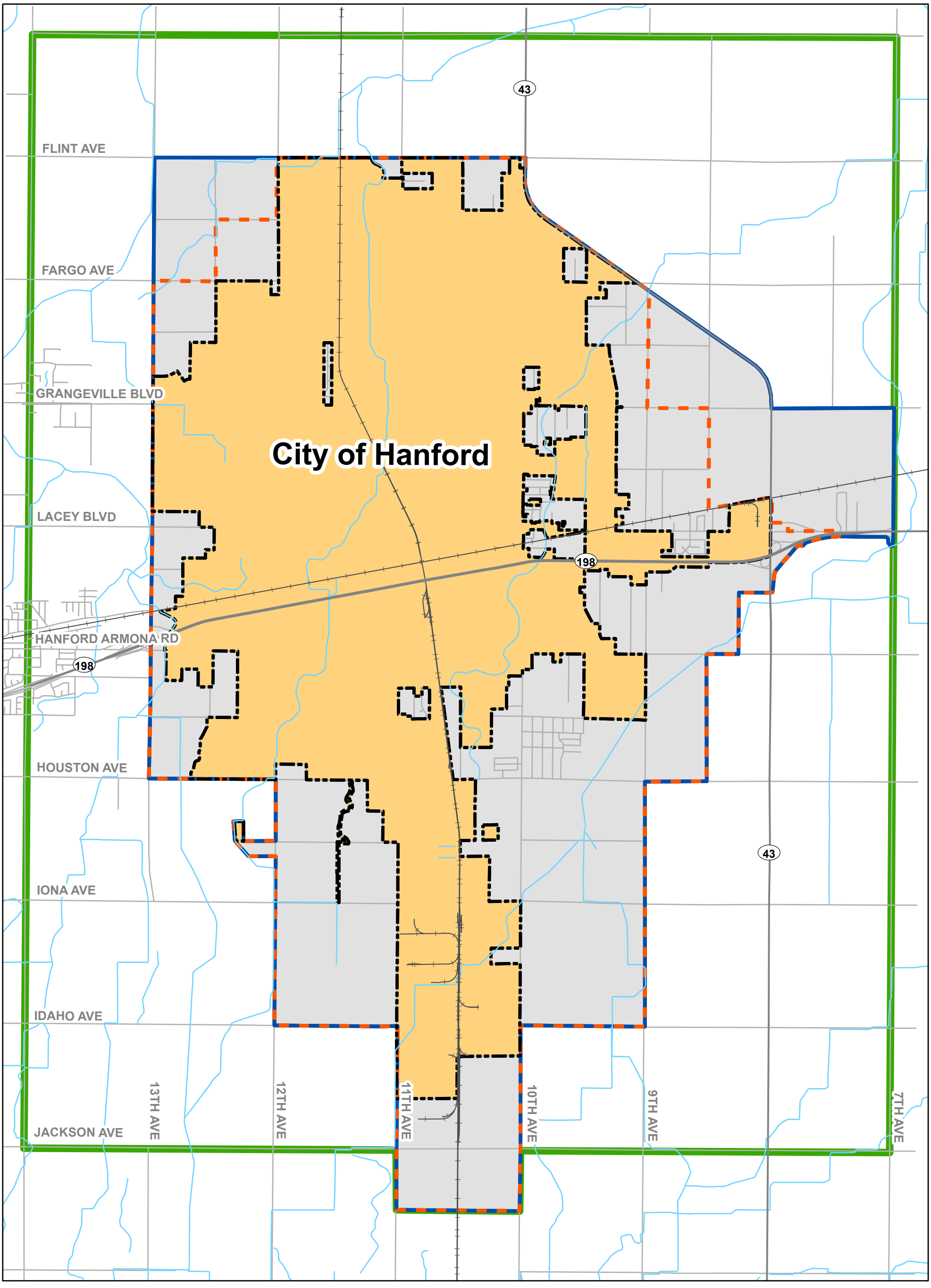
File Path: P:\xGIS\GIS_Projects\Hanford\Water\2020-UWMP\HF_Fig3-1_RLM_052021.mxd

Figure 3-1
Regional Location Map

2020 Urban Water Management Plan
City of Hanford



Legend

- Streets
- Waterways
- City Limits
- 2035 Growth Boundary
- Planned Area Boundary
- General Plan Study Area Boundary

PRELIMINARY

Update: May 20, 2021

0 0.25 0.5 1 Mile

N W GIS E S

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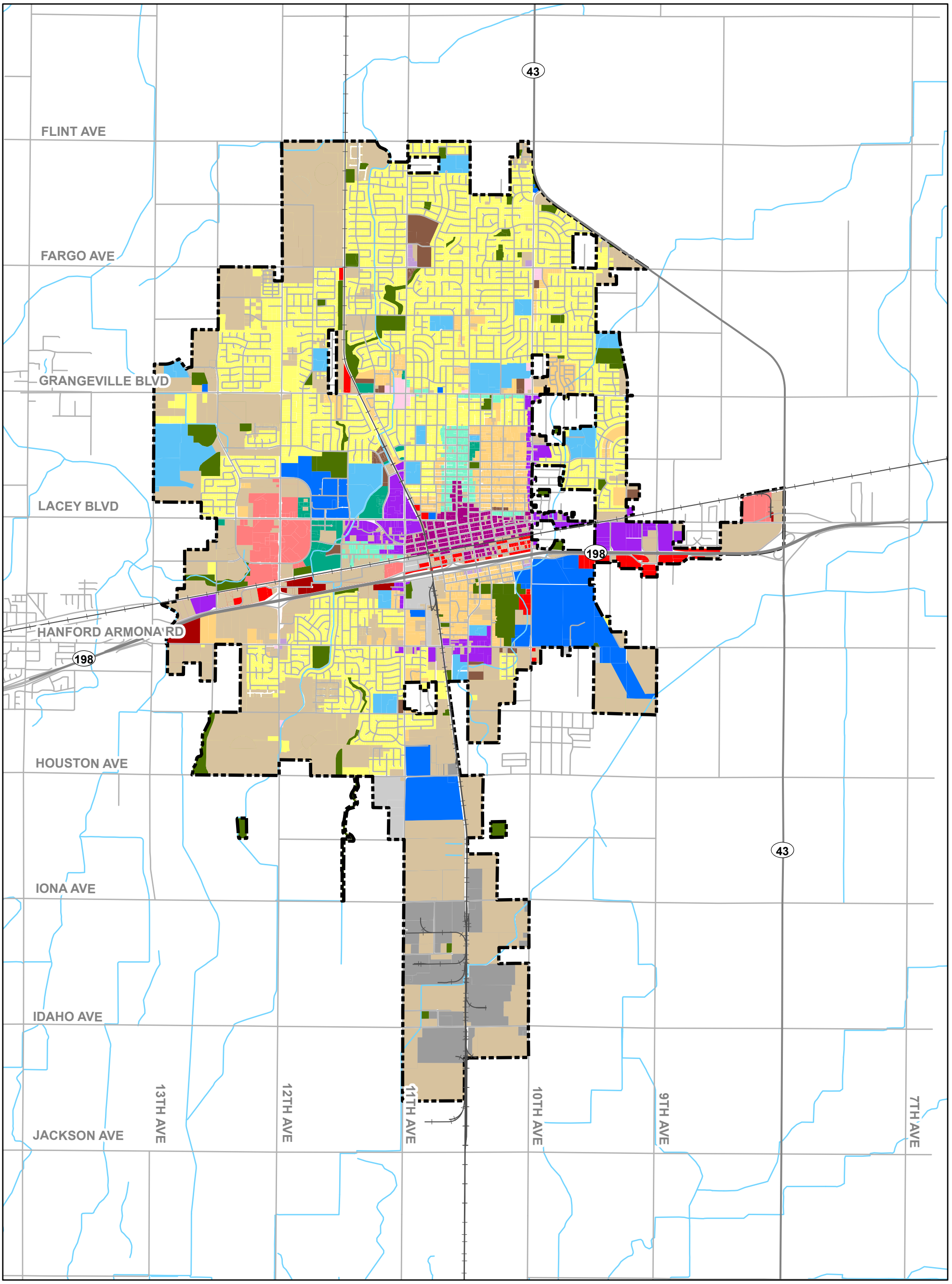
Figure 3.2
Existing Service Area

2020 Urban Water Management Plan
City of Hanford



Legend

- Low Density Residential
- Medium Density Residential
- High Density Residential
- Neighborhood Commercial
- Regional Commercial
- Service Commercial
- Highway Commercial
- Office Residential
- Office
- Light Industrial
- Heavy Industrial
- Neighborhood Mixed Use
- Corridor Mixed Use
- Downtown Mixed Use
- Airport Protection
- Open Space
- Educational Facilities
- Public Facilities
- Interest Area
- Vacant/Agriculture
- City Limits
- Streets
- Waterways

PRELIMINARY

N W GIS E S

0 0.25 0.5 1 Mile

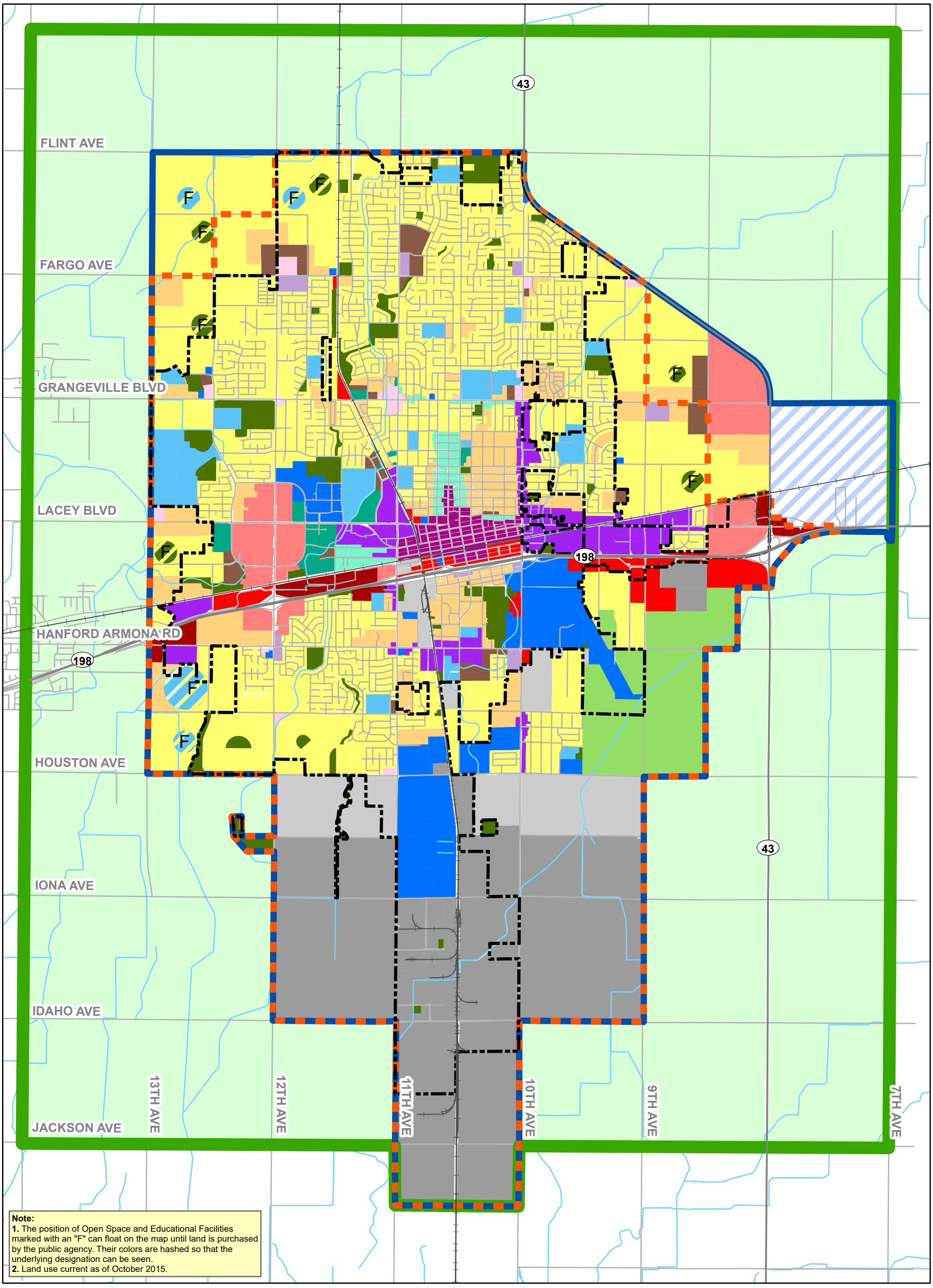
Update: May 25, 2021

AKEL ENGINEERING GROUP, INC.

File Path: P:\xGIS\GIS_Projects\Hanford\Water\2020-UWMP\HF_Fig3-3_ExistingLandUse_052421.mxd

Figure 3-3
Existing Land Use

2020 Urban Water Management Plan
City of Hanford



Legend

- Low Density Residential
- Medium Density Residential
- High Density Residential
- Neighborhood Commercial
- Regional Commercial
- Service Commercial
- Highway Commercial
- Office Residential
- Office
- Light Industrial
- Heavy Industrial
- Neighborhood Mixed Use
- Corridor Mixed Use
- Downtown Mixed Use
- Airport Protection
- Open Space
- Educational Facilities
- Public Facilities
- Interest Area
- City Limits
- 2035 Growth Boundary
- Planned Area Boundary
- General Plan Study Area Boundary
- Streets
- Highways
- Waterways

PRELIMINARY

N W GIS E S

0 0.25 0.5 1 Mile

Update: May 25, 2021

AKEL ENGINEERING GROUP, INC.

File Path: P:\xGIS\GIS_Projects\Hanford\Water\2020-UWMP\HF_Fig3-4_FutureLandUse_052421.mxd

Figure 3-4
2035 General Plan Land Use

2020 Urban Water Management Plan
City of Hanford

3.1.4 Socioeconomic Conditions

Based on data from the U.S. Census American Community Survey, the City of Hanford has a median household income of approximately $62,400 per year and a per capita income of approximately $27,400 per year as of 2019. Approximately 19% of the population has a bachelor's degree or higher, and 80% have a high school diploma or higher. Approximately 15.3% of the population lives below the poverty line.

According to population and housing statistics prepared by the California Department of Finance, the City of Hanford has an average household occupancy of 2.96 people per household. Approximately 77% of the current residential units are single family residences, with the other 23% reflecting multiple family dwelling units. The 2020 residential vacancy rate is approximately 3.1%.

According to U.S. Census American Community Survey, the primary job sectors within the City are educational and health services, retail, and agricultural production. The most recent unemployment rate was listed as 8.9%.

3.2 CLIMATE DATA

The following sections includes a description of the City's historical climate data as well as a summary of the potential impacts of climate change.

3.2.1 Historic Climate Data

Yearly extremes in temperature vary, with the peak high rising to above 100 °F and winter lows receding to the 20 °F range. The City has a historical average annual rainfall of approximately 8.4 inches, with the majority of the rainfall occurring from November to April. According to the California Irrigation Management Information System (CIMIS), the approximate average annual evapotranspiration (Eto) for the City is 61.6 inches. Average climate data is included in Table 3-1.

Table 3-1 Average Climate Data

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Rainfall (inches)	1.6	1.5	1.5	0.8	0.3	0.1	0.0	0.0	0.2	0.4	0.8	1.2	**8.4**
Max. Daily Temp. (°F)	54.7	61.9	67.5	74.9	83.6	91.4	97.8	96.1	90.5	80.0	66.2	55.4	**76.7**
Min. Daily Temp. (°F)	35.2	38.6	42.1	46.4	52.5	58.3	62.5	60.4	55.5	47.4	38.8	34.6	**47.7**
Average ETo (inches)	1.3	2.2	4.2	6.1	8.1	9.0	9.0	8.1	6.1	4.2	2.2	1.2	**61.6**

Historical rainfall in the city is shown in Figure 3-5 and has ranged from 0.89 inches in 1984 to 15.57 inches in 1983.

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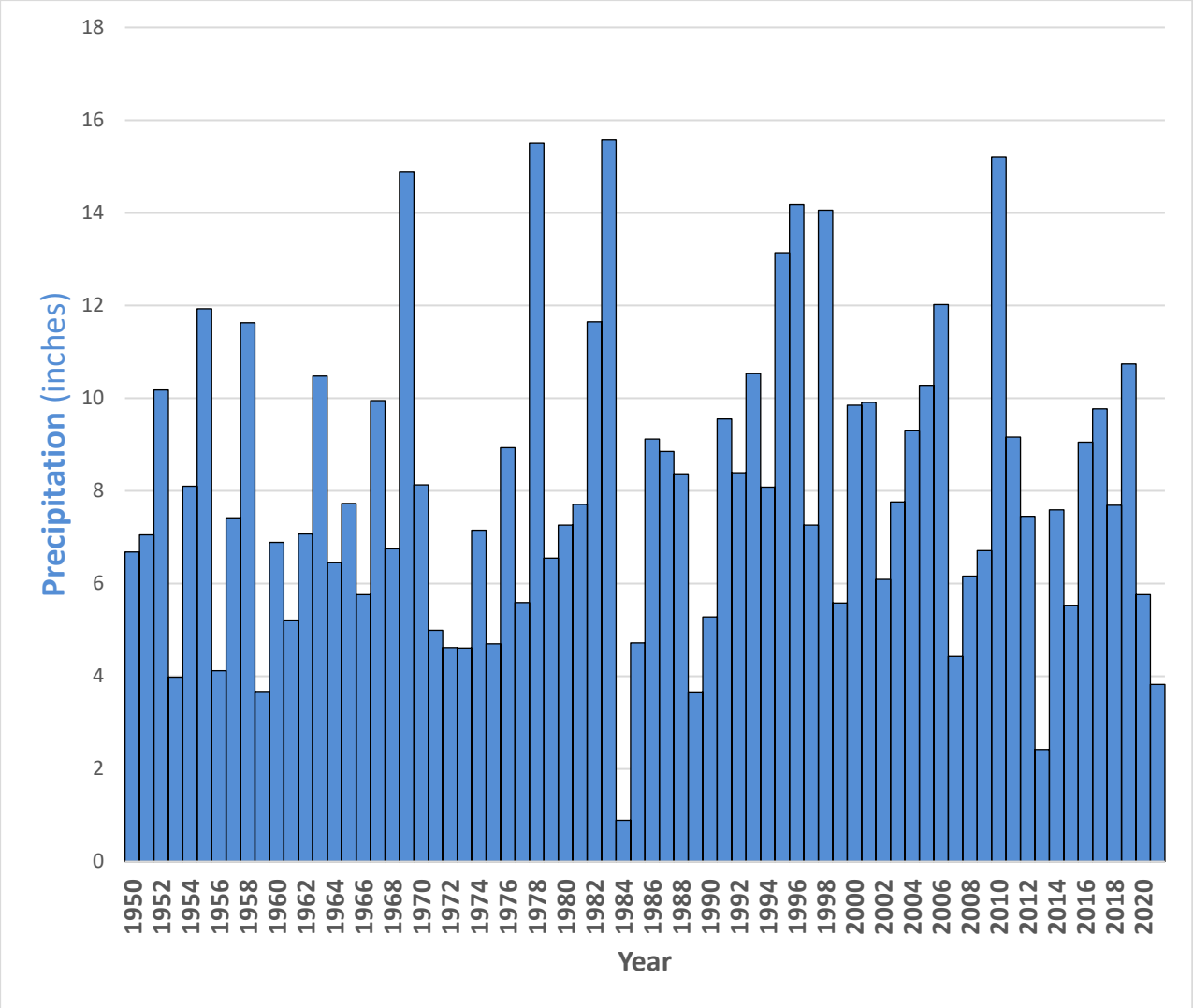


Figure 3-5 Historical Annual Rainfall

3.2.2 Climate Change

As part of the 2020 UWMP update, the California Water Code requires urban water suppliers to provide a general description of the potential effect of climate change within the service area. Based on the City's location and current climate, the most likely changes are related to increasing average temperature, intensifying storm events, and periods of extended drought. Other effects, such as decreasing snowpack or rising sea levels, do not have a direct impact on the City's water demand or supply. Changes in annual precipitation and temperature could have an impact on the City's overall water use as well as available supply volumes.

3.3 SERVICE AREA POPULATION AND DEMOGRAPHICS

The City is a growing community with an estimated 2020 population of 59,178. According to the California Department of Finance (DOF), which accounts for approximately 39 percent of the population of Kings County. Additionally, the city also supplies domestic water to 651 accounts out of the City limit, which are equaled to 2,148 population. Therefore, the City's water system serves a total population of 61,326. The City has an average historical growth rate of approximately 0.9% per year, which is used to project populations through the year 2045. The current and projected service area populations are summarized in **Table 3-2.**

According to 2019 United States Census Bureau's data, the City is comprised of predominantly Hispanic (49.9%) and white (38.9%) ethnicities, with the remaining population comprised of, Black or African American (4.0%), American Indian and Alaska Native (0.4%), and Asian, Native Hawaiian and Pacific Islander (0.2%), Hispanic or Latino (50.4%), with the rest more than one race or other race.

Table 3-2 Population - Current and Projected

2020	2025	2030	2035	2040	2045
61,326	64,227	67,264	70,444	73,776	77,265

Notes:

1. Projected population assumes historical average annual growth of 0.9%.
2. Based on Department of Finance E-5 Table, City of Hanford's 2020 population was 59,178.
3. City of Hanford also supplied 651 accounts outside of the city limit, which included 2,148 residents.

CHAPTER 4 – SYSTEM WATER USE

This chapter provides a description of the current and projected water uses within the City's service area. Additionally, a description of non-potable water use is provided. Water demands are projected through the year 2045.

4.1 NON-POTABLE VERSUS POTABLE WATER USE

The California State Water Code requires documentation of water use within the City's service area for potable, recycled, and raw water demands, as applicable. While the City does not provide any deliveries of raw water, treated wastewater effluent is used to irrigate crops on privately owned land and is discussed in more detail in Chapter 6. The remaining sections within this chapter summarize the historical and projected water use. The water use projection also includes preliminary estimation for recycled water demands, based on potable water demand and return-to-sewer ratio.

4.2 WATER USES BY SECTOR

This section documents the historical and projected water use as well as the maximum day demand.

Law

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.

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

4.2.1 Historical Water Use

The City currently provides domestic water to residential, commercial, industrial and institutional customers within the City limits. At the time of preparation of the 2020 UWMP, the City had recorded metered water deliveries to 17,965 accounts. The total amount of metered water delivered in 2020 was 10,911 AF, which does not account for an additional 803 AF of unmetered use and water loss. The City's gross water use, 11,714 AF, is summarized in Table 4-1.

Table 4-1 Demands for Potable and Non-Potable Water – Actual

Use Type	Metered Delivered Volume (AF)
Single Family	6,903
Multi-Family	1,002
Commercial[1]	1,005
Industrial	334
Landscape	750
Other	854
Other[2]	62
Losses	803
Total	**11,714**

Notes

1. Includes Commercial and institutional use Types
2. Constriction Billing

Figure 4-1 displays water use compared to population, which shows decreases in water use following droughts in 2007-2010 and 2013-2015 despite a rising population during the time period.

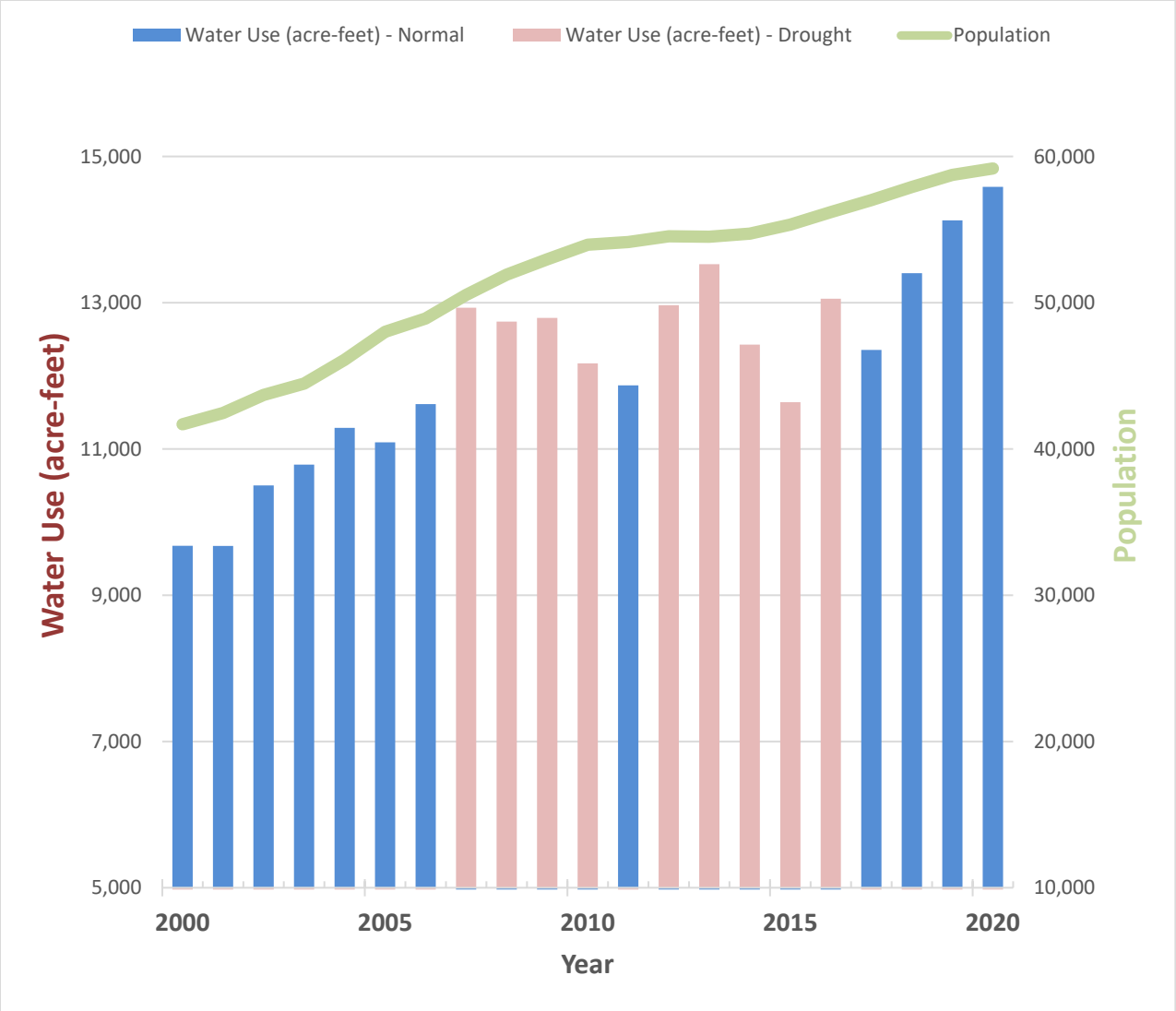


Figure 4-1 Historical Water Use and Population

4.2.2 Projected Water Use

Table 4-2 and Table 4-3, found on the following page, summarize the potable water demand projection through the year 2045. To calculate the projected potable water demand through the UWMP planning horizon of 2045, the City's 2020 urban water use target of 179 gallons per capita per day (gpcd) was applied to the projected population set forth in the 2035 General Plan. The projected demands were then reduced by five percent to account for future water use reductions of up to five percent due to active water savings, as described in more detail in Section 4.4. For conservative planning purposes, the projected water loss amount was estimated as a percentage of other potable water uses based on historical water loss audit information. Table descriptions are as follows:

- Table 4-2 summarizes the projected City-wide water demand by water use type.

- Table 4-3 summarizes the total projected water demand.

Table 4-2 Use for Potable and Non-Potable Water - Projected

Use Type	Projected Water Use				
	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
Single Family	6,849	7,173	7,512	7,868	8,240
Multi-Family	994	1,041	1,090	1,142	1,196
Commercial[1]	997	1,044	1,093	1,145	1,199
Industrial	332	347	364	381	399
Landscape	744	780	817	855	896
Other	848	888	930	974	1,020
Other[2]	62	65	68	71	74
Losses	797	834	874	915	959
Total	**11,623**	**12,172**	**12,748**	**13,351**	**13,982**

Notes:

1. Includes Commercial and Institutional use types
2. Construction Billing

Table 4-3 Total Water Use (Potable and Non-Potable)

Demand Type	Demand					
	2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
Potable and Raw Water	11,714	11,623	12,172	12,748	13,351	13,982
Total	**11,714**	**11,623**	**12,172**	**12,748**	**13,351**	**13,982**

4.2.3 Maximum Day Demand

Maximum Day Demand is a significant demand condition on the water supply system. This condition is defined as the maximum 24-hour use period in the year. Peaking factors are commonly used as a way of simulating the maximum day demand for future demand scenarios. This multiplier is assessed to the average day demand, and is commonly in the order of 2 to 2.5 times greater than the average day demand. The September 2017 City Water System Master Plan specified a maximum day demand peaking factor of 1.75 for the main pressure zone and a factor of 2 for the industrial park pressure zone.

4.3 DISTRIBUTION SYSTEM WATER LOSSES

Law

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

(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

(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.

As part of the 2020 UWMP update, urban water suppliers are required to quantify the previous five years' distribution system water losses in a manner consistent with the American Water Works Association (AWWA) water system balance methodology. The City has completed the required water loss audit worksheet in accordance with the DWR guidelines for the years 2016-2019, while the audit for 2020 will be completed before the October 2021 deadline. **Table 4-4** documents the estimated water loss volume for 2020 based on submitted Water Loss Audits and a comparison of available production and consumption records.

Table 4-4 Last Five Years of Water Loss Audit Reporting

Reporting Period Start Date	Volume of Water Loss (AF)
January 2016	1,144
January 2017	1,528
January 2018	1,742
January 2019	732
January 2020	803

Note: 2020 water loss was estimated by a comparison of groundwater wells production and billed consumption record.

4.4 ESTIMATING FUTURE WATER SAVINGS

Law

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.

The City's projected water demands include estimated future water savings from active conservation activities (Table 4-5). These estimated water savings reflect future ongoing water use reductions and do not include short-term demand reductions achieved through the implementation of the City's Water Shortage Contingency Plan.

4.4.1 Active Conservation Program Savings

Active conservation is achieved through activities and programs the City implements as part of its water conservation program. The City's water conservation programs and demand management measures are discussed in detail in Chapter 9 – Demand Management Measures. For planning purposes, it is assumed that the City will achieve up to an additional five percent reduction in

water use as a result of active water savings. This reduction is incorporated in the demand projections shown in Table 4-2 and Table 4-3.

4.4.2 Passive Water Savings

Passive water savings include water use reduction that results from codes, standards, ordinances, and other plans. These various sources of water savings typically result from state or regional requirements or guidelines, which are then implemented by the City. Examples of these codes and ordinances are as follows:

- **Model Water Efficient Landscape Ordinance (MWELO):** In 2015 DWR was tasked with updating the MWELO to increase water efficiency standards for new and retrofitted landscapes. This includes the encouragement the use of more efficient irrigation systems, graywater usage, and onsite storm water capture.
- **California Energy Commission Title 20:** This includes appliance standards for toilets, urinals, faucets, and showerheads. This standard impacts both new construction and replacement fixtures in existing homes.
- **CALGreen Building Code:** The code requires residential and non-residential water efficiency and conservation measures for new buildings and structures.

Passive water savings typically contribute less to water use reductions than active water conservation programs. Therefore, at this time, reductions from passive water savings are not included in the City's demand projections.

Table 4-5 Inclusion in Water Use Projections

Are Future Water Savings Included in Projections?	Yes
Are Lower Income Residential Demands Included In Projections?	Yes

4.5 WATER USE FOR LOWER INCOME HOUSEHOLDS

Law

> *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 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.*

SB 1087 (Florez, 2005) amended the UWMPA to require urban water suppliers to include single family and multi-family residential units for lower income households as identified by the City, County, or combination of both within the service area of the provider. In the 2015 UWMP, the low-income projected water demands were calculated based on the 2015 Draft Kings County 2016-2024 Housing Element, which identified approximately 35 percent of households as low income. According to the 2016 Adopted Kings County 2016-2024 Housing Element, approximately 35 percent of households are considered low income. As indicated by **Table 4-5**, the low-income water demands are included in the total water demand projection that is summarized in **Table 4-2**.

4.6 CLIMATE CHANGE

Based on the City's location and current climate, the most likely changes in climate are related to increasing average temperature, intensifying storm events, and periods of extended drought. While the precise effects of climate change on water demand remain uncertain, it is expected that water demands will be affected by increased temperatures and periods of extended drought. Increases in outdoor water use are expected as temperatures increase.

CHAPTER 5 – BASELINES AND TARGETS

Senate Bill X7-7 (SBX7-7) was approved by the Governor of California on November 10, 2009, This Senate Bill required urban water suppliers to set target goals for water conservation, which were to be achieved by the year 2020. These goals were referred to as the "20X2020" goals and included reducing per capita consumption by 20 percent by the year 2020. This chapter summarizes the methods used to estimate the target water use. As part of the 2020 UWMP update, this chapter evaluates if the City achieved the required water use reduction target.

Due to ongoing water conservation policies and practices within the City's service area the 2020 per capita water demand target has been achieved.

5.1 2010 UWMP BASELINE AND TARGETS

The evaluation of a supply source or storage needs for future growth is commonly achieved by evaluating past water consumption on a per person basis. The future needs of the supply source can then be evaluated by applying the per capita consumption rate, expressed as gallons per capita per day (gpcd), to the projected population. Table 5-1 summarizes the baseline periods and per capita water use targets determined as part of the SBX7-7 calculations. The City had an average gpcd of 216 from 1995 to 2000, while the average from 2001 to 2010 remained relatively flat at approximately 214 gpcd. Conservation efforts were successful in lowering the water consumption to a per capita water consumption rate of 188 gpcd in the year 2015, and 171 gpcd in the year of 2020.

Table 5-1 Baselines and Targets Summary

Baseline Period	Start Year	End Year	Per Capita Water Use	
			Average Baseline (gpcd)	Confirmed 2020 Target (gpcd)
10-15 year	1995	2004	215	179
5 Year	2006	2010	215	

5.3 BASELINE PERIODS

This section discusses the baseline periods used in the UWMP. The baseline periods discussed in this section are consistent with the 2015 UWMP.

5.3.1 Determination of the 10-15 Year Baseline Period (Baseline GPCD)

Law

> *10608.12 (b) "Base daily per capita water use" means any of the following:*
>
> *(1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.*
>
> *(2) For an urban retail water supplier that meets at least 10 percent of its measure retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004 and no later than December 31, 2010.*

To adequately project future water use, SBX7-7 must be considered with the appropriate reductions. As part of the new requirements for reductions in water use, a range in years needs to be selected for calculating the base daily (historical) per capita water use.

SBX7-7 allows the selection of either 10 or 15 years as a base period for calculating the average consumption per capita. If the recycled water use exceeds 10 percent of potable water production, a 15-year base period is allowed. Otherwise, a 10-year base period should be used. Additionally, a 5-year base period is to be identified for interim target projections.

The 10- to 15-year base period must end between December 31, 2004 and December 31, 2010; and the 5-year base period must end between December 31, 2007 and December 31, 2010.

The City's calculations for the base periods are documented on the following page in **SBX7-7 Table 1**. Since the recycled water usage in 2008 did not account for more than 10 percent of the total potable water production, the City must use the 10-year baseline period. The 10-year base period is selected based on the highest average per capita water use in any 10-year period within the DWR guidelines. The 2020 UWMP uses baseline periods consistent with 2015 UWMP, where the 10-year baseline period is defined as1995 to 2004.

SBX7-7 Table 1 Baseline Period Ranges

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	12,741	AF
	2008 total volume of delivered recycled water	0	AF
	2008 recycled water as a percent of total deliveries	0.00%	%
	Number of years in baseline period	10	Years
	Year beginning baseline period range	1995	
	Year ending baseline period range	2004	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2006	
	Year ending baseline period range	2010	

5.3.2 Determination of the 5-year Baseline Period (Target Confirmation)

Law

10608.12 (b).

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

In order to confirm that the calculated 2020 Urban Water Use target meets the minimum water use reduction requirements, water use must also be calculated over a 5-year baseline period. The 2010 and 2015 UWMP selected a 5-year range of 2006-2010, and this range is not updated as part of the 2020 UWMP.

5.4 SERVICE AREA POPULATION

Law

10608.20 (e) An urban retail water supplier shall include in its urban water management plan due in 2010…the baseline daily per capita water use, …along with the bases for determining those estimates, including references to supporting data.

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

10644 (a)(2) The plan…shall include any standardized forms, tables, or displays specified by the department

California DOF population estimates were used to determine historical populations as part of the 10-year average per capita water use, as indicated on **SBX7-7 Table 2**. The baseline service area population is summarized on the following page in **SBX7-7 Table 3.** This population over the baseline period is used in the calculation of the baseline period average per capita water use. The City is a growing community with an estimated 2020 population of 59,178, according to the California Department of Finance (DOF). Additionally, the city also supplies domestic water to 651 accounts out of the City limit, which are equaled to 2,148 population. Therefore, the City's water system serves a total population of 61,326.

SBX7-7 Table 2 Method for Population Estimates

Method Used to Determine Population	
☑	**1. Department of Finance (DOF)** DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2020)
☐	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☐	**4. Other**

SBX7-7 Table 3 Service Area Population

Year		Population
10 to 15 Year Baseline Population		
Year 1	1995	37,400
Year 2	1996	38,150
Year 3	1997	39,300
Year 4	1998	39,900
Year 5	1999	40,350
Year 6	2000	41,450
Year 7	2001	42,462
Year 8	2002	43,869
Year 9	2003	44,466
Year 10	2004	46,096
5 Year Baseline Population		
Year 1	2006	48,920
Year 2	2007	50,534
Year 3	2008	51,922
Year 4	2009	52,970
Year 5	2010	53,967
2015 Compliance Year Population		
2015		55,337
2020 Compliance Year Population		
2020		61,326

5.5 GROSS WATER USE

Law

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 the disproportionate burden on another customer section.

In order to determine the baseline per capita water use, gross water use entering the distribution system of the supplier must be determined for each year within the baseline period. There are a number of exclusions taken into consideration when determining the annual gross water use, including recycled water delivered in the service area; water volume placed into long term storage; water conveyed for use by another urban water supplier; water delivered; with certain exceptions, for agricultural use, and industrial water use if the total industrial use is greater than or equal to 12% of gross water use.

Based on historical production reports, and consistent with the 2015 UWMP, there are no exceptions to be taken into consideration when calculating the City's gross water use. The City's historical gross water use is summarized on the following page in **SBX7-7 Table 4**, with the gross water use in the 2020 compliance year equal to 11,714 AF. The volume of water entering the distribution system from the City's groundwater source is summarized, following **SBX7-7 Table 4**, in **SBX7-7 Table 4-A**.

SBX7-7 Table 4 Annual Gross Water Use

Baseline Year		Volume Into Distribution System (AF)	Deductions					Annual Gross Water Use (AF)
			Exported Water (AF)	Change in Dist. System Storage (+/-) (AF)	Indirect Recycled Water (AF)	Water Delivered for Agricultural Use (AF)	Process Water (AF)	
10 to 15 Year Baseline - Gross Water Use								
Year 1	1995	9,198						9,198
Year 2	1996	9,348						9,348
Year 3	1997	10,379						10,379
Year 4	1998	8,704						8,704
Year 5	1999	9,855						9,855
Year 6	2000	9,649						9,649
Year 7	2001	9,673						9,673
Year 8	2002	10,502						10,502
Year 9	2003	10,784						10,784
Year 10	2004	11,260						11,260
						10 - 15 year baseline average gross water use		**9,935**
5 Year Baseline - Gross Water Use								
Year 1	2006	11,613						11,613
Year 2	2007	12,930						12,930
Year 3	2008	12,742						12,742
Year 4	2009	12,792						12,792
Year 5	2010	12,172						12,172
						5 year baseline average gross water use		**12,450**
2015 Compliance Year - Gross Water Use								
2015		11,640				**2015 gross water use**		**11,640**
2020 Compliance Year - Gross Water Use								
2020		11,714				**2020 gross water use**		**11,714**

SBX7-7 Table 4-A Volume Entering Distribution System

Name of Water Source: Tulare Lake Groundwater Subbasin		
☑ The supplier's own water source ☐ A purchased or imported water source		
Baseline Year		Volume Entering Distribution System (AF)
10 to 15 Year Baseline - Water into Distribution System		
Year 1	1995	9,198
Year 2	1996	9,348
Year 3	1997	10,379
Year 4	1998	8,704
Year 5	1999	9,855
Year 6	2000	9,649
Year 7	2001	9,673
Year 8	2002	10,502
Year 9	2003	10,784
Year 10	2004	11,260
5 Year Baseline - Water into Distribution System		
Year 1	2006	11,613
Year 2	2007	12,930
Year 3	2008	12,742
Year 4	2009	12,792
Year 5	2010	12,172
2015 Compliance Year - Water into Distribution System		
2015		11,640
2020 Compliance Year - Water into Distribution System		
2020		11,714

5.6 BASELINE DAILY PER CAPITA WATER USE

The final baseline calculation is to determine the per capita water use in each baseline year and the average per capita water use over the entire baseline period. Using the baseline period and service area population as described in previous sections, the per capita water use for each year has been calculated as documented on the following page in **SBX7-7 Table 5**. The maximum and minimum per capita water use over the baseline period respectively are 236 gpcd in 1997 and 195 gpcd in 1998. The average per capita water use over the 10-year baseline period is 215 gpcd. In the following pages, **SBX7-7 Table 6** summarizes the 10-year baseline per capita water use, the 5-year baseline per capita water use, and the 2020 compliance year per capita water use.

5.7 2020 FINAL TARGETS

Consistent with the 2015 UWMP, the 2020 Urban Water Use Target was calculated using Method 3, which is indicated on the following pages in **SBX7-7 Table 7**. Method 3, as defined by DWR, assigns a static 2020 urban water use target based on a water supplier's location within one of the ten regional urban water use target areas. Using Method 3, the City's 2020 urban water use target is documented as 95% of the hydrologic regional (Tulare Lake) target, as 179 gpcd; the water use targets for the ten water use regions are summarized in **SBX7-7 Table 7-E** on the following pages. The 179 gpcd target is intended to be maintained through the UWMP horizon of 2045.

SBX7-7 Table 5 Gallons Per Capita Per Day (GPCD)

Baseline Year		Service Area Population	Annual Gross Water Use (AF)	Daily Per Capita Water Use (gpcd)
10 to 15 Year Baseline Per Capita Water Use				
Year 1	1995	37,400	9,198	220
Year 2	1996	38,150	9,348	219
Year 3	1997	39,300	10,379	236
Year 4	1998	39,900	8,704	195
Year 5	1999	40,350	9,855	218
Year 6	2000	41,450	9,649	208
Year 7	2001	42,462	9,673	203
Year 8	2002	43,869	10,502	214
Year 9	2003	44,466	10,784	217
Year 10	2004	46,096	11,260	218
		10-15 Year Average Baseline GPCD		215
5 Year Baseline Per Capita Water Use				
Year 1	2006	48,920	11,613	212
Year 2	2007	50,534	12,930	228
Year 3	2008	51,922	12,742	219
Year 4	2009	52,970	12,792	216
Year 5	2010	53,967	12,172	201
		5 Year Average Baseline GPCD		215
2015 Compliance Year Per Capita Water Use				
2015		55,337	11,640	188
2020 Compliance Year Population				
2020		61,326	11,714	171

SBX7-7 Table 6 Gallons per Capita per Day Summary

	Per Capita Water Use (gpcd)
10-15 Year Baseline	215
5 Year Baseline	215
2020 Compliance Year	171

SBX7-7 Table 7 2020 Target Method

Target Method		Supporting Documentation
☐	Method 1	SB X7-7 Table 7A
☐	Method 2	SB X7-7 Tables 7B, 7C, and 7D
☑	Method 3	SB X7-7 Table 7-E
☐	Method 4	Method 4 Calculator

5.7.1 5-Year Baseline – 2020 Target Confirmation

Law

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

The 2020 Urban Water Use Target is required to reduce the City's 2020 water use by a minimum of 5 percent from the 5-year baseline period (2006-2010). As calculated in **SB X7-7 Table 5**, the average per capita water use for the 5-year baseline period is 215 gpcd. The 2020 urban water use target of 179 gpcd is an approximate 17 percent reduction from the 5-year average per capita water use, thereby confirming the 2020 Urban Water Use Target as documented in **SBX7-7 Table 7-F**.

SBX7-7 Table 7-E Target Method 3

Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets (gpcd)	Method 3 Regional Targets (95%) (gpcd)
☐		North Coast	137	130
☐		North Lahontan	173	164
☐		Sacramento River	176	167
☐		San Francisco Bay	131	124
☐		San Joaquin River	174	165
☐		Central Coast	123	117
☑	100%	Tulare Lake	188	179
☐		South Lahontan	170	162
☐		South Coast	149	142
☐		Colorado River	211	200
			Target	**179**

SBX7-7 Table 7-F Confirm Minimum Reduction for 2020 Target

5 Year Baseline GPCD (gpcd)	Maximum 2020 Target[1] (gpcd)	Calculated 2020 Target (gpcd)	Confirmed 2020 Target (gpcd)
215	205	179	179

Notes:

1. Maximum 2020 Target is 95% of the 5-year Baseline per capita water use

5.8 2020 COMPLIANCE DAILY PER CAPITA WATER USE

Law

10608.12 (f)	*"Compliance daily per-capita water use" means the gross water use during the final year of the reporting period…*
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.*

Using the City population and gross water use for the 2020 compliance year, the per capita water use was calculated as 171 gpcd, meaning the City has met the 2020 target per capita water use of 179 gpcd. Table 5-2 and SBX7-7 Table 9 summarizes the City's compliance with the 2020 per capita water use targeted reduction.

SBX7-7 Table 9/Table 5-2 2020 Compliance

2020 GPCD			2020 Confirmed Target GPCD	Did Supplier Achieve Targeted Reduction for 2020?
Actual 2020 GPCD	2020 Total Adjustments	Adjusted 2020 GPCD		
171	-	171	179	Yes

5.9 REGIONAL ALLIANCE

The DWR allows water supply agencies to comply with SBX7-7 through a Regional Alliance, and the corresponding SBX7-7 compliance information must be reported in a Regional Alliance Report. The City is not part of a regional alliance and is not reporting any compliance information in a Regional Alliance Report.

CHAPTER 6 – SYSTEM SUPPLIES

The purpose of this chapter is to summarize the City's current and planned water supply sources and volumes. This includes a description of the groundwater basins used by the City as a source of supply. Ongoing planning efforts for the potential use of recycled water within the City's service area are also summarized.

6.1 PURCHASED OR IMPORTED WATER

The City currently uses local groundwater as the sole source of water supply and does not purchase or import water from any other water suppliers or entities.

6.2 GROUNDWATER

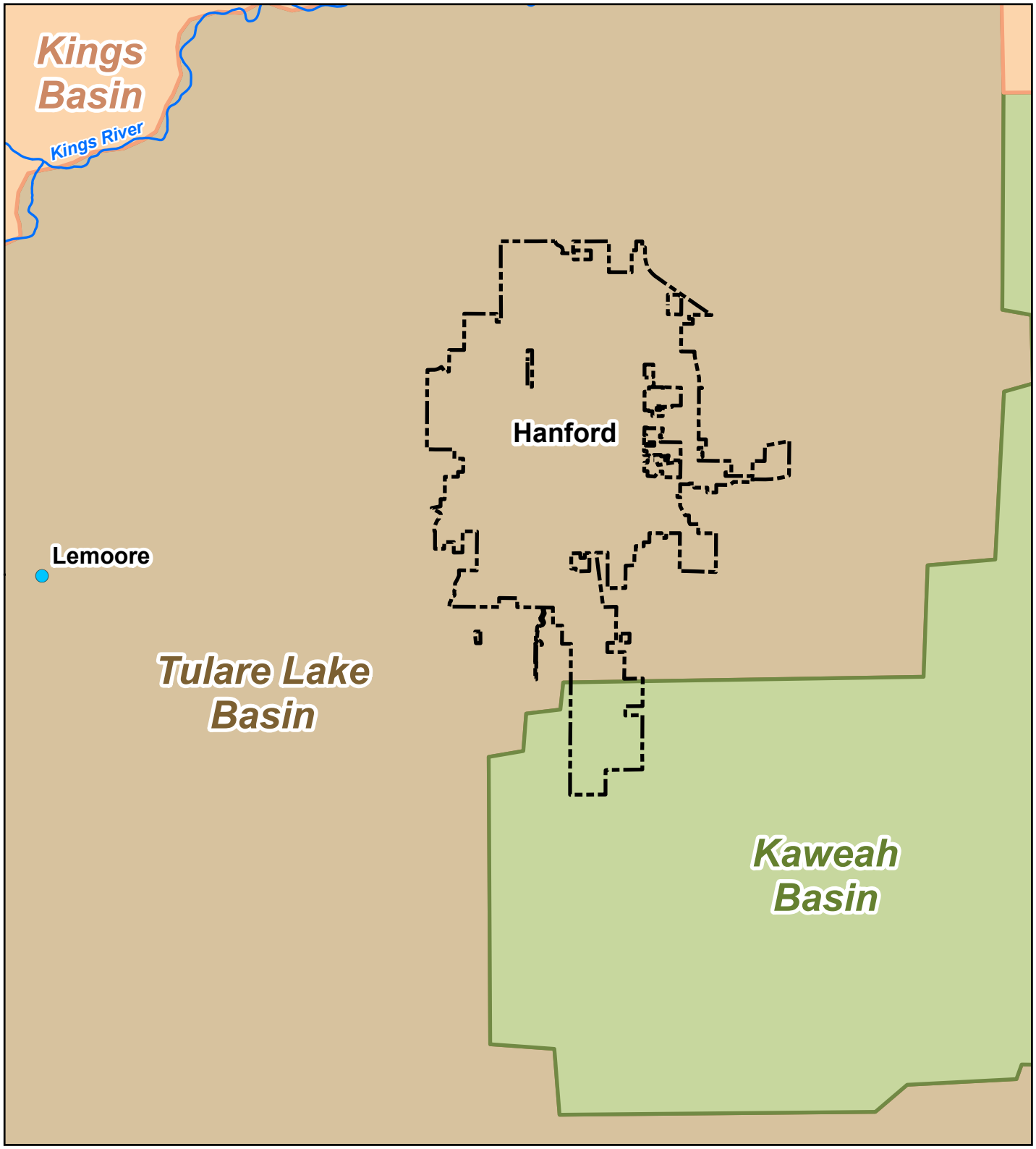
For planning purposes, the State of California has been divided into ten separate hydrologic regions by the DWR, based on the State's major drainage basins. According to the California Water Plan 2018 Update, the City is located in the Tulare Lake Hydrologic Region. Each hydrologic region is divided into distinct groundwater basins, each of which is typically divided further into smaller interconnected groundwater subbasins. The following section summarizes the groundwater basin and subbasin underlying the City.

6.2.1 Basin Description

Law

10631. (b)(4)	*If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:* *(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater.*

The City is located above the San Joaquin Valley Groundwater Basin, for which the Kings County Water District (KCWD) is the principal groundwater management agency. This basin can further be divided into subbasins that help better define the aquifer below the city. These subbasins are interconnected and help filter, transmit, and store water. The subbasins that subdivide the San Joaquin Valley Groundwater Basin are the Kings, Kern County, Kaweah, Tulare Lake, Tule, Pleasant Valley, and Westside groundwater basin. The Tulare Lake subbasin is the specific groundwater subbasin in which the City resides and has a surface area of approximately 524,000 acres (**Figure 6-1**). It is bounded to the north by the Kings Groundwater Basin, to the south by the Kings-Kern County line, to the east by the Westside groundwater basin, and to the west by the California Aqueduct; the subbasin has a surface area of approximately 818 square miles.



Legend **PRELIMINARY**

Groundwater Subbasins

- Kings (5-22.08)
- Kaweah (5-22.11)
- Tulare Lake (5-22.12)

Hanford City Limits

0 0.5 1 2 Miles

N W GIS E S

Update: May 20, 2021

AKEL ENGINEERING GROUP, INC.

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Figure 6-1
Groundwater Subbasins

2020 Urban Water Management Plan
City of Hanford

The Tulare Lake Groundwater Subbasin is not an adjudicated groundwater basin. In characterizing the groundwater budget, the DWR has classified the subbasin as Type B, which means that enough data is available to estimate groundwater extraction to meet local needs, but not enough data is available to characterize the groundwater budget. Well yields in the Tulare Lake subbasin average between 300 and 1,000 gallons per minute (gpm), with a maximum of 3,000 gpm.

As of 1995, the DWR estimated the total water storage of the subbasin using an estimated specific yield of 8.5 percent and water levels collected by the DWR as well as other cooperators. Based on these calculations, the DWR estimates the total storage capacity of the subbasin to be 17,100,000 AF to a depth of 300 ft and 82,500,000 AF to the base of fresh groundwater.

The 2003 DWR Bulletin 118 describes the subbasin water level as declining from 1970 to 2000, with fluctuation in the intervening years. Fluctuations can range from a general increase of 24 feet to decrease of up to 23 feet, with an average decline of 17 feet. According to the DWR, fluctuations are most significant in the lakebed area of the subbasin, with the area experiencing some of the steepest decreases and increases in water levels.

According to 2020 Tulare Lake Groundwater Sustainability Plan, GSAs estimate the total annual change in storage in the Subbasin storage ranged from -392,280 AF (2015) to 361,230 AF (2011) and averaged approximately -85, 690 AF per year during the 1990-2016 period. Municipal pumping was assumed to increase slowly from about 25,060 AF (2017) to about 30,160 AF (2070).

6.2.2 Groundwater Management

Law

10631. (b)(4) *…if groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*

(C) The current version of any groundwater sustainability plan or … any groundwater management plan adopted by the urban water supplier…or any other specific authorization for groundwater management.

(D) 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.

The Tulare Lake Groundwater Sustainability Plan, adopted in January 2020, was developed for the Tulare Lake Subbasin pursuant to the Sustainable Groundwater Management Act. The Tulare Lake Subbasin is classified as a high-priority subbasin by DWR and is subdivided into five local GSAs. The Mid-Kings River GSA covers the portion of the Tulare Lake Subbasin from which the City extracts its groundwater supplies.

According to the Tulare Lake Subbasin GSP, the intent of the plan is to manage groundwater resources such that adequate water supplies are maintained for existing users and established management objectives maintain a sustainable groundwater yield. The sustainability goals for the Subbasin will be achieved by implementing the measures below, as extracted from the GSP.

- Understanding the interaction between existing and future conditions
- Analyzing and identifying the effects of exiting management actions on the Subbasin
- Implementing the GSP and its associated measures, including projects and management actions to halt and avoid future undesirable results
- Collaborating between agencies to achieve goals and protect beneficial uses
- Assessing at interim milestones the successes and challenges of the implemented projects and

6.2.3 Overdraft Conditions

The Tulare Lake subbasin has been identified by DWR as a high-priority groundwater basin and is one of multiple subbasins within the state listed as being in a condition of critical overdraft. The Tulare Lake Subbasin GSP indicates that the Mid-Kings Rivers GSA intends to coordinate with KCWD to implement ongoing basin management objectives and overdraft mitigation measures. Several efforts to mitigate overdraft were documented in the KCWD 2001 Groundwater Management Plan Update, which are briefly summarized below.

- **Water Conservation Efforts:** KCWD and the City of Hanford participate in several water conservation and education programs, contributing both funds and staff time. The agricultural users within the KCWD service area use the delivered water responsibly through various highly efficient irrigation systems. Additionally, water deliveries are metered and billed based on volume used and customers therefore have an incentive to minimize water usage.
- **Increasing Surface Water Imports:** KCWD currently delivers surface water to several water and canal companies. Utilization of surface water supplies decreases the demand on groundwater, serving as a form of in-lieu recharge. KCWD strives to provide surface water at a rate low enough to customers to encourage utilizing as much surface water as possible before resorting to groundwater pumping.
- **Increasing Groundwater Recharge:** KCWD operates 25 direct groundwater recharge basins and also leaves many earthen canals unlined for the purpose of recharge through seepage. The total recharge surface area, including both basins and unlined canals, is approximately 1,300 acres; the amount of recharge varies from year to year, and the most significant recharge effects occur during wet years.

6.2.4 Historical Groundwater Pumping

Law

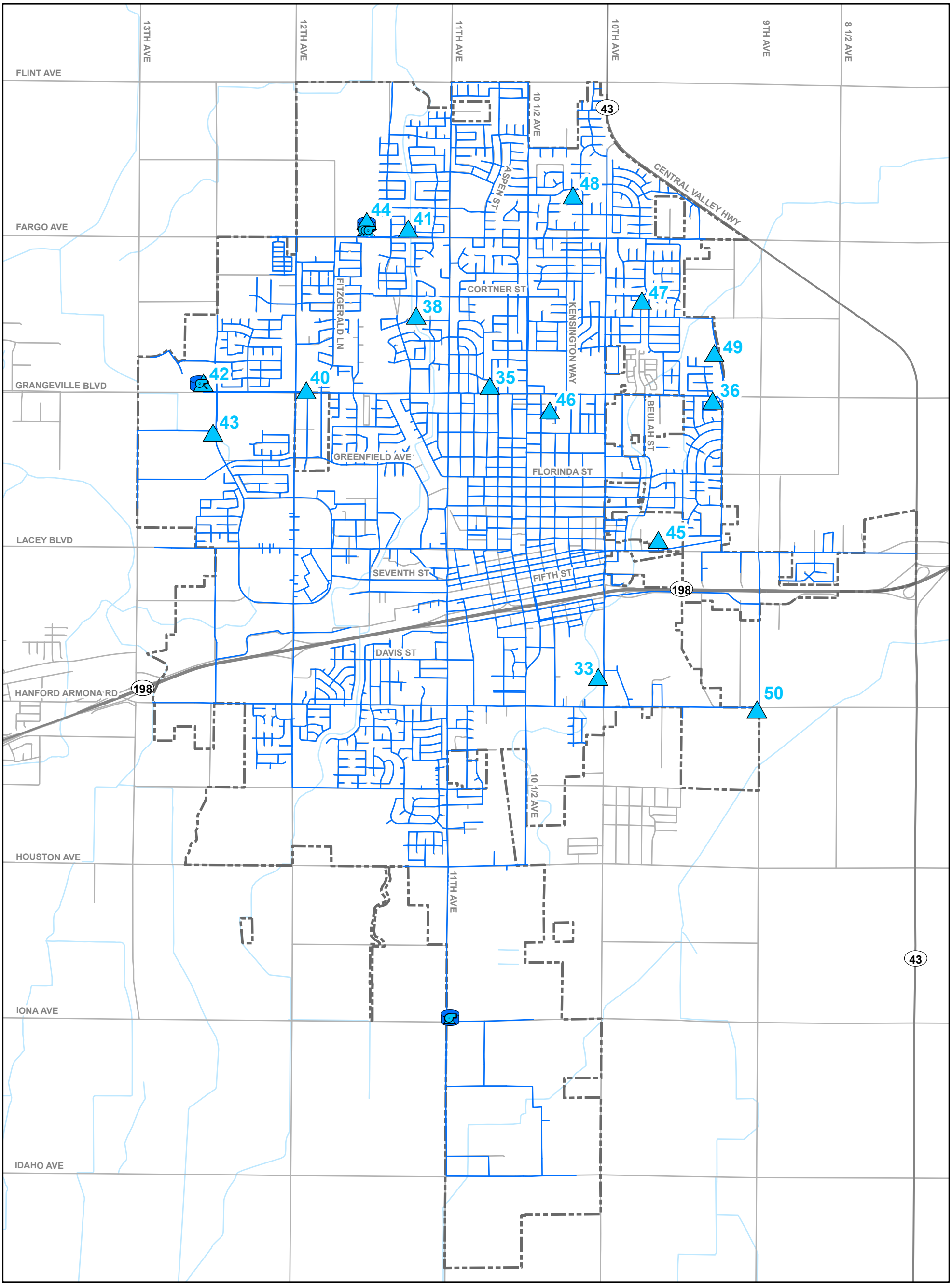
10631. (b)(4)	*…if groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:* *(C) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonable available, including, but not limited to, historic use records.*

According to the 2017 WSMP there are currently 14 active groundwater wells located throughout the City, as shown in **Figure 6-2**, with a combined supply capacity of approximately 34.5 million gallons per day (mgd). The firm capacity, designated as the total capacity less the largest unit out of service, of the City wells is 31.6 mgd.

The volume of groundwater pumped by the City over the past five years is summarized in **Table 6-1**. Historically, the Tulare Lake subbasin has adequately met the City's water demands, and it is anticipated that the subbasin will adequately meet the City's water demands in the future.

Table 6-1 Groundwater Volume Pumped

Groundwater Type	Location or Basin Name	Volume				
		2016 (AF)	2017 (AF)	2018 (AF)	2019 (AF)	2020 (AF)
Alluvial Basin	San Joaquin Valley Groundwater Basin, Tulare Lake Subbasin	10,910	11,073	11,557	10,927	11,714
	Total	**10,910**	**11,073**	**11,557**	**10,927**	**11,714**


13TH AVE
12TH AVE
11TH AVE
10TH AVE
9TH AVE
8 1/2 AVE
10 1/2 AVE
FLINT AVE
FARGO AVE
GRANGEVILLE BLVD
LACEY BLVD
HANFORD ARMONA RD
HOUSTON AVE
IONA AVE
IDAHO AVE
ASPEN ST
CENTRAL VALLEY HWY
CORTNER ST
FITZGERALD LN
KENSINGTON WAY
BEULAH ST
GREENFIELD AVE
FLORIDA ST
SEVENTH ST
FIFTH ST
DAVIS ST
43
198
44
41
48
38
47
49
42
40
35
46
36
43
45
33
50
Legend
Existing System
Tanks
Wells
Pump Stations
Valves
Pipes
City Limits
Streets
Waterways
PRELIMINARY
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AKEL
ENGINEERING GROUP, INC.
Figure 6-2
Existing Groundwater
Well Locations
2020 Urban Water Management Plan
City of Hanford

6.3 SURFACE WATER

At the time of preparation of the 2020 UWMP, the City does not use surface water as part of its water supply.

6.4 STORMWATER

At the time of preparation of the 2020 UWMP, the City does not use stormwater as part of its water supply.

6.5 WASTEWATER AND RECYCLED WATER

This section discusses the use of recycled water, and the characteristics of the wastewater treated at the City owned and operated treatment plant.

6.5.1 Recycled Water Coordination

Law

> *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 City of Hanford is responsible for the collection, treatment, and disposal of wastewater within the City limits. The subsequent sections document information regarding the wastewater treatment facility, the use of reclaimed wastewater, and the coordination between agencies regarding the treated wastewater.

6.5.2 Wastewater Collection, Treatment, and Disposal

This section describes wastewater collection and disposal.

Law

> *10633 (a) A description 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 the quantity of treated wastewater that meets recycled water standards, is being discharge, and is otherwise available for use in a recycled water project.*

6.5.2.1 Wastewater Collected Within Service Area

The City collects wastewater from residential, commercial, and industrial customers within the City limits and some unincorporated areas. The collected flows are conveyed through a trunk system to a Wastewater Treatment Facility (WWTF) in the south of the City. The City's large industrial area near the southern boundary of the City limits collect flows at a series of lift stations before

being pumped north to the WWTF. Based on available data received from City staff, the WWTF treated an average annual wastewater flow of approximately 4,944AF in 2020 (Table 6-2).

Table 6-2 Wastewater Collected Within Service Area in 2020

Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2020 (AF)	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party?
City of Hanford	Metered	4,944	City of Hanford	City of Hanford WWTF	Yes	No

6.5.2.2 Wastewater Treatment and Discharge Within Service Area

The City's WWTF has an existing design capacity of 8.0 mgd and includes the following treatment components: a headworks, two primary clarifiers, two primary trickling filters, two secondary trickling filters, one oxidation ditch, four secondary clarifiers, three anaerobic digesters, one dissolved air flotation sludge thickener, sixteen sludge drying beds, one facultative sludge lagoon, one effluent equalization basin, six effluent disposal/percolation ponds, and two emergency effluent storage ponds. Treated wastewater is discharged to the facility's equalization basin and then pumped to evaporation/percolation ponds or farmlands for agricultural irrigation. The City's treatment and discharge of wastewater are summarized in Table 6-3.

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

Wastewater Treatment Plant Name	Discharge Location Name and Description	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2020 Volume			
					Wastewater Treated (AF)	Discharged Treated Wastewater (AF)	Recycled Within Service Area (AF)	Recycled Outside of Service Area (AF)
City of Hanford WWTF	Equalization basin storage of treated effluent	Land disposal	No	Secondary Disinfected – 23 MPN	4,944	0	0	4,944

6.5.3 Recycled Water System

Law

> *10633 (c) A description the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.*

The City currently distributes the chlorinated secondary-treated effluent wastewater to agriculture users, east and west of the WWTF, for crop irrigation. The irrigation of crops on privately owned land is permitted under the City's two monitoring report programs (MRP) from the Regional Water Quality Control Board (RWQCB). The first program, MRP 5-00-222, governs the use of recycled water on 11,500 acres of privately owned farmland within the Lakeside Irrigation Water Irrigation District (LIWD). In an agreement with LIWD, the City pays $30 per acre-foot to dispose of its recycled wastewater effluent. The second program, MRP 5-00-223, governs the use of recycled water on a 1,600-acre site owned by the City as well as several small privately owned farms near the WWTF. **Appendix B** includes the City's Reclamation Project Agreement, which stipulates the City's use of recycled water.

The City's recycling of the disinfected secondary effluent on agricultural farmland does not directly offset potable water use. As such this recycled water use is not able to assist the City in meeting its 2020 Urban Water Use Target and is not used in the calculations set forth in Chapter 5. However, the City's recycled water use does offset groundwater and surface water that would otherwise be used by farmers in the area. Furthermore, the recycled water consumer, LIWD locates outside of the city limit, therefore, LIWD's recycled water demand is excluded from Hanford's recycled demand projection in this report (2020 UWMP).

Delivery of the secondary treated effluent to permitted lands involves two separate pump stations, each with a 24-inch discharge pipeline. One pump station delivers recycled water from the WWTF to land west of the WWTF through a 24-inch diameter reinforced concrete pipe. Recycled water delivered to the east and south of the WWTF is pumped by the second pump station through a 24-inch diameter polyvinyl chloride (PVC) pipeline.

6.5.4 Recycled Water Beneficial Uses

This section documents the current uses of WWTF treated effluent.

Law

> *10633 (d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.*
> *(e) A description the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, 20 years and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.*

6.5.4.1 Current and Planned Uses of Recycled Water

According to the City's 2000 Recycled Water Engineering Report, irrigation demand for the LIWD lands alone are 27,103 acre-feet per year (afy). This demand will continue to exceed the amount of recycled water available from the WWTF and is the most economically and technically feasible method for the City's disposal of its treated effluent. However, the recycled water consumer, LIWD, is located outside of the city limit, therefore LIWD's recycled water demand projection is not included in Hanford's recycled water demand projection, nor documented in Table 6-4.

Table 6-4 Current and Projected Recycled Water Direct Beneficial Uses Within Service Area

☑	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.						
Beneficial Use Type	General Description of 2015 Uses	Level of Treatment	Volume				
			2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
		Total	0	0	0	0	0	0

The City may decide in the future to reevaluate the need or desirability of expanding its recycled water use to serve municipal customers. This would involve constructing a recycled water distribution system throughout the City and would require an upgrade to the WWTF to provide tertiary treatment.

6.5.4.2 Planned Versus Actual Use of Recycled Water

Law

> *10633 (e) …. (Provide) a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.*

2015 UWMP have identified agricultural irrigation in Lakeside Irrigation Water District (LIWD) as the sole method of recycling the City's treated wastewater effluent., however, LIWD is located outside of the City Limit. In this report (2020 UWMP), the recycled water use in LIWD is excluded from the Hanford's Recycled water use, as shown in Table 6-5.

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

Use Type	2015 Projection for 2020 (AF)	2020 Actual Use (AF)
Agricultural irrigation	5,606	0
Total	**5,606**	**0**

Note: Agricultural irrigation volumes were documented in the 2015 UWMP for the informational purposes only and reflected the recycled water demands for Lakeside Irrigation Water District, but not the City. This agricultural irrigation use is not documented as part of the 2020 UWMP.

6.5.5 Actions to Encourage and Optimize Future Recycled Water Use

Law

10633 (f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(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.

As previously discussed, the City's current method of recycling its WWTF effluent through agricultural irrigation on LIWD permitted farmland is the most economically and technically feasible method of disposal. Therefore, additional measures taken by the City to encourage recycled water use, such as financial incentives or informational programs, are not expected to result in additional recycled water use, as summarized in Table 6-6.

Table 6-6 Methods to Expand Future Recycled Water Use

Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
TBD	The City currently does not have a plan to expand recycled water use.		

6.6 DESALINATED WATER OPPORTUNITIES

Law

> *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*

The groundwater under the City is not brackish in nature and does not require desalination. However, the City could provide financial assistance to other water purveyors in exchange for water supplies; the City could consider this option should the need arise.

6.7 EXCHANGES OR TRANSFERS

Law

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

There are currently no known exchanges, transfers, or interties that exist between the City and any other water system.

6.8 FUTURE WATER PROJECTS

Law

> *10631 (f) …The urban water supplier shall include a detailed description of expected future water 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 discussed in previous sections, the City's sole source of potable water is groundwater. As such, the only method available to provide additional supply capacity for growing demand is the construction of new wells, and there are no additional types of future water projects the City plans to implement.

The City's total supply capacity is approximately 38,600 afy (34.5 MGD); its firm capacity, designated as the total capacity less the largest unit out of service, is approximately 35,400 afy (31.6 MGD). The 2017 WSMP identified needs for additional groundwater wells as the City's demands increase, which are reflected in the City's capital improvement program. Previous planning efforts have identified two additional wells for construction. The rated capacity of these additional wells has yet to be determined, but for planning purposes is assumed equal to the average rated capacity of the City's 14 existing wells, which is approximately 2,700 afy. The City also plans to construct a new tank to serve the southern industrial park, which will improve the

reliability of the industrial park's distribution system. These improvements are summarized on the following page in Table 6-7.

Table 6-7 Expected Future Water Supply Projects or Programs

Name of Future Projects or Programs	Joint Project with other agencies?	Description	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Supplier (AF)
Additional Wells	No	Two new wells planned for next 5 years as part of city's Capital Improvement Program	2020-2025	All Year Types	5,400
Industrial Park Tank	No	New tank to serve south Industrial Park	2020-2025	All Year Types	

Notes:

1. For planning purposes, the expected increase to the City's water supply for future wells with a capacity that is to be determined is equal to the average supply capacity of the City's existing wells. This average supply capacity is approximately equal to 2,700 afy per well site.

6.9 SUMMARY OF EXISTING AND PLANNED SOURCES OF WATER

Law

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 10631(a).

(4) (Provide 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 reasonable available, including, but not limited to, historic use records.

The City's groundwater supply has been adequate to meet the City's historical demands and Table 6-8 summarizes the total amount of groundwater pumped in 2020. In order to meet the growing demand, new groundwater wells will have to be constructed. The City intends to continue to use groundwater as the sole source of potable water supply. Annual projections for the City's groundwater supplies are estimated based on the groundwater sustainability analysis (Appendix C), which consolidated the estimated sustainable yield information documented in Tulare Lake GSP and the City's planning water service area.

Annual projections for the City's recycled water supplies are summarized in Table 6.9 and assume that the City will continue to use 100 percent of its recycled water for agricultural irrigation, although a portion of the water will be lost to evaporation and percolation. Projected

recycled water supply was assumed to be equal to the projected annual wastewater flow of the WWTP. This projected wastewater flow was calculated based on the projected water demand and historical average of the city-wide return-to-sewer ratio, using available data between 2006 and 2020. Consistent with the 2015 UWMP all treated wastewater effluent is expected to be used to irrigate agricultural lands. Table 6-9 summarizes the total projected water supply, including groundwater and recycled water sources, available through 2045.

It should be noted that Tulare Lake subbasin which underlies the City is not adjudicated, and the projected groundwater supply volumes are not intended to and do not limit the City's water rights or maximum pumping volumes. The Mid-Kings River GSA continues to evaluate any options to enhance groundwater supplies; however, to date, Tulare Lake GSP has not restricted the maximum groundwater availabilities. The City of Hanford actively participates in the preparation of the GSP and monitors any potential changes to groundwater availability in the future.

Table 6-8 Water Supplies – Actual

Water Supply Source	2020	
	Actual Volume (AF)	Water Quality
Groundwater	11,714	Potable Water
Recycled Water	4,944	Recycled Water
Total	**16,658**	

Table 6-9 Water Supplies – Projected

Water Supply Source	Projected Water Supply				
	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
Groundwater	10,033	10,033	10,033	10,033	10,033
Recycled Water	5,077	5,318	5,569	5,833	6,109
Total	**15,110**	**15,351**	**15,602**	**15,866**	**16,142**

6.10 CLIMATE CHANGE CONSIDERATIONS

Potential impacts of climate change may not only influence demand throughout the City's service area, but could alter the water supply availability. Based on the City's location and current climate, the most notable changes in climate would be related to increasing average temperature, intensifying storm events, and periods of extended drought. Other potential effects, such as decreasing snowpack or rising sea levels, would not have a direct impact on the City's water demand or supply. Changes in annual precipitation and temperature could have an impact on the City's overall water use as well as available supply volumes. The City, as well as other local water supply agencies, will continue to monitor available water supply volumes and year-on-year changes to determine actions necessary to mitigate potential supply shortages.

6.11 ENERGY INTENSITY

Law

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.*

An urban water supplier's energy intensity (EI) is the amount of energy (kWh) consumed for the purpose of supplying water from the point that it enters the City's service area to the point at which it exits the system at the point of delivery. The 2020 Urban Water Management Plan Guidebook provides guidance for estimating energy intensity associated with the source of water used by an urban water supplier. The purpose of calculating the City's energy intensity is to:

- Develop a baseline energy use per acre-foot of treated water delivered by the water system.
- Aid in Identifying energy saving opportunities in the future.
- Allow for comparing energy use among similar agencies.

The estimate of energy intensity includes requirements for the purpose of water conveyance, extraction, treatment, placing water into and taking it from storage, and distribution. The City's water energy intensity only accounts for the water management processes occurring within its

operational control. The following water management processes are accounted for in the City's energy intensity estimate, which is based on existing processes and available records:

- Extraction of groundwater from Tulare Lake Subbasin.
- Delivery of treated water to end users.

Energy use data relating to the extraction, diversion, conveyance, treatment, distribution and placing into and taking from storage in the City's water supply system was acquired from Southern California Edison (SCE) meter data for year 2020. The City, therefore, utilized Table O-1B (**Appendix A**) for its EI calculations instead of Table O-1A or O1-C, since it is not possible to distinguish between energy used for treatment and conveyance at this time.

Total energy use and volume of water entering the City's water system for year 2020 were 9,259,222 kWh and 11,714 AF, respectively, resulting in an Energy Intensity of 790. kWh/AF (2425.8 kWh/MG).

CHAPTER 7 – WATER SUPPLY RELIABILITY ASSESSMENT

This chapter assesses the reliability of the City's water supply under normal conditions, single year dry conditions, and five-year dry conditions. The reliability assessment includes a comparison of projected water use versus expected water supply for the next 20 years. This chapter also includes the newly required Drought Risk Assessment, which is a review of the capability of the City's water supplies to meet demands for the next five years, assuming a five-year drought occurs.

7.1 CONSTRAINTS ON WATER SOURCES

Law

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.*

As discussed in previous sections, the City's only current and planned source of supply is groundwater. The potential constraints on the City's water supply are summarized as follows.

7.1.1 Legal Factors

Examples of legal factors that could impact the supply reliability of a water distribution system include pumping limitations in adjudicated groundwater basins and surface water contracts. As noted in Chapter 6 the Tulare Lake Groundwater Subbasin, the sole basin from which the City extracts groundwater, is not an adjudicated groundwater basin and there are no legal limitations on the amount of groundwater the City can extract under the Mid-Kings River Groundwater Sustainability Agency's (MKR GSA) groundwater sustainability plan (GSP).

7.1.2 Environmental Factors

Environmental concerns can arise during the water planning process when a project's impact on the ecosystem is taken into consideration. These concerns can subsequently cause a lack of supply due to the enforcement of environmental legislation. The City's groundwater source is not expected to be limited by environmental concerns.

7.1.3 Water Quality Factors

If a surface water or groundwater source has water quality constituents that exceed allowable levels, the amount of water a supplier can obtain from that source can be limited. The City's

7.1.3 Water Quality Factors

If a surface water or groundwater source has water quality constituents that exceed allowable levels, the amount of water a supplier can obtain from that source can be limited. The City's groundwater supply has one water quality constituent that has historically required mitigation measures in order to ensure the supply is not limited, which is arsenic. Arsenic is concentrated in the clay strata beneath the City, and hydrogen sulfide, which may cause discoloration, adverse taste, and a smell typically compared to rotten eggs. The City has implemented a chlorination program for the water supply, and hydrogen sulfide is no longer considered a water constituent of concern. The steps taken by the City to ensure the water supply is unaffected by arsenic are summarized in the following section.

7.1.3.1 Arsenic

Congress passed the Safe Drinking Water Act (SDWA) in 1975 to protect public health. In accordance with the SDWA, the Environmental Protection Agency (EPA) established a maximum contaminant level (MCL) of 0.050 mg/L for arsenic. Amendments to the SDWA in 1996 required the EPA to establish a new MCL of arsenic, which is the current MCL of 0.010 mg/L.

Through the preparation of several studies, the City has determined the best methods for reducing the levels of arsenic in their water supply. These studies include:

- 1989 Water Quality Study (Carollo Engineers)
- 1996 Water System Master Plan (Boyle Engineers)
- 2005 Arsenic Reduction Study (Carollo Engineers)
- 2005 Water Supply and Distribution Capacity Analysis for the Arsenic Reduction Study (Carollo Engineers)

The alternative methods considered by the City to reduce arsenic concentrations below the MCL are summarized as follows:

- Abandon high arsenic wells and drill replacement wells with lower concentrations
- Blend water from wells with higher concentrations with wells of lower concentrations
- Install well head treatment
- Rehabilitate wells that produce water with high arsenic concentrations to a block of strata with low concentrations, producing water low in arsenic.

A non-treatment based approach was determined to be the most cost effective for the City and was comprised of the following three improvement projects:

- Abandon six shallow wells with low production and high arsenic concentration. Replace the abandoned wells with two wells of a higher production capacity and lower arsenic concentration.

- Abandon and replace three wells that could not be rehabilitated with new wells with higher production capacities and acceptable arsenic conditions.
- Three deep wells were rehabilitated to ensure they only extract groundwater from a zone with lower arsenic concentrations.

The City currently treats a groundwater well for Arsenic contamination. Upon the implementation of these arsenic improvement projects, the City's water supply is able to reliably produce water below the MCL for arsenic. Based on the current levels, the long-term reliability of the City's water supply is not restricted due to arsenic.

7.1.4 Climatic Factors

The primary climatic factors that affect the reliability of water supply system are precipitation and runoff characteristics, specifically the seasonal trend. Systems that rely heavily on surface water are most vulnerable to changes in water supply when a shift in precipitation and runoff amounts reduce the amount of surface water available. The City does not rely on surface water as a source of supply and is not vulnerable to these supply reductions.

7.2 RELIABILITY BY TYPE OF YEAR

This section discusses the yearly supply conditions, and the sources of data for supply evaluation.

7.2.1 Types of Years

This section discusses the type of years considered when evaluating water supply reliability. The conditions are as follows:

- **Average Water Year** – The average water year is a year that represents the median runoff levels from precipitation. The supply quantities would be similar to historical average supplies.
- **Single Dry Year** – The single dry year is defined as the individual year with the lowest usable water supply. This condition can be derived as the year with the lowest annual supply and is represented by the year 1984 (**Table 7-1**). It should be noted that under single dry year conditions the anticipated City-wide demand will increase slightly from a normal year as a response to reduced rainfall.
- **Five-Consecutive-Year Drought** – The five-consecutive year drought is defined as the five consecutive years with the lowest usable water supply. The multiple dry years are detrimental to the water supply system because of their adverse effect on the levels of local and state-wide reservoirs, as well as groundwater levels. Available supply percentage for these conditions is based on an analysis of historical per capita water use described in a later section. Consistent with the 2015 UWMP the period between 1987 and 1991 was selected to represent the five-consecutive-year drought (**Table 7-1**).

Table 7-1 Basis of Water Data

Year Type	Base Year	Percent of Average Supply (%)
Average Year	2000	100%
Single-Dry Year	1984	84%
Consecutive Dry Years 1st Year	1987	93%
Consecutive Dry Years 2nd Year	1988	90%
Consecutive Dry Years 3rd Year	1989	88%
Consecutive Dry Years 4th Year	1990	86%
Consecutive Dry Years 5th Year	1991	87%

7.2.2 Sources for Water Data

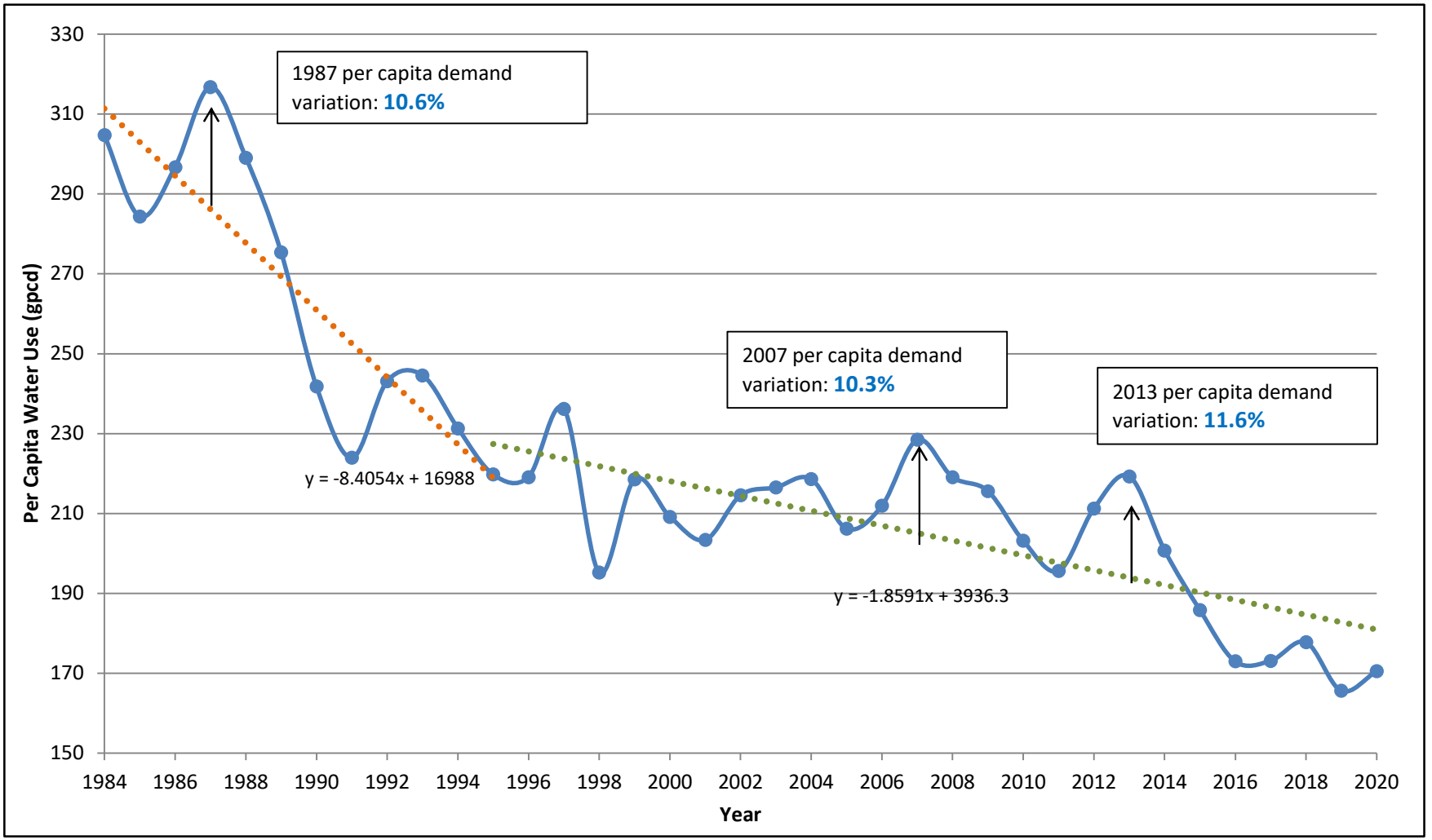
To establish a basis of normal year, single dry year, and five-consecutive-year drought's historical rainfall data available for the City of Hanford from the DWR California Data Exchange Center (CDEC) was analyzed.

7.3 SUPPLY AND DEMAND ASSESSMENT

Law

> *10635 (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional or local agency population projections within the service area of the urban water supplier.*

During prolonged years of drought, City-wide water use patterns are expected to change. Typically, outdoor water use will initially increase as irrigation is used to offset decreased rainfall. These potential water use increases can be offset, in part, by increasing water conservation measures. To characterize the City's water use during years of drought, the City's historical per capita water usage was analyzed. Analyzing per capita water usage, rather than total volume consumed, normalizes water consumption with population and eliminates the increase in demand due to growth. The 2020 UWMP expands on the analysis performed as part of the 2015 UWMP, and includes historical per capita consumption between the years 1984 and 2020, as summarized on **Figure 7-1**.



Historic Water Use

Historic Water Use Trend (1995-2020)

Historic Water Use Trend (1984-1995)

AKEL ENGINEERING GROUP, INC.

Figure 7-1

Historic Per Capita Demand Variation

2020 Urban Water Management Plan

City of Hanford

Figure 7-1 indicates a downward trend in per capita water consumption, with a sharp decrease between the 1980s and mid-1990s, and a more gradual decrease from the mid-1990s to present. To account for this downward trend in the analysis, two linear fit trend lines were developed, characterizing the trend from 1984 to 1995 and 1995 to 2020.

Table 7-1 summarizes the supply available for the various hydrologic water years. Because the City utilizes groundwater as its sole source of supply, the available "supply" drawn from the aquifer in any year is equal to the system-wide water demand for that particular year. The demand projections for the various hydrologic water years are summarized in Table 7-2, Table 7-3, and Table 7-4 and assume the projected supply will be equal to the projected demand as the City's sole source is groundwater.

Table 7-2 Normal Year Supply and Demand Comparison

	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
Supply	15,110	15,351	15,602	15,866	16,142
Demand	11,623	12,172	12,748	13,351	13,982
Difference	3,488	3,179	2,855	2,515	2,160

Table 7-3 Single Dry Year Supply and Demand Comparison

	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
Supply	15,110	15,351	15,602	15,866	16,142
Demand	12,971	13,584	14,227	14,899	15,604
Difference	2,140	1,767	1,376	967	538

Table 7-4 Multiple Dry Years Supply and Demand Comparison

		2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
First year (1987)	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Second year (1988)	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Third year (1989)	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Fourth year (1990)	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Fifth year (1991)	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538

Historical production records indicate that during drought water years, water demands during the single dry and multiple dry periods vary from the normal year baseline. **Figure 7-1** documents historical per capita water use between 1984 and 2020 and summarizes the City's historical response to periods of dry weather. 1987 is shown as the first year of the multiple dry water year period and reflects the significant variation between the annual per capita water use and the historical trend; in 1987, the per capita water use was approximately 10.6% above the historical trend. While this year remains the significant deviation between annual per capita water use and the historical trend, 2013 is another year of significant deviation. During California's recent drought, the City's per capita water use was approximately 11.6% above the historical trend. While the magnitude of the current drought is similar to that of the 1987 water year, increased water conservation measures put in place by the City have resulted in lower per capita water use.

In order to account for demand variation during drought water years, the projected water demands during the single dry and multiple dry water years (**Table 7-3** and **Table 7-4**) are increased by a factor that reflects the greatest deviation (11.6% in 2013) of per capita water use from the historical trend.

7.4 REGIONAL SUPPLY RELIABILITY

Law

> *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.*

As discussed previously, the City uses groundwater as its sole source of supply and no known opportunities currently exist for diversifying sources of supply. In order to reduce the burden on groundwater resources during periods of prolonged drought, the City has an aggressive water conservation ordinance to prevent and prohibit the wasting of water, while also encouraging the community to conserve.

7.5 DROUGHT RISK ASSESSMENT

Law

> *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.*

As part of the 2020 UWMP, the California Water Code now requires urban water suppliers to develop a drought risk assessment (DRA). The DRA is a planning exercise that considers the effects on available water supply sources should a five-year drought occur immediately following the preparation of the DRA. It is similar in nature to the supply and demand assessment described in a previous section, but only evaluates the effects of a five-year drought. The DRA also considers the effect of the City's Water Shortage Contingency Plan on available supply and total demand. Ultimately, the DRA is a proactive planning review that readies the City for the worst-case water supply condition should it occur in the immediate future.

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

The DRA evaluates the effect on available water supply during the course of a five-year drought. Currently, the City's sole water supply source is groundwater. As such, the same data and methodology used for preparing the supply and demand assessment through 2045, described in a previous section, can be used for the purposes of the DRA.

For conservative planning purposes, the DRA considers an unconstrained demand condition within the City's service area, which means no additional demand management measures or water use reduction methods are in place outside of the City's year-round prohibitions. This conservative planning condition allows the DRA to identify if additional water use reductions, documented in the Water Shortage Contingency Plan, should be implemented.

7.5.2 DRA Individual Water Source Reliability

The DRA water demand and supply comparisons are documented in **Table 7-5**, which assumes that the available groundwater supplies are equal to the projected unconstrained demand through 2025 should a five-year drought occur.

7.5.3 DRA Total Water Supply and Use Comparison

The City's DRA is summarized at the beginning of the following page in **Table 7-5**. Using assumptions for available supplies consistent with previous planning efforts, and accounting for an unconstrained demand condition, the DRA shows that the City will be able to meet projected water demands under a 5-consecutive-year drought starting in 2021. At this point in time no water shortage declarations or shortage response actions are required to be implemented.

7.5.4 Management Tools and Options

Law

> *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.*

In order to reduce the burden on groundwater resources during periods of prolonged drought, the City has developed a Water Shortage Contingency Plan that can be implemented to prevent and prohibit the wasting of water while also encouraging the community to conserve.

The City's supply reliability is dependent on the rate of available recharge for the groundwater subbasins beneath the City. KCWD imports raw water for the purpose of recharging the groundwater subbasins they manage, which includes the Tulare Lake subbasin. During periods of drought, the imported water supplies available to KCWD can be reduced or not provided at all, which would reduce the amount of recharge available to the groundwater basins. In periods of

Table 7-5 Five-Year Drought Risk Assessment

Totals	2021	2022	2023	2024	2025
Demands					
Total Water Use	12,502	12,619	12,737	12,854	12,971
Supplies					
Groundwater Supplies	15,004	15,031	15,057	15,084	15,110
Surplus/Shortfall without WSCP Action	0	0	0	0	0
Planned WSCP Actions (use reduction and supply augmentation)					
WSCP - supply augmentation benefit	0	0	0	0	0
WSCP - use reduction savings benefit	0	0	0	0	0
Revised Surplus/(shortfall)	**2,502**	**2,411**	**2,321**	**2,230**	**2,140**
Resulting % Use Reduction from WSCP action	**0%**	**0%**	**0%**	**0%**	**0%**

water shortage, KCWD works closely with the water suppliers extracting water from groundwater subbasins they manage in order to minimize overdraft and subsidence. Typically, when KCWD identifies a risk to regional supply reliability, they call for urban water suppliers to reduce their water use through voluntary and mandatory water conservation measures.

Additionally, during a drought, KCWD anticipates the City to use groundwater reserves. Historical groundwater monitoring by KCWD in the Tulare Lake subbasin also indicates stable groundwater conditions during multiple-year droughts. Through KCWD's implementation of conjunctive use programs, the Tulare Lake groundwater subbasin has historically experienced well managed levels. As a result of this management, the Tulare Lake subbasin is considered a reliable source of supply during water shortages. While pumping may exceed recharge during a drought, basin management practices have prevented long-term adverse conditions.

CHAPTER 8 – WATER SHORTAGE CONTINGENCY PLANNING

This chapter summarizes the City's Water Shortage Contingency Plan (WSCP). The WSCP is a separately adopted planning document that most notably outlines levels of water shortage conditions, demand reduction methods to be implemented in the event of a water shortage and the process the City will implement to perform an annual Supply and Demand assessment. The WSCP also includes discussion of the City's communication protocols during a water shortage, methods of determining compliance and enforcing water use prohibitions, estimating the financial consequences of a water shortage, and the methods the City has in place to monitor and report the effectiveness of any water demand reduction methods implemented.

8.1 WATER SUPPLY RELIABILITY ANALYSIS

The City currently uses groundwater as the sole source of water supply, with wells extracting water from the Tulare Lake Subbasin of the San Joaquin Valley Groundwater Basin. These groundwater basins are managed by the Mid-Kings River Groundwater Sustainability Agency and the 2020 Tulare Lake Subbasin Groundwater Sustainability Plan lists the rates of natural recharge for these groundwater supply sources. Consistent with previous planning efforts, the City's Water Supply Reliability Analysis and the available supply drawn from the aquifer in any year is equal to the system-wide water demand for that particular year.

8.2 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT

Updates to the California Water Code now require that urban water suppliers prepare an annual water supply and demand assessment (Annual Assessment) on an annual basis. The findings of this Annual Assessment will be summarized in a report submitted to the Department of Water Resources by July 1 of each calendar year, with the first report required for submission on July 1st, 2022. The purpose of this annual assessment is to ensure water suppliers are proactively considering the available water supplies and demand requirements, as well as identifying the potential need for implementing the Water Shortage Contingency Plan.

It should be noted that DWR is in the process of preparing a stand-alone guidance document that will outline general procedures to aid urban water suppliers in preparing the Annual Assessment. The decision-making process and Annual Assessment completion steps are preliminary at this point in time and will be further refined as the DWR guidance document is completed.

The City's Water Shortage Contingency Plan is provided in **Appendix D** and summarizes the decision-making process and methodology used to prepare the Annual Assessment. The reporting timeline is shown in **Figure 8-1**.

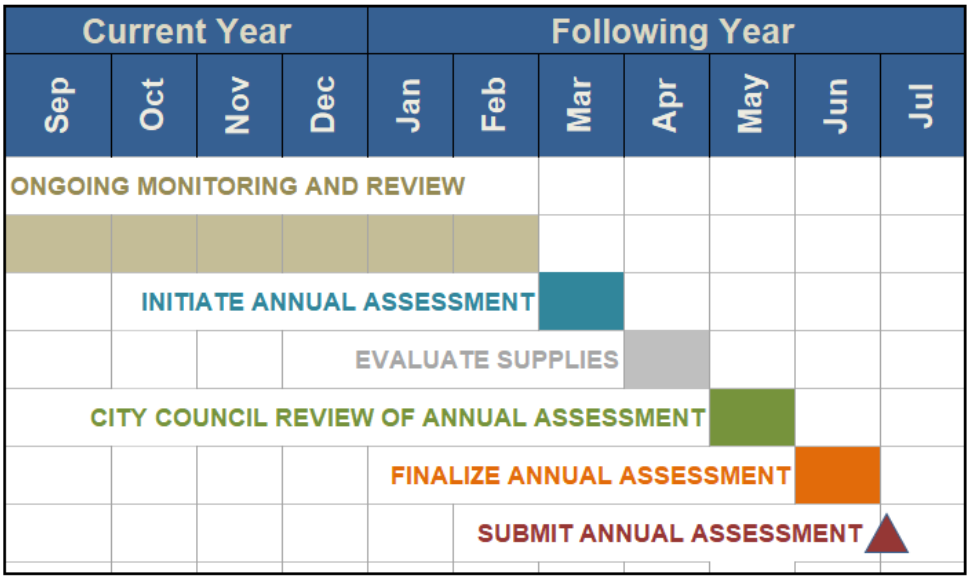


FIGURE 8-1 ANNUAL ASSESSMENT REPORTING TIMELINE

8.3 WATER SHORTAGE LEVELS

Law

> *10632 (a)(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply and an outline of specific water supply conditions which are applicable to each stage.*

Water agencies that rely on groundwater as the sole source of supply are unlikely to experience water shortages like those agencies that rely on surface water. As the City is currently utilizing groundwater as its sole source of supply, it is not expected that the City will experience the water supply shortages that surface water dependent suppliers will.

As part of the City's efforts to conserve water, the City has permanent water use prohibitions in place. Additionally, the City's conservation ordinance describes a multiple stage water conservation plan. Each water rationing stage includes a water demand reduction percentage, which is to be applied to normal water demands. The plan is dependent on the cause, severity, and anticipated duration of the water shortage, and a combination of voluntary and mandatory water conservation measures can be put in place to reduce City-wide water usage. A comparison between the City's water shortage levels and the DWR recommended 6-level framework is documented in the WSCP. The water shortage levels are summarized in **Table 8-1**.

Table 8-1 Water Shortage Contingency Plan Levels

Stage	Percent Supply Reduction	Water Supply Condition
1	10%-20%	Minor Shortage Potential - Below average rainfall in the previous 12-24 months - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months
2	20%-35%	Moderate Shortage Potential - Below average rainfall in the previous 24-36 months - Prolonged periods of low water pressure - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months
3	35%-50%+	Critical Shortage Potential - Below average rainfall for over 36 months - Prolonged periods of low water pressure - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months

The water shortage stages become effective when the City Manager declares that the City is unable to provide sufficient water supply to meet ordinary demands, to the extent that insufficient supplies would be available for human consumption, sanitation, and fire protection. The declared stage will be based on the City Manager's judgment and to the degree of the immediate or future supply deficiency.

8.4 SHORTAGE RESPONSE ACTIONS

The City's WSCP includes shortage response actions that may be implemented during a water shortage. Additionally, the City's municipal code has multiple permanent water use restrictions in place year-round that minimize water waste. These shortage response actions and permanent water use restrictions are summarized in the WSCP, provided in **Appendix D**.

8.5 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

The WSCP adoption, submittal and availability process are the same as those for the City's UWMP. However, the WSCP may be periodically amended independently from the City's UWMP. Should an amendment to the WSCP be implemented, stakeholder and public notification methods consistent with the UWMP will be performed prior to the adoption of the amended plan.

CHAPTER 9 – DEMAND MANAGEMENT MEASURES

This chapter summarizes the demand management measures, which are additional measures the supplier plans on implementing to achieve its water use targets and maintain ongoing water conservation.

9.1 DEMAND MANAGEMENT MEASURES AND IMPLEMENTATION

The following section summarizes the Demand Management Measures planned and implemented by the City to promote water conservation. This section includes, as applicable, discussions on both the historical implementation and planned implementation of various measures.

Law

10631 (f)(A) …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.

9.1.1 Waste Water Prevention Ordinances

The City adopted a Water Waste Ordinance in 1976 requiring all new connections to the water system to have meters. Citations were issued for ordinance violations and a five dollar penalty was imposed after three violations; a water meter was installed after the fourth violation, with all installation costs being charged to the customer. In 1986 the Water Waste Ordinance was revised, increasing the penalty for the first violation to 15 dollars and every subsequent penalty to ten dollars. A flow restrictor is installed if the violations continue. In 2015, the Water Waste Ordinance was revised, increasing the penalty for the second violation to 50 dollars and the fourth violation to 200 dollars.

On August 4, 2014 the City Council adopted updated Water Supply Shortage Regulations and declared a Level 1 Water Supply Shortage, with the intent of reducing water use by 20% as compared to the previous year. Over the following 8-months, the City's customers achieved a 13.6% water use reduction compared to the same time period in the previous year, which was short of the 20% reduction goal. In May 2015, City staff recommended the implementation of additional water use reduction methods and the declaration of a Level 2 Water Supply Shortage,

which was adopted by the City Council. As part of this declaration, additional water reduction methods have been put in place, including but not limited to the prohibition of irrigating public medians with potable water, washing down sidewalks and driveways, and operating a decorative water feature without a recirculation system. The full summary of water use prohibitions and consumption reduction methods for each water supply shortage level is discussed in Chapter 8, as part of the City's Water Shortage Contingency Plan.

9.1.2 Metering

Law

> *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.*
> *527*
> *(a) An urban water supplier that is not subject to Section 526 shall do both of the following:*
> *(1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2015.*

Since the 1976 adoption of a Water Waste Ordinance, all new connections to the water system have been required to have meters. The City requires the installation of a water meter for any unmetered customer that installs a swimming pool or constructs an addition to an existing home valued in excess of 5,000 dollars. The City has also worked to convert previous unmetered and flat rate accounts to the new AMR metering system currently in use throughout the City.

9.1.3 Conservation Pricing

Currently, the City bills customers at a monthly rate per 100 cubic feet. In December 2015, the City adopted a resolution (**Appendix E**) to increase the monthly water rate in order to provide sufficient funds to operate, maintain, and improve the water system and to pay debt service for bonds, maintain system facilities, and provide water quality compliance. The City currently does not utilize seasonal rates and has no declining rate structure.

9.1.4 Public Outreach

The City has undertaken multiple public information programs to help reduce water consumption and raise public awareness of methods of water conservation.

9.1.4.1 Public Information Programs

In order to raise awareness of water conservation, the City implements programs for the purpose of distributing water use information to the public through varying methods, which can include

brochures, radio or television broadcasts, or through school programs and videos. Additionally, information on water use conservation can be found on the City website.

The City currently distributes information about water-saving tips, outdoor water use restriction reminders, and water saving information in the local paper, in the monthly bill stuffers, at the City's seasonal farmers market, and at the Hanford Mall.

9.1.4.2 School Education Program

As a member of the Kings County Water Education Committee (KCWEC), the City sends representatives to public schools throughout the county to give presentations on water safety and water conservation. KCWEC also provides book covers to schools detailing water conservation and water safety information.

9.1.4.3 Residential Water Audits

In 2014, the City started providing residential water audits for members of the community who wished to have their system evaluated. In 2015, the City began auditing Commercial, Institutional, and Industrial users as part of a State Conservation Order.

9.1.5 Programs to Assess and Manage Distribution System Real Loss

When water enters the transmission and distribution system, it is difficult to account for the end result of the water. As a means to better account for water use in the system, a water supplier may use a water audit. Unaccounted for water is the difference between the water supplied to the system and the cumulative total of metered water use. The City's ability to accurately determine the amount of unaccounted for water is complicated by the number of unmetered service connections, and the City has not conducted a formal water auditing and leak detection program at this time. However, the City has been implementing an automated meter reading (AMR) retrofit for its existing connections, allowing City staff to identify users with high consumption rates. Additionally, the new meters allow the City to identify connections with relatively constant consumption rates throughout both day and night, indicating the customer may have a leak. The City identifies these potential leak locations and advises potentially affected customers.

Currently, the City does not meter sewer and hydrant flushing, as well as street sweeping, and the City compares well production with water usage to determine these uses. Additionally, unaccounted for water can be an indicator of leaks, meter errors, water system repair or maintenance, or illegal connections.

The City's annual capital improvement budget currently allocates funds for system repairs, including transmission and distribution mains, as well as pump stations and storage tanks. Leaks within the system are immediately fixed upon detection. The City keeps a record of all repaired leaks in the Public Works Department.

9.1.6 Water Conservation Program Coordination and Staffing Support

The Utilities Superintendent is responsible for coordinating and expanding the City's water conservation program as well as providing useful water conservation information to residents through the various public outreach programs. The City employs part-time staff to enforce water use prohibitions and write violations; the City recently hired a full-time water conservation technician to assist with the enforcement of the water conservation program.

9.1.7 Other Demand Management Measures - Large Landscape Conservation Program

In accordance with Assembly Bill 325, the Water Conservation Landscaping Act, the City has adopted a Water Efficient Landscape Ordinance, which limits the amount of turf in landscaping, requires plant groupings according to water needs, and provides some flexibility to the landscape designer while promoting landscape water efficiency. The Parks Superintendent is responsible for reviewing all commercial landscaping plans for compliance before permits are issued.

To ensure that commercial landscape water use does not exceed allowable levels, the Water Efficient Landscape Ordinance establishes a method of breaking up landscaped areas into zones that have similar water use requirements, either none, low, medium, or high. Based on the water use requirements of each zone, a multiplier is applied to the square footage of the zone and the sum of these zone calculations must not exceed the project's total landscaped area

CHAPTER 10 – PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

This section includes the process undertaken for adoption and submittal of the UWMP as well as the plan required to implement the UWMP. Ways in which the public can access the UWMP is also described in this section.

10.1 INCLUSION OF 2015 DATA

The City is preparing the 2020 UWMP on the basis of a calendar year, and preparation of the plan was completed following the end of the calendar year 2020. Relevant data has been updated through December of 2020.

10.2 NOTICE OF PUBLIC HEARING

This section documents the public notification process and when a notice was given.

10.2.1 Notice to Cities and Counties

Law

> *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 water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.*
>
> *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 provided notice to relevant stakeholders, summarized in Table 10-1, on April 27th, 2021; this notification date was more than the required 60 days prior to the public hearing on the 2020 UWMP.

Table 10-1 Notification to Cities and Counties

City or County Name	60 Day Notice	Notice of Public Hearing
Kings County	☑	☑
KCWD	☑	☑

10.2.2 Notice to the Public

Law

> *10642 …Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection…Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code…*
>
> *Government Code 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.*

A notice of the public hearing was published in the local newspaper in a manner pursuant to the stated Government Code 6066. Documentation of the notice provided to the public is included in **Appendix E,** and the draft 2020 UWMP and WSCP were available for review at various City facilities and on the City's web page.

10.3 PUBLIC HEARING AND ADOPTION

Following the notification of relevant stakeholders, the City held a City Council meeting on October 5th, 2021, to address and review comments received from both stakeholders and members of the community. These comments were reviewed and addressed, and the final 2020 UWMP was adopted by City Council on October 19th, 2021; **Appendix F** includes a copy of the adopting resolution.

10.4 PLAN SUBMITTAL

The UWMPA requires water agencies to submit a copy of the adopted 2020 UWMP to the DWR within 30 days of adoption and before July 1st, 2021. Additionally, water agencies are required to submit a copy of the adopted 2020 UWMP to all relevant stakeholders within 30 days of adoption. The adopted 2020 UWMP was submitted to the DWR on October 26th, 2021. The adopted 2020 UWMP was submitted to relevant stakeholders and the California State Library within 30 days of adoption.

10.5 PUBLIC AVAILABILITY

Consistent with the UWMPA requirements, a copy of the 2020 UWMP was made available to the public in the office of the City Clerk at City Hall, located at 319 Douty St, and the Public Works Department, located at 900 S 10th Ave, within 30 days of adoption.

10.6 AMENDING AND ADOPTED UWMP

Any amendments to the adopted 2020 UWMP will be adopted and filed in a manner consistent with the UWMPA requirements. Additionally, all adopted amendments will be submitted to DWR and any relevant stakeholders within 30 days of adoption.

CHAPTER 11 – DWR CHECKLIST

This report is organized in accordance with the outline suggested by DWR for the 2020 Urban Water Management Plans. This additional chapter is included to guide the reviewers to the chapters or sections in this report that address the items listed in the DWR Checklist, as published in the Final Guidebook (March 2021)

Table 11-1 DWR Checklist

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
1	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	10615	Chapter 4, 6
2	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	10630.5	Chapter 1-10
3	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	10620(b)	-
4	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	10620(d)(2)	Section 10.2

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
5	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	10642	Section 10.2
6	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	10631(h)	Section 4.2.2, Section 6.1
7	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	10631(h)	-
8	Describe the water supplier service area.	System Description	10631(a)	Section 3.1,
9	Describe the climate of the service area of the supplier.	System Description	10631(a)	Section 3.2
10	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	10631(a)	Section 3.3
11	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	10631(a)	Section 3.1.4 Section 3.3
12	Indicate the current population of the service area.	System Description and Baselines and Targets	10631(a)	Sections 3.3
13	Describe the land uses within the service area.	System Description	10631(a)	Section 3.1.3

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
14	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	10631(d)(1)	Section 4.2
15	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	10631(d)(3)(C)	Section 4.3
16	In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.	System Water Use	10631(d)(4)(A)	Section 4.4
17	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	10631(d)(4)(B)	-
18	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	10631(d)(3)(A)	Section 4.3
19	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	10631.1(a)	Section 4.5
20	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	10635(b)	Section 7.5
21	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	10608.20(e)	Chapter 5
22	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	10608.24(a)	Chapter 5
23	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	10608.36	-

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
24	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	10608.24(d)(2)	-
25	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5-year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	10608.22	Section 5.6
26	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	10608.4	Section 5.8
27	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	10631(b)(1)	Sections 7.2
28	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, including changes in supply due to climate change.	System Supplies	10631(b)(1)	Sections 7.2
29	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	10631(b)(2)	Section 6.2
30	Describe measures taken to acquire and develop planned sources of water.	System Supplies	10631(b)(3)	Section 6.1
31	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	10631(b)	Section 6.9

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
32	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	10631(b)	Section 6.2
33	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	10631(b)(4)(A)	Section 6.2.2
34	Describe the groundwater basin.	System Supplies	10631(b)(4)(B)	Section 6.2.1
35	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	10631(b)(4)(B)	Section 6.2
36	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	10631(b)(4)(B)	Section 6.2
37	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years.	System Supplies	10631(b)(4)(C)	Section 6.2.4
38	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	10631(b)(4)(D)	Section 6.9
39	Describe the opportunities for exchanges or transfers of water on a short-term or long- term basis.	System Supplies	10631(c)	Section 6.7

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
40	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	10633(b)	Section 6.5
41	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	10633(c)	Section 6.5.2
42	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	10633(d)	Section 6.5.4
43	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	10633(e)	Section 6.5.4
44	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	10633(f)	Section 6.5.4
45	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	10633(g)	Section 6.5.4
46	Describe desalinated water project opportunities for long-term supply.	System Supplies	10631(g)	Section 6.6
47	Describe the wastewater collection and treatment systems in the supplier’s service area with quantified amount of collection and treatment and the disposal methods.	System Supplies	10633(a)	Section 6.5.2

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
48	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	10631(f)	Section 6.9
49	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	10631.2(a)	Section 6.11
50	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	10634	Section 7.1
51	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	10620(f)	Section 6.2.2 Section 7.5.1
52	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	10635(a)	Section 7.3
53	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	10635(b)	Section 7.5
54	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	10635(b)(1)	Section 7.5
55	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	10635(b)(2)	Section 7.3

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
56	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	10635(b)(3)	Section 7.3 Section 7.5
57	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	10635(b)(4)	Section 7.3 Section 7.5
58	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	10632(a)	Chapter 8, Appendix D
59	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	10632(a)(1)	Chapter 8, Appendix D
60	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	10632(a)(10)	Chapter 8, Appendix D
61	Provide the written decision- making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	10632(a)(2)(A)	Chapter 8, Appendix D
62	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	10632(a)(2)(B)	Chapter 8, Appendix D

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
63	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	10632(a)(3)(A)	Chapter 8, Appendix D
64	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	10632(a)(3)(B)	Chapter 8, Appendix D
65	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	10632(a)(4)(A)	Chapter 8, Appendix D
66	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	10632(a)(4)(B)	Chapter 8, Appendix D
67	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	10632(a)(4)(C)	Chapter 8, Appendix D
68	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	10632(a)(4)(D)	Chapter 8, Appendix D
69	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	10632(a)(4)(E)	Chapter 8, Appendix D
70	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	10632.5	Chapter 8, Appendix D

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
71	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	10632(a)(5)(A)	Chapter 8, Appendix D
72	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	10632(a)(5)(B)10632(a)(5)(C)	Chapter 8, Appendix D
73	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	10632(a)(6)	Chapter 8, Appendix D
74	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	10632(a)(7)(A)	Chapter 8, Appendix D
75	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	10632(a)(7)(B)	Chapter 8, Appendix D
76	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	10632(a)(7)(C)	Chapter 8, Appendix D
77	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	10632(a)(8)(A)	Chapter 8, Appendix D
78	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	10632(a)(8)(B)	Chapter 8, Appendix D
79	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought	Water Shortage Contingency Planning	10632(a)(8)(C)	Chapter 8, Appendix D

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
80	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	10632(a)(9)	Chapter 8, Appendix D
81	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water Shortage Contingency Planning	10632(b)	Chapter 8, Appendix D
82	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	10635(c)	Sections 8.12 and 10.4
83	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 days after adopted the plan.	Water Shortage Contingency Planning	10632(c)	Section 8.14
84	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	10631(e)(2)	Sections 9.1 and 9.3
85	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	10631(e)(1)	Sections 9.2 and 9.3
86	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	10608.26(a)	Chapter 10.3

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
87	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	10621(b)	Section 10.2.1
88	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	10621(f)	Section 10.4
89	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	10642	Sections 10.2
90	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	10642	Section 10.2
91	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	10642	Section 10.4
92	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	10644(a)	Section 10.4
93	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	10644(a)(1)	Section 10.4
94	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	10644(a)(2)	Sections 10.4

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
95	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	10645(a)	Section 10.5
96	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	10645(b)	Section 10.5
97	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	10621(c)	-
98	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	10644(b)	-

APPENDICES

APPENDIX A

DWR Recommended Tables

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 *
Add additional rows as needed			
1610003	City of Hanford	17,965	11,714
	TOTAL	17,965	11,714
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES:			

Submittal Table 2-2: Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance** *if applicable* (select from drop down list)
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		
NOTES:			

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
☐	Supplier is a wholesaler
☑	Supplier is a retailer
Fiscal or Calendar Year (select one)	
☑	UWMP Tables are in calendar years
☐	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	AF
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*	
NOTES:	

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

Submittal Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	61,326	64,227	67,264	70,444	73,776	77,265

NOTES:
1.Projected population assumes historical average annual growth of 0.9%.
2.Based on Department of Finance E-5 Table, City of Hanford's 2020 population was 59,178.
3.City of Hanford also supplied 651 accounts outside of the city limit, which included 2,148

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable [1] Water - Actual			
Use Type	2020 Actual		
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume[2]
Add additional rows as needed			
Single Family		Drinking Water	6,903
Multi-Family		Drinking Water	1,002
Commercial	Commercial and Institutional	Drinking Water	1,005
Industrial		Drinking Water	334
Landscape		Drinking Water	750
Other		Drinking Water	854
Other	Construction Billing	Drinking Water	62
Losses			803
		TOTAL	11,714

[1] *Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.*
Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. [2]

NOTES:

Submittal Table 4-2 Retail: Use for Potable and Non-Potable[1] Water - Projected						
Use Type	Additional Description (as needed)	Projected Water Use[2] *Report To the Extent that Records are Available*				
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		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Single Family		6,849	7,173	7,512	7,868	8,240
Multi-Family		994	1,041	1,090	1,142	1,196
Commercial	Commercial and Institutional	997	1,044	1,093	1,145	1,199
Industrial		332	347	364	381	399
Landscape		744	780	817	855	896
Other		848	888	930	974	1,020
Other	Construction Billing	62	65	68	71	74
Losses		797	834	874	915	959
TOTAL		11,623	12,172	12,748	13,351	13,982

[1] *Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.* [2] *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

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 *From Tables 4-1R and 4-2 R*	11,714	11,623	12,172	12,748	13,351	13,982
Recycled Water Demand[1] *From Table 6-4*	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage[2]						
TOTAL WATER USE	11,714	11,623	12,172	12,748	13,351	13,982

[1] Recycled water demand fields will be blank until Table 6-4 is complete

*[2] Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier **may** deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.*

NOTES:

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss [1,2]
01/2016	1144
01/2017	1528
01/2018	1742
01/2019	732
01/2020	803
[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:	

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) *Drop down list (y/n)*	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.	4.3
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes
NOTES:	

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

Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	*1995*	*2004*	*215*	*179*
5 Year	*2006*	*2010*	*215*	

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

NOTES:

Submittal Table 5-2: 2020 Compliance **SB X7-7 2020 Compliance Form** *Retail Supplier or Regional Alliance Only*				**From**
2020 GPCD				
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* *(Adjusted if applicable)*	2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
171	*-*	*171*	*179*	*YES*
**All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)*				
NOTES:				

Submittal Table 6-1 Retail: Groundwater Volume Pumped						
☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
☐	All or part of the groundwater described below is desalinated.					
Groundwater Type ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	San Joaquin Valley Groundwater Basin, Tulare Lake Subbasin	10910	11073	11557	10927	11714
	TOTAL	10,910	11,073	11,557	10,927	11,714
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020						
☐	There is no wastewater collection system. The supplier will not complete the table below.					
	Percentage of 2020 service area covered by wastewater collection system *(optional)*					
	Percentage of 2020 service area population covered by wastewater collection system *(optional)*					
Wastewater Collection			**Recipient of Collected Wastewater**			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? *Drop Down List*	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? *Drop Down List*	Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List*
City of Hanford	Metered	4,944	City of Hanford	City of Hanford WWTF	Yes	No
Total Wastewater Collected from Service Area in 2020:		4,944				
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3* **.**						
NOTES:						

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

☐ **No wastewater is treated or disposed of within the UWMP service area.** The supplier will not complete the table below.

Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)* [2]	Method of Disposal ***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	Recycled Outside of Service Area	Instream Flow Permit Requirement
City of Hanford		Equalization		Land disposal	No	Secondary,	4,944			4,944	
						Total	4,944	0	0	4,944	0

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

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

NOTES:

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area

☑ 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) *Include units*	
Source of 2020 Supplemental Water	

Beneficial Use Type *Insert additional rows if needed.*	**Potential** Beneficial Uses of Recycled Water (Describe)	Amount of **Potential** Uses of Recycled Water (Quantity) *Include volume units* [1]	General Description of 2020 Uses	Level of Treatment *Drop down list*	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:

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual		
☐	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.	
Beneficial Use Type	**2015 Projection for 2020 [1]**	**2020 Actual Use[1]**
Insert additional rows as needed.		
Agricultural irrigation	5,606	0
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	5,606	0

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

NOTE: Agricultural irrigation volumes were documented in the 2015 UWMP for the informational purposes only and reflected the recycled water demands for Lakeside Irrigation Water District, but not the City. This agricultural irrigation use is not documented as part of the 2020 UWMP.

Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
☑	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 *
Add additional rows as needed			
TBD	The City currently does not have a plan to expand recycled water use.		
		Total	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES:			

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
☐	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
☐	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 *Drop Down List*	Expected Increase in Water Supply to Supplier* *This may be a range*
	Drop Down List (y/n)	*If Yes, Supplier Name*				
Add additional rows as needed						
Additional Wells	No		Two new wells planned for next 5 years as part of city's Capital Improvement Program	2020-2025	All Year Types	5,400
Industrial Park Tank	No		New tank to serve south Industrial Park	2020-2025	Average Year	
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: For planning purposes, the expected increase to the City's water supply for future wells with a capacity that is to be determined is equal to the average supply capacity of the City's existing wells. This average supply capacity is approximately equal to 2,700 afy per well site.						

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)		11,714	Drinking Water	
Recycled Water		4,944	Recycled Water	
	Total	16,658		0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES:				

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 WUEdata 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)		10,033		10,033		10,033		10,033		10,033	
Recycled Water		5,077		5,318		5,569		5,833		6,109	
Total		15,110	0	15,351	0	15,602	0	15,866	0	16,142	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*											
NOTES											

Urban Water Supplier: *City of Hanford*

Water Delivery Product (If delivering more than one type of product use Table O-1C)

Retail Potable Deliveries

Table O-1B: Recommended Energy Reporting - Total Utility Approach

Enter Start Date for Reporting Period	1/1/2020	**Urban Water Supplier Operational Control**		
End Date	12/31/2020			
☐ Is upstream embedded in the values reported?		**Sum of All Water Management Processes**	**Non-Consequential Hydropower**	
Water Volume Units Used	*AF*	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (volume unit)		*11714*		*11714*
Energy Consumed (kWh)		*9259222*		*9259222*
Energy Intensity (kWh/vol. converted to MG)		*2425.8*	*#DIV/0!*	*2425.8*

Quantity of Self-Generated Renewable Energy

kWh

Data Quality *(Estimate, Metered Data, Combination of Estimates and Metered Data)*

Metered Data

Data Quality Narrative:

Narrative:

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**	
		☐	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		☑	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	**% of Average Supply**
Average Year	2000		100%
Single-Dry Year	1984		84%
Consecutive Dry Years 1st Year	1987		93%
Consecutive Dry Years 2nd Year	1988		90%
Consecutive Dry Years 3rd Year	1989		88%
Consecutive Dry Years 4th Year	1990		86%
Consecutive Dry Years 5th Year	1991		87%

Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.

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

NOTES:

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 *(Opt)*
Supply totals (*autofill from Table 6-9)*	15,110	15,351	15,602	15,866	16,142
Demand totals *(autofill from Table 4-3)*	11,623	12,172	12,748	13,351	13,982
Difference	3,488	3,179	2,855	2,515	2,160
NOTES:					

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	15,110	15,351	15,602	15,866	16,142
Demand totals*	12,971	13,584	14,227	14,899	15,604
Difference	2,140	1,767	1,376	967	538
Units of measure (AF, CCF, MG) *must remain consistent throughout the UWMP as reported in Table 2-3.*					
NOTES:					

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	15,110	15,351	15,602	15,866	16,142
	Demand totals	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Second year	Supply totals	15,110	15,351	15,602	15,866	16,142
	Demand totals	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Third year	Supply totals	15,110	15,351	15,602	15,866	16,142
	Demand totals	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Fourth year	Supply totals	15,110	15,351	15,602	15,866	16,142
	Demand totals	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Fifth year	Supply totals	15,110	15,351	15,602	15,866	16,142
	Demand totals	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
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:						

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

2021	Total
Total Water Use	12,502
Total Supplies	15,004
Surplus/Shortfall w/o WSCP Action	2,502
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	2,502
Resulting % Use Reduction from WSCP action	0%

2022	Total
Total Water Use	12,619
Total Supplies	15,031
Surplus/Shortfall w/o WSCP Action	2,411
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	2,411
Resulting % Use Reduction from WSCP action	0%

2023	Total
Total Water Use	12,737
Total Supplies	15,057
Surplus/Shortfall w/o WSCP Action	2,321
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	2,321
Resulting % Use Reduction from WSCP action	0%

2024	Total
Total Water Use	12,854
Total Supplies	15,084
Surplus/Shortfall w/o WSCP Action	2,230
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	2,230
Resulting % Use Reduction from WSCP action	0%

2025	Total
Total Water Use	12,971
Total Supplies	15,110
Surplus/Shortfall w/o WSCP Action	2,140
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	2,140
Resulting % Use Reduction from WSCP action	0%

Submittal Table 8-1
Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions (*Narrative description*)
1	Up to 10%	A Level 1 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are up to 10%.
2	Up to 20%	A Level 1 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are 11 to 20%.
3	Up to 30%	A Level 2 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are 21 to 30%.
4	Up to 40%	A Level 2 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are 31 to 35%. A Level 3 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are 36 to 40%.
5	Up to 50%	A Level 3 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are 41 to 50%.
6	>50%	A Level 3 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are greater than 50%

NOTES:

Submittal Table 8-1 Water Shortage Contingency Plan Levels		
Stage	Percent Supply Reduction	Water Supply Condition
1	10%-20%	Minor Shortage Potential - Below average rainfall in the previous 12-24 months - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months
2	20%-35%	Moderate Shortage Potential - Below average rainfall in the previous 24-36 months - Prolonged periods of low water pressure - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months
3	35%-50%	Critical Shortage Potential - Below average rainfall in the previous 36 months - Prolonged periods of low water pressure - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months

2020 Hanford WSCP			Corresponding Relationship ("crosswalk")	DWR 6 Standard Water Shortage Levels	
Stage	Precent Supply Reduction	Water Supply		Stage	
1	0-20%	Minor Shortage Potential - Below average rainfall in the previous 12-24 months - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months		1	Up to 10%
				2	10 to 20%
2	20%-35%	Moderate Shortage Potential - Below average rainfall in the previous 24-36 months - Prolonged periods of low water pressure - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months		3	20 to 30%
				4	30 to 40%
3	35%+	Critical Shortage Potential - Below average rainfall in the previous 36 months - Prolonged periods of low water pressure - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months		5	40 to 50%
				6	Greater than 50%

Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
Add additional rows as needed				
1	Landscape - Limit landscape irrigation to specific days	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, premises or vegetation except on the following designated days: - Properties ending with even-numbered addresses: Tuesday and Saturday - Properties ending with odd-numbered addresses: Wednesday and Sunday.		Yes
1	Landscape - Limit landscape irrigation to specific days	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, premises or vegetation on any day of the week between the hoursof 10 a.m. and 6 p.m. during periods designated as "daylight savings time" (generally occurring between March and November).		Yes
1	Landscape - Other landscape restriction or prohibition	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, premises, or vegetation except by the use of a hand-held hose, a sprinkling device or an approved sprinkler system controlled by an automatic shut-off device or a person who is in immediate attendance of the sprinkling device or system.		Yes
1	Landscape - Other landscape restriction or prohibition	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, landscaping or vegetation during and up to 48 hours after measurable rainfall.		Yes
1	Landscape - Prohibit certain types of landscape irrigation	Prohibit sprinkling, irrigating, or otherwise applying water to any ornamental turf or public street medians.		Yes

1	Landscape - Other landscape restriction or prohibition	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, landscaping or vegetation outside of a newly constructed home or a building in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the California Department of Housing and Community Development.		Yes
1	Landscape - Restrict or prohibit runoff from landscape irrigation	Prohibit water used to irrigate any yard, ground, landscaping or vegetation to run or waste onto non-irrigated areas, private or public walkways, sidewalks, driveways, streets or adjoining or adjacent property.		Yes
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Prohibit keeping, maintaining, operating, or using any water connection, hose, faucet, hydrant, pipe, outlet, or plumbing fixture which is not tight and free from leakage and dripping.		Yes
1	Other	Prohibit washing any type of vehicle, boat or trailer with water supplied by a hose unless the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use.		Yes
1	Other - Prohibit use of potable water for washing hard surfaces	Prohibit use of water for sidewalk, driveway, or walkway washing cleaning, except as required to address an immediate public health or safety need.		Yes
1	Water Features - Restrict water use for decorative water features, such as fountains	Prohibit operation of water fountains or other decorative water fixtures without recirculation pumps.		Yes
1	Other water feature or swimming pool restriction	Prohibit draining and filling of a swimming pool or similar water feature more than once during a one year period (all pool drainage must occur pursuant to a permit issued by the City's public works department.		Yes
1	Other	Prohibit willful of negligent waste of water in any manner.		Yes

1	CII - Lodging establishment must offer opt out of linen service	Require operators of hotels and motels to provide guests with the option of choosing not to have towels and linens laundered daily. Each hotel and motel shall prominently display notice of this option in each bathroom using clear and easily understood language.		Yes
1	Landscape - Prohibit certain types of landscape irrigation	Prohibit the planting of rye grass on any property that is serviced by the city's water system.		Yes
1	Other	The city may issue Conditional Water Permits that allow the watering of new landscaping planted outside of newly-constructed buildings on days and/or times other than those consistent with the current use restrictions.		Yes
1	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Prohibit charity and community vehicle wash events, including any event at which an individual or a group, which is not a commercial washing business operating legally in the city, offers to the general public or portion thereof the service of washing, with water, any type of vehicle, boat, or trailer in exchange for a fee, donation, other form of compensation, or for no compensation.		Yes
1	Landscape - Prohibit certain types of landscape irrigation	Eliminate watering of ornamental turf areas. Water only actively used turf areas no more than twice per week. Trees and shrubs may be water only twice per week using a handheld hose with a positive shutoff nozzle or drip irrigation. Use of reclaimed water (if available), is exempt.		Yes
1	Landscape - Limit landscape irrigation to specific days	Water no more than twice per week using only hand-held hoses with positive shutoff nozzle or drip irrigation systems. Eliminate sprinkler use.		Yes
1	CII - Restaurants may only serve water upon request	Prohibit the serving of drinking water, other than upon request, in eating or drinking establishments.		Yes

1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	When a leak is discovered by a customer in a customer's water system and a customer is charged for water that it has not used, as a result of the leakage, it shall be policy of the city to aid the customer in locating the leak. If the leak is repaired by the customer within a period of ten days of the date the leak was discovered and the customer can establish that a portion of the charges identified in its water bill are in excess of the amount normally charged to the customer, that excess amount of water use caused by the leakage shall be charged to the customer at the standard water rate. If the leak is not repaired by the customer within the 10 day period, the portion of the excess water usage which results from the leakage will be billed at two times the standard water rate until the leak is repaired by the customer. The city shall give prompt notice to a customer if the city obtains information indicating that a leak may exist in the customer's exclusive control.		Yes
1	Other - Prohibit use of potable water for construction and dust control	All construction water must be reclaimed or non-potable. Issuance of construction meters will be only for testing and disinfection of potable water lines.		Yes
NOTES:				

Submittal Table 8-3: Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*
Add additional rows as needed			
NOTES:			

Submittal Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Kings County	Yes	Yes
NOTES:		

SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent with Submittal Table 2-3*
NOTES:

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	**Parameter**	**Value**	**Units**
10- to 15-year baseline period	2008 total water deliveries	12,741	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0%	**See Note 1**
	Number of years in baseline period[1, 2]	10	Years
	Year beginning baseline period range	1995	
	Year ending baseline period range[3]	2004	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2006	
	Year ending baseline period range[4]	2010	

[1] If the 2008 recycled water delivery is less than 10 percent of total water deliveries, then the 10-15year baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater of total deliveries, the 10-15 year baseline period is a continuous 10- to 15-year period.

[2] The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.

[3] The ending year for the 10-15 year baseline period must be between December 31, 2004 and December 31, 2010.

[4] The ending year for the 5 year baseline period must be between December 31, 2007 and December 31, 2010.

NOTES:

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population (may check more than one)	
☑	**1. Department of Finance** (DOF) or **American Community Survey** (ACS)
☐	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: Service Area Population		
Year		Population
10 to 15 Year Baseline Population		
Year 1	1995	37,400
Year 2	1996	38,150
Year 3	1997	39,300
Year 4	1998	39,900
Year 5	1999	40,350
Year 6	2000	41,450
Year 7	2001	42,462
Year 8	2002	43,869
Year 9	2003	44,466
Year 10	2004	46,096
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2006	48,920
Year 2	2007	50,534
Year 3	2008	51,922
Year 4	2009	52,970
Year 5	2010	53,967
NOTES:		

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

Baseline Year *Fm SB X7-7 Table 3*		Volume Into Distribution System *This column will remain blank until SB X7-7 Table 4-A is completed.*	Deductions					Acre Feet
			Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water *This column will remain blank until SB X7-7 Table 4-B is completed.*	Water Delivered for Agricultural Use	Process Water *This column will remain blank until SB X7-7 Table 4-D is completed.*	Annual Gross Water Use
10 to 15 Year Baseline - Gross Water Use								
Year 1	1995	9,198			-		-	9,198
Year 2	1996	9,348			-		-	9,348
Year 3	1997	10,379			-		-	10,379
Year 4	1998	8,704			-		-	8,704
Year 5	1999	9,855			-		-	9,855
Year 6	2000	9,649			-		-	9,649
Year 7	2001	9,673			-		-	9,673
Year 8	2002	10,502			-		-	10,502
Year 9	2003	10,784			-		-	10,784
Year 10	2004	11,260			-		-	11,260
Year 11	0	-			-		-	-
Year 12	0	-			-		-	-
Year 13	0	-			-		-	-
Year 14	0	-			-		-	-
Year 15	0	-			-		-	-
10 - 15 year baseline average gross water use								**9,935**
5 Year Baseline - Gross Water Use								
Year 1	2006	11,613			-		-	11,613
Year 2	2007	12,930			-		-	12,930
Year 3	2008	12,742			-		-	12,742
Year 4	2009	12,792			-		-	12,792
Year 5	2010	12,172			-		-	12,172
5 year baseline average gross water use								**12,450**

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

NOTES:

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

Complete one table for each source.

Name of Source	Tulare Lake Groundwater Subbasin
This water source is:	
☑	The supplier's own water source
☐	A purchased or imported source

Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System[1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1995	9,198		9,198
Year 2	1996	9,348		9,348
Year 3	1997	10,379		10,379
Year 4	1998	8,704		8,704
Year 5	1999	9,855		9,855
Year 6	2000	9,649		9,649
Year 7	2001	9,673		9,673
Year 8	2002	10,502		10,502
Year 9	2003	10,784		10,784
Year 10	2004	11,260		11,260
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2006	11,613		11,613
Year 2	2007	12,930		12,930
Year 3	2008	12,742		12,742
Year 4	2009	12,792		12,792
Year 5	2010	12,172		12,172

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

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

NOTES:

SB X7-7 Table 5: Baseline Gallons Per Capita Per Day (GPCD)				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Annual Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1995	37,400	9,198	220
Year 2	1996	38,150	9,348	219
Year 3	1997	39,300	10,379	236
Year 4	1998	39,900	8,704	195
Year 5	1999	40,350	9,855	218
Year 6	2000	41,450	9,649	208
Year 7	2001	42,462	9,673	203
Year 8	2002	43,869	10,502	214
Year 9	2003	44,466	10,784	217
Year 10	2004	46,096	11,260	218
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	
10-15 Year Average Baseline GPCD				**215**
5 Year Baseline GPCD				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use
Year 1	2006	48,920	11,613	212
Year 2	2007	50,534	12,930	228
Year 3	2008	51,922	12,742	219
Year 4	2009	52,970	12,792	216
Year 5	2010	53,967	12,172	201
5 Year Average Baseline GPCD				**215**
NOTES:				

SB X7-7 Table 6: Baseline GPCD *From Table SB X7-7 Table 5*	*Summary*
10-15 Year Baseline GPCD	215
5 Year Baseline GPCD	215
NOTES:	

SB X7-7 Table 7: 2020 Target Method *Select Only One*		
Target Method		**Supporting Tables**
☐	Method 1	SB X7-7 Table 7A
☐	Method 2	SB X7-7 Tables 7B, 7C, and 7D
☑	Method 3	SB X7-7 Table 7-E
☐	Method 4	Method 4 Calculator *Located in the WUE Data Portal at wuedata.water.ca.gov* Resources *button*
NOTES:		

SB X7-7 Table 7-E: Target Method 3				
Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets	Method 3 Regional Targets (95%)
☐		North Coast	137	130
☐		North Lahontan	173	164
☐		Sacramento River	176	167
☐		San Francisco Bay	131	124
☐		San Joaquin River	174	165
☐		Central Coast	123	117
☑	100%	Tulare Lake	188	179
☐		South Lahontan	170	162
☐		South Coast	149	142
☐		Colorado River	211	200
			2020 Target *(If more than one region is selected, this value is calculated.)*	**179**
NOTES:				

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target					
5 Year Baseline GPCD *From SB X7-7 Table 5*	Maximum 2020 Target[1]	**Calculated 2020 Target [2]**			**Confirmed 2020 Target[4]**
		As calculated by supplier in this SB X7-7 Verification Form	**Special Situations[3]**		
			Prorated 2020 Target	Population Weighted Average 2020 Target	
215	205	179			**179**

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

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

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

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

NOTES:

SB X7-7 Table 0: Units of Measure Used in 2020 UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*
NOTES:

SB X7-7 Table 2: Method for 2020 Population Estimate	
Method Used to Determine 2020 Population (may check more than one)	
☑	**1. Department of Finance** (DOF) or **American Community Survey** (ACS)
☐	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES: City of Hanford also supplied water to 651 accounts outside of the City Limit, which included 2,148 population.	

SB X7-7 Table 3: 2020 Service Area Population	
2020 Compliance Year Population	
2020	61,326
NOTES: City of Hanford also supplied water to 651 accounts outside of the City Limit, which included 2,148 population.	

SB X7-7 Table 4: 2020 Gross Water Use							
Compliance Year 2020	**2020 Volume Into Distribution System** *This column will remain blank until SB X7-7 Table 4-A is completed.*	**2020 Deductions**					**2020 Gross Water Use**
		Exported Water *	**Change in Dist. System Storage*** (+/-)	**Indirect Recycled Water** *This column will remain blank until SB X7-7 Table 4-B is completed.*	**Water Delivered for Agricultural Use***	**Process Water** *This column will remain blank until SB X7-7 Table 4-D is completed.*	
	11,713			-		-	**11,713**

* **Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES:

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	Tulare Lake Groundwater Subbasin
This water source is *(check one)* **:**	
☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	11,713	-	11,713

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.*

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

NOTES

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)		
2020 Gross Water *Fm SB X7-7 Table 4*	**2020 Population** *Fm SB X7-7 Table 3*	**2020 GPCD**
11,713	61,326	**171**
NOTES:		

SB X7-7 Table 9: 2020 Compliance

Actual 2020 GPCD[1]	Optional Adjustments to 2020 GPCD (Enter "0" if Adjustment Not Used)			TOTAL Adjustments[1]	Adjusted 2020 GPCD [1] *(Adjusted if applicable)*	2020 Confirmed Target GPCD [1, 2]	**Did Supplier Achieve Targeted Reduction for 2020?**
	Extraordinary Events[1]	Weather Normalization[1]	Economic Adjustment[1]				
171	-	-	-	-	171	179	**YES**

[1] *All values are reported in GPCD*

[2] ***2020 Confirmed Target GPCD*** *is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.*

NOTES:

APPENDIX B

Reclamation Project Agreement

RECLAMATION PROJECT AGREEMENT

This Reclamation Project Agreement ("Agreement") is made and entered into the 6th day of August, 2001, by and between the LAKESIDE IRRIGATION WATER DISTRICT, a California Water District ("Lakeside"), and the CITY OF HANFORD, a municipal corporation ("City").

WHEREAS, the City is in need of access to the Lakeside Ditch for the purpose of discharging disinfected secondary treated effluent from the City of Hanford Wastewater Treatment Facility and its holding ponds ("Treated Effluent"), and

WHEREAS, Lakeside owns water conveyance and distribution facilities and utilizes other such facilities owned by the Lakeside Ditch Company pursuant to a master agreement with the Company, and

WHEREAS, Lakeside has demand for additional water for crop irrigation and other beneficial uses throughout its service area, and

WHEREAS, the City and Lakeside jointly and cooperatively prepared and submitted an application for issuance of a Master Reclamation Permit by the California Regional Water Quality Control Board, Central Valley Region ("Regional Board") for the Lakeside and City Reclamation Project, and

WHEREAS, on October 27, 2000, the Regional Board approved and issued Order Number 5-00-222, Waste Discharge Requirements Master Reclamation Permit for Lakeside and City Reclamation Project ("Reclamation Permit") and

WHEREAS, the City and Lakeside wish to enter into this Agreement in order to implement the Lakeside and City Reclamation Project in accordance with the provisions of the Reclamation Permit.

NOW THEREFORE, in consideration of the mutual covenants herein contained and for other good and valuable consideration, the receipt and adequacy of which is hereby acknowledged by the parties hereto, it is agreed as follows:

1. City, as the producer under the Reclamation Permit and Lakeside as the Distributor under the Reclamation Permit each agree to comply with their respective obligations, conditions and requirements identified in the Reclamation Permit. A true and correct copy of the Reclamation Permit is attached to this Agreement as Exhibit "A".

2. Lakeside shall construct, at its sole cost and expense, all the mitigation projects required and approved by the Regional Board as identified in the Reclamation Permit attached to this Agreement as Exhibit "A" (collectively "Mitigation Projects").

3. In consideration of the City's right to discharge Treated Effluent into the Lakeside Ditch in accordance with the provisions of the Reclamation Permit, City shall pay to Lakeside a one-time mitigation fee ("Mitigation Fee"). The Mitigation Fee shall be equal to 50% of the actual costs paid by Lakeside for the construction of the Mitigation Projects. Upon the completion of construction of the Mitigation Projects, Lakeside shall submit certified invoices/contracts identifying all of the actual costs paid by Lakeside for the construction of the Mitigation Projects. The City shall pay the Mitigation Fee to Lakeside within 60 days of receipt and validation of such invoices/contracts by the City.

4. The initial term of this Agreement shall be five (5) years, commencing on the date of this Agreement as set forth above. This Agreement shall automatically renew for successive terms of two (2) years each, unless terminated as provided in Paragraph 5 of this Agreement.

5. This Agreement may not be terminated during the initial five (5) year term. Thereafter, either party may terminate this Agreement by delivering written notice of termination to the other party two (2) years prior to the effective date of the termination.

6. The right of the City to discharge Treated Effluent into the Ditch shall be subject to all of the following conditions:

a. Subject to any legal obligations of the City regarding the delivery, use or storage of the Treated Effluent existing on the effective date of this Agreement, Lakeside shall have the first right to receive any available Treated Effluent.

b. The City shall make no discharge of Treated Effluent into the Ditch, which would violate any term, or condition of Waste Discharge Order No. 91-164 or future orders as may be issued by the Regional Board for operation of the City's Wastewater Treatment Facility or any term or condition contained in the Reclamation Permit which relates to the discharge of the Treated Effluent into the Ditch.

c. The City shall cease all discharges of Treated Effluent into the Ditch at any time there is evidence that such discharge is in violation of the provisions of Paragraph 6.b. of this Agreement, including without limitation, receipt of written notice from the Regional Board of such violation(s). Upon curing any such violation, the City may again commence discharging Treated Effluent into the Ditch.

d. The City shall develop facilities enabling discharge into the Ditch at the maximum capacity of the conveyance pipeline existing on the effective date of this Agreement. Except as provided herein, the rate of discharge into the Ditch shall be determined by Lakeside. Upon at least seventy-two hours notice to Lakeside, the City shall have the right to discharge up to twenty (20) cubic feet per second into the Ditch when the City's Treated Effluent storage basins are at or near capacity.

e. The City shall pay Lakeside a "Discharge Fee" of thirty dollars ($30.00) per acre foot of discharge into the Ditch. .

Payment of the Discharge Fee shall be made to Lakeside on or before the 25th of each month for all Treated Effluent discharged into the Ditch the previous month.

f. The maximum Discharge Fee paid by the City during any one-year period of the initial five-year term of this Agreement shall not exceed $125,000.00. After the expiration of the initial five-year term, the maximum Discharge Fee paid by the City for any one-year period during subsequent two-year renewal periods, shall not exceed $150,000.00 per year. For renewal periods beyond the third two-year renewal period (i.e. six years) the maximum Discharge Fee paid by the City for each year during each successive two-year renewal period shall not exceed an amount mutually agreed to by the Parties.

7. Subject to the rate of discharge limitation contained in 6(d) hereof, City shall have the right to discharge into the Ditch each year during the initial term and any successive term of this Agreement a minimum of 70% of the City's annual production of Treated Effluent. The City's annual production of Treated Effluent is currently estimated to be approximately 5000 acre-feet. Each January the City will provide written notification to Lakeside of the estimated volume of Treated Effluent to be delivered to the Ditch for that year.

8. Lakeside shall take immediate action to correct and/or eliminate any violation of the Reclamation Permit, Waste Discharge Order No. 91-164 or any other permit or order issued by the Regional Board and regarding the Treated Effluent, by Lakeside, its officers, directors, employees, agents, contractors, or landowners within the Lakeside service area. The City shall take immediate action to correct and or eliminate any violation of the Reclamation Permit, Waste Discharge Order No. 91-164 or any other permit or order issued by the Regional Board and regarding the Treated Effluent, by the City, its officers, directors, employees, agents, or contractors.

9. To provide for effective and efficient storage of the increasing production of Treated Effluent by the City and the use thereof for crop irrigation and other beneficial uses by Lakeside and the landowners within the Lakeside Service Area, Lakeside and the City will develop/construct projects to store, transport and distribute such Treated Effluent pursuant to mutually satisfactory agreements.

10. Lakeside and the City shall each designate a person who shall represent that party regarding its responsibilities under this Agreement. The representatives shall meet at least annually to review the user permit, irrigation water use, discharge needs, schedules, and anticipated capital improvements needs. The representatives shall also meet when necessary to address problems or complaints that may arise during the course of the year.

11. The City shall provide Lakeside a copy of all reports required by the monitoring and reporting requirements included in Waste Discharge Order No. 90-164. Notwithstanding the frequency of reporting requirements contained therein, the City shall provide Lakeside a general mineral constituent analysis of Treated Effluent discharged into the Ditch at least monthly. Such analysis shall conform to the constituents and testing methods specified in Exhibit "B".

12. City agrees to defend, indemnify and hold Lakeside, its officers, directors, employees and agents and landowners within the Lakeside water service area completely free and harmless from any and all claims, suits, losses, injuries, damages and costs, including attorney's fees occasioned or arising out of or in any way related to delivery of the Treated Effluent to the Lakeside Ditch System or any violation by the City of the provisions of the Reclamation Permit, Waste Discharge Order 91-164 or any other permit or order issued by the Regional Board and regarding Treated Effluent delivered to the Lakeside Ditch System.

13. Lakeside agrees to defend, indemnify and hold the City, its officials, employees and agents, completely free and harmless from any and all claims, suits, losses, injuries, damages and costs, including attorney's fees, occasioned or arising out of or in any way related to transportation of the Treated Effluent through the Lakeside Ditch System, maintenance of the Lakeside Ditch System and appurtenances thereto, and any violation by Lakeside or landowners within the Lakeside water service area of the provisions of the Reclamation Permit, Waste Discharge Order 91-164 or any other permit or order issued by the Regional Board and regarding Treated Effluent delivered to the Lakeside Ditch System.

14. Prior to instituting any actions to enforce the terms and conditions of this Agreement pursuant to Paragraph 15 hereof, a party shall notify the other party in writing of any alleged breach or default of any obligation arising under this Agreement ("Notice of Default"). The other party shall have 15 days to respond in writing to the Notice of Default ("Default Response") or to cure the alleged breach or default identified in the Notice of Default. If the other party fails to provide a Default Response to the other party within said 15 day period, the alleged breach or default identified in the Notice of Default shall be deemed admitted by the non-responding party. If the Default Response disputes the allegations in the Notice of Default, the parties shall meet and confer in good faith to attempt resolve the dispute. Such meeting shall take place within 15 days of the date of the Default Response. An alleged breach or default of any provision of this Agreement which would support a request for a temporary restraining order and preliminary injunction may be initiated without first complying with the provisions of this paragraph 14.

15. If, after meeting and conferring in good faith pursuant to Paragraph 14 hereof, the parties are unable to resolve the dispute, either party may initiate any action at law or in equity necessary to enforce or interpret the terms of this Agreement. If such action is initiated, the prevailing party shall be entitled to reasonable attorneys' fees, costs and necessary disbursements in addition to any other reasonable relief to which he may be entitled. With respect to any

suit, action or proceeding arising out of or related to this Agreement, or the documentation related hereto, the parties hereby submit to the jurisdiction and venue of the Superior Court, whichever is applicable, in the County of Kings, State of California for any proceeding arising hereunder.

16. This Agreement shall be binding on the successors and assigns of the parties.

17. This Agreement and the Exhibits attached hereto supersedes any and all other agreements, either oral or in writing, between the parties hereto with respect to the matters set forth herein and contains all of the covenants and agreements between the parties regarding said matters. Each party to this Agreement acknowledges that no representations, inducements, promises or agreements, orally or in writing, have been made by any party or anyone acting on behalf of any party which are not embodied in this Agreement and no other agreement, statement or promise shall be valid or binding.

18. Except as otherwise expressly provided herein, any notice, consent, authorization or other communication to be given hereunder shall be in writing and shall be deemed duly given and received when delivered personally, when transmitted by facsimile or e-mail if receipt is acknowledged by the addressee, one business day after being deposited for next-day delivery with a nationally recognized overnight delivery service, or three business days after being mailed by first class mail, charges and postage prepaid, properly addressed to the party to receive such notice at the last address furnished for such purpose by the party to whom notice is directed and addressed as follows:

Lakeside Irrigation Water District
9304 Houston Avenue
Hanford, CA 93230

City of Hanford
Attn: Director of Public Works
900 S. 10th Avenue
Hanford, CA 93230

19. If any provision of this Agreement is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions shall nevertheless continue in full force and effect without being impaired or invalidated in any way.

20. No change, amendment or modification of this Agreement shall be valid unless the same is in writing and signed by the parties hereto.

21. No waiver or any breach of any terms, condition or provision of this Agreement shall constitute a waiver of any other breach of any other term, condition or provision and no consent of one party to any departures by the other shall be effective unless such waiver shall be in writing and shall be signed by the non-waiving party or a duly authorized agent thereof and the same shall be effective only for a period, on the conditions and for the specific instances and purposes specified in such writing. No notice to or demand on the non-waiver party in any case shall entitle the non-waiving party to any other or further notice or demand in similar or other circumstances.

22. This Agreement shall be construed and governed pursuant to the laws of the State of California.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed on the date and year first above written.

CITY OF HANFORD

BY: _____
Jan E. Reynolds, City Manager

LAKESIDE IRRIGATION WATER DISTRICT

BY: _____
Don Mills, President

BY: _____
Ken Cartwright, Secretary

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APPENDIX C

Groundwater Sustainability Analysis

Table 1 Estimated Subbasins Sustainable Yield

Urban Water Manangment Plan

City of Hanford

Estimate of Ststainable Yield		
Tulare Lake Groundwater subbasin[1]		
Basin Area	(acres)	535,869
Average groundwater pumping	(AFY)	348,700
Average net recharge	(AFY)	335,360
Groundwater Overdraft	(AFY)	-13,340
Estimated Sustainable Yield	(AFY)	335,360
Sustainable Yield per Unit Area	(AFY/acre)	0.63
City of Hanford		
Planning Area	(acres)	16,032
Sustainable Yield per Unit Area	(AFY/acre)	0.63
Estimated Sustainable Yield	(AFY)	10,033

AKEL ENGINEERING GROUP, INC.

10/11/2021

Notes:

1. Source: Tulare Lake Subbasin Groundwater Sustainability Plan, January 2020.

APPENDIX D

Water Shortage Contingency Plan

FINAL

City of Hanford

OCTOBER 2021

2020 Water Shortage Contingency Plan

AKEL
ENGINEERING GROUP, INC.

CITY OF HANFORD

2020
WATER SHORTAGE CONTINGENCY PLAN

Final

October 2021

AKEL
ENGINEERING GROUP, INC.

AKEL
ENGINEERING GROUP, INC.

Smart Planning Our Water Resources

November 8th, 2021

City of Hanford
319 Douty Street
Hanford California, 93230

Attention: James Ross, Deputy Public Works Director

Subject: **Water Shortage Contingency Plan**

Dear Jim,

We are pleased to submit the City of Hanford 2020 Water Shortage Contingency Plan (2020 WSCP) which is intended to address the Urban Water Management Planning Act (UWMPA) of 1983 and amendments thereof.

The City's Water Shortage Contingency Plan (WSCP) was originally included in the 2015 UWMP, which received letters of review and completeness from the Department of Water Resources. As part of amendments to the UWMPA the WSCP is now required to be prepared and adopted separately from the UWMP. The 2020 WSCP builds upon previous water shortage contingency planning efforts completed by the City and reflects updates to the City's water shortage levels and water conservation measures for consistency with state-wide requirements provided by the Department of Water Resources.

We extend our thanks to you; John Doyel, Public Works Director; Christine Baca, Regulatory Compliance Analyst; Bob Williams, Utilities Supervisor, and other City staff whose courtesy and cooperation were valuable in reviewing and completing this study.

Sincerely,

AKEL ENGINEERING GROUP, INC.

Tony Akel, P.E.
Principal

Enclosure: 2020 Water Shortage Contingency Plan

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Acknowledgements

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Diane Sharp, Vice Mayor

Amanda Saltray

Kalish Morrow

Art Brieno

Management Personnel

John Doyel, Director of Public Works

Jim Ross, Deputy Public Works Director

Christine Baca, Regulatory Compliance Analyst

Bob Williams, Utilities Supervisor

City of Hanford
2020 Water Shortage Contingency Plan

Table of Contents

Page No.

Section 1 INTRODUCTION 1
Section 2 WATER SUPPLY RELIABILITY ANALYSIS 1
Section 3 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES . 2
3.1 Decision Making Process 3
3.2 Data and Methodologies 4
3.2.1 Evaluation Criteria 4
3.2.2 Water Supply 5
3.2.3 Current Year Unconstrained Customer Demand 5
3.2.4 Current Year Available Supply 5
3.2.5 Infrastructure Considerations 5
Section 4 WATER SHORTAGE LEVELS 6
Section 5 SHORTAGE RESPONSE ACTIONS 7
5.1 Demand Reduction 7
5.2 Supply Augmentation 8
5.3 Operation Changes 8
5.4 Additional Mandatory Restrictions 8
5.5 Emergency Response Plan 8
5.6 Seismic Risk Assessment and Mitigation Plan 14
5.7 Shortage Response Action Effectiveness 14
Section 6 COMMUNICATION PROTOCOLS 14
Section 7 COMPLIANCE AND ENFORCEMENT 15
Section 8 LEGAL AUTHORITIES 16
Section 9 FINANCIAL CONSEQUENCES OF WSCP ACTIVATION 16
Section 10 MONITORING AND REPORTING 17
Section 11 WSCP REFINEMENT PROCEDURES 18
Section 12 SPECIAL WATER FEATURE DISTINCTION 18
Section 13 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY 18

City of Hanford
2020 Water Shortage Contingency Plan

Figures

Page No.

Figure 3-1 Annual Assessment Report Timeline 3

Tables

Page No.

Table 4-1 Water Shortage Contingency Plan Levels 7
Table 5-1 Demand Reduction Actions 9
Table 9-1 Financial Consequences of WSCP.....17

Appendices

Appendix A Water Shortage Level Comparison
Appendix B Urban Water Management Plan Adoption Resolution and Notifications

Section 1 INTRODUCTION

This report documents the City of Hanford's Water Shortage Contingency Plan (WSCP). This 2020 WSCP document builds upon previous water shortage contingency planning efforts completed by the City and documented in the 2010 and 2015 Urban Water Management Plans (UWMP). This WSCP reflects updates to the City's water shortage levels and water conservation measures for consistency with state-wide requirements provided by the Department of Water Resources. As part of the 2020 UWMP update, the Department of Water Resources requires urban water suppliers to prepare a stand-alone 2020 WSCP, that is separate from the 2020 UWMP, and intended to manage a water shortage. As the City continues to monitor the effectiveness of the WSCP, this document can be updated and adopted separately from the UWMP.

Though it is a stand-alone document, the 2020 WSCP is still considered one of the elements of the 2020 UWMP, as required by the State Law.

Based on Department of Water Resources (DWR) requirements, and consistent with previous planning efforts, this WSCP includes the following sections:

- Water Supply Reliability Analysis
- Annual Water Supply and Demand Assessment
- Shortage Response Actions
- Communication Protocols
- Compliance and Enforcement
- Legal Authorities
- Financial Consequences of WSCP Activation
- Monitoring and Reporting
- Special Water Feature Distinction
- Plan Adoption, Submittal, and Availability

Section 2 WATER SUPPLY RELIABILITY ANALYSIS

Law

10632 (a)(1)	*The analysis of water supply reliability conducted pursuant to Section 10635.*

The City currently uses groundwater as the sole source of water supply, with wells extracting water from the Tulare Lake Subbasin of the San Joaquin Valley Groundwater Basin. These groundwater basins are managed by Mid-Kings River Groundwater Sustainability Agency, and the 2020 Tulare Lake Subbasin Groundwater Sustainability Plan lists the rates of natural recharge for these groundwater supply sources. Consistent with previous planning efforts, the City's Water

Supply Reliability Analysis, the available supply drawn from the aquifer in any year is equal to the system-wide water demand for that particular year.

As part of the 2020 UWMP the City has also prepared a Drought Risk Assessment (DRA), which is a proactive planning review that readies the City for worst-case water supply conditions should they occur in the immediate future. The DRA compares the City's projected demands over the next five years to estimated available supplies should a five-year dry period occur. The results of the DRA prepared as part of the 2020 UWMP indicate that the City has sufficient supplies to meet projected demands over the next five years.

Section 3 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES

Law

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.*
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.*

Updates to the California Water Code now require that urban water suppliers prepare a water supply and demand assessment on an annual basis (Annual Assessment). The findings of this Annual Assessment will be summarized in a report submitted to the DWR by July 1st of each calendar year, with the first report required for submission on July 1st, 2022. The purpose of this annual assessment is to ensure water suppliers are proactively considering the available water

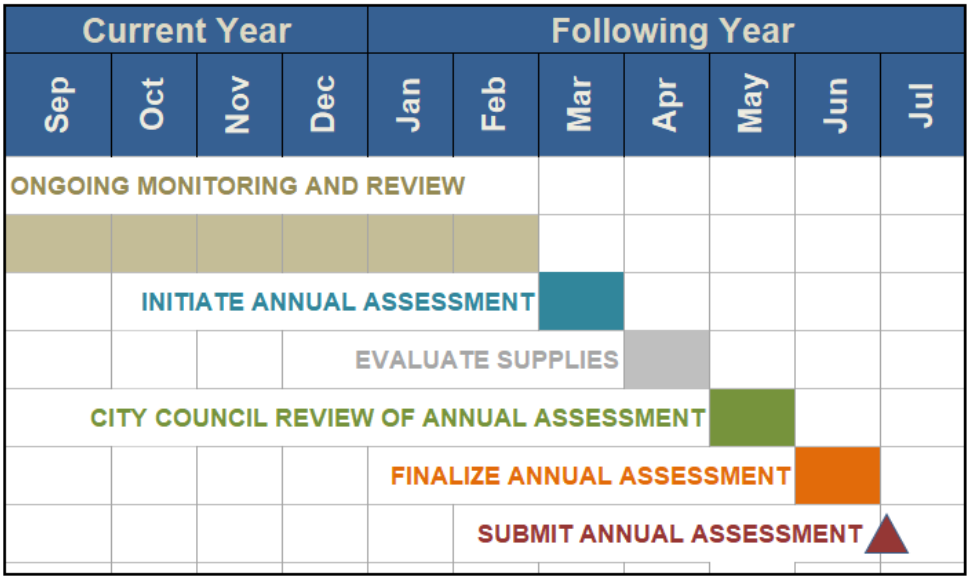
supplies and service area demand requirements, as well as identifying the potential need for implementing the Water Shortage Contingency Plan.

It should be noted that DWR is in the process of preparing a stand-alone guidance document that will outline general procedures to aid urban water suppliers in preparing the Annual Assessment. The decision-making process and Annual Assessment completion steps are preliminary at this point in time and will be further refined as the guidance document by DWR is completed.

3.1 Decision Making Process

This section describes the decision-making process to prepare and approve the Annual Assessment each year. It should be noted that the Annual Assessment and decision-making process will rely on the findings of the Tulare Lake Subbasin Annual Report, which will include documentation of available water supply information and any subbasin-wide required water shortage actions to be implemented.

Figure 3-1 Annual Assessment Report Timeline



September to February – Ongoing Monitoring and Review

For the majority of the year, City staff will continue to monitor and report monthly water consumption and production. This information will be used when the Annual Assessment is initiated to prepare a year-to-year comparison of system-wide water demands for the purpose of projecting demands for the following year.

March – Initiate WSCP Annual Assessment

City staff will initiate the Annual Assessment process by gathering the collected demand and production data. Other relevant information includes but is not limited to the following:

- Land Use/Planning: Changes in land use or number of building permits will be used in estimating the next year's demands.
- Hydrologic Year Review: The City's wet year typically ends in April and rainfall information over the past year can be gathered and reviewed.
- Climate Forecast: Any available climate projection information

The purpose of gathering this information will be to compare the various factors that affect water demand throughout the City's service area. This comparison will guide the City's projection for water demand in the upcoming year.

April – Review Available Supply Information

According to the Tulare Lake Groundwater Sustainability Plan, a Groundwater Annual Report will be completed by the month of April. City staff will review this document once available and use it as a basis for estimating the available supply in the upcoming year. If required, City staff will also prepare to initiate any water shortage response actions noted by Mid-Kings River Groundwater Sustainability Agency.

May – City Council Review of Annual Assessment

The draft of Annual Assessment will be presented to City Council for their information and discussion. If water shortage actions are recommended by the Annual Assessment, the City Council will be asked to begin the implementation of the recommended actions.

June – Finalize Annual Assessment

The Annual Assessment is finalized based on any feedback received during the City Council review process.

July – Submit Annual Assessment

The Annual Assessment will be submitted to DWR on or before July 1st.

3.2 Data and Methodologies

This section describes the key data and methodologies used in the preparation of the Annual Assessment. This includes historical water supply information, historical and projected water demand, demand and projected water supply demand, which city uses to evaluate their water supply reliability for a normal and a dry subsequent year.

3.2.1 Evaluation Criteria

The primary criteria used in preparing the City's Annual Assessment are the projected water demand and available supply. The supply information will be based on any available subarea-

wide review of available water supplies prepared by Mid-Kings River Groundwater Sustainability Agency, Kings County Water District, or other local groundwater planning agencies. The demand projections will be prepared using a combination of factors, including a comparison to historical demand, land use changes, building permits, and historical rainfall. The City will continue to review its Annual Assessment preparation process, and additional criteria may be added if considered appropriate.

3.2.2 Water Supply

The City currently relies on groundwater as the sole source of supply. There are numerous groundwater wells used by the City, each of which is monitored and has production reported on a monthly basis. These monthly production records will be used to characterize the City's current water production requirement and compared to previous years to estimate production requirements for the upcoming year.

As the Groundwater Sustainability Agency, Mid-Kings River GSA manages water supplies within the Tulare Lake Subbasin; this also includes the Mid-Kings River Subarea, which is used by the City for supply. The water supply analysis prepared by each GSAs within the Tulare Lake Subbasin in preparation of their Annual Report will provide a critical basis for water supply assumptions, regarding available water supply volumes and any pumping restrictions required to be implemented if any.

3.2.3 Current Year Unconstrained Customer Demand

Billed water consumption is reported on a monthly basis and will be used to characterize the current water consumption requirements for the City. The monthly records will be compared to corresponding months of the previous year to identify any significant changes in water use behavior throughout the City's service area. In addition to consumption records, known recent developments or current building permits will enable City staff to estimate changes to water demand in the upcoming year.

3.2.4 Current Year Available Supply

The Annual Assessment estimates the current year available supply for current hydrological conditions as well as a possible subsequent dry year. The supply estimate will be based on the Drought Risk Assessment supply estimation methodology documented in the 2020 UWMP and it will also incorporate information from the Tulare Lake Groundwater Annual Report and Mid-Kings Groundwater Sustainability Agency.

3.2.5 Infrastructure Considerations

The annual assessment will include a review of any ongoing capital projects that are expected to affect the demands and supply projections. Examples of such capital projects include water loss reductions, distribution expansion to serve the growth, or new groundwater wells.

Section 4 WATER SHORTAGE LEVELS

Law

10632 (a)(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply and an outline of specific water supply conditions which are applicable to each stage.

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 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 outrage, 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

The City's current water shortage contingency plan includes three water shortage levels. These water shortage stages reflect potential supply reductions due to reductions in average rainfall, groundwater well issues, or extended periods of summer weather. The City's water shortage levels are documented in **Table 4-1**. The comparison between the City's water shortage levels and the DWR recommended 6-level framework is provided in **Appendix A**.

Identifying the appropriate shortage level will be in accordance with the procedures outlined in *Section 3 – Annual Water Supply and Demand Assessment Procedures.* With recommendations from City staff, the City Council has the authority to declare the appropriate conservation level considered necessary to manage the system demands and mitigate the water shortage. The City Council can also downgrade, upgrade, or terminate a shortage response level based on City staff recommendations.

The City's groundwater supply is dependent on recharge from surface water sources as well as deep percolation of applied irrigation water. In periods of drought when the natural recharge sources are less than in typical years, the basin is at risk of overdraft. In order to reduce water consumption city-wide, the City's water conservation ordinance will be amended as necessary to respond to severe, prolonged drought.

As part of the City's efforts to conserve water, the City has permanent water use prohibitions in place. Additionally, the City's conservation ordinance describes a multiple-stage water conservation plan. Each water rationing stage includes a water demand reduction percentage, which is to be applied to normal water demands. The plan is dependent on the cause, severity, and anticipated duration of the water shortage, and a combination of voluntary and mandatory water conservation measures, which can be put in place to reduce City-wide water usage. City manager and Council have the authority to implement additional conservation measures as needed.

Table 4-1 Water Shortage Contingency Plan Levels

Stage	Percent Supply Reduction	Water Supply Condition
1	10%-20%	Minor Shortage Potential - Below average rainfall in the previous 12-24 months - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months
2	20%-35%	Moderate Shortage Potential - Below average rainfall in the previous 24-36 months - Prolonged periods of low water pressure - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months
3	35%-50%	Critical Shortage Potential - Below average rainfall in the previous 36 months - Prolonged periods of low water pressure - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months

Section 5 SHORTAGE RESPONSE ACTIONS

Law

10632 (a)(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

(F) Locally appropriate supply augmentation actions.
(G) Locally appropriate demand reduction actions to adequately respond to shortages.
(H) Locally appropriate operational changes
(I) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.
(J) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

Pursuant to the CWC 10632 (a) (4), this section documented the detailed shortage response actions which align with the shortage levels into different categories.

5.1 Demand Reduction

There are a number of demand reduction measures an urban water supplier can implement as response actions to corresponded water shortage levels. Some of these may include watering and outdoor water usage prohibitions, water rate structure changes, public educations or water supply service adjustments. Other demand reduction such as infrastructure improvement or replacing, water-efficient assets installation are considered as long-term water demand reductions will not be listed in this water shortage contingency plan.

consumption reduction actions are summarized in Table 5-1. The permanent water use restrictions enforced year-round are also documented in the table.

5.2 Supply Augmentation

As noted in previous sections, groundwater is the City's sole source of potable water supply, and there are no known opportunities for water supply augmentation through actions such as exchanges, transfers, or purchase programs. Therefore, supply augmentation actions are excluded from the City's Water Shortage Contingency Plan at this time.

5.3 Operation Changes

During a water shortage, changes to water system operations may be considered. These operational changes may include improving water usage consumption and tracking, changes to fire hydrant testing frequencies, alteration in maintenance cycles, and expedited water leak repairs.

5.4 Additional Mandatory Restrictions

Additional mandatory restrictions have been reported in a previous section.

5.5 Emergency Response Plan

The City has a Local Hazard Mitigation Plan, most recently updated in 2012, that provides a framework for the City to address a catastrophic supply interruption due to various hazards, including seismic, geological, wildfire, and flooding hazards. The plan is intended to define the actions required of the City before, during, and after an emergency. It also guides the City's response to major emergencies and disasters.

Table 5-1 Demand Reduction Actions

Level	Restrictions and Prohibitions on End Users Category	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1-3	Landscape - Limit landscape irrigation to specific days	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, premises or vegetation except on the following designated days: - Properties ending with even-numbered addresses: Tuesday and Saturday - Properties ending with odd-numbered addresses: Wednesday and Sunday.	Yes
1-3	Landscape - Limit landscape irrigation to specific days	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, premises or vegetation on any day of the week between the hours of 10 a.m. and 6 p.m. during periods designated as "daylight savings time" (generally occurring between March and November).	Yes
1-3	Landscape - Other landscape restriction or prohibition	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, premises, or vegetation except by the use of a hand-held hose, a sprinkling device or an approved sprinkler system controlled by an automatic shut-off device or a person who is in immediate attendance of the sprinkling device or system.	Yes
1-3	Landscape - Other landscape restriction or prohibition	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, landscaping or vegetation during and up to 48 hours after measurable rainfall.	Yes
1-3	Landscape - Prohibit certain types of landscape irrigation	Prohibit sprinkling, irrigating, or otherwise applying water to any ornamental turf or public street medians.	Yes

Table 5-1 Demand Reduction Actions

Level	Restrictions and Prohibitions on End Users Category	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1-3	Landscape - Other landscape restriction or prohibition	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, landscaping or vegetation outside of a newly constructed home or a building in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the California Department of Housing and Community Development.	Yes
1-3	Landscape - Restrict or prohibit runoff from landscape irrigation	Prohibit water used to irrigate any yard, ground, landscaping or vegetation to run or waste onto non-irrigated areas, private or public walkways, sidewalks, driveways, streets or adjoining or adjacent property.	Yes
1-3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Prohibit keeping, maintaining, operating, or using any water connection, hose, faucet, hydrant, pipe, outlet, or plumbing fixture which is not tight and free from leakage and dripping.	Yes
1-3	Other	Prohibit washing any type of vehicle, boat or trailer with water supplied by a hose unless the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use.	Yes
1-3	Other - Prohibit use of potable water for washing hard surfaces	Prohibit use of water for sidewalk, driveway, or walkway washing cleaning, except as required to address an immediate public health or safety need.	Yes
1-3	Water Features - Restrict water use for decorative water features, such as fountains	Prohibit operation of water fountains or other decorative water fixtures without recirculation pumps.	Yes
1-3	Other water feature or swimming pool restriction	Prohibit draining and filling of a swimming pool or similar water feature more than once during a one year period (all pool drainage must occur pursuant to a permit issued by the City's public works department.	Yes

Table 5-1 Demand Reduction Actions

Level	Restrictions and Prohibitions on End Users Category	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1-3	Other	Prohibit willful of negligent waste of water in any manner.	Yes
1-3	CII - Lodging establishment must offer opt out of linen service	Require operators of hotels and motels to provide guests with the option of choosing not to have towels and linens laundered daily. Each hotel and motel shall prominently display notice of this option in each bathroom using clear and easily understood language.	Yes
1-3	Landscape - Prohibit certain types of landscape irrigation	Prohibit the planting of rye grass on any property that is serviced by the city's water system.	Yes
1-3	Other	The city may issue Conditional Water Permits that allow the watering of new landscaping planted outside of newly-constructed buildings on days and/or times other than those consistent with the current use restrictions.	Yes
1-3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Prohibit charity and community vehicle wash events, including any event at which an individual or a group, which is not a commercial washing business operating legally in the city, offers to the general public or portion thereof the service of washing, with water, any type of vehicle, boat, or trailer in exchange for a fee, donation, other form of compensation, or for no compensation.	Yes

Table 5-1 Demand Reduction Actions

Level	Restrictions and Prohibitions on End Users Category	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1-3	Landscape - Prohibit certain types of landscape irrigation	Eliminate watering of ornamental turf areas. Water only actively used turf areas no more than twice per week. Trees and shrubs may be water only twice per week using a handheld hose with a positive shutoff nozzle or drip irrigation. Use of reclaimed water (if available), is exempt.	Yes
1-3	Landscape - Limit landscape irrigation to specific days	Water no more than twice per week using only hand-held hoses with positive shutoff nozzle or drip irrigation systems. Eliminate sprinkler use.	Yes
1-3	CII - Restaurants may only serve water upon request	Prohibit the serving of drinking water, other than upon request, in eating or drinking establishments.	Yes

Table 5-1 Demand Reduction Actions

Level	Restrictions and Prohibitions on End Users Category	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1-3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	When a leak is discovered by a customer in a customer's water system and a customer is charged for water that it has not used, as a result of the leakage, it shall be policy of the city to aid the customer in locating the leak. If the leak is repaired by the customer within a period of ten days of the date the leak was discovered and the customer can establish that a portion of the charges identified in its water bill are in excess of the amount normally charged to the customer, that excess amount of water use caused by the leakage shall be charged to the customer at the standard water rate. If the leak is not repaired by the customer within the 10 day period, the portion of the excess water usage which results from the leakage will be billed at two times the standard water rate until the leak is repaired by the customer. The city shall give prompt notice to a customer if the city obtains information indicating that a leak may exist in the customer's exclusive control.	Yes
1-3	Other - Prohibit use of potable water for construction and dust control	All construction water must be reclaimed or non-potable. Issuance of construction meters will be only for testing and disinfection of potable water lines.	Yes

5.6 Seismic Risk Assessment and Mitigation Plan

Law

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 multi-hazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multi-hazard mitigation plan addresses seismic risk.*

In addition to the emergency response plan described in a previous section, the California Water Code now requires urban water suppliers to document a locally appropriate multi-hazard mitigation plan, as developed under the federal Disaster Mitigation Act of 2000, that includes documentation of seismic risk assessment. Kings County developed such a hazard mitigation plan in December 2012. The City's service area is included in the boundaries reviewed as part of this mitigation plan.

5.7 Shortage Response Action Effectiveness

In addition to documenting demand reduction actions the 2020 UWMP also estimates the effectiveness of these actions on reducing system-wide demand. The City records water consumption and production on a monthly basis, and this data can be used to estimate the effect of any demand reduction actions implemented.

Section 6 COMMUNICATION PROTOCOLS

Law

10632 (a)(5)	*Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, and 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.*

When the City identifies the need for short-term water use reductions as directed by the Water Shortage Contingency Plan or Annual Assessment, clear and effective communication will be critical to achieve the necessary demand reductions. Methods of public notification include newspaper publications, bill inserts, City website announcements, social media posts, and press

releases or informational campaigns. These public notification methods would be implemented in the event of a Level 2 Water Shortage and would increase in frequency in the event of a Level 3 Water Shortage.

Section 7 COMPLIANCE AND ENFORCEMENT

Law

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.*

Customers who violate the provisions noted in the water code for water shortage conditions shall receive, in accordance with the Amended Hanford Municipal Code Section 13.04.150, the following:

- The first violation shall result in a written notice of the violation from Public Works Department personnel or police department.
- The second violation shall result in a written notice of the violation and a penalty of fifty dollars imposed on the customer's water bill.
- The third violation shall result in a written notice of the violation. Additionally, for unmetered customers, a water meter shall be installed by the city to monitor all water usage on the property. Water meter purchasing cost and installation fees shall be billed to the customer and are due within thirty days of the billing. Metered customers shall have a penalty of one hundred dollars imposed on their water bill.
- The fourth violation shall result in a written notice of the violation and a penalty of two hundred dollar penalty shall be imposed on the customer's water bill.

Section 8 LEGAL AUTHORITIES

Law

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.

This City has the legal authority to implement and enforce its water shortage response actions and relative penalties, water charge adjustments, and water service alteration or prohibition. City Urgency Ordinance 15-06, which amended the water supply shortage regulations for the City in June 2015, documents the demand reduction measures as well as enforcement protocols.

Section 9 FINANCIAL CONSEQUENCES OF WSCP ACTIVATION

Law

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. [retail urban suppliers only]*

The activation of the Water Shortage Contingency Plan and related Water Shortage Levels have financial consequences for the City. Reduced water consumption will contribute to reduced revenue, while proactive operational practices will contribute to higher operational and maintenance costs. Currently, the City maintains some funds as rate stabilization reserves as well as approximately 60 days of operating reserves. In addition, the City Council has the authority to increase water rates to offset reduced revenues. These reserve funds or rate modifications have the ability to mitigate financial consequences of the Water Shortage Contingency Plan.

Additionally, potential mitigation actions are documented in Table 9-1. These are preliminary actions and would be evaluated in more detail should a water shortage occur.

Table 9-1 Financial Consequences of WSCP

Stage	Supply Reduction	Financial Consequences	Anticipated Mitigation Actions
0	None	None	Funding provided for supplemental water supply reserve.
1	10%-20%	Potential increase in O&M expenses and mild reduction in revenue.	Reduce O&M costs and identify supplemental funding sources.
3	21%-35%	Moderate increase to O&M expenses and decrease in revenue.	Defer capital expenditures and consider use of reserves.
2	35%-50%+	Significant increases to O&M and decreases in revenue.	Implement long-term O&M budget reductions.

Section 10 MONITORING AND REPORTING

Law

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.*

Monitoring and reporting as part of the Water Shortage Contingency Plan and Annual Assessment will be based on the metered production and consumption data. Ongoing review of this information, and comparisons to historical data for similar months, will enable the City to monitor the effectiveness of the WSCP measures. Additionally, due to implemented shortage response actions and water shortage levels, the City's Water Department may increase the frequency of reading meters in order to collect, track, and analyze the water use.

Section 11 WSCP REFINEMENT PROCEDURES

Law

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*

While the WSCP is a standalone document adopted separately from the 2020 UWMP it should be considered a dynamic planning tool and be subject to ongoing refinement efforts as necessary. Following the declaration of a water shortage and implementation of the WSCP, the monitoring and reporting steps described in a previous section will provide valuable insight into the effectiveness of the WSCP. City staff will evaluate the effectiveness of communication protocols, demand reduction actions, operational changes, or financial consequence mitigation. If this review reveals opportunities for procedural refinements or new WSCP actions, City staff may elect to incorporate these items into an amended version of the WSCP.

Section 12 SPECIAL WATER FEATURE DISTINCTION

Law

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.*

The California Water Code requires urban water suppliers to distinguish between water features that are artificially supplied with water as opposed to swimming pools and spas. The City's current demand reduction actions include this distinction, as documented in a previous section.

Section 13 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

Law

10632 (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.*

The WSCP adoption and submittal process, as well as the public availability, are the same as those for the City's UWMP. However, the WSCP may be periodically amended independently from the City's UWMP. Should an amendment to the WSCP be implemented, stakeholder and public notification methods consistent with the UWMP will be performed prior to the adoption of the amended plan.

APPENDIX A

Water Shortage Level Comparison

2015 Hanford WSCP			Corresponding Relationship ("Crosswalk")	Six Standard Stages	
Stage	Percentage Supply Reduction	Water Supply		Stage	DWR 6 Standard Water Shortage Levels
1	10 to 20%	Minor Shortage Potential		1	Up to 10%
				2	10 to 20%
2	20 to 35%	Moderate Shortage Potential		3	20 to 30%
				4	30 to 40%
3	35 to 50%	Critical Shortage Potential		5	40 to 50%
				6	Greater than 50%

APPENDIX B

Urban Water Management Plan Adoption Resolution and Notifications

RESOLUTION NO. 21-45-R

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HANFORD
APPROVING THE 2020 URBAN WATER MANAGEMENT PLAN

At a regular meeting of the City Council of the City of Hanford, duly called and held on October 19, 2021, it was moved by Council Member Sharp, and seconded by Council Member Morrow, and carried that the following resolution be adopted:

WHEREAS, The State of California Urban Water Management Planning Act, SB 797 and amendments thereto, requires the local agency to adopt and file with the State of California Department of Water Resources and updated Urban Water Management Plan every five years; after a noticed public hearing; and

WHEREAS, State regulations require that a stand-alone Water Shortage Contingency Plan be prepared in conjunction with the Urban Water Management Plan; and

WHEREAS, a public hearing notice for the Urban Water Management Plan and Water Shortage Contingency Plan was published in the local newspaper and the public hearing held on Tuesday, October 5, 2021; and

WHEREAS, Section 15282 (v) of the California Environmental Quality Act states that the preparation of Urban Water Management Plans is statutorily exempt.

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

Passed and Adopted at a regular meeting of the City Council of the City of Hanford duly called and held on the 19th day of October, 2021, by the following vote:

AYES: Ramirez, Sharp, Morrow, Breno, Salray

NOES: _____

ABSTAIN: _____

ABSENT: _____

Francisco Ramirez
MAYOR of the City of Hanford

ATTEST: _____
Natalie Corral,
CITY CLERK and Clerk of the
Council of the City of Hanford

STATE OF CALIFORNIA)
COUNTY OF KINGS) ss
CITY OF HANFORD)

I, NATALIE CORRAL, City Clerk of the City of Hanford, do hereby certify the foregoing Resolution was duly passed and adopted by the City Council of the City of Hanford at a regular meeting thereof held on the 19th day of October, 2021.

Dated: 10/19/, 2021

_____
NATALIE CORRAL,
CITY CLERK and Clerk of the
Council of the City of Hanford

RESOLUTION NO. 21-46-R

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HANFORD
APPROVING THE 2020 URBAN WATER MANAGEMENT PLAN

At a regular meeting of the City Council of the City of Hanford, duly called and held on October 19, 2021, it was moved by Council Member Sharp, and seconded by Council Member Morrow, and carried that the following resolution be adopted:

WHEREAS, The State of California Urban Water Management Planning Act, SB 797 and amendments thereto, requires the local agency to adopt and file with the State of California Department of Water Resources and updated Urban Water Management Plan every five years; after a noticed public hearing; and

WHEREAS, a public hearing notice was published in the local newspaper and the public hearing held on Tuesday, October 5, 2021; and

WHEREAS, Section 15282 (v) of the California Environmental Quality Act states that the preparation of Urban Water Management Plans is statutorily exempt.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Hanford does hereby approve the attached 2020 Urban Water Management Plan.

Passed and Adopted at a regular meeting of the City Council of the City of Hanford duly called and held on the 19th day of October, 2021, by the following vote:

AYES: Ramirez, Sharp, Morrow, Breno, Saltray

NOES: _____

ABSTAIN: _____

ABSENT: _____

Francisco Ramirez
MAYOR of the City of Hanford

ATTEST: _____

Natalie Corral,
CITY CLERK and Clerk of the
Council of the City of Hanford

STATE OF CALIFORNIA)
COUNTY OF KINGS) ss
CITY OF HANFORD)

I, NATALIE CORRAL, City Clerk of the City of Hanford, do hereby certify the foregoing Resolution was duly passed and adopted by the City Council of the City of Hanford at a regular meeting thereof held on the 19th day of October, 2021.

Dated: 10/29/, 2021

_____

NATALIE CORRAL,
CITY CLERK and Clerk of the
Council of the City of Hanford

THE SENTINEL
P O BOX 9
HANFORD CA 93232
(559)582-0471
Fax (559)582-2431

ORDER CONFIRMATION

Salesperson: JUAN MORALES — Printed at 09/16/21 09:15 by jmora-bk

---

Acct #: 7650 — Ad #: 46328 — Status: New

CITY OF HANFORD - LEGALS
ACCOUNTS PAYABLE
315 N DOUTY ST
HANFORD CA 93230

Start: 09/17/2021 — Stop: 09/28/2021
Times Ord: 2 — Times Run: ***
3STD 2.00 X 4.73 Words: 367
Total 3STD 9.46
Class: H0986 LEGALS
Rate: LD — Cost: 296.71
Affidavits: 1

Contact:
Phone: (559)585-2500
Fax#:
Email: billing@cityofhanfordca.com
Agency:

Ad Descrpt: AD# 46328 PUBLIC NOTICE N
Given by: *
P.O. #:
Created: jmora 09/15/21 08:07
Last Changed: jmora 09/16/21 09:15

PUB	ZONE	EDT	TP	RUN DATES
HSP	A	95	S	09/17,25
HSO	A	95	S	09/17,28

AUTHORIZATION

Under this agreement rates are subject to change with 30 days notice. In the event of a cancellation before schedule completion, I understand that the rate charged will be based upon the rate for the number of insertions used.

_____ _____
Name (print or type) Name (signature)

(CONTINUED ON NEXT PAGE)

THE SENTINEL
P O BOX 9
HANFORD CA 93232
(559)582-0471
Fax (559)582-2431

ORDER CONFIRMATION (CONTINUED)

Salesperson: JUAN MORALES Printed at 09/16/21 09:15 by jmora-bk

---

Acct #: 7650 Ad #: 46328 Status: New

AD# 46328

Public Notice

Notice of Public Hearing

NOTICE IS HEREBY GIVEN that the City Council of the City of Hanford, California, will hold an informational session on October 5, 2021 at 5:00 p.m. followed by a Public Hearing on October 5, at 7:00 p.m. or as soon as possible thereafter, in the City of Council Chambers located at 400 Douty Street, Hanford, California to consider the following matter:

PUBLIC HEARING ON URBAN WATER MANAGEMENT PLAN & WATER SHORTAGE CONTINGENCY PLAN FOR 2020

The Hanford City Council will hold a Public Hearing to receive comments from the public on the final draft of the City of Hanford 2020 Urban Water Management Plan (UWMP) and 2020 Water Shortage Contingency Plan (WSCP). The City is preparing its 2020 UWMP to continue to provide adequate water supplies to meet existing and future water demands within Citys Urban Growth Boundary. The 2020 UWMP updates the information in the existing 2015 UWMP and provides an overview of the Citys efficient water uses, water supplies, and demand management measures. Additionally, the 2020 WSCP builds upon previous planning efforts and outlines the Citys plan to address potential future water shortages. At the conclusion of receipt of comments by the public, the Public Hearing will be closed.

Written communications may be filed prior to the Public Hearing. Questions or comments regarding the plans should be emailed to jross@cityofhanfordca.com. The final draft plans are available for review at the City Clerks office at 319 N. Douty Street, Hanford CA, Monday through Friday between the hours of 8:00 a.m. and 4:00 p.m. Further detail may be obtained from the City of Hanford Public Works department at (559) 585-2550. The final draft plan can be viewed and downloaded at: https://www.cityofhanfordca.com

ADOPTION OF THE 2020 URBAN WATER MANAGEMENT PLAN and 2020 WATER SHORTAGE CONTINGENCY PLAN

At the regularly scheduled meeting of the Hanford City Council on October 19, 2021, the City Council will also consider adoption of a resolution approving the City of Hanford 2020 UWMP and 2020 WSCP and directing staff to submit the plan to the State Department of Water Resources.

BY ORDER OF THE CITY COUNCIL
OF THE CITY OF HANFORD.

Publish September 17, 25, 2021

APPENDIX E

Water Rate Structure

RESOLUTION NO. 15-60-R

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HANFORD MODIFYING WATER CHARGES AND RATES FOR THE CITY OF HANFORD WATER SYSTEM

At a regular meeting of the City Council of the City of Hanford duly called and held on the 15th day of December, 2015, at 7:00 P.M., and on a motion made by Council Member Curry, and seconded by Council Member Ayers, and duly carried that the following Resolution be adopted:

WHEREAS, in connection with the providing of water service to the citizens of Hanford and in order to provide sufficient funding for the adequate operation, maintenance and improvement of such water service system, the City of Hanford has established water charges and rates for water services in the City of Hanford Water System (collectively" Charges and Rates"); and

WHEREAS, it has been determined by the City of Hanford that the current Charges and Rates do not provide sufficient funds in order to adequately operate, maintain, and improve the water service system and provide adequate funds to pay debt service for bonds, maintain system facilities, and provide water quality in compliance with the State Water Resources Control Board requirements; and

WHEREAS, the following schedule of new Charges and Rates has been determined to be necessary to provide sufficient funding for the adequate operation, maintenance and improvement of the City of Hanford water service system, such funding to be used to pay the costs of operation, maintenance and improvement of the water system, including but not limited to, operations, personnel and funds to be placed on reserve for future repair, improvements, and replacement of the water service system of the City of Hanford.

WHEREAS, due to the drought conditions affecting the state and the conservation order issued by the state to the City of Hanford, the Council is requiring that all water services served by the City of Hanford be metered and a charge on all flat rate account equivalent to $13.33 per month for 60 months be added to pay for the installation of a meter and appurtenances to convert all flat rate services to metered services; and

WHEREAS, all notices of the public hearing were published and served by mail as required by law, and the City Council held a public hearing and received written and oral evidence regarding the increase of the Charges and Rates as identified in this Resolution. At the conclusion of the public hearing, all written protests to the increase in the Charges and Rates were counted, and it was determined that the protests submitted were insufficient to prohibit the increase of the Charges and Rates as identified in this resolution.

WHEREAS, the City Council has determined that pursuant to Section 15273(a) of the California Environmental Quality Act Guidelines, modifying water rates for the purposes identified in Section 15273(a) is statutorily exempt from the requirements of the California Environmental Quality Act.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Hanford hereby establishes the following Charges and Rates for the Hanford water service system and shall become effective as identified below. The Charges and Rates that become effective January 1, 2016 shall remain in effect until changed by resolution of the City Council.

Current and Proposed Water Rates for Metered Water Service Connections Inside the City Limits

	Sep. 1, 2007 (current)	Jan. 1, 2016	July 1, 2016	July 1, 2017	July 1, 2018
CONNECTION CHARGES (per month)					
All Service Connections	$6.14	$2.25	$2.32	$2.39	$2.46
METER SIZE CHARGES (per month)					
5/8", 3/4", & 1" meter	–	$10.00	$10.90	$11.88	$12.95
1-1/2" & 2" meter	–	$15.00	$16.35	$17.82	$19.42
3" & 4" meter	–	$25.00	$27.25	$29.70	$32.37
6" meter	–	$40.00	$43.60	$47.52	$51.80
8" meter	–	$60.00	$65.40	$71.29	$77.71
WATER CONSUMPTION CHARGES (per 100 cubic foot "unit of water")					
Rate per 100 cf	$0.69	$1.04	$1.13	$1.23	$1.34

Current and Proposed Water Rates for Flat Rate Water Service Connections Inside the City Limits

	Sep. 1, 2007 (current)	Jan. 1, 2016	July 1, 2016	July 1, 2017	July 1, 2018
CONNECTION CHARGES (per month)					
All Service Connections	–	$2.25	$2.32	$2.39	$2.46
FLAT RATE CHARGES (per gross square foot of lot area)					
Rate per gross square foot	$0.0035	$0.0058	$0.0063	$0.0069	$0.0075
Flat Rate to Meter Conversion Charge ($800 over 60 months)		$13.33			

Current and Proposed Water Rates for Metered Service Connections Outside the City Limits

	Sep. 1, 2007 (current)	Jan. 1, 2016	July 1, 2016	July 1, 2017	July 1, 2018
CONNECTION CHARGES (per month; 1.1× Inside the City Limits)					
All Service Connections	$9.21	$2.48	$2.55	$2.63	$2.71
METER SIZE CHARGES (per month; 1.1× Inside the City Limits)					
5/8″, 3/4″, & 1″ meter	–	$11.00	$11.99	$13.07	$14.25
1-1/2″ & 2″ meter	–	$16.50	$17.99	$19.60	$21.36
3″ & 4″ meter	–	$27.50	$29.98	$32.67	$35.61
6″ meter	–	$44.00	$47.96	$52.27	$56.98
8″ meter	–	$66.00	$71.94	$78.42	$85.48
WATER CONSUMPTION CHARGES (per 100 cubic foot "unit of water"; 1.1× Inside the City Limits)					
Rate per 100 cf	$1.04	$1.14	$1.24	$1.35	$1.47
PRIVATE FIRE PROTECTION SERVICE (per month)					
1-1/2″ connection	$9.10	$13.50	$14.72	$16.04	$17.48
2″ connection	$11.95	$18.00	$19.62	$21.39	$23.32
3″ connection	$16.55	$27.00	$29.43	$32.08	$34.97
4″ connection	$21.00	$36.00	$37.24	$42.77	$46.62
6″ connection	$33.15	$54.00	$58.86	$64.16	$69.93
8″ connection	$42.10	$72.00	$78.48	$85.54	$93.24
10″ connection	$54.10	$90.00	$98.10	$106.93	$116.55
12″ connection	$69.90	$108.00	$117.72	$128.31	$139.86

Current and Proposed Water Rates for Flat Rate Water Service Connections Outside the City Limits

	Sep. 1, 2007 (current)	Jan. 1, 2016	July 1, 2016	July 1, 2017	July 1, 2018
CONNECTION CHARGES (per month; 1.1× Inside the City Limits)					
All Service Connections	–	$2.48	$2.55	$2.63	$2.71
FLAT RATE CHARGES (per gross square foot of lot area)					
Rate per gross square foot	$0.0053	$0.0064	$0.0069	$0.0076	$0.0083
Flat Rate to Meter Conversion Charge ($800 over 60 months)		$13.33			

BE IT FURTHER RESOLVED that all other system charges and rates identified in resolution 07-03-R are not modified by this resolution and remain in effect.

PASSED, ADOPTED AND APPROVED this 15th day of December, 2015 by the following vote:

AYES: Russ Curry, David Ayers, Justin Mendes

NOES: Gary Pannetta, Francisco Ramirez

ABSTAIN: —

ABSENT: —

JUSTIN MENDES
MAYOR of the City of Hanford

Attest:

JENNIFER GOMEZ
CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF KINGS) ss
CITY OF HANFORD)

I, Jennifer Gomez, City Clerk of the City of Hanford, do hereby certify the foregoing Resolution was duly passed and adopted at a regular meeting of the City Council of the City of Hanford held on the 15 day of December, 2015.

Date: 12-17-15

City Clerk

APPENDIX F

Urban Water Management Plan
Adoption Resolution and Notifications

RESOLUTION NO. 21-45-R

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HANFORD
APPROVING THE 2020 URBAN WATER MANAGEMENT PLAN

At a regular meeting of the City Council of the City of Hanford, duly called and held on October 19, 2021, it was moved by Council Member Sharp, and seconded by Council Member Morrow, and carried that the following resolution be adopted:

WHEREAS, The State of California Urban Water Management Planning Act, SB 797 and amendments thereto, requires the local agency to adopt and file with the State of California Department of Water Resources and updated Urban Water Management Plan every five years; after a noticed public hearing; and

WHEREAS, State regulations require that a stand-alone Water Shortage Contingency Plan be prepared in conjunction with the Urban Water Management Plan; and

WHEREAS, a public hearing notice for the Urban Water Management Plan and Water Shortage Contingency Plan was published in the local newspaper and the public hearing held on Tuesday, October 5, 2021; and

WHEREAS, Section 15282 (v) of the California Environmental Quality Act states that the preparation of Urban Water Management Plans is statutorily exempt.

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

Passed and Adopted at a regular meeting of the City Council of the City of Hanford duly called and held on the 19th day of October, 2021, by the following vote:

AYES: Ramirez, Sharp, Morrow, Breno, Salray

NOES: _____

ABSTAIN: _____

ABSENT: _____

Francisco Ramirez
MAYOR of the City of Hanford

ATTEST: _____
Natalie Corral,
CITY CLERK and Clerk of the
Council of the City of Hanford

STATE OF CALIFORNIA)
COUNTY OF KINGS) ss
CITY OF HANFORD)

I, NATALIE CORRAL, City Clerk of the City of Hanford, do hereby certify the foregoing Resolution was duly passed and adopted by the City Council of the City of Hanford at a regular meeting thereof held on the 19th day of October, 2021.

Dated: 10/19/, 2021

_____
NATALIE CORRAL,
CITY CLERK and Clerk of the
Council of the City of Hanford

RESOLUTION NO. 21-46-R

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HANFORD
APPROVING THE 2020 URBAN WATER MANAGEMENT PLAN

At a regular meeting of the City Council of the City of Hanford, duly called and held on October 19, 2021, it was moved by Council Member Sharp, and seconded by Council Member Morrow, and carried that the following resolution be adopted:

WHEREAS, The State of California Urban Water Management Planning Act, SB 797 and amendments thereto, requires the local agency to adopt and file with the State of California Department of Water Resources and updated Urban Water Management Plan every five years; after a noticed public hearing; and

WHEREAS, a public hearing notice was published in the local newspaper and the public hearing held on Tuesday, October 5, 2021; and

WHEREAS, Section 15282 (v) of the California Environmental Quality Act states that the preparation of Urban Water Management Plans is statutorily exempt.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Hanford does hereby approve the attached 2020 Urban Water Management Plan.

Passed and Adopted at a regular meeting of the City Council of the City of Hanford duly called and held on the 19th day of October, 2021, by the following vote:

AYES: Ramirez, Sharp, Morrow, Breno, Saltray

NOES: _____

ABSTAIN: _____

ABSENT: _____

Francisco Ramirez
MAYOR of the City of Hanford

ATTEST: _____

Natalie Corral,
CITY CLERK and Clerk of the
Council of the City of Hanford

STATE OF CALIFORNIA)
COUNTY OF KINGS) ss
CITY OF HANFORD)

I, NATALIE CORRAL, City Clerk of the City of Hanford, do hereby certify the foregoing Resolution was duly passed and adopted by the City Council of the City of Hanford at a regular meeting thereof held on the 19th day of October, 2021.

Dated: 10/29/, 2021

_____

NATALIE CORRAL,
CITY CLERK and Clerk of the
Council of the City of Hanford

THE SENTINEL
P O BOX 9
HANFORD CA 93232
(559)582-0471
Fax (559)582-2431

ORDER CONFIRMATION

Salesperson: JUAN MORALES — Printed at 09/16/21 09:15 by jmora-bk

---

Acct #: 7650 — Ad #: 46328 — Status: New

CITY OF HANFORD - LEGALS
ACCOUNTS PAYABLE
315 N DOUTY ST
HANFORD CA 93230

Start: 09/17/2021 — Stop: 09/28/2021
Times Ord: 2 — Times Run: ***
3STD 2.00 X 4.73 Words: 367
Total 3STD 9.46
Class: H0986 LEGALS
Rate: LD — Cost: 296.71
Affidavits: 1

Contact:
Phone: (559)585-2500
Fax#:
Email: billing@cityofhanfordca.com
Agency:

Ad Descrpt: AD# 46328 PUBLIC NOTICE N
Given by: *
P.O. #:
Created: jmora 09/15/21 08:07
Last Changed: jmora 09/16/21 09:15

PUB	ZONE	EDT	TP	RUN DATES
HSP	A	95	S	09/17,25
HSO	A	95	S	09/17,28

AUTHORIZATION

Under this agreement rates are subject to change with 30 days notice. In the event of a cancellation before schedule completion, I understand that the rate charged will be based upon the rate for the number of insertions used.

_____ _____
Name (print or type) Name (signature)

(CONTINUED ON NEXT PAGE)

THE SENTINEL
P O BOX 9
HANFORD CA 93232
(559)582-0471
Fax (559)582-2431

ORDER CONFIRMATION (CONTINUED)

Salesperson: JUAN MORALES Printed at 09/16/21 09:15 by jmora-bk

---

Acct #: 7650 Ad #: 46328 Status: New

AD# 46328

Public Notice

Notice of Public Hearing

NOTICE IS HEREBY GIVEN that the City Council of the City of Hanford, California, will hold an informational session on October 5, 2021 at 5:00 p.m. followed by a Public Hearing on October 5, at 7:00 p.m. or as soon as possible thereafter, in the City of Council Chambers located at 400 Douty Street, Hanford, California to consider the following matter:

PUBLIC HEARING ON URBAN WATER MANAGEMENT PLAN & WATER SHORTAGE CONTINGENCY PLAN FOR 2020

The Hanford City Council will hold a Public Hearing to receive comments from the public on the final draft of the City of Hanford 2020 Urban Water Management Plan (UWMP) and 2020 Water Shortage Contingency Plan (WSCP). The City is preparing its 2020 UWMP to continue to provide adequate water supplies to meet existing and future water demands within Citys Urban Growth Boundary. The 2020 UWMP updates the information in the existing 2015 UWMP and provides an overview of the Citys efficient water uses, water supplies, and demand management measures. Additionally, the 2020 WSCP builds upon previous planning efforts and outlines the Citys plan to address potential future water shortages. At the conclusion of receipt of comments by the public, the Public Hearing will be closed.

Written communications may be filed prior to the Public Hearing. Questions or comments regarding the plans should be emailed to jross@cityofhanfordca.com. The final draft plans are available for review at the City Clerks office at 319 N. Douty Street, Hanford CA, Monday through Friday between the hours of 8:00 a.m. and 4:00 p.m. Further detail may be obtained from the City of Hanford Public Works department at (559) 585-2550. The final draft plan can be viewed and downloaded at: https://www.cityofhanfordca.com

ADOPTION OF THE 2020 URBAN WATER MANAGEMENT PLAN and 2020 WATER SHORTAGE CONTINGENCY PLAN

At the regularly scheduled meeting of the Hanford City Council on October 19, 2021, the City Council will also consider adoption of a resolution approving the City of Hanford 2020 UWMP and 2020 WSCP and directing staff to submit the plan to the State Department of Water Resources.

BY ORDER OF THE CITY COUNCIL
OF THE CITY OF HANFORD.

Publish September 17, 25, 2021