CITY OF DINUBA

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2020 URBAN WATER MANAGEMENT PLAN

Final Draft

December 2021

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List of Acronyms and Abbreviations

AB	Assembly Bill
Act	Urban Water Management Planning Act
AID	Alta Irrigation District
AF	Acre-feet
AWWA	American Water Works Association
CIMIS	California Irrigation Management Information System
City	City of Dinuba
DBCP	dibromochloroproplane
DMM(s)	Demand management measure(s)
DOF	Department of Finance
DRA	Drought Risk Assessment
DWR	California Department of Water Resources
EC	Electrical Conductivity
ET	Evapotranspiration
GPCD	Gallons per capita per day
GPD	Gallons per day
GSP	Groundwater Sustainability Agency
Guidebook	DWR 2020 Urban Water Management Plans Guidebook for Urban Water Suppliers
kgal	Thousand Gallons
KRCD	Kings River Conservation District
KREGSA	Kings River East Groundwater Sustainability Agency
kWh	kilowatt-hour
MG	Million gallons
MJLHMP	Multi-Jurisdictional Local Hazard Mitigation Plan
Plan (or UWMP)	Urban Water Management Plan
PWS	Public Water System
SB	Senate Bill
SB X7-7	Water Conservation Bill of 2009
SCADA	Supervisory Control and Data Acquisition
UWMP	Urban Water Management Plan
WSCP	Water Shortage Contingency Plan
WUE	Water Use Efficiency
WRCC	Western Regional Climate Center
WWRF	Wastewater Reclamation Facility

Section 1: Introduction and Lay Description

1.01 Background and Purpose

The California Urban Water Planning Act (Act) requires urban water suppliers that have 3,000 or more service connections or supply 3,000 or more acre-feet (AF) of water per year to develop an Urban Water Management Plan (UWMP or Plan), which is submitted to the California Department of Water Resources (DWR) every five years. Significant changes have been made to the Act since the previous UWMP was prepared in 2015. These changes were made to allow suppliers to consider the impacts of prolonged droughts, groundwater overdraft, regulatory revisions, and changing climate conditions as a part of their urban water management planning process.

The major new requirements from the 2015 Plan include:

- Expanding the multi-year water reliability assessment to cover five consecutive dry-years;
- Preparing a Drought Risk Assessment covering a five-year period from 2021 to 2025 and examining reasonable predictions of water supplies, water uses, and water availability;
- Specifically addressing seismic risk and mitigation planning for water system facilities;
- Providing readily available information on estimates of energy usage for water supply operations;
- Expanding water loss reporting to include the past five years of water loss audit reports;
- Modifying Water Shortage Contingency Plans to meet more stringent regulations;
- Coordinating groundwater supply information to be consistent with applicable Groundwater Sustainability Plans (GSP); and
- Providing a lay description of the fundamental determinations of the UWMP.

The current Water Code requires 2020 UWMPs to include:

- Current and projected water uses considering long-term planning documents such as General Plans and Specific Plans;
- An analysis of water supplies including potential restrictions or limitations on water supply availability;
- An analysis of water supply reliability under normal conditions, single-dry year conditions, and five consecutive dry year conditions through at least the year 2040;
- A Drought Risk Assessment for a hypothetical five-year drought condition; and
- A Water Shortage Contingency Plan that specifies opportunities for demand reduction and supply augmentation under various water shortage conditions.

The 2020 UWMP for the City of Dinuba (City) is an update to the 2015 UWMP adopted by the City which covers the operations of the City's Public Water System, a retail urban water supplier. However, the 2020 UWMP is considered a stand-alone document.

This 2020 UWMP Update has been prepared in accordance with the DWR "Urban Water Management Plan Guidebook 2020" (Guidebook). The format of the Plan generally follows the recommended organization in Chapter 1.1 of the Guidebook and incorporates the required standardized tables as numbered and shown in the Guidebook and as appropriate for the City's Public Water System. Some of the tables are not applicable and are not included as noted in the text.

1.02 Report Organization

The UWMP contains ten sections as outlined below:

- Section 1 – Introduction and Lay Description
- Section 2 – Plan Preparation
- Section 3 – System Description
- Section 4 – Water Use Characterization
- Section 5 – SB X7-7 Baselines, Targets, and 2020 Compliance
- Section 6 – Water Supply Characterization
- Section 7 – Water Supply Reliability and Drought Risk Assessment
- Section 8 – Water Shortage Contingency Plan
- Section 9 – Demand Management Measures
- Section 10 – Plan Adoption, Submittal, and Implementation

1.03 Compliance with 2020 Water Use Targets

Adoption of SB X7-7 (Water Conservation Bill of 2009) required retail urban water suppliers to develop baseline daily per capita water use and urban water use targets with the goal of reducing per capita water use by 20 percent by 2020. In the 2020 Plan, retail urban water agencies must demonstrate compliance with their established water use targets for the year 2020. The City's Public Water System achieved compliance with its confirmed 2020 water use target as shown in **Table 1-1**.

Further discussion of compliance is discussed in **Section 5.** The SB X7-7 compliance forms are included in **Appendix E**.

Table 1-1: 2020 Compliance Summary

Agency	2020 Actual Water Use*	Confirmed 2020 Target*
City of Dinuba	**165**	**179**
*All values are in Gallons per Capita per Day (GPCD)		
NOTES: See SB X7-7 Compliance Forms in Appendix E.		

1.04 Lay Description - Fundamental Determinations of the UWMP

California Water Code

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

As detailed in the following sections of this UWMP, the City's Public Water System has sufficient water supplies to meet the needs of their customers for the next twenty years and beyond. Fundamental determinations in this UWMP are summarized as follows.

Water System Description

The Public Water System is a retail water supplier managed and operated by the City. The primary source of supply for the Public Water System is groundwater from City owned wells. The drilling of private wells within City Limits is prohibited by City Ordinance. However, there are a small number of households within the City limits that lie outside the water service area and are currently served by existing private wells.

In 2020, the City's Public Water System service area consisted of 6,311 municipal connections and it supplied a volume of 1,553 million gallons (MG) of water to its service area. Actual 2020 water usage of 165 gallons per capita per day (gpcd) within the Public Water System service area complied with its confirmed 2020 water use target of 179 gpcd as required by SB X7-7.

Water Use Projections

The City has adopted a General Plan and Zoning Ordinances which include land use goals, policies, and implementation measures for development. Proposed land uses within the City's Public Water Service Area per the General Plan are similar to current land uses within the City. The City is largely open land and farmland making up nearly half of the total land use. Single family homes make up about one third of the total land use, with the remainder of land being divided between commercial, industrial, and multi-family homes. Population growth is anticipated to be about 1.85 percent annually based on historic growth rates.

Water demands are anticipated to increase in proportion to population growth. Water demands in the Public Water System service area are projected to total approximately 2,427 MG annually in 2040. The City is in the process of performing studies to update its General Plan to accommodate anticipated residential, commercial, and industrial growth to the west and southwest of the current urban area. The water demand of these additional areas is anticipated to be met by constructing additional public water supply wells.

Water Supplies and Reliability

The City is a member of the Kings River East Groundwater Sustainability Agency (KREGSA) which was formed in compliance with the Sustainable Groundwater Management Act to cooperatively manage local groundwater in a sustainable manner. The KREGSA adopted its Final GSP in December 2019. The KREGSA GSP was submitted to DWR in coordination with 7 other GSPs that together cover the Kings Subbasin. The KRGSA GSP identifies management actions and proposes projects to maintain the groundwater resource in a sustainable condition under future climate change conditions for the next 50 years.

The KREGSA GSP identifies sustainable management criteria for water levels. Maintaining water levels above the Minimum Threshold levels identified in the KREGSA GSP is anticipated to allow the City's wells to meet the demands of the Public Water System while minimizing undesirable results such as chronic groundwater level declines and degraded water quality. The most recent KREGSA GSP Annual Report indicates that groundwater levels at Representative Monitoring Sites near the City are above their designated Minimum Thresholds and on track to meet the forecast groundwater level projections and Interim Milestones established for these wells. Groundwater recharge is proposed to be implemented near the City's well field to help maintain groundwater levels. With implementation of the actions in the KREGSA GSP, the City's groundwater supplies are anticipated to be sufficient to meet its demands for the next 50 years.

The Public Water System has sufficient redundancy to allow for wells and other facilities to be taken offline as needed for maintenance or repairs. Wellhead groundwater treatment facilities have been installed where necessary in order to continue providing water supplies that meet current potable water standards. As population and water demands increase with the Public Water System service area, the City will construct the new wells required to meet the increased demands.

Water Shortage Contingency Planning

The City's Water Shortage Contingency Plan (WSCP) is embodied in City Ordinance 723 and provides measures, referred to as stages, to be implemented in the event of water shortages. The WSCP outlines a program for responding to water supply limitations.

The City's existing water shortage contingency plan uses Stages as opposed to the six standard water shortage levels. The City has developed and included a cross-reference relating its existing categories to the six standard water shortage levels. A water shortage condition is defined as when available water supplies are insufficient to meet the normally expected customer demands. Water shortage conditions may be a result of population growth, climate change, drought, catastrophic events, or other water shortage emergencies declared by either the City, State or Federal government.

In accordance with Water Code requirements, there are six standard water shortage levels and response actions defined in the City's WSCP that increase restrictions on water use in response to increasing levels of water shortage conditions ranging from 10 percent to greater than 50 percent.

The City's WSCP is a stand-alone document. The response actions and other considerations in the City's WSCP will be reviewed on a periodic basis to determine the effectiveness of the implementation of the various measures to achieve the desired water demand reductions. Proposed revisions to the WSCP will be submitted to the City Council for adoption.

Demand Management Measures

The City has implemented demand management measures (DMMs) to achieve its water conservation targets. While the Public Water System has achieved its water use reduction targets, it will continue with the implementation of its existing DMMs and look for ways to improve water use efficiency.

Section 2: Plan Preparation

2.01 Agency Identification

The City manages and operates the City of Dinuba Public Water System (PWS), which is considered a retail urban water supplier. In 2020, the City's Public Water System service area consisted of 6,311 municipal connections and it supplied a volume of 1,553 MG of water to its service area. See **Table 2-1.**

Table 2-1 Retail Only: Public Water Systems

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 (MG)
5410002	City of Dinuba Public Water System	6,311	1,553
TOTAL		**6,311**	**1,553**
NOTES:			

The 2020 UWMP for the City of Dinuba Public Water System is an individual UWMP. Information in this UWMP is presented in Calendar Year format and water quantities are presented in million gallons.

2.02 Coordination and Outreach

California Water Code

Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable (10620(d)(3)).

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 (10642).

Urban water suppliers that rely upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f) (10631(h)).

Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan (10621(b)).

The City of Dinuba does not rely on a wholesale water agency for a source of water. The 2020 UWMP was prepared in coordination with the appropriate agencies that share the common groundwater resource. The City sent out 60 day notices on October 18, 2021 to the County of Tulare, Alta Irrigation District (AID), Kings River Conservation District (KRCD), and KREGSA. Further information on coordination of the Plan and public involvement is included in **Section 10**. Copies of notices are included in **Appendix A**.

Section 3: System Description

3.01 General Description

California Water Code

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

The City of Dinuba is located within the San Joaquin Valley in the northwest corner of Tulare County, approximately 27 miles southeast of the Fresno/Clovis metropolitan area. The foothills of the Sierra Nevada Mountain Range are approximately 9 miles to the east and the Kings River lies approximately five miles to the west. The topography of the City is relatively flat with an elevation of approximately 330 feet above sea level. The area surrounding the City of Dinuba and outside its sphere of influence consists mainly of agricultural lands. Numerous irrigation canals and ditches have been constructed within the vicinity of Dinuba to deliver water from the Kings River to the adjacent agricultural lands.

The City's Public Water System Service Area and the City limits are shown on **Figure 1**. The City's PWS Service Area covers approximately 6.5 square miles and provided water service to 6,311 connections in 2020. Service connections within the PWS are primarily residential with some commercial, light industrial, and public uses.

3.02 Service Area Climate

California Water Code

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

The City of Dinuba experiences a Mediterranean type of climate. The summers are typically very dry and hot, while the winters are cooler with periods of dense tule fog. Precipitation typically occurs during the months of October through April. **Table 3-0** presents the monthly average rates of evapo-transpiration (ET), minimum and maximum temperatures, and precipitation typical for the service area. Climate data is from the California Irrigation Management Information System (CIMIS) Weather Station No. 39 (Parlier.A) which is located approximately 5 miles northwest of Dinuba. The average rainfall is approximately 11.48 inches per year, average high temperature is 76.1 F, and average minimum temperature is 48.7 F. Average monthly ET values are from CIMIS Zone 14.

Table 3-0: Climate													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Monthly ET[(a)] (inches)	1.55	2.24	3.72	5.10	6.82	7.80	8.68	7.75	5.70	4.03	2.10	1.55	57.0
Average Precipitation (inches)[(b)]	2.31	2.00	1.99	0.87	0.41	0.17	0.07	0.05	0.09	0.61	0.99	1.92	11.48
Average Max Temperature (Fahrenheit)[(b)]	57.3	63.6	69.3	74.8	82.2	89.0	94.1	94.2	89.2	78.7	65.6	55.3	76.1
Average Min Temperature (Fahrenheit)[(b)]	38.5	41.0	44.7	47.4	53.1	57.8	62.0	60.4	55.7	48.0	39.8	36.0	48.7

Sources:
[(a)] CIMIS Reference Evapotranspiration Zone 14.
[(b)] http://ipm.ucanr.edu/calludt.cgi/WXDESCRIPTION?MAP=&STN=PARLIER.A

3.03 Service Area Population and Demographics

California Water Code

> *Describe the service area of the supplier, including current and projected population . . . The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available, and (10631(a)).*
>
> *Describe the service area of the supplier, including . . . other social, economic and demographic factors affecting the supplier's water management planning (10631(a)).*

The State of California Department of Finance (DOF) prepares reports with population estimates for Cities and Counties on an annual basis. The DOF report was used for the 2020 population estimate for the City's service area, which is assumed to be the same as the City of Dinuba boundary.

The 2028 Dinuba General Plan used a 3% annual growth rate to determine population projections. This resulted in a 2025 population projection of 33,751 and a 2030 population of 38,813. Continuing this rate to 2040 results in a population of 52,583. However, data from the Census and California Department of Finance show Dinuba has been growing at a slower rate than 3% per year. The actual average annual growth rate between 2010 and 2020 has been 1.85% per year. Population projections for the years 2025 through 2040 in **Table 3-1 Retail** are calculated using the 1.85% annual growth rate and the 2020 population of 25,759 for the City per the DOF.

Table 3-1 Retail: Population - Current and Projected					
Population Served	2020	2025	2030	2035	2040
	25,759	28,232	30,941	33,911	37,166
Annual Growth Rate	N/A	1.85%	1.85%	1.85%	1.85%
NOTES: 2020 population based on DOF Table 2: E-5 City/County Population and Housing Estimates, 1/1/2020. Historical Growth Rate Calculated from years 2010 through 2020					

3.04 Land Uses within Service Area

California Water Code

> *The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities ... (10631(a)).*

Land use is governed by the City for areas within its service area. The City has adopted a General Plan and Zoning Ordinances which include land use goals, policies, and implementation measures for development. Proposed land uses within the City's Public Water Service Area per the General Plan are similar to current land uses within the City. Nearly half of the land within the current City limits is undeveloped or in agricultural use. The majority of the developed lands consist of single family homes, with the remainder of land uses divided between commercial, industrial, and multi-family homes. Since development is proposed to continue with similar land use types as in the past, the use of population projections from **Section 3.03** is determined to be appropriate to estimate future water demands for water management planning purposes.

Section 4: Water Use Characterization

4.01 Past, Current, and Projected Water Use

California Water Code

For an urban retail water supplier, quantify, to the extent records are available, past and current water use, and projected water use (over the same five-year increments described in subdivision (a)), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses: (A) Single-family residential; (B) Multifamily; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; (I) Agricultural (10631(d)(1) and (2)).

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 (10631.1(a)).

Water uses within the Public Water service area for 2020 totaled 1,553 MG. Past water use for the years 2016 through 2019 averaged about 1,383 Million Gallons per Year as shown in the City's DWR 38 (Rev. 8/12) Public Water System Statistics forms. Total water use in 2020 was approximately 12 percent higher than the average total water use for the years 2016 through 2019.

The breakdown of 2020 water demands for the Public Water System service area by the water use sectors from the Water Code is provided in **Table 4-1 Retail**. Brief descriptions of the water use sectors within the City's Public Water System service area and included in **Table 4-1 Retail** are provided below.

- Single Family Residential — One lot with one dwelling unit that may include a detached secondary dwelling.
- Multi Family Residential — Multiple dwelling units contained within one building or several buildings within one complex. The City's data does not provide a separate quantity for multi-family residential water use.
- Commercial — Water users that provide or distribute a product or service.
- Industrial — Water users that are primarily a manufacturer or processor of materials or engaged in research and development.
- Institutional/Governmental — Water users dedicated to public service including schools, courts, churches, hospitals, parks, and other government facilities. The City includes this under commercial water use.

Table 4-1 Retail: Demands for Potable and Raw Water - Actual			
Use Type	2020 Actual		
	Additional Description	Level of Treatment When Delivered	Volume (MG)
Single Family Residential	Includes Multi-Family	Drinking Water	1011
Commercial	Includes Institutional/Governmental	Drinking Water	203
Industrial		Drinking Water	104
Landscape		Drinking Water	85
Other		Drinking Water	0
Losses[1]		Drinking Water	150
TOTAL			**1,553**

NOTES:

1. Losses for 2020 were calculated from Production – Metered as reported on DWR 38 (Rev. 8/12) Public Water System Statistics (**Appendix C)**.

Table 4-2 Retail includes projections of the City's Domestic Water Service Area demands for the years 2025 through 2040 in five year increments. Projections for total future water demands are based on the projected population data from **Table 3-1 Retail** and a potable water use of 179 gpcd (the 2020 daily per capita water use target for the City from the 2015 UWMP).

The percentage distribution of water demands among the various water use types was determined from DWR 38 (Rev. 8/12) Public Water System Statistics (see **Appendix C**). The percentage of water use for the various use types is anticipated to remain about the same in future years. Water demand projections by water use sector in **Table 4-2 Retail** are based on the percentage of total demands as follows:

- Single Family Residential – 65% of total demands
- Commercial – 15% of total demands
- Industrial – 8% of total demands
- Landscape Irrigation– 5% of total demands
- Other 1% of total demands
- Losses – 6% of total demands

Table 4-2 Retail: Demands for Potable and Raw Water - Projected					
Use Type	Additional Description *(as needed)*	Projected Water Use (MG)			
		2025	2030	2035	2040
Single Family Residential	Includes Multi-Family	1199	1314	1440	1578
Commercial	Includes Institutional/Governmental	277	303	332	364
Industrial		148	162	177	194
Landscape		92	101	111	121
Other		18	20	22	24
Losses[1]		111	121	133	146
TOTAL		**1845**	**2021**	**2215**	**2427**
NOTES: Total projected water uses estimated using the 2020 Target of 179 GPCD for the City and population projections per Table 3-1 Retail. Percentage distribution among water use types based on historic averages.					

Table 4-3 Retail summarize the City's total water demands from **Tables 4-1 and 4-2 Retail** respectively. Recycled water demands are discussed in **Section 6.05**.

Table 4-3 Retail: Total Water Demands					
Description	2020	2025	2030	2035	2040
Potable and Raw Water *From Tables 4-1 and 4-2*	1553	1845	2022	2215	2427
Recycled Water Demand *From Table 6-4*	0	0	0	0	0
TOTAL WATER DEMAND	**1553**	**1845**	**2021**	**2215**	**2427**
NOTES:					

4.02 Distribution System Water Losses

California Water Code

For an urban retail water supplier, quantify, to the extent records are available, past and current water use, and projected water use (over the same five-year increments described in subdivision (a)), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:. . . (J) Distribution system water loss. (10631(d)(1) and (2)).

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

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.

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 (10631(d)(3)).

Table 4-4 presents the results of the City's water system audits for the years 2016 through 2018. The audits were completed according to Appendix L of the Guidebook using the AWWA's Water Audit Software. Copies of the City's water loss audit reporting worksheets are provided in **Appendix G**. AWWA Water Audit worksheets were not available for 2019 and 2020.

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

Reporting Period (Calendar Year)	Volume of Water Loss
2016	15.464
2017	47.584
2018	136.772
2019[1]	NA
2020[1]	NA

NOTES:

1. The City's AWWA Water Audit worksheets for 2019 and 2020 were not available. AWWA Water Audit worksheets for years 2016, 2017, and 2018 are provided in **Appendix G**.

4.03 Water Use for Lower Income Households

California Water Code

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 (10631.1(a)).

. . . Water use projections that do not account for these water savings shall be noted of that fact (10631 (e)(4)(B)).

The water use projections for the City's Domestic Water Service Area have not been adjusted to account for future water savings from codes, standards, ordinances, or transportation and land use plans. Future projections are based on the projected average per capita water usage of 179 gpcd and the population projections from **Table 3-1 Retail**. Lower income water demands are included in the water demand projections for the City's Domestic Water Service Area and are estimated to comprise approximately 3 percent of the City's retail service area demands. See **Table 4-5 Retail.**

Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections?	No
Are Lower Income Residential Demands Included In Projections?	Yes
NOTES:	

4.04 Climate Change Considerations

California Water Code

> *It is the intention of the Legislature, in enacting this part, to permit levels of water management planning … while accounting for impacts of climate change (10630).*

Climate Change impacts on water demands were considered as a part of the Kings River East Groundwater Sustainability Agency Groundwater Sustainability Plan (KREGSA GSP) based on DWR climate change factors and guidance. Future Water Demand Assumptions for the City of Dinuba in the KREGSA GSP assumed an increase from 4,230 AF/year in 2016/2017 to 6,300 AF/Year in 2040. Excerpts from the KREGSA GSP regarding projected water budgets and climate change considerations are provided as **Appendix D**.

The City's projected per capita water usage of 179 gallons per day (gpd) is expected to adequately address climate change impacts to urban water demands during the period covered by this UWMP. Discussion of the potential climate change impacts to water supplies is included in **Section 6.10**.

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

This section addresses the City Public Water System's compliance with 2020 per capita water use targets established in accordance with SB X7-7. Baselines and targets were adopted as a part of the 2010 UWMP and updated in the 2015 UWMP utilizing Target Method 3 for the Tulare Lake Hydrologic Region. The SB X7-7 Compliance form for the Public Water System is included in **Appendix E**. The SB X7-7 Verification tables from the 2015 UWMP are also included in **Appendix E** for reference.

5.01 2020 Service Area Population

California Water Code

> *When calculating per capita values for the purposes of this chapter, an urban water retailer shall determine population using federal, state, and local population reports and projections (10608.20(f)).*

The 2020 population estimate for the Public Water System Service Area of 25,759 in Table 3-1 Retail was taken from DOF Table 2: E-5 City/County Population and Housing Estimates for January 1, 2020.

5.02 2020 Gross Water Use

California Water Code

> *"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 (10608.12(g)).*

The 2020 gross water use for the Public Water System is 1,553 Million Gallons as shown in **Table 4-1 Retail**.

5.03 2020 Target

The baseline and target information for the City's Public Water System is summarized in **Table 5-1**.

Table 5-1 Baselines and Targets Summary From SBX7-7 Verification Form *Retail Only*				
Baseline Period	Start Year	End Year	Average Baseline GPCD*	Confirmed 2020 Target*
10 year	*2001*	*2010*	*222*	*179*
5 Year	*2006*	*2010*	*220*	
*All values are in Gallons per Capita per Day (GPCD)				
NOTES: This form was completed for the 2015 UWMP.				

5.04 2020 Compliance Daily Per Capita Water Use

California Water Code

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

Each urban retail water supplier shall meet its urban water use target by December 31, 2020 (10608.24(a)).

Actual 2020 water use was 8.5% lower than the Confirmed 2020 Target water use. However, the City may have experienced additional water use due to stay-at-home orders issued by the State in response to the COVID-19 pandemic. As noted in **Section 4.01**, total water use for 2020 was an increase of approximately 12% from the average total water use for the years 2016 through 2019.

Table 5-2: 2020 Compliance From SBX7-7 Compliance Form *Retail Only**		
Actual 2020 GPCD	2020 Confirmed Target GPCD	Did Supplier Achieve Targeted Reduction for 2020? Y/N
165	179	Yes
**All values are in Gallons per Capita per Day (GPCD)*		
NOTES: See SB X7-7 Compliance form in Appendix E.		

Section 6: Water Supply Characterization

California Water Code

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

(1) A detailed discussion of anticipated supply availability under a normal 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 supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change. (10631 (b))

The City of Dinuba relies on groundwater as its sole water supply source. The City currently operates eight (8) drinking water wells that are located throughout the PWS service area. In addition to the groundwater wells, the City maintains two elevated storage tanks with a capacity of 1.25 million gallons and the 2.0 MG Northeast Water Reservoir, a ground level tank and booster pump station in the northeast section of the City. Wellhead treatment with Granulated Activated Carbon filters has been installed at one of the City's wells.

The distribution system consists of 74 miles of pipelines ranging from 2" and 12" in diameter. The distribution system is run through a Supervisory Control and Data Acquisition (SCADA) system, which uses water pressure in the mentioned elevated tanks to determine tank level and prompt well pumps.

The City uses water from irrigation wells, some of which are impacted by dibromochloroproplane (DBCP), to irrigate 95.5 acres of parks and schools. A shallow aquifer former agricultural well adjacent to the wastewater treatment facility is used to irrigate the golf course.

6.01 Purchased or Imported Water

The City of Dinuba does not utilize purchased or imported water supplies.

6.02 Groundwater

California Water Code

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

(A) The current version of any groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720), any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management for basins underlying the urban water supplier's service area.

(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For a basin that has not been adjudicated,

information as to whether the department has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).

(C) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records. (10631(b)(4))

6.02.1 Groundwater Management (A)

The City of Dinuba lies in the Kings Subbasin of the San Joaquin Valley Groundwater Basin. The City is located within the boundary of the AID and is a member of the KREGSA. AID adopted its first Groundwater Management Plan in 1994, which was subsequently updated in 2010 to comply with state water law[1].

The KREGSA prepared a groundwater sustainability plan (GSP) pursuant to California Water Code Section 10727 The GSP was adopted on December 19, 2019 and is currently under review by the DWR. This GSP[2] will govern sustainable groundwater management within KREGSA's jurisdictional boundaries and within the Kings Subbasin (Basin No. 5-22.08), in coordination with the other six GSAs within the Subbasin.

6.02.2 Groundwater Basin Description (B)

The Kings Subbasin encompasses approximately 1,530 square miles (976,000 acres) within Fresno, Tulare, and Kings counties. The Subbasin is bounded by the San Joaquin River to the north, the Sierra Nevada foothills to the east, the South Fork of the Kings River to the south, and the Delta-Mendota and Westside Sub-basins on the west. Below is an excerpt from the DWR Bulletin 118 describing the Kings Sub-basin aquifer.

The Kings Sub-basin groundwater aquifer system consists of unconsolidated continental deposits. These deposits are an older series of Tertiary and Quaternary age overlain by a younger series of deposits of Quaternary age. The Quaternary age deposits are divided into older alluvium, lacustrine and marsh deposits, younger alluvium, and flood-basin deposits.

The older alluvium is an important aquifer in the subbasin. It consists of intercalated lenses of clay, silt, silty and sandy clay, clayey and silty sand, sand, gravel, cobbles, and boulders. It is, generally, fine grained near the trough of the valley. Lacustrine and marsh deposits are interbedded with the older alluvium in the western portion of the sub-basin.

The younger alluvium is a sedimentary deposit of fluvial arkosic beds that overlies the older alluvium and is interbedded with the flood-basin deposits. Its lithology is similar to the underlying older alluvium. Beneath river channels, the younger alluvium is highly permeable. Beneath flood plains, it may be of poor permeability. The flood-basin deposits occur along the Fresno Slough and James Bypass. They consist of sand, silt, and clay.

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[1] Ground Management Plan.pdf (altaid.org)
[2] GSP – Kings River East

The continental deposits of Tertiary and Quaternary age crop out beneath the extreme southeastern part of the sub-basin and yield small amounts of water to wells. The deposits of Quaternary age are exposed over most of the area and yield more than 90 percent of the water pumped from wells.[3]

6.02.3 Historical pumping (C)

The Kings Subbasin is designated as a critically over-drafted high priority basin by the DWR. The existence of overdraft in the Kings Subbasin is documented by historical decline in ground water levels and is confirmed by the historical water budgets presented by KREGSA and AID.

Historic groundwater pumping volumes within the City of Dinuba service area for the years 2016 through 2020 are provided in **Table 6-1 Retail**.

Table 6-1 Retail: Groundwater Volume Pumped

Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Alluvial Basin	Kings Groundwater Subbasin	1274	1354	1489	1415	1553
TOTAL		**1274**	**1354**	**1489**	**1415**	**1553**
NOTES:						

The Public Water System has sufficient redundancy to allow for wells and other facilities to be taken offline as needed for maintenance or repairs. Wellhead groundwater treatment facilities have been installed where necessary in order to continue providing water supplies that meet current potable water standards. Three additional wells are planned to be installed west and southwest of the existing City urban area to meet the projected growth in City groundwater demand and provide additional redundancy.

6.03 Surface Water

The City of Dinuba does not currently use surface water. In the future the City may explore opportunities to purchase surface water from AID for groundwater recharge within the City limits. A recharge project near the City's wellfield is included as a proposed project in the KREGSA GSP.

6.04 Stormwater

The City captures stormwater generated within the City and discharges these storm flows into City or privately owned and maintained detention or retention basins. Excess storm flows are pumped into irrigation canals.

The City maintains a 28 acre dedicated groundwater recharge basin constructed to help reduce flooding as well as promote groundwater recharge. Smaller basins cover an extra 29.5 acres. The City's stormwater basins serve approximately 1,900 acres of developed land within the City.

[3] Page and LeBlanc 1969, from California Department of Water Resources, Bulletin 118, http://water.ca.gov/groundwater/bulletin118.cfm

6.05 Other Non-Potable Water

The City utilizes former city wells and agricultural wells that are unusable as a potable water source to provide irrigation supplies to City parks and schools. These venues are listed below:

- Rose Ann Vulch Park (10 acres) is irrigated from former City Well #2 which is impacted by DBCP;
- Felix Delgado Park (8 acres) and Wilson Elementary School playground (8 acres) are irrigated from former City Well #7 which is impacted by DBCP.
- KC Vista Park (18.5 acres) is irrigated using a shallow irrigation well.
- Lincoln Elementary School playground (8 acres) is irrigated using a shallow irrigation well.
- Roosevelt Elementary School playground (10 acres) is irrigated using a shallow irrigation well.
- Jefferson Elementary School playground (8 acres) is irrigated using a shallow irrigation well.
- Washington Intermediate School athletic fields (15 acres) is irrigated using a shallow irrigation well.
- Dinuba High School athletic fields (20 acres) is irrigated using a shallow irrigation well.
- Ridge Creek Golf Course (240 acres), which is irrigated from a 12 acre lake fed by a former shallow agricultural well adjacent to the golf course and the WWRF

Flows from these wells are not metered. It is estimated that these facilities use about 380 MG of groundwater annually. This non-potable water use is independent of the City PWS and is not included in the City's water demands elsewhere in this UWMP.

6.06 Wastewater and Recycled Water

California Water Code

> *The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include the following:*
>
> *a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.*
>
> *b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.*
>
> *c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.*
>
> *d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.*
>
> *e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.*

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

g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use. (16033)

The City operates a wastewater reclamation facility (WWRF) that received and treated 746 MG of effluent in 2020. The effluent is treated to secondary treatment standards, then delivered to retention ponds on-site that percolate into the shallow aquifer. There are eleven active ponds, which have an approximate volume of 22 million gallons, and one emergency pond.

Wastewater collected from within the PWS service area in 2020 is summarized in **Table 6-2 Retail.**

Table 6-2 Retail: 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 in 2020	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 Dinuba	Metered	746	City of Dinuba	WWRF	Yes	No
Total Wastewater Collected from Service Area in 2020[1]:		**746**				

NOTES:

A summary of the total wastewater treated at and discharged from City of Dinuba WWRF for 2020 is provided in **Table 6-3 Retail.** Approximately 657 Million Gallons of undisinfected secondary effluent was disposed of in percolation ponds at the WWRF.

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020						
Discharge Location Description	Method of Disposal	Treatment Level	2020 volumes			
			Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
Ponds 1-12	Percolation ponds	Secondary, Undisinfected	657	657	0	0
Total			**657**	**657**	**0**	**0**
NOTES:						

There are no recycled water systems in the City of Dinuba and no funding for proposed recycled water projects in the foreseeable future Tables 6-4, 6-5, 6-6 are not applicable and are not completed. The City has long term interest in utilizing recycled wastewater and will continue to search for funding opportunities to plan, design, and construct recycled water facilities.

6.07 Desalinated Water Opportunities

California Water Code

Describe the opportunities for development of desalinated water, including but not limited to ocean water, brackish water, and groundwater, as a long-term supply. (10631(g))

The City has no plans for the development of desalinated water supplies within the planning horizon of this UWMP. The City is not located near sources of ocean water or brackish groundwater. Desalination is not a feasible solution for its water supply needs.

6.08 Exchanges and Transfers

California Water Code

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

The City does not participate in water transfers or exchanges.

6.09 Future Water Projects

California Water Code

Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of

expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single dry water years and for a period of drought lasting five consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program (10631(f)).

The City is currently in engineering design for a new Well No. 21. Two additional wells are programmed for future construction depending on future water supply needs. The City is also investigating the Dinuba Wellfield Multi-Benefit Project, a proposed grant funded project to improve groundwater quality and sustainability through recharge and targeted wellfield modifications. Funding is not currently available to upgrade the WWRF to treat water to tertiary conditions.

The City's expected future water supply projects are summarized in **Table 6-7 Retail.**

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

Name of Future Projects or Programs	Joint Project with other agencies?	Description (if needed)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Agency
Construction of New Well No. 21	No		2022	All year types	402
Construction of New Well No. 22	No		2027	All year types	402
Construction of Well No. 23	No		2032	All year types	402
NOTES:					

6.10 Summary of Existing and Planned Sources of Water

California Water Code

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

(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies. (10631 (b))

A detailed description and analysis of the amount, and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records (10631(b)(4)(D)).

The City of Dinuba relies exclusively on groundwater pumping as its water supply source. Actual groundwater pumping for 2020 for the Public Water System service area is provided in **Table 6-8 Retail.** Projections for groundwater pumping are provided in **Table 6-9 Retail**. Projections of groundwater pumping are equal to the projected demands from **Table 4-2 Retail**.

Table 6-8 Retail: Water Supplies — Actual			
Water Supply Source	Additional Detail on Water Supply	2020	
		Actual Volume	Water Quality
Groundwater (not desalinated)	City Wells	1553	Drinking Water
Total		**1553**	
NOTES:			

Table 6-9 Retail: Water Supplies — Projected					
Water Supply Source	Additional Detail on Water Supply	Projected Water Supply *Reasonably Available Volume*			
		2025	2030	2035	2040
Groundwater (not desalinated)	City Wells	**1845**	**2021**	**2215**	**2427**
Total		**1845**	**2021**	**2215**	**2427**
NOTES:					

6.11 Special Conditions – Climate Change Effects, Regulatory Conditions, and Project Development

As noted in **Section 4.04**, climate change impacts were considered as a part of the KREGSA GSP. DWR climate change guidance referenced in the KREGSA GSP indicates that a change in timing of Kings River flows is anticipated, with more flows in the winter and early spring and less in the summer. However, the total Kings River flow volume is not expected to change significantly. Similarly, climate change impacts to water demands are not anticipated to be significant. Chapter 3.3.10 Projected Water Budget from the KREGSA GSP is included as **Appendix D**. Conclusions from the climate change discussion in the KREGSA GSP are summarized as follows:

- Projected climate change impacts to total annual Kings River flow volumes are negligible.
- The change in timing of flows would require significant changes in water management.
- Appropriate projects and management actions will be developed and implemented as a part of the GSP to maintain sustainable groundwater supplies for the KREGSA.

Discussions regarding regulatory conditions and project development are included in previous sections of the Plan.

6.12 Energy Use

California Water Code

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 (10631.2(a)).

The estimated energy used to extract, divert, convey, treat, and distribute water for the City's Public Water System was determined from the energy utility invoices received during 2020 for its various water system facilities. Energy is used primarily for groundwater wells and booster pumps.

The Public Water System's estimated energy intensity for 2020 is calculated based on the Total Utility Approach as described in Appendix O of the Guidebook and shown in **Table O-1B**. The estimated energy use of 1,457,726 kilowatt-hours (kWh) for 2020 includes -367,723 kWh that reflects power generated at Well 20 that was sold back to the grid where utility metering reflects negative energy usage. The volume of water entering the process is the total domestic water use of 1,553 MG from **Table 4-1 Retail**.

Table O-1B: Recommended Energy Reporting - Total Utility Approach		
Reporting Period	2020	**Urban Water Supplier Operational Control Sum of All Water Management Processes Total Utility**
Volume of Water Entering Process (AF)		*1,553*
Energy Consumed (kWh)		*1,457,726*
Energy Intensity (kWh/vol. converted to MG)		*938.7*

Section 7: Water Service Reliability and Drought Risk Assessment

7.01 Water Service Reliability Assessment

California Water Code

> *Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier (10635(a)).*
>
> *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 (10631(b)(1)).*

The City anticipates that its sources of supplies will be available to meet demands on a consistent basis for all year types throughout the planning horizon of this UWMP. The KREGSA GSP includes implementation or projects and management actions which are anticipated to maintain the groundwater basin in a sustainable condition.

The Public Water System service area relies solely on groundwater pumping to meet its demands. With implementation of the projects and management actions identified in the KREGSA GSP, the City's groundwater supplies are anticipated to be sustainable and available to meet the projected demands of its Public Water System service area. The KREGSA GSP identifies sustainable management criteria for water levels. Maintaining water levels above the Minimum Threshold levels identified in the KREGSA GSP is anticipated to allow the City's wells to meet the demands of the Public Water System while minimizing undesirable results related to chronic groundwater level declines such as declining pump capacity, well inefficiency, water levels falling below pump intakes and pump screens, and degraded water quality. The most recent KREGSA GSP Annual Report indicates that groundwater levels Representative Monitoring Sites near the City are above their designated Minimum Thresholds and on track to meet the forecast groundwater level projections and Interim Milestones established for these wells. Groundwater recharge is proposed to be implemented near the City's well field to help maintain groundwater levels.

As population and water demands increase with the Public Water System service area, the City will construct the new wells required to meet the increased demands. Groundwater wells will be equipped with wellhead treatment if needed to remove contaminants that exceed water quality standards.

The anticipated reliability of the City's water supplies to meet the needs of the Public Water System service area for the various water year types is summarized in **Table 7-1 Retail**. The recent dry period of 2012 through 2016 is shown as the basis of water year data for the multiple dry years scenario with 2015 shown as the basis of water year data for the single dry year.

Table 7-1 Retail: Basis of Water Year Data

Year Type	Base Year	Available Supplies if Year Type Repeats
		% of Average Supply
Average Year	2020	100%
Single-Dry Year	2015	100%
Multiple-Dry Years 1st Year	2012	100%
Multiple-Dry Years 2nd Year	2013	100%
Multiple-Dry Years 3rd Year	2014	100%
Multiple-Dry Years 4th Year	2015	100%
Multiple-Dry Years 5th Year	2016	100%
NOTES: The City relies solely on groundwater pumping to meet its demands. It is anticipated that the City can provide 100% of average supplies in every year.		

A comparison of the Public Water System service area's normal year supply totals from **Table 6-9 Retail** and normal year demand totals from **Table 4-3 Retail** is provided in **Table 7-2 Retail**.

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

Description	2025	2030	2035	2040
Supply totals *(from Table 6-9 Retail)*	1845	2021	2215	2427
Demand totals *(from Table 4-3 Retail)*	1845	2021	2215	2427
Difference	0	0	0	0
NOTES:				

The City anticipates having no reduction in its available water supplies for the Public Water System service area during the single dry year scenario. Its supplies are projected to be adequate to meet demands in future years. A comparison of the Public Water System service area's supply and demand projections for the single dry year scenario is shown in **Table 7-3 Retail**. Since groundwater pumping is limited to the amount needed to meet demands, the supply is shown to be equal to demand.

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison				
Description	2025	2030	2035	2040
Supply totals	1845	2021	2215	2427
Demand totals	1845	2021	2215	2427
Difference	0	0	0	0
NOTES:				

The comparison of the Public Water System's projected water supplies and demands for the required five-year multiple dry years scenario is provided in **Table 7-4 Retail**. Although the City anticipates no reduction in its available supplies, it is assumed that water supplies and water demands are reduced by 10 percent in the second dry year and by 15 percent in the third through fifth dry years as a result of water conservation measures expected to be implemented during an extended drought period. Since groundwater pumping is limited to the amount needed to meet demands, the demands are shown to be equal to supplies in each year.

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison					
Description		2025	2030	2035	2040
First year	Supply totals	1845	2021	2215	2427
	Demand	1845	2021	2215	2427
	Difference	0	0	0	0
Second year	Supply totals	1,661	1,819	1,994	2,184
	Demand	1,661	1,819	1,994	2,184
	Difference	0	0	0	0
Third year	Supply totals	1,568	1,718	1,883	2,063
	Demand	1,568	1,718	1,883	2,063
	Difference	0	0	0	0
Fourth year	Supply totals	1,568	1,718	1,883	2,063
	Demand	1,568	1,718	1,883	2,063
	Difference	0	0	0	0
Fifth year	Supply totals	1,568	1,718	1,883	2,063
	Demand	1,568	1,718	1,883	2,063
	Difference	0	0	0	0
NOTES: Assumes that supplies and demands are reduced by 10% in the second dry year and by 15% in the third through fifth dry years as a result of water conservation measures expected to be implemented.					

7.02 Description of Management Tools and Options

California Water Code

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 (10620(f)).

The tools and options used by the City to maximize resources and minimize the need to import water from other regions include the following, which are described in other sections of the Plan.

- Participation in the KREGSA GSP implementation, including local groundwater recharge projects.
- Implementation of the Dinuba Wellfield Multi-Benefit Project, a proposed grant funded project to improve groundwater quality and sustainability through recharge and targeted wellfield modifications.
- Continuing efforts regarding water conservation and demand management (**Section 9**)

7.03 Drought Risk Assessment

California Water Code

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 (10635(b)).

The water supplies for the Public Water System are projected to be adequate to meet demands during the years of the Drought Risk Assessment. The Five-Year Drought Risk Assessment for the Public Water System is presented in **Table 7-5**.

Although the City anticipates no reduction in its available supplies, it is assumed that water supplies and water demands are reduced by 10 percent in the second dry year and by 15 percent in the third through fifth dry years as a result of water conservation measures expected to be implemented during an extended drought period. Since groundwater pumping is limited to the amount needed to meet demands, the demands are shown to be equal to supplies for 2021. In years 2022 through 2025, the reduction in demands will be accomplished by implementation of appropriate measures from the Water Shortage Contingency Plan (See **Section 8**).

Table 7-5 Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)	
2021	Total
Total Water Use	1,715
Total Supplies	1,715
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP – supply augmentation benefit	0
WSCP – use reduction savings benefit	0
Revised Surplus/Shortfall	0
Resulting % Use Reduction from WSCP Action	0%
2022	Total
Total Water Use	1,748
Total Supplies	1,573
Surplus/Shortfall w/o WSCP Action	(175)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP – supply augmentation benefit	0
WSCP – use reduction savings benefit	175
Revised Surplus/Shortfall	0
Resulting % Use Reduction from WSCP Action	10%
2023	Total
Total Water Use	1,780
Total Supplies	1,513
Surplus/Shortfall w/o WSCP Action	(267)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP – supply augmentation benefit	0
WSCP – use reduction savings benefit	267
Revised Surplus/Shortfall	0
Resulting % Use Reduction from WSCP Action	15%

2024	Total
Total Water Use	1,812
Total Supplies	1,540
Surplus/Shortfall w/o WSCP Action	(272)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP – supply augmentation benefit	0
WSCP – use reduction savings benefit	272
Revised Surplus/Shortfall	0
Resulting % Use Reduction from WSCP Action	15%
2025	Total
Total Water Use	1,845
Total Supplies	1,568
Surplus/Shortfall w/o WSCP Action	(277)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP – supply augmentation benefit	0
WSCP – use reduction savings benefit	277
Revised Surplus/Shortfall	0
Resulting % Use Reduction from WSCP Action	15%

Section 8: Water Shortage Contingency Plan

Current law requires urban water suppliers to prepare and adopt a Water Shortage Contingency Plan (WSCP) with the elements described in this subsection. The 2020 WSCP for the City is included in **Appendix F**.

8.01 Water Supply Reliability Analysis

California Water Code

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

The water supply reliability analysis and drought risk assessment from Section 7 are summarized in the City's WSCP provided in **Appendix F**.

8.02 Annual Water Supply and Demand Assessment Procedures

California Water Code

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 (a)(2))

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 (10632(1)).

Refer to the City's WSCP in **Appendix F** for the annual water supply and demand assessment procedures.

8.03 Six Standard Water Shortage Levels

California Water Code

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

(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage levels 10632(a)(3).

The six standard water shortage levels as defined in the City's WSCP are summarized in **Table 8-1**.

Table 8-1: Water Shortage Contingency Plan Levels		
Shortage Level	**Percent Shortage Range**	**Shortage Response Actions** *(Narrative Description)*
1	Up to 10%	Variations in precipitation and mild droughts that may only last a year or two.
2	Up to 20%	Prolonged water shortages of moderate severity such as those caused by a multi-year drought.
3	Up to 30%	Most severe multi-year droughts, major failures in water production and distribution facilities.
4	Up to 40%	An exceptional crisis that could be caused only by the most severe multi-year drought, natural disaster, or catastrophic failure of major water supply infrastructure. Impacts to public health and safety would be significant.
5	Up to 50%	
6	>50%	
NOTES:		

8.04 Shortage Response Actions

California Water Code

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

(A) Locally appropriate supply augmentation action.

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

(C) Locally appropriate operational changes.

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

(E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action (10632(a)(4)).

The demand reduction actions for the Public Water System service area for each Shortage Level from the City's WSCP are summarized in **Table 8-2**. The Shortage Level in **Table 8-2** indicates the shortage level at which the demand reduction actions take effect. For each subsequent stage, all demand reduction actions from the previous Shortage Level remain in effect. In Shortage Level 1, the demand reduction actions are voluntary. Starting with Shortage Level 2, the demand reduction actions become mandatory. A copy of the City's Municipal Code Chapter 13.05 Water Conservation is provided in **Appendix F**.

Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	Reduction in Shortage Gap	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
All Shortage Levels	Expand Public Information Campaign	Depends on Shortage Level. See Notes.	Implemented at all shortage levels as appropriate to meet demand reduction targets	No
All Shortage Levels	Provide Rebates on Plumbing Fixtures and Devices	Depends on Shortage Level. See Notes.	Implemented at all shortage levels as appropriate to meet demand reduction targets	No
All Shortage Levels	Provide Rebates for Turf Replacement	Depends on Shortage Level. See Notes.	Implemented at all shortage levels as appropriate to meet demand reduction targets	No
All Shortag e Levels	Landscape - Restrict or prohibit runoff from landscape irrigation	Depends on Shortage Level. See Notes.	Municipal Code (MC) Sec 13.05.050 A	No for Level 1, Yes for Levels 2 and Higher
All Shortage Levels	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Depends on Shortage Level. See Notes.	MC Sec 13.05.050 B	No for Level 1, Yes for Levels 2 and Higher
All Shortage Levels	Other - Require automatic shut of hoses	Depends on Shortage Level. See Notes.	MC Sec 13.05.050 C	No for Level 1, Yes for Levels 2 and Higher
All Shortage Levels	Landscape - Limit landscape irrigation to specific times	Depends on Shortage Level. See Notes.	MC Sec 13.05.050 D	No for Level 1, Yes for Levels 2 and Higher
2 and 3	Improve Customer Billing	Up to 30% (See Notes 2 and 3)	Implemented in shortage levels 2 and higher as appropriate to meet demand reduction targets	No
2 and 3	Landscape - Limit landscape irrigation to specific times	Up to 30% (See Notes 2 and 3)	MC Sec 13.05.060 B.1	Yes
2 and 3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Up to 30% (See Notes 2 and 3)	MC Sec 13.05.060 B.2	Yes
2 and 3	Other water feature or swimming pool restriction	Up to 30% (See Notes 2 and 3)	MC Sec 13.05.060 B.3	Yes

Shortage Level	Demand Reduction Actions	Reduction in Shortage Gap	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
2 and 3	Other water feature or swimming pool restriction	Up to 30% (See Notes 2 and 3)	MC Sec 13.05.060 B.4	Yes
2 and 3	Other - Prohibit use of potable water for washing hard surfaces	Up to 30% (See Notes 2 and 3)	MC Sec 13.05.060 B.5	Yes
2 and 3	CII - Restaurants may only serve water upon request	Up to 30% (See Notes 2 and 3)	MC Sec 13.05.060 B.6	Yes
4-6	Decrease Line Flushing	Greater than 30% up to shortage gap (See Notes 4-6)	Implemented in shortage levels 4 and higher as appropriate to meet demand reduction targets	No
4-6	Offer Water Use Surveys	Greater than 30% up to shortage gap (See Notes 4-6)	Implemented in shortage levels 4 and higher as appropriate to meet demand reduction targets	No
4-6	Increase Water Waste Patrols	Greater than 30% up to shortage gap (See Notes 4-6)	Implemented in shortage levels 4 and higher as appropriate to meet demand reduction targets	No
4-6	Landscape - Limit landscape irrigation to specific days	Greater than 30% up to shortage gap (See Notes 4-6)	MC Sec 13.05.060 C.1	Yes
4-6	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Greater than 30% up to shortage gap (See Notes 4-6)	MC Sec 13.05.060 C.2	Yes
4-6	Decrease Line Flushing	Greater than 30% up to shortage gap (See Notes 4-6)	MC Sec 13.05.060 C.3	Yes
4-6	Landscape - Prohibit certain types of landscape irrigation	Greater than 30% up to shortage gap (See Notes 4-6)	MC Sec 13.05.060 C.4	Yes
4-6	Other water feature or swimming pool restriction	Greater than 30% up to shortage gap (See Notes 4-6)	MC Sec 13.05.060 C.5	Yes

Shortage Level	Demand Reduction Actions	Reduction in Shortage Gap	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
4-6	Other water feature or swimming pool restriction	Greater than 30% up to shortage gap (See Notes 4-6)	MC Sec 13.05.060 C.6	Yes

NOTES:

1. Target demand reduction for all measures in effect at Shortage Level 1 is up to 10%.
2. Target demand reduction for all measures in effect for Shortage Level 2 is up to 20%.
3. Target demand reduction for all measures in effect for Shortage 3 is up to 30%.
4. Target demand reduction for all measures in effect for Shortage Level 4 is up to 40%.
5. Target demand reduction for all measures in effect for Shortage Level 5 is up to 50%.
6. Target demand reduction for all measures in effect for Shortage Level 6 is greater than 50% up to the anticipated shortage gap.

See Appendix F for the City's complete Water Shortage Contingency Plan.

The City Council may take other action to further reduce demands within the Public Water System service area to meet available supplies or augment supply from sources outside the City, See **Table 8-3.**

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			
All Shortage Levels	See Notes	Depends on Shortage Level	Depends on nature of shortage

NOTES: City of Dinuba is solely reliant on groundwater. Supply augmentation options could include purchasing water from AID, extraction from the Kings River, or purchase and distribution of bottled water. These may be implemented during an exceptional crisis caused by the most severe multi-year drought, natural disaster, or catastrophic failure of major water supply infrastructure where impacts to public health and safety would be significant.

8.05 Seismic Risk Assessment and Mitigation Plan

California Water Code

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

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

c) An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk (10632(a)(2)).

A seismic risk analysis and mitigation plan was completed as a part of the Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP). A copy of the City of Dinuba Annex to the Tulare County MJLHMP is provided in **Appendix H.**

In the event of an earthquake or other catastrophic event, the City will implement its Water System Emergency Response Plan. The City-wide response plan protocol is described in the City of Dinuba Emergency Operations Center Activation Manual.

8.06 Communication Protocols

California Water Code

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

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

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

(C) Any other relevant communications (10632(a)(5)).

Refer to the City's WSCP in **Appendix F** for a description of communication protocols.

8.07 Compliance and Enforcement (Public Water System Service Area)

California Water Code

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 (10632(a)(6)).

Refer to the City's WSCP in **Appendix F** for compliance and enforcement procedures.

8.08 Legal Authorities

California Water Code

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

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

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

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 (10632(a)(7)).

Refer to the City's WSCP in **Appendix F** for the legal authorities that empower its implementation.

8.09 Financial Consequences of WSCP

California Water Code

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 (10632(a)(8)).

Refer to the City's WSCP in **Appendix F** for a discussion of the financial consequences of water shortage conditions.

8.10 Monitoring and Reporting (Public Water System Service Area)

California Water Code

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 (10632(a)(9)).

Refer to the City's WSCP in **Appendix F** for monitoring and reporting requirements and procedures.

8.11 WSCP Refinement Procedures (Public Water System Service Area)

California Water Code

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 (10632(a)(10)).

Refer to the City's WSCP in **Appendix F** for evaluation and refinement procedures.

8.12 Special Water Feature Distinction (Public Water System Service Area)

California Water Code

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 (10632(b)).

Refer to the City's WSCP in **Appendix F** for measures that may apply to special water features.

8.13 Plan Adoption, Submittal and Availability

California Water Code

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 (10632(a)(c)).

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

If an urban water supplier revises its water shortage contingency plan, the supplier shall submit to the department a copy of its water shortage contingency plan prepared … no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department (10644(b)).

The adoption, submittal, and availability for the City's WSCP are included as a part of this 2020 UWMP update as described in **Section 10.02**.

Section 9: Demand Management Measures

9.01 Demand Management Measures

California Water Code

. . .The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20 (10631(f)(1)(A)).

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.*

9.01.1 Water Waste Prevention Ordinances

The City has adopted water waste prevention measures as a part of its Municipal Code in Chapter 13, as a part of its WSCP. Copies of the City's 2020 WSCP and Municipal Code chapters are provided in **Appendix F**.

9.01.2 Metering

All customers within the Public Water System service area are charged based on metered readings and established rate schedules. All current and new connections including temporary connections are required to be metered and billed per volume of use. Well production is metered and recorded.

9.01.3 Conservation Pricing (Public Water System)

Customers within the Public Water System service area are billed a monthly service charge and a quantity charge for water usage according to meter readings. A copy of the City's current rate schedule for the Public Water System is provided below. The City's water rate structure meets the definition for conservation pricing since customers are charged a volumetric rate.

Table 9-1: Water Rate Schedule			
DESCRIPTION	RESIDENTIAL	INDUSTRIAL	COMMERCIAL
Fixed Charge (per month)	$12.09	$12.09	$12.09
Quantity Rates (per kgals)			
First 9,000 Gallons	$1.210	$1.562	$1.470
Over 9,000 Gallons	$1.961		

9.01.4 Public Education and Outreach

The City has implemented public education and outreach measures including the following:

- Expanded Public Information Campaign, providing water conservation information and links on the City's website, social media, mailers and flyers.
- Providing information to link consumers with rebate programs for plumbing fixtures and devices
- Providing information to link consumers with rebate programs for turf replacement
- Providing bill inserts to educate and remind customers to conserve water.
- Offering water use surveys to provide one on one counseling for interested customers or excessive use.

9.01.5 Programs to Assess and Manage Distribution System Real Loss (Public Water System)

Water production and consumption are monitored to identify possible areas of leakage. Customer billing records are monitored for unusually high water use. The City's Public Water System losses over the last five years have averaged approximately 6 percent per year.

9.01.6 Water Conservation Program Coordination and Staffing Support

There is no designated water conservation coordinator. Tasks are generally divided between the Public Works Director, City Engineer, and the Public Works Utility Supervisor. The Public Works Department would like to hire a full time water conservation coordinator, but funds are not available at this time.

9.01.7 Other Demand Management Measures

Although the City does not possess funds to offer rebates and incentives for water conservation implementation, they direct customers to State funded rebate programs. The City uses social media, flyers, mailers, and other public outreach measures to promote low flow toilet and turf replacement for customers. They have a rigorous account monitoring system to detect unusual consumption and target potential leaks. The City provides information to customers regarding efficient water use and performs individual water audits for those interested.

9.01.8 Implementation over the Past Five Years

California Water Code

> *(Provide) a narrative description of that addresses the nature and extent of each water demand management measure implemented over the past five years (10631(f)(1)(A)).*

A narrative description of the nature of demand management measures implemented over the past five years is provided in previous sections:

- The City has been 100% metered for decades.
- The City's water rate structure meets the definition for conservation pricing since customers are charged a volumetric rate.
- The City tracks distribution system loses
- The City engages in public outreach through billing inserts and information and links posted on its website.
- The City closely monitors customer usage monthly for excessive use or waste.

9.01.9 Implementation to Achieve Water Use Targets (Public Water System)

California Water Code

> *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 (10631(f)(1)(A)).*

While the Public Water System has achieved its water use reduction targets, it will continue with the implementation of its existing DMMs and look for ways to improve water use efficiency.

Section 10: Plan Adoption, Submittal, and Implementation

10.01 Public Notice

California Water Code

> *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 (10621(b)).*
>
> *…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 (10642).*
>
> *…Prior to adopting either [the plan or water shortage contingency plan], the urban water supplier shall make both of the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies.*
>
> *Government Code section 6066 - Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day (10642).*

The efforts the City has taken to involve appropriate agencies and the general public in the planning process are summarized below. Copies of notices are included in **Appendix A**.

For the 2020 Plan update and Water Shortage Contingency Plan, the public hearing was held on January XX, 2022. Accordingly, notice was provided as follows:

- Notice to County on October 18, 2021 (at least 60 days prior to hearing),
- Letter to Interested Parties (see **Section 2.02**) on October 18, 2021,
- Notice to County and Interested Parties with date and time of hearing on Mmmm DD, 2021,
- Notice in local newspaper on Mmmm DD, 2021 and Mmmm DD, 2021 (per Gov. Code 6066 – 2 weeks in advance of hearing),
- Posted Draft 2020 UWMP at City Hall on Mmmm DD, 2021 (2 weeks prior to hearing), and
- Drafts of the documents were provided to the entities that requested such drafts.

10.02 Plan Adoption, Submittal, and Implementation

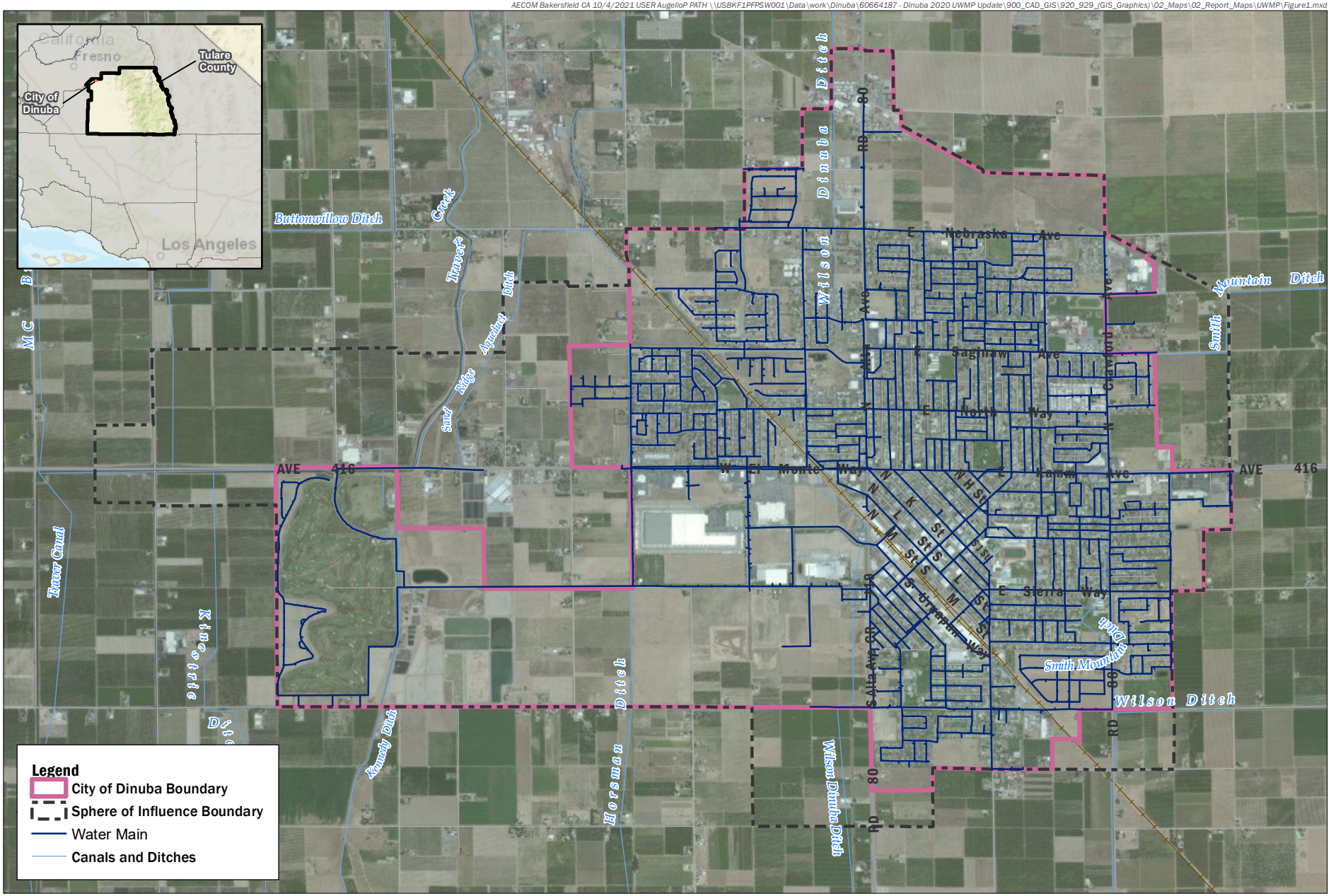
California Water Code

> *After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing (10642).*
>
> *Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021… (10621(e)).*
>
> *The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan (10635(c)).*
>
> *The plan, or amendments to the plan, submitted to the department … shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department (10644(a)(2)).*
>
> *An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption (10644(a)(1).*
>
> *Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours. (10645(a)).*
>
> *An urban water supplier regulated by the Public Utilities Commission shall include its most recent plan and water shortage contingency plan as part of the supplier's general rate case filings (10621(c)).*
>
> *The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640) (10621(d)).*
>
> *Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption (10644(a)(1)).*

The 2020 UWMP update and Water Shortage Contingency Plan were adopted by the City at the Regular Meeting of the City Council on January XX, 2022. A public hearing was held on January XX, 2022. The intent of the Public Hearing was to gather input from the public that is served by the City as well as other interested entities. Written and verbal comments received during the public hearing process have been addressed as appropriate in the final Plan documents. A copy of the resolution adopting the 2020 UWMP update and Water Shortage Contingency Plan is included in **Appendix B**.

The 2020 UWMP update will be submitted to the California Department of Water Resources, the California State Library, and the County within 30 days of adoption.

Commencing no later than 30 days after adoption, the City will have a copy of the 2020 UWMP and Water Shortage Contingency Plan available for public review at City Hall during normal business hours. The 2020 UWMP and Water Shortage Contingency Plan will also be posted on the City's website.



AECOM
City of Dinuba

FIGURE 1

Appendix A:

Notices:

- Notice of UWMP Preparation
- Notice of Public Hearing
- Proof of Publication

CITY OF DINUBA
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City Manager's Office
559/591-5904

City Attorney
559/734-6729

Administrative Services
559/591-5900

Development Services
559/591-5906

Public Works Services
559/591-5924

Engineering Services
559/591-5906

Parks & Community Services
559/591-5940

Fire/Ambulance Services
559/591-5931

Police Services
559/591-5914

October 18, 2021

ALTA IRRIGATION DISTRICT
289 N. L STREET
DINUBA, CA 93618

SUBJECT: 60-Day Notice - Preparation of 2020 Update to the City of Dinuba Urban Water Management Plan

In accordance with the California Water Code Sections 10620 and 10621, you are being notified that the City of Dinuba is reviewing its Urban Water Management Plan (UWMP) and considering amendments or changes to the Plan. The City's 2020 UWMP Update is being prepared in accordance with the Urban Water Management Planning Act and current California Water Code requirements.

This letter provides the required 60-day notice of the Public Hearing and Adoption Meeting for the City's 2020 UWMP Update which is planned to be held on January 2022. Information regarding the time and location of the public hearing will be sent at a later date. An electronic file with the draft UWMP is anticipated to be provided during the meeting on January 2022. After adoption by the City, the UWMP will be submitted to the California Department of Water Resources.

The City welcomes your input regarding the preparation of the 2020 UWMP. If you have any comments regarding the City's 2020 UWMP Update, please provide them to the City at your earliest convenience.

Sincerely,

Ismael Hernandez
Public Works Director

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City Manager's Office
559/591-5904

City Attorney
559/734-6729

Administrative Services
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Development Services
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Public Works Services
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Engineering Services
559/591-5906

Parks & Community Services
559/591-5940

Fire/Ambulance Services
559/591-5931

Police Services
559/591-5914

October 18, 2021

COUNTY CLERK
221 S. MOONEY BOULEVARD
VISALIA, CA 93291

SUBJECT: 60-Day Notice - Preparation of 2020 Update to the City of Dinuba Urban Water Management Plan

In accordance with the California Water Code Sections 10620 and 10621, you are being notified that the City of Dinuba is reviewing its Urban Water Management Plan (UWMP) and considering amendments or changes to the Plan. The City's 2020 UWMP Update is being prepared in accordance with the Urban Water Management Planning Act and current California Water Code requirements.

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Sincerely,

Ismael Hernandez
Public Works Director

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Engineering Services
559/591-5906

Parks & Community Services
559/591-5940

Fire/Ambulance Services
559/591-5931

Police Services
559/591-5914

October 18, 2021

KINGS RIVER CONSERVATION DISTRICT
4886 E JENSEN AVE
FRESNO, CA 93725

SUBJECT: 60-Day Notice - Preparation of 2020 Update to the City of Dinuba Urban Water Management Plan

In accordance with the California Water Code Sections 10620 and 10621, you are being notified that the City of Dinuba is reviewing its Urban Water Management Plan (UWMP) and considering amendments or changes to the Plan. The City's 2020 UWMP Update is being prepared in accordance with the Urban Water Management Planning Act and current California Water Code requirements.

This letter provides the required 60-day notice of the Public Hearing and Adoption Meeting for the City's 2020 UWMP Update which is planned to be held on January 2022. Information regarding the time and location of the public hearing will be sent at a later date. An electronic file with the draft UWMP is anticipated to be provided during the meeting on January 2022. After adoption by the City, the UWMP will be submitted to the California Department of Water Resources.

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Sincerely,

Ismael Hernandez
Public Works Director

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City Manager's Office
559/591-5904

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559/734-6729

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Public Works Services
559/591-5924

Engineering Services
559/591-5906

Parks & Community Services
559/591-5940

Fire/Ambulance Services
559/591-5931

Police Services
559/591-5914

October 18, 2021

KINGS RIVER EAST GSA
289 N. L STREET
DINUBA, CA 93618

SUBJECT: 60-Day Notice - Preparation of 2020 Update to the City of Dinuba Urban Water Management Plan

In accordance with the California Water Code Sections 10620 and 10621, you are being notified that the City of Dinuba is reviewing its Urban Water Management Plan (UWMP) and considering amendments or changes to the Plan. The City's 2020 UWMP Update is being prepared in accordance with the Urban Water Management Planning Act and current California Water Code requirements.

This letter provides the required 60-day notice of the Public Hearing and Adoption Meeting for the City's 2020 UWMP Update which is planned to be held on January 2022. Information regarding the time and location of the public hearing will be sent at a later date. An electronic file with the draft UWMP is anticipated to be provided during the meeting on January 2022. After adoption by the City, the UWMP will be submitted to the California Department of Water Resources.

The City welcomes your input regarding the preparation of the 2020 UWMP. If you have any comments regarding the City's 2020 UWMP Update, please provide them to the City at your earliest convenience.

Sincerely,

Ismael Hernandez
Public Works Director

Appendix B:

Resolution Adopting 2020 UWMP and WSCP

(To be included in Final UWMP)

Appendix C:

Public Water System Statistics 2016-2020

#12 #10 #11 #7

State of California

DEPARTMENT OF WATER RESOURCES

California Natural Resources Agency

PUBLIC WATER SYSTEM STATISTICS

Calendar Year **2016**

5410002 SJD City of Dinuba,
Ismael Hernandez Public Works
Supervisor 405 E. El Monte Way
Dinuba, CA 93618

1. General Information

Please follow the provided instructions.

Contact : Ismael Hernandez
Title: Supervisor
Phone: (559) 591-5924 ext. 108
Fax: (559) 591-5923
E-mail: ihnernandez@dinuba.ca.gov
Website: www.dinuba.org
County: **Tulare**
Population served:
Names of communities served: Dinuba
Please enter population 24657

2. Active Service Connections

Customer Class	Potable Water		Recycled Water	
	Metered	Unmetered	Metered	Unmetered
Single Family Residential	5111			
Multi-family Residential	1259			
Commercial/Institutional	619			
Industrial	3			
Landscape Irrigation	20			
Other				
Agricultural Irrigation				
TOTAL	7012			

3. Total Water Into the System - Units of production:

MG (Select: **AF**=acre-feet; **MG**=million gallons; **CCF**=hundred cubic feet)

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Potable	*Wells*	72.15	63.59	75.92	87.88	114.74	139.27	152.15	155.73	131.64	122.12	85.95	72.60	1273.74
	Surface													
	Purchased [1/]													
	Total Potable	72.15	63.59	75.92	87.88	114.74	139.27	152.15	155.73	131.64	122.12	85.95	72.60	1273.74
Untreated Water														
Recycled [2/]														

1/ Potable wholesale supplier(s):

2/ Recycled wholesale supplier(s):

Level of treatment: Well #14 granulate active carbon

4. Metered Water Deliveries - Units of delivery:

MG (Select: **AF**=acre-feet; **MG**=million gallons; **CCF**=hundred cubic feet)

If recycled is included, X box ↓		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
A.SingleFamilyResidential		46.19	44.13	46.53	55.54	70.12	87.22	106.01	106.00	100.66	86.79	67.2	53.08	869.47
B.Multi-family Residential														
C.Commercial/Institutional		8.31	8.16	8.25	11.02	14.67	18.06	23.33	22.84	24.61	25.25	18.81	14.43	197.74
D.Industrial		11.72	12.86	13.45	13.67	10.05	8.98	9.92	10.55	9.43	9.5	9.41	10.02	129.56
E.Landscape Irrigation		1.24	1.12	0.73	1.51	4.21	5.04	6.03	11.97	11.13	9.19	5.58	3.38	61.13
F.Other		0.09	0.07	0.07	0.10	0.03	0.05	0.04	0.06	0.07	0.11	0.05	0.07	0.74
Total Urban Retail (A thru F)		67.55	66.34	69.03	81.84	99.08	119.35	145.33	151.42	145.9	130.84	101.05	80.98	1258.64
Agricultural Irrigation														
Wholesale(*to other agencies*)														

DWR 38 (Rev. 8/12)

94% 104% 91% 93% 86% 86% 96% 97% 111% 107% 118% 112% 99%

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PUBLIC WATER SYSTEM STATISTICS

Calendar Year **2017**

5410002 SJD City of Dinuba,
Ismael Hernandez Public Works
Supervisor 405 E. El Monte Way
Dinuba, CA 93618

1. General Information

Please follow the provided instructions.

Contact : Ismael Hernandez
Title: Supervisor
Phone: (559) 591-5924 ext. 109
Fax: (559) 591-5923
E-mail: ihnernandez@dinuba.ca.gov
Website: www.dinuba.org
County: **Tulare**
Population served:
Names of communities served: Dinuba
Please enter population 24,861

2. Active Service Connections

Customer Class	Potable Water		Recycled Water	
	Metered	Unmetered	Metered	Unmetered
Single Family Residential				
Multi-family Residential				
Commercial/Institutional				
Industrial				
Landscape Irrigation				
Other				
Agricultural Irrigation				
TOTAL	0			

3. Total Water Into the System - Units of production:

(Select: **AF**=acre-feet; MG=million gallons; **CCF**=hundred cubic feet)

1000MG/1BG

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Potable	*Wells*	67.37	61.61	79.23	88.51	138.58	151.65	160.61	165.03	136.25	124.20	98.84	82.34	1,354.22
	Surface													
	Purchased [1/]													
	Total Potable	67.37	61.61	79.23	88.51	138.58	151.65	160.61	165.03	136.25	124.2	98.84	82.34	1,354.22
Untreated Water														
Recycled [2/]														

1/ Potable wholesale supplier(s):

2/ Recycled wholesale supplier(s):

Level of treatment: Well #14 granulate active carbon

4. Metered Water Deliveries - Units of delivery: MG

(Select: **AF**=acre-feet; **MG**=million gallons; **CCF**=hundred cubic feet)

If recycled is included, X box ↓		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
A.SingleFamilyResidential		46.55	43.06	44.23	53.03	70.86	96.72	111.08	114.32	107.45	85.72	72.13	59.17	904.32
B.Multi-family Residential														
C.Commercial/Institutional		9.02	8.15	7.68	10.69	14.39	23.18	25.87	27.12	29.89	24.38	19.64	14.25	214.26
D.Industrial		8.24	8.71	8.88	8.99	9.06	10.15	10.03	10.9	11.47	9.68	10.22	8.72	115.05
E.Landscape Irrigation		2.56	2.06	1.46	3.39	4.91	6.67	6.68	8.63	10.58	8.09	7.71	5.99	68.73
F.Other		0.07	0.03	0.08	0.06	0.08	0.05	0.15	0.18	0.05	0.14		0.19	0.89
Total Urban Retail (A thru F)		66.44	62.01	62.33	76.16	99.30	136.77	153.81	161.15	159.44	128.01	109.7	88.32	1,303.25
Agricultural Irrigation														
Wholesale *(to other agencies)*														
		99%	101%	79%	86%	72%	90%	96%	98%	117%	103%	111%	107%	96%

State of California

DEPARTMENT OF WATER RESOURCES

California Natural Resources Agency

PUBLIC WATER SYSTEM STATISTICS

Calendar Year **2018**

5410002 SJD City of Dinuba,
Christy Arias Water System
Supervisor 405 E. El Monte Way
Dinuba, CA 93618

1. General Information

Please follow the provided instructions.

Contact :	Ismael Hernandez
Title:	Public Works Manager
Phone:	(559) 591-5924 ext. 109
Fax:	(559) 591-5923
E-mail:	ihnernandez@dinuba.ca.gov
Website:	www.dinuba.org
County:	**Tulare**
Population served:	26182
Names of communities served:	Dinuba

2. Active Service Connections

Customer Class	Potable Water		Recycled Water	
	Metered	Unmetered	Metered	Unmetered
Single Family Residential				
Multi-family Residential				
Commercial/Institutional				
Industrial				
Landscape Irrigation				
Other				
Agricultural Irrigation				
TOTAL	0			

3. Total Water Into the System - Units of production: MG

(Select: **AF**=acre-feet; **MG**=million gallons; **CCF**=hundred cubic feet)

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Potable	*Wells*	79.15	77.12	75.01	97.43	139.39	163.83	177.09	218.28	168.07	121.90	97.26	74.54	1,489.07
	Surface													
	Purchased [1/]													
	Total Potable	79.15	77.12	75.01	97.43	139.39	163.83	177.09	218.28	168.07	121.9	97.26	74.54	1,489.07
Untreated Water														
Recycled [2/]														

1/ Potable wholesale supplier(s):

2/ Recycled wholesale supplier(s):

Level of treatment: Well #14 granulate active carbon

4. Metered Water Deliveries - Units of delivery: MG

(Select: **AF**=acre-feet; **MG**=million gallons; **CCF**=hundred cubic feet)

If recycled is included, X box ↓		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
A.SingleFamilyResidential		52.63	49.85	48.85	52.77	75.29	101.57	113.53	116.05	105.38	84.76	72.08	54.97	927.73
B.Multi-family Residential														
C.Commercial/Institutional		11.3	9.78	11.67	10.6	14.09	26.03	26.95	31.44	27.6	23.84	19.99	15.69	228.98
D.Industrial		8.42	9.75	9.09	8.73	9.77	10.71	9.91	11.16	10.73	9.26	9.67	8.46	115.66
E.Landscape Irrigation		3.37	4.07	2.3	3.36	5.67	7.76	7.82	11.00	9.37	9.59	8.32	3.56	76.19
F.Other		0.08	0.14	0.09	0.07	0.08	0.33	0.36	0.36	0.14	0.34	0.24	0.10	2.23
Total Urban Retail *(A thru F)*		75.80	73.59	72.00	75.53	104.90	146.4	158.57	170.01	153.22	127.79	110.3	82.78	1,350.79
Agricultural Irrigation														
Wholesale(*to other agencies*)														

DWR 38 (Rev. 8/12)

96%	95%	96%	78%	75%	89%	90%	78%	91%	105%	113%	111%		91%

State of California

DEPARTMENT OF WATER RESOURCES

California Natural Resources Agency

PUBLIC WATER SYSTEM STATISTICS

Calendar Year **2019**

5410002 SJD City of Dinuba,
Christy Arias Water System
Supervisor 405 E. El Monte Way
Dinuba, CA 93618

1. General Information

Please follow the provided instructions.

Contact :	Ismael Hernandez
Title:	Public Works Manager
Phone:	(559) 591-5924 ext. 307
Fax:	(559) 591-5923
E-mail:	ihnernandez@dinuba.ca.gov
Website:	www.dinuba.org
County:	**Tulare**
Population served:	Please enter population
Names of communities served:	Dinuba

2. Active Service Connections

Customer Class	Potable Water		Recycled Water	
	Metered	Unmetered	Metered	Unmetered
Single Family Residential				
Multi-family Residential				
Commercial/Institutional				
Industrial				
Landscape Irrigation				
Other				
Agricultural Irrigation				
TOTAL	0			

3. Total Water Into the System - Units of production: MG

(Select: **AF**=acre-feet; **MG**=million gallons; **CCF**=hundred cubic feet)

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Potable	*Wells*	79.15	62.14	82.77	102.12	124.55	155.1	176.18	163.93	158.77	126.40	114	70.15	1,415.26
	Surface													
	Purchased 1/													
	Total Potable	79.15	62.14	82.77	102.12	124.55	155.1	176.18	163.93	158.77	126.4	114	70.15	1,415.26
Untreated Water														
Recycled 2/														

1/ Potable wholesale supplier(s):

2/ Recycled wholesale supplier(s):

Level of treatment: Well #14 granulate active carbon

4. Metered Water Deliveries - Units of delivery: MG

(Select: **AF**=acre-feet; **MG**=million gallons; **CCF**=hundred cubic feet)

If recycled is included, X box ↓		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
A.SingleFamilyResidential		47.43	44.89	44.5	55.38	83.19	83.42	108.63	114.38	108.94	86.76	78.19	54.93	910.64
B.Multi-family Residential														
C.Commercial/Institutional		8.81	8.74	7.8	9.48	18.31	21.96	22.94	24.91	25.73	23.96	21.51	17.25	211.4
D.Industrial		6.16	8.64	8.23	8.01	8.98	9.16	9.17	11.16	9.83	9.51	9.46	7.9	106.21
E.Landscape Irrigation		1.69	1.88	1.09	3.79	8.09	8.53	12.19	12.83	11.07	8.96	9.42	3.89	83.43
F.Other		0.2	0.17	0.07	0.13	0.16	0.17	0.78	0.24	0.16	0.19	0.13	0.07	2.40
Total Urban Retail *(A thru F)*		64.29	64.32	61.69	76.79	118.73	123.24	153.71	163.52	155.73	129.38	118.71	84.04	1,314.08
Agricultural Irrigation														
Wholesale*(to other agencies)*														
		81%	104%	75%	75%	95%	79%	87%	100%	98%	102%	104%	120%	93%

State of California

DEPARTMENT OF WATER RESOURCES

California Natural Resources Agency

5410002 SJD City of Dinuba,
Christy Arias Water System
Supervisor 405 E. El Monte Way
Dinuba, CA 93618

PUBLIC WATER SYSTEM STATISTICS

Calendar Year **2020**

1. General Information

Please follow the provided instructions.

Contact : Ismael Hernandez
Title: Public Works Manager
Phone: (559) 591-5924 ext. 307
Fax: (559) 591-5923
E-mail: ihnernandez@dinuba.ca.gov
Website: www.dinuba.org
County: **Tulare**
Population served:
Names of communities served: Dinuba
Please enter population

2. Active Service Connections

Customer Class	Potable Water		Recycled Water	
	Metered	Unmetered	Metered	Unmetered
Single Family Residential				
Multi-family Residential				
Commercial/Institutional				
Industrial				
Landscape Irrigation				
Other				
Agricultural Irrigation				
TOTAL	0			

3. Total Water Into the System - Units of production: MG

(Select: **AF**=acre-feet; **MG**=million gallons; **CCF**=hundred cubic feet)

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Potable	*Wells*	73.9	77.44	96.63	96.98	145.83	168.33	193.87	190.23	158.2	149.04	111.76	90.76	1,552.97
	Surface													
	Purchased [1/]													
	Total Potable	73.9	77.44	96.63	96.98	145.83	168.33	193.87	190.23	158.2	149.04	111.76	90.76	1,552.97
Untreated Water														
Recycled [2/]														

1/ Potable wholesale supplier(s):

2/ Recycled wholesale supplier(s):

Level of treatment: Well #14 granulate active carbon

4. Metered Water Deliveries - Units of delivery: MG

(Select: **AF**=acre-feet; **MG**=million gallons; **CCF**=hundred cubic feet)

If recycled is included, X box ↓		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
A.SingleFamilyResidential		46.95	50.29	61.83	55.09	90.34	108.88	126.89	119.18	117.98	94.04	81.27	58.02	1010.76
B.Multi-family Residential														
C.Commercial/Institutional		8.23	9.08	12.53	11.2	9.67	17.69	27.9	24.99	26.4	23.21	18.99	13.29	203.18
D.Industrial		6.08	8.95	8.48	7.9	7.88	5.86	9.55	9.82	10.76	9.87	10.33	8.26	103.74
E.Landscape Irrigation		3.06	2.83	4.49	4.15	6.09	8.08	12.07	10.58	10.18	9.59	8.39	5.03	84.54
F.Other		0.04	0.07	0.05	0.04	0.04	0.04	0.04	0.03	0.03	0.04	0.04	0.04	0.46
Total Urban Retail *(A thru F)*		64.36	71.22	87.38	78.38	114.02	140.55	176.45	164.60	165.35	136.75	119.02	84.64	1,402.68
Agricultural Irrigation														
Wholesale*(to other agencies)*														

DWR 38 (Rev. 8/12)

	87%	92%	90%	81%	78%	83%	91%	87%	105%	92%	106%	93%		90%

Appendix D:

KREGSA GSP Excerpts - Water Budgets and Climate Change Considerations

3.3.10 Projected Water Budget

§354.18 (c) Each Plan shall quantify the current, historical, and projected water budget for the basin as follows:

(3) Projected water budgets shall be used to estimate future baseline conditions of supply, demand, and aquifer response to Plan implementation, and to identify the uncertainties of these projected water budget components. The projected water budget shall utilize the following methodologies and assumptions to estimate future baseline conditions concerning hydrology, water demand and surface water supply availability or reliability over the planning and implementation horizon:

(A) Projected hydrology shall utilize 50 years of historical precipitation, evapotranspiration, and streamflow information as the baseline condition for estimating future hydrology. The projected hydrology information shall also be applied as the baseline condition used to evaluate future scenarios of hydrologic uncertainty associated with projections of climate change and sea level rise.

(B) Projected water demand shall utilize the most recent land use, evapotranspiration, and crop coefficient information as the baseline condition for estimating future water demand. The projected water demand information shall also be applied as the baseline condition used to evaluate future scenarios of water demand uncertainty associated with projected changes in local land use planning, population growth, and climate.

(C) Projected surface water supply shall utilize the most recent water supply information as the baseline condition for estimating future surface water supply. The projected surface water supply shall also be applied as the baseline condition used to evaluate future scenarios of surface water supply availability and reliability as a function of the historical surface water supply identified in Section 354.18(c)(2)(A), and the projected changes in local land use planning, population growth, and climate.

(d) The Agency shall utilize the following information provided, as available, by the Department pursuant to Section 353.2, or other data of comparable quality, to develop the water budget:

(3) Projected water budget information for population, population growth, climate change, and sea level rise.

Projected water budgets (future water budgets) have been developed for 2040 and 2070. The 2040 water budget is the focus of this analysis as it represents near term periods and requires less speculative estimates of projected future climate change impacts, population growth, and land use change. The projected water budgets are shown without the yield or water conservation from future projects, so they show the net impact if no action is taken.

Projected water budgets are based initially on the current water budget with changes made to various variables. **Figure 3-39** lists various variables that can potentially impact future water budgets.

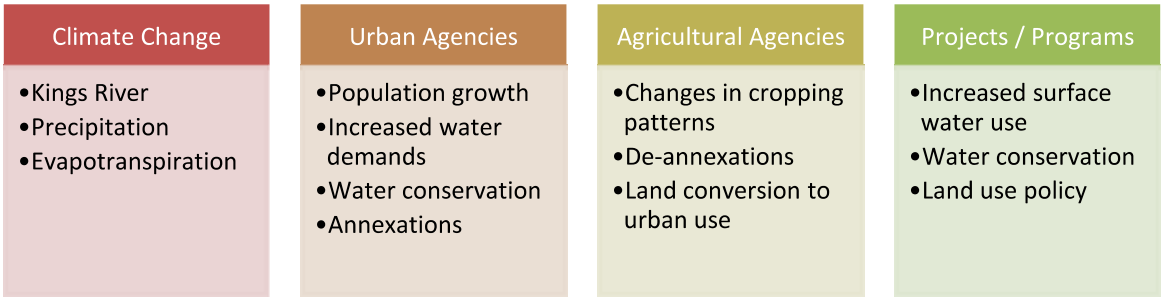


Figure 3-39 Variables Impacting Projected Water Budget

Climate Change

Climate change impacts were based on *Guidance for Climate Change Data Use During Groundwater Sustainability Plan Development* (DWR, 2018) and the related SGMA climate change website: https://data.cnra.ca.gov/dataset/sgma-climate-change-resources. This document provided estimates for 2030 and 2070. Since 2040 is the deadline for sustainability, and therefore the focus of the water budgets, impacts from 2040 were interpolated between the 2030 and 2070 results.

The DWR climate change datasets were developed for the California Water Commission's Water Storage Investment Program (WSIP). As described by DWR, the WSIP dataset is consistent with other DWR programs, is based on best available science, builds on previous efforts, incorporates the latest advances in projections, and follows the Climate Change Technical Advisory Group's guidance. The available datasets include central tendency projections of ensembles of general circulation models for 2030 and 2070 levels. The datasets also include climatic bookends for 2070 conditions with a drier, extreme warming scenario and a wetter, moderate warming scenario being provided. Only the central tendency simulations were used for preparing water budgets for the Kings Subbasin.

For the Kings Subbasin, three DWR datasets were used – projected Kings River inflows to Pine Flat Dam, projected precipitation in the Kings Subbasin, and projected evapotranspiration. In addition, projections for Friant-Kern Canal water supplies (San Joaquin River) were developed by the Friant Water Authority (2018) and are also based on WISP projections.

Kings River Flows

Kings River inflows for future conditions were analyzed based on the WSIP water supply projections. It was concluded that climate change will have no significant impact on Kings River diversions. More details are provided below.

The estimated Kings River flows (central tendency projections) for both 2040 and 2070 are shown in **Figure 3-40.** These have a slight increase in projected Kings River inflows; however, there was a major shift in timing. The simple interpretation of this shift is that predicted warmer temperatures in the future will result in more precipitation in the Sierra Nevadas occurring as rainfall and less as snowfall. Additionally, predicted warmer temperatures mean that snowfall will tend to melt earlier than it would have historically.

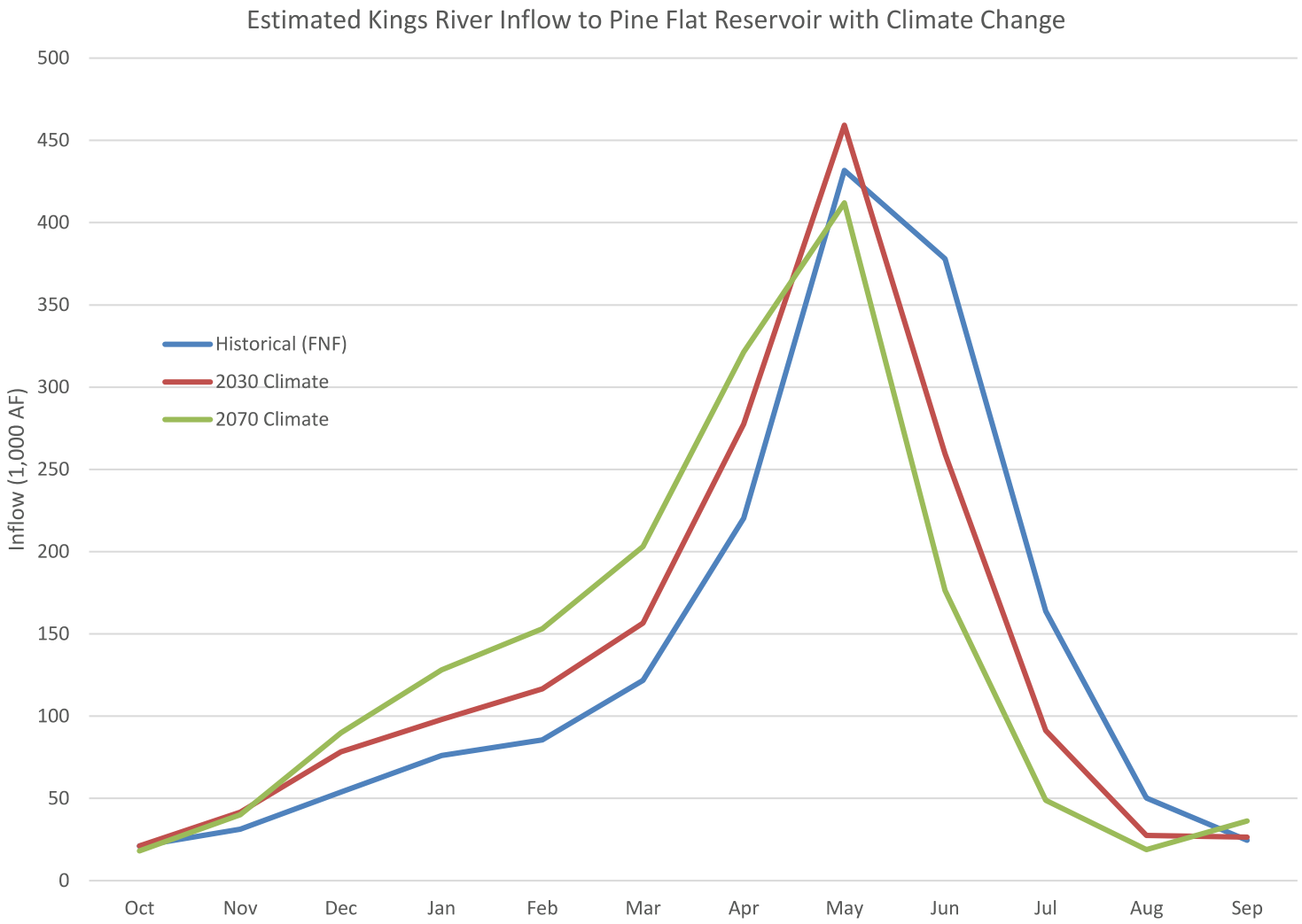


Figure 3-40 Estimated Climate Change Impacts on Kings River Runoff

As noted earlier, the overall change in predicted annual Kings River inflows is a very slight increase. Inflows are expected to increase about 0.6% by 2040 and increase 0.3% by 2070 according to the model. However, there were some major shifts in timing of runoff with large drops in runoff occurring in the late spring/early summer months of June, July, and August. Runoff is predicted to increase for winter and early spring months. While the overall change in runoff is essentially negligible, there would be significant changes in water management based on the change in runoff patterns. Historically, significant amounts of Kings River runoff occurred during the irrigation season when inflows could be directly used for water deliveries without needing storage. Future modeled flows indicate more of this runoff will now occur during non-irrigation or low-irrigation months. Maintaining the same level of water supply from the Kings River in the future will require modifications in water management practices including reservoir storage, increased recharge during the non-irrigation and low-irrigation periods, and expansion of diversion facilities to accommodate higher peak flows in non-irrigation and low-irrigation periods. In addition to management changes by local water agencies, maintaining historical surface water supplies will also be affected by water rights allocations, which assign available water to local water agencies on defined schedules that vary by month.

Quantifying the impacts of predicted Kings River inflows on surface water supplies would require a sophisticated, theoretical operations model that considers inflow availability, water rights, and management practices by local water agencies. No such operations model is available and development of such a model was not feasible during preparation of the current GSPs. Additionally, water management on the Kings River is based on numerous other factors such as operational availability of facilities, cropping patterns, daily water supply allocations, availability of recharge facilities, management practices, and other factors, which preclude the possibility of a simplified analysis. It is expected that future SGMA analyses will consider the potential quantification of future water supply; however, there is no certainty that such an analysis will be pursued or would improve predictive capability even if it was available.

Based on the uncertainty described above, the assumption was made that Kings River water supplies available to the Kings Subbasin will be managed in the future to maintain historical levels of water supplies. This assumption is based on the slight overall increase in runoff, flexibility of existing water management to absorb changed timing of inflows, and projected changes in the timing of irrigation demands corresponding to climate change. For the KREGSA, the historical water supply values described earlier will be used for both the 2040 and 2070.

San Joaquin River

Friant Water Authority (2018) estimated climate change impacts to San Joaquin River supplies (Friant Division of the Central Valley Project) based on the WISP datasets. These evaluate all of the water supplies available to Friant contractors, including Class I, Class II, and high flows. In general, the data shows a very minor reduction in future supplies. The impact is negligible for the City of Orange Cove, Hills Valley ID and Tri-Valley WD since their water contracts are so small. The analysis showed a slight reduction in Orange Cove ID supplies; however, the estimated future supplies were slightly greater than the quantity currently used by the District, so no changes were made to the future water budget.

Precipitation

The WSIP climate change datasets generally showed minimal changes to precipitation. More details are provided in the figure below.

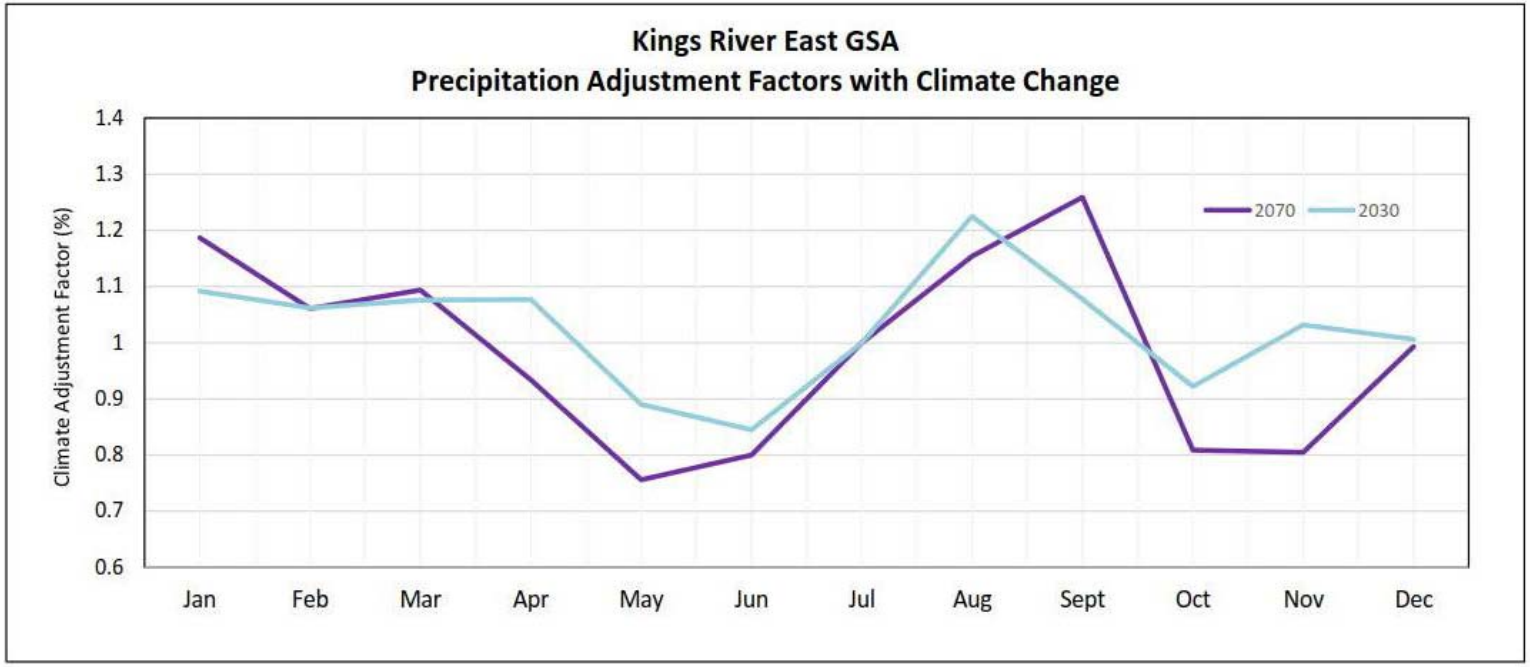


Figure 3-41 DWR Precipitation Adjustment Factors with Climate Change

Precipitation was evaluated by averaging the most recent 50-years of simulated changes to precipitation (1962-2011). The overall precipitation change factors were projected to increase by 3% for 2030 conditions and to decrease by 1% for 2070 conditions. When interpolated, this results in a 2% increase for 2040.

Moreover, the average monthly adjustment factors understate the effect on precipitation, as many of the months with projected decreases in precipitation (e.g., May, June and October) are low precipitation months while months with indicated increased precipitation tend to be wetter (e.g., January and February). Given the generally low amount of precipitation in the Kings Subbasin and the slightly increased projection with climate change, a conservative assumption has been made that projected rainfall, and amounts available for water supply, such as effective precipitation and recharge from precipitation, will remain the same for 2040 and 2070 projections as estimated for the historical period.

Evapotranspiration

WISP evapotranspiration estimates were similarly evaluated by taking the average of 50 years of simulated climate change impacts (1962-2011). The projections predicted higher evapotranspiration rates for 2030 (3%) and 2070 (8%). Using interpolation, the 2040 increase is about 4%. **Figure 3-42** shows the impact on a monthly basis for 2030 and 2070.

The projections show some variation by month with higher rates in low evapotranspiration months (e.g., November, December, and January) when irrigation is small and relatively small increases during the irrigation season (April through September).

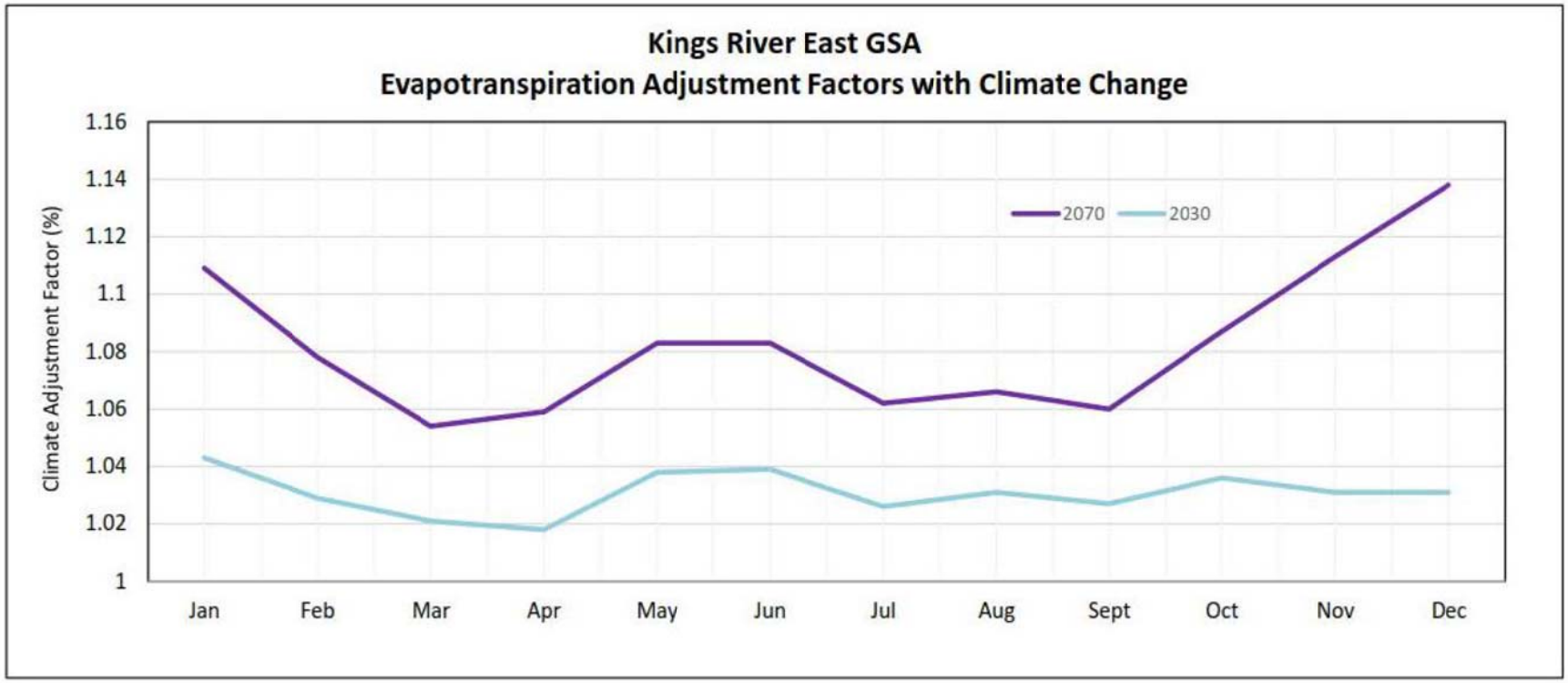


Figure 3-42 DWR ET Adjustment Factors with Climate Change

USBR (2015) predicted different impacts to annual crops versus perennial crops from climate change, as described below:

> "*Annual crop ET is projected to increase for perennial crops, with smaller increases, and sometimes slight decreases, for annual crops. Perennial crop ET increases are due to longer growing seasons and increases in ETo. While annual crops also experience increased ET rates, earlier potential planting dates and reduced growing season due to increased temperatures and crop development sometimes result in decreased annual crop ET." (USBR, 2015)*

As a result, in the Kings Subbasin, climate change impacts to crop evapotranspiration were applied to perennial crops but not to annual crops.

Future water use for municipal areas has been updated for some agencies. The ratios of indoor use, outdoor use, and resulting recharge were left unchanged for the historical period. The higher anticipated ET is not expected to impact urban water use through higher landscaping demands, since urban agencies are seeking per capita consumption goals, which are lower in the future.

Urban and Agricultural Water Agencies

Urban and agricultural water agencies in KREGSA developed assumptions and estimates of future water demands through 2040. These are summarized in the table below.

Table 3-10: Future Water Demand Assumptions by Organization

Organization	Future Water Demand Assumptions[1]
Alta Irrigation District	Reduction in demands of 3,800 AF due to conversion of 1,500 acres of irrigated land to recharge basins. Reduction in demands of 6,700 AF/year due to conversion of 2,670 acres of agricultural land to urban land in Dinuba and Reedley.
City of Dinuba	Assume City reaches build-out by 2040. 1,430 acres of agricultural land and 200 vacant acres are developed. Demands increase from 4,230 AF/year (2016/2017) to 6,300 AF/year (2040).
City of Orange Cove	Assume City reaches build-out by 2040. 500 acres of agricultural land and 170 vacant acres are developed. Demands increase from 2,100 AF/year (2016/2017) to 4,200 AF/year (2040).
City of Reedley	Assume City reaches build-out by 2040. 1,240 acres of agricultural land and 60 vacant acres are developed. Demands increase from 4,300 AF/year (2016/2017) to 6,400 AF/year (2040).
Hills Valley Irrigation District	No anticipated changed in net demands
Kings River Water District	No anticipated changes in net demands
Orange Cove Irrigation District	Increase in irrigated area resulting in 750 AF/year of new demands. Reduction in demand of 1,250 AF/year due to City of Orange Cove development.
Tri-Valley Water System	No anticipated changes in net demands. Loss in 1,000 AF/year of surface water supplies currently leased from Garfield Water District.
Other Small Water Systems[2]	No anticipated changes in net demands

1 – Demands do not include water used for intentional recharge

2 – Includes 12 small water systems that account for less than 1% of total water demands in the GSA: Cutler PUD, Delft Colony Water, East Orosi CSD, Fairway Mutual Water Company, FCSA #05, George Cox Water System, London CSD, Orosi PUD, Seville Water Company, Sultana CSD, Traver Water, and Yettem Water System. Also includes rural domestic wells pumping.

Kings Basin Projected Water Budget

Table 3-11 shows a projected water budget for the Kings Subbasin as a whole along with the equivalent individual water budgets for the seven GSAs within the Kings Subbasin. The proposed mitigation measures are shown at the bottom of the table including water supply augmentation, demand reduction from project development (e.g. land taken out of agricultural production to build recharge basins), and management actions. These all result in net zero change in groundwater storage in 2040.

Table 3-11: Kings Basin Projected Water Budget (2040)

(all units in acre-feet)

Description	TOTAL	McMullin GSA	NFKings GSA	North Kings GSA	Central/South	Kings River East	James ID
Total Supply	*3,686,945*	*404,800*	*628,800*	*1,238,356*	*627,000*	*687,000*	*100,989*
Consumptive Use Subtotal	*2,139,841*	*297,500*	*409,000*	*547,000*	*365,200*	*435,000*	*67,641*
GW Recharge Subtotal	*1,434,453*	*245,100*	*205,000*	*518,400*	*219,500*	*213,100*	*33,353*
Nonrecoverable Subtotal	*645,541*	*50,400*	*65,500*	*336,100*	*113,500*	*76,400*	*22,141*
Method 1							
Estimated Annual Change in Groundwater Storage	0	0	0	0	0	0	0
GW Recharge	1,434,453	245,100	205,000	518,400	219,500	213,100	33,353
GW Pumping	-1,467,406	-308,200	-290,200	-412,200	-199,200	-239,700	-17,906
GW Outflow	-200,441	0	-16,200	-122,000	-35,400	-4,700	-22,141
Other Change in GW Storage	14,000	-18,500	32,500	0	0	0	0
Projects for Water Supply Augmentation	168,494	40,600	62,800	15,800	15,100	27,500	6,694
Demand Reduction from Project Development	7,500	800	2,900	0	0	3,800	0
Management Actions for Demand Reduction	43,400	40,200	3,200	0	0	0	0

KREGSA Projected 2040 Water Budget

The projected water budget for 2040 is shown in **Table 3-12.** The 2040 water budget includes the aforementioned impacts from climate change and estimated demand changes provided by the water agencies. The projected water budget includes the estimated yield of proposed projects at the bottom with a net groundwater storage change of zero in 2040.

Table 3-12: KREGSA 2040 Water Budget (AF)

Description	Irrigation Eff. Symbol	82% Volume (AF) Normal Year	Dry Year	Wet Year	Source
Supply					
1) Surface Water for Irrigation	Qirr	249,600	152,900	318,800	Measured
2) Surface Water for M&I	Qmi	1,700	1,700	1,700	Measured
3) Groundwater Pumping for Irrigation (Metered)	Gwirra	0	0	0	Measured
4) Groundwater Pumping for Irrigation (Unmetered)	Gwirrp	211,200	307,900	142,000	Residual
5) Groundwater Pumping for M&I (Agency Wells)	Gwmia	18,100	18,100	18,100	Measured
6) Groundwater Pumping for M&I (Private Wells)	Gwmip	7,100	7,100	7,100	Calculated
7) Precipitation	P	199,300	170,600	272,700	Measured
8) Spill Inflows	Si	0	0	0	Calculated
9) Other Supply:	Os	0	0	0	
Total Supply		**687,000**	**658,300**	**760,400**	
Demand					
Consumptive Use					
10) Evapotranspiration met by Applied Water	ETc	333,800	333,800	333,800	Calculated
11) Evapotranspiration met by Effective Precipitation	ETp	85,300	85,300	85,300	Calculated
12) Evapotranspiration of M&I	ETmi	12,600	12,600	12,600	Calculated
13) Other Consumptive Use: Dairies	Od	3,300	3,300	3,300	Calculated
Consumptive Subtotal		**435,000**	**435,000**	**435,000**	
Groundwater Recharge					
14) Groundwater Inflow	GWi	2,600	2,600	2,600	Calculated
15) Deep Percolation of Irrigation Water	PRCirr	74,400	74,400	74,400	Calculated
16) Deep Percolation of Precipitation	PRCp	42,800	16,619	80,453	Calculated
17) Deep Percolation of M&I Water	PRCmi	12,900	12,900	12,900	Calculated
18) Seepage of Channels & Pipelines	Sch	40,900	40,900	40,900	Calculated
19) Seepage - Reservoirs	Sr	0	0	0	Calculated
20) Urban Stormwater - Recharge	Rus	2,200	1,900	3,000	Calculated
21) Local Streams/Rivers - Recharge	Rst	25,600	25,600	25,600	Calculated
22) Groundwater - Intentional Recharge	Rint	6,700	6,700	6,700	Measured
23) Other Recharge: Friant-Kern Canal Seepage	Or	5,000	5,000	5,000	
GW Recharge Subtotal		**213,100**	**186,619**	**251,553**	
Nonrecoverable Losses					
24) Groundwater - Outflow	GWo	4,700	4,700	4,700	Calculated
25) Evaporation - Channels	Ech	2,200	2,200	2,200	Calculated
26) Evaporation - Reservoirs & Recharge Basins	Er	500	500	500	Calculated
27) Precipitation - Evaporation and Runoff	Ep	69,000	66,800	103,900	Residual
28) Operational Spills	S	0	0	0	Measured
29) Groundwater - Export	GE	0	0	0	Measured
30) Other Losses:	Ol	0	0	0	
Nonrecoverable Subtotal		**76,400**	**74,200**	**111,300**	
Method 1					
Estimated Annual Change in Groundwater Storage		**0**	**(154,481)**	**76,353**	
GW Recharge - #14 thru #23		213,100	186,619	251,553	Calculated
GW Pumping - #3 thru #6 and #13		(239,700)	(336,400)	(170,500)	
GW Outflow - #24 and #29		(4,700)	(4,700)	(4,700)	
Projects for Water Supply Augmentation		27,500			
Demand Reduction from Project Development		3,800			
Management Actions for Demand Reduction		0			

Appendix E:

SB X7-7 Compliance and Verification Forms:

- 2020 Compliance Form
- Verification and Compliance Tables from 2015 UWMP

SB X7-7 Table 0: Units of Measure Used in 2020 UWMP* *(select one from the drop down list)*
Million Gallons
**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:	

SB X7-7 Table 3: 2020 Service Area Population	
2020 Compliance Year Population	
2020	25,759
NOTES:	

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.*	
	1,553	-	-	-	-	-	**1,553**

*** 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 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**
1,553	25,759	**165**

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]				
165	-	-	-	-	165	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:

SB X7-7 Verification and Compliance Tables from 2015 UWMP

SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)*
Million Gallons
**The unit of measure must be consistent with 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	1,682	Million Gallons
	2008 total volume of delivered recycled water	-	Million Gallons
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period[1, 2]	10	Years
	Year beginning baseline period range	2001	
	Year ending baseline period range[3]	2010	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2006	
	Year ending baseline period range[4]	2010	

[1] If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period. *[2] The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.*

[3] The ending year must be between December 31, 2004 and December 31, 2010.

[4] The ending year must be between December 31, 2007 and December 31, 2010.

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) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
☐	**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	2001	17,067
Year 2	2002	17,427
Year 3	2003	18,249
Year 4	2004	18,515
Year 5	2005	18,989
Year 6	2006	19,179
Year 7	2007	19,562
Year 8	2008	20,610
Year 9	2009	20,914
Year 10	2010	21,453
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2006	19,179
Year 2	2007	19,562
Year 3	2008	20,610
Year 4	2009	20,914
Year 5	2010	21,453
2015 Compliance Year Population		
2015		23,966
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**					**Annual 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.*	
10 Year Baseline - Gross Water Use								
Year 1	2001	1,403			-		-	1,403
Year 2	2002	1,497			-		-	1,497
Year 3	2003	1,523			-		-	1,523
Year 4	2004	1,502			-		-	1,502
Year 5	2005	1,450			-		-	1,450
Year 6	2006	1,478			-		-	1,478
Year 7	2007	1,653			-		-	1,653
Year 8	2008	1,682			-		-	1,682
Year 9	2009	1,671			-		-	1,671
Year 10	2010	1,671			-		-	1,671
10 year baseline average gross water use								**1,553**
5 Year Baseline - Gross Water Use								
Year 1	2006	1,478			-		-	1,478
Year 2	2007	1,653			-		-	1,653
Year 3	2008	1,682			-		-	1,682
Year 4	2009	1,671			-		-	1,671
Year 5	2010	1,671			-		-	1,671
5 year baseline average gross water use								**1,631**
2015 Compliance Year - Gross Water Use								
2015		1,578	-		-		-	**1,578**
* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3								
NOTES:								

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

Complete one table for each source.

Name of Source	Groundwater		
This water source is:			
☑	The supplier's own water source		
☐	A purchased or imported source		
Baseline Year *Fm SB X7-7 Table 3*	Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System			
Year 1	2001	1,403	1,403
Year 2	2002	1,497	1,497
Year 3	2003	1,523	1,523
Year 4	2004	1,502	1,502
Year 5	2005	1,450	1,450
Year 6	2006	1,478	1,478
Year 7	2007	1,653	1,653
Year 8	2008	1,682	1,682
Year 9	2009	1,671	1,671
Year 10	2010	1,671	1,671
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	1,478	1,478
Year 2	2007	1,653	1,653
Year 3	2008	1,682	1,682
Year 4	2009	1,671	1,671
Year 5	2010	1,671	1,671
2015 Compliance Year - Water into Distribution System			
2015	1,578		1,578

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

NOTES:

☐

SB X7-7 Table 5: 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	2001	17,067	1,403	225
Year 2	2002	17,427	1,497	235
Year 3	2003	18,249	1,523	229
Year 4	2004	18,515	1,502	222
Year 5	2005	18,989	1,450	209
Year 6	2006	19,179	1,478	211
Year 7	2007	19,562	1,653	232
Year 8	2008	20,610	1,682	224
Year 9	2009	20,914	1,671	219
Year 10	2010	21,453	1,671	213
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	
10-15 Year Average Baseline GPCD				**222**
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	19,179	1,478	211
Year 2	2007	19,562	1,653	232
Year 3	2008	20,610	1,682	224
Year 4	2009	20,914	1,671	219
Year 5	2010	21,453	1,671	213
5 Year Average Baseline GPCD				**220**
2015 Compliance Year GPCD				
2015		23,966	1,578	**180**
NOTES:				

SB X7-7 Table 6: Gallons per Capita per Day *Summary From Table SB X7-7 Table 5*	
10-15 Year Baseline GPCD	222
5 Year Baseline GPCD	220
2015 Compliance Year GPCD	180
NOTES:	

SB X7-7 Table 7: 2020 Target Method *Select Only One*		
Target Method		Supporting Documentation
☐	Method 1	SB X7-7 Table 7A
☐	Method 2	SB X7-7 Tables 7B, 7C, and 7D *Contact DWR for these tables*
☑	Method 3	SB X7-7 Table 7-E
☐	Method 4	Method 4 Calculator
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
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**
220	209	179	**179**

[1] Maximum 2020 Target is 95% of the 5 Year Baseline GPCD *[2] 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.*

NOTES:

SB X7-7 Table 8: 2015 Interim Target GPCD		
Confirmed 2020 Target *Fm SB X7-7 Table 7-F*	10-15 year Baseline GPCD *Fm SB X7-7 Table 5*	**2015 Interim Target GPCD**
179	222	**200**
NOTES:		

SB X7-7 Table 9: 2015 Compliance								
Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments *(in GPCD)* Enter "0" if Adjustment Not Used: Extraordinary Events	Weather Normalization	Economic Adjustment	TOTAL Adjustments	Adjusted 2015 GPCD	2015 GPCD *(Adjusted if applicable)*	**Did Supplier Achieve Targeted Reduction for 2015?**
180	200	*From Methodology 8 (Optional)*	*From Methodology 8 (Optional)*	*From Methodology 8 (Optional)*	-	180	180	**YES**
NOTES:								

Appendix F:

2020 WSCP and
Municipal Code Chapter 13.05

City of Dinuba
Water Shortage Contingency Plan
Draft – December 2021

Introduction

This Water Shortage Contingency Plan (WSCP) for the City of Dinuba (City) has been prepared in accordance with current Water Code requirements and outlines a program for responding to water supply limitations. The intent of the water conservation measures and progressive restrictions on water use identified in this WSCP is to provide guidance to the City in managing and mitigating anticipated water supply shortages. The structured steps are designed to allow the City to assess its available water supplies and implement appropriate measures in response to actual conditions so that water shortages can be managed efficiently, predictably, and with accountability.

This WSCP includes the following elements as required by the Water Code:

1. Water Supply Reliability Analysis
2. Annual Water Supply and Demand Assessment Procedures
3. Six Standard Water Shortage Levels
4. Shortage Response Actions
5. Communication Protocols
6. Compliance and Enforcement
7. Legal Authorities
8. Financial Consequences of WSCP
9. Monitoring and Reporting
10. WSCP Refinement Procedures
11. Special Water Feature Distinction
12. Plan Adoption, Submittal and Availability

A water shortage condition is defined as when available water supplies are insufficient to meet the normally expected customer demands. Water shortage conditions may be a result of population growth, climate change, drought, catastrophic events, or other water shortage emergencies declared by either the City, State or Federal government.

The six standard water shortage levels and response actions defined in this WSCP increase restrictions on water use in response to the increasing levels of water shortage conditions. Each of the required elements is addressed in the following sections.

1. Water Supply Reliability Analysis

The City's 2020 Urban Water Management Plan (2020 UWMP) update includes a water supply reliability analysis and drought risk assessment which are summarized herein.

The City's Public Water System relies on groundwater pumping to meet its demands. The City is a participant in the Kings River East Groundwater Sustainability Agency (KREGSA), which has prepared a Groundwater Sustainability Plan (GSP). The GSP was adopted on December 19, 2019 and will govern sustainable groundwater management within the Kings Subbasin of the San Joaquin Valley Groundwater Basin in coordination with the six other GSAs within the Subbasin.

With implementation of the projects and management actions identified in the KREGSA GSP, the City's groundwater supplies are anticipated to be sustainable and available to meet the projected demands of its Public Water System service area. The KREGSA GSP identifies sustainable management criteria for water levels. Maintaining water levels above the Minimum Threshold levels identified in the KREGSA GSP is anticipated to allow the City's wells to meet the demands of the Public Water System while minimizing undesirable results related to chronic groundwater level declines such as declining pump capacity, well inefficiency, water levels falling below pump intakes and pump screens, and degraded water quality. The most recent KREGSA GSP Annual Report indicates that groundwater levels Representative Monitoring Sites near the City are above their designated Minimum Thresholds and on track to meet the forecast groundwater level projections and Interim Milestones established for these wells. Groundwater recharge is proposed to be implemented near the City's well field to help maintain groundwater levels.

As population and water demands increase with the Public Water System service area, the City will construct new wells required to meet the increased demands. Groundwater wells will be equipped with wellhead treatment if needed to remove contaminants that exceed water quality standards.

The Drought Risk Assessment in the 2020 UWMP update evaluates the reliability of the City's groundwater supplies to meet drought conditions for 2021 and a subsequent five period. The Drought Risk Assessment indicates that although the Public Water System's groundwater supplies are anticipated to be adequate to meet drought conditions during this period, it is assumed that water supplies and water demands are reduced by 10 percent in the second dry year and by 15 percent in the third through fifth dry years as a result of water conservation measures expected to be implemented during an extended drought period. The reduction in demands will be accomplished by implementation of the appropriate Shortage Level and associated response actions in this WSCP.

A catastrophic event may result in a significant loss of City water supplies for a temporary period lasting from a day to a week or more. Examples of catastrophic events include earthquake, widespread power outage or other disaster. The WSCP shortage levels and response actions are intended to be implemented as appropriate to any future water shortage condition.

2. Annual Water Supply and Demand Assessment Procedures

The City Manager will conduct an annual assessment of the City's water supplies and demands and prepare an Annual Water Shortage Assessment Report (Annual Assessment Report) for the Public Water System considering the following:

- 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),
- Current year available supply (considering hydrological and regulatory conditions in the current year and one dry year),
- Existing infrastructure capabilities and plausible constraints,
- A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment, and
- A description and quantification of each source of water supply.

The Annual Assessment Reports will be completed and submitted to DWR prior to July 1 of each year (beginning in 2022) per Water Code requirements.

If water shortage conditions requiring declaration of a Water Shortage Level 2 or higher are anticipated, the Annual Assessment Reports shall be submitted to the City Council for approval. The Annual

Assessment Report for Water Shortage Level 2 or higher water shortage conditions will set for the criteria for determining when the particular Water Shortage Level is to be implemented and terminated as well as the appropriate shortage response actions, compliance and enforcement actions, and communications protocols consistent with the WSCP.

3. Six Standard Water Shortage Levels

As the water purveyor, the City must provide the minimum health and safety water needs of the Domestic Water System service area at all times. Implementation of this WSCP prioritizes water use as follows:

1. Health and safety – interior residential water use and fire suppression.
2. Commercial, Industrial, and Governmental – jobs and economic base.
3. Landscaping – residential, business/commercial, parks.
4. New Demand – all projects.

The six standard water shortage levels are defined by the State to allow for increasing levels of water conservation measures in response increasing severity of water shortage.

The applicable water shortage Level and response actions will depend on the causes, severity, and anticipated duration of the water supply shortage. The Six Standard Water Shortage Levels for the City's Public Water System are summarized in **Table 1**.

Table 1: Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Narrative Description
1	Up to 10%	Variations in precipitation and mild droughts that may only last a year or two.
2	Up to 20%	Prolonged water shortages of moderate severity such as those caused by a multi-year drought.
3	Up to 30%	Most severe multi-year droughts, major failures in water production and distribution facilities.
4	Up to 40%	An exceptional crisis that could be caused only by the most severe multi-year drought, natural disaster, or catastrophic failure of major water supply infrastructure. Impacts to public health and safety would be significant.
5	Up to 50%	
6	>50%	
NOTES:		

4. Shortage Response Actions

The City has established the following shortage response actions within the Domestic Water System service area for the six standard water shortage levels defined above. The City will expand its public information campaign to encourage water conservation to achieve the appropriate decrease in demand

for each shortage level. Water meter data will be monitored to determine the effectiveness of the shortage response actions in achieving the desired water demand reduction.

The Demand Reduction Actions to be implemented at each Shortage Level and the associated reduction in the shortage gap anticipated to be achieved due to implementation are summarized in **Table 2**.

Table 2: Demand Reduction Actions

Shortage Level	Demand Reduction Actions	Reduction in Shortage Gap	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
All Shortage Levels	Expand Public Information Campaign	Depends on Shortage Level. See Notes.	Implemented at all shortage levels as appropriate to meet demand reduction targets	No
All Shortage Levels	Provide Rebates on Plumbing Fixtures and Devices	Depends on Shortage Level. See Notes.	Implemented at all shortage levels as appropriate to meet demand reduction targets	No
All Shortage Levels	Provide Rebates for Turf Replacement	Depends on Shortage Level. See Notes.	Implemented at all shortage levels as appropriate to meet demand reduction targets	No
All Shortage Levels	Landscape - Restrict or prohibit runoff from landscape irrigation	Depends on Shortage Level. See Notes.	Municipal Code (MC) Sec 13.05.050 A	No for Level 1, Yes for Levels 2 and Higher
All Shortage Levels	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Depends on Shortage Level. See Notes.	MC Sec 13.05.050 B	No for Level 1, Yes for Levels 2 and Higher
All Shortage Levels	Other - Require automatic shut of hoses	Depends on Shortage Level. See Notes.	MC Sec 13.05.050 C	No for Level 1, Yes for Levels 2 and Higher
All Shortage Levels	Landscape - Limit landscape irrigation to specific times	Depends on Shortage Level. See Notes.	MC Sec 13.05.050 D	No for Level 1, Yes for Levels 2 and Higher
2 and 3	Improve Customer Billing	Up to 30% (See Notes 2 and 3)	Implemented in shortage levels 2 and higher as appropriate to meet demand reduction targets	No
2 and 3	Landscape - Limit landscape irrigation to specific times	Up to 30% (See Notes 2 and 3)	MC Sec 13.05.060 B.1	Yes
2 and 3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Up to 30% (See Notes 2 and 3)	MC Sec 13.05.060 B.2	Yes
2 and 3	Other water feature or swimming pool restriction	Up to 30% (See Notes 2 and 3)	MC Sec 13.05.060 B.3	Yes

Shortage Level	Demand Reduction Actions	Reduction in Shortage Gap	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
2 and 3	Other water feature or swimming pool restriction	Up to 30% (See Notes 2 and 3)	MC Sec 13.05.060 B.4	Yes
2 and 3	Other - Prohibit use of potable water for washing hard surfaces	Up to 30% (See Notes 2 and 3)	MC Sec 13.05.060 B.5	Yes
2 and 3	CII - Restaurants may only serve water upon request	Up to 30% (See Notes 2 and 3)	MC Sec 13.05.060 B.6	Yes
4-6	Decrease Line Flushing	Greater than 30% up to shortage gap (See Notes 4-6)	Implemented in shortage levels 4 and higher as appropriate to meet demand reduction targets	No
4-6	Offer Water Use Surveys	Greater than 30% up to shortage gap (See Notes 4-6)	Implemented in shortage levels 4 and higher as appropriate to meet demand reduction targets	No
4-6	Increase Water Waste Patrols	Greater than 30% up to shortage gap (See Notes 4-6)	Implemented in shortage levels 4 and higher as appropriate to meet demand reduction targets	No
4-6	Landscape - Limit landscape irrigation to specific days	Greater than 30% up to shortage gap (See Notes 4-6)	MC Sec 13.05.060 C.1	Yes
4-6	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Greater than 30% up to shortage gap (See Notes 4-6)	MC Sec 13.05.060 C.2	Yes
4-6	Decrease Line Flushing	Greater than 30% up to shortage gap (See Notes 4-6)	MC Sec 13.05.060 C.3	Yes
4-6	Landscape - Prohibit certain types of landscape irrigation	Greater than 30% up to shortage gap (See Notes 4-6)	MC Sec 13.05.060 C.4	Yes
4-6	Other water feature or swimming pool restriction	Greater than 30% up to shortage gap (See Notes 4-6)	MC Sec 13.05.060 C.5	Yes

Shortage Level	Demand Reduction Actions	Reduction in Shortage Gap	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
4-6	Other water feature or swimming pool restriction	Greater than 30% up to shortage gap (See Notes 4-6)	MC Sec 13.05.060 C.6	Yes

NOTES:

1. Target demand reduction for all measures in effect at Shortage Level 1 is up to 10%.
2. Target demand reduction for all measures in effect for Shortage Level 2 is up to 20%.
3. Target demand reduction for all measures in effect for Shortage 3 is up to 30%.
4. Target demand reduction for all measures in effect for Shortage Level 4 is up to 40%.
5. Target demand reduction for all measures in effect for Shortage Level 5 is up to 50%.
6. Target demand reduction for all measures in effect for Shortage Level 6 is greater than 50% up to the anticipated shortage gap.

The City Council shall have the authority to take any other action available to further reduce demands within the Public Water System service area to meet available supplies.

Catastrophic Events:

Catastrophic events shall be evaluated as to their impact on the respective City Public Water System's ability to deliver water supplies so that the appropriate water shortage level can be identified. The City Manager may immediately implement the appropriate shortage response actions due to a catastrophic event.

A seismic risk analysis was completed as a part of the Tulare County Multi-Jurisdiction Local Hazard Mitigation Plan (MJLHMP). Earthquake hazard was determined to be a low significance hazard for the City. An earthquake can impact water delivery systems through damage to canal systems, water mains, and other water system facilities.

In the event of an earthquake or other catastrophic event, the City will implement its Emergency Operations Plan and Water System Emergency Response Plan.

5. Communication Protocols

Table 3 provides the anticipated communication protocols for the various water shortage levels. The degree of communication increases with the water shortage level.

Table 3 – Communication Protocol by Shortage Level	
Shortage Level	**Description**
1	• Public information campaign to encourage water conservation due to water shortage level.

Shortage Level	Description
2 and above	• Continue Public Information campaign as appropriate for the declared Shortage Level conditions. • Newsletter, bill insert, or Press Release to notify customers of declared water shortage level and implementation of mandatory water use restrictions and enforcement actions.
Emergency Conditions	• Coordination with Tulare County Emergency Operations Center. • Notifications per the City's Emergency Operations Plan. • Public information campaign to notify customers and public of declared water shortage emergency and implementation of mandatory water use restrictions and enforcement actions.

6. Compliance and Enforcement

As required by Water Code Section 366, excessive water use by metered single-family residential customers and customers in multiunit housing complexes in which each unit is individually metered or submetered is prohibited during water shortage conditions of Level 3 or higher. Customers with excessive water use will be identified through meter data in comparison to the declared water shortage condition and reasonable water use based on factors such as the full-time occupancy of the household, amount of landscaped area, seasonal weather conditions, and the rate of evapotranspiration. The City will establish procedures to monitor compliance with the water use restrictions defined in this WSCP.

Enforcement of the WSCP shall be in accordance with Dinuba Municipal Code Chapter 13.05 Water Conservation, Section 13.05.080 Enforcement.

7. Legal Authorities

The City has the legal authority to declare water shortages through adoption of resolutions or ordinances. The City shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1 general provision regarding water shortage emergencies in the California Water Code. The City shall coordinate with Tulare County for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

Per Municipal Code Section 13.05.080, failure to comply with water use regulations may be punishable as an infraction or misdemeanor pursuant to Municipal Code Section 1.16.010.

8. Financial Consequences of WSCP

The City reviews and revises its water rates for its Public Water System on a periodic basis. The projected costs of compliance with declared shortage levels will be considered as contingencies within future rate studies so that adequate reserves will be available to cover the additional expenses and shortfalls in revenue caused by periodic water shortages. The City may also defer planned maintenance or capital improvements until revenues recover. If expenses are found to exceed revenues, the City may implement other measures such as drought rate surcharges or increases in water rates to its customers.

9. Monitoring and Reporting (Domestic Water System Service Area)

Under normal circumstances, water production is monitored daily. Total water production is incorporated into a monthly water supply report.

During a Level 1 through Level 2 water shortage, monthly production figures will be compared to the target monthly production to verify if the water use reduction goal is being met. If reduction goals are not being met, the City Manager will be notified so that corrective action can be taken.

During a Level 3 through Level 6 water shortage, the procedure listed above will be followed, with the addition of a weekly production report to the City Manager. During emergency shortages, production figures will be reported to the City Manager daily.

10. WSCP Refinement Procedures (Domestic Water System Service Area)

The response actions and other considerations in this WSCP shall be reviewed on a periodic basis to determine the effectiveness of the implementation of the various measures to achieve the desired water demand reductions. Proposed revisions to the WSCP will be submitted to the City Council for adoption.

11. Special Water Feature Distinction (Domestic Water System Service Area)

Special water features are defined as ponds, lakes, waterfall, fountains, or other water features that may be able to use recycled water or other non-potable supplies. The City may adopt measures that are specific to special water features that do not rely on potable water as a source of supply.

12. Plan Adoption, Submittal, and Availability

This WSCP was adopted by the City as a part of the adoption process for the 2020 UWMP at the Regular Meeting of the City Council on January XX, 2022. A public hearing was held on January XX, 2022. The intent of the Public Hearing was to gather input from the public that is served by the City's Public Water System as well as other interested entities. Written and verbal comments received during the public hearing process have been addressed as appropriate in the final WSCP document. A copy of the resolution adopting the WSCP is attached as **Exhibit A**.

The 2020 UWMP update and WSCP will be submitted to the California Department of Water Resources, the California State Library, and Tulare County within 30 days of adoption by the City.

Commencing no later than 30 days after adoption, the City will have a copy of the 2020 UWMP update and WSCP available for public review at City Hall and posted on the City's website.

For updates to the WSCP outside of the UMWP update cycle, the City shall make the revised WSCP available as follows:

- To its customers and Tulare County no later than 30 days after adoption,
- To California Department of Water Resources in accordance with protocols for submission and using electronic reporting tools no later than 30 days after adoption,
- For public review during normal business not later than 30 days after filing a copy of the WSCP with the Department of Water Resources.

Chapter 13.05
WATER CONSERVATION

Sections:

13.05.010 Purpose.

It is the purpose and intent of this chapter to minimize outdoor water use and to control unnecessary consumption of the available potable water supplies in the city from city and private wells. (Ord. 723 § 1 (part), 1989)

13.05.020 Short title.

This chapter shall be known as the “Water Conservation Ordinance of the City of Dinuba.” (Ord. 723 § 1 (part), 1989)

13.05.030 Authorization.

The city manager, or his designee, is authorized and directed to implement the applicable provisions of this chapter upon their determination that such implementation is necessary to protect the public welfare and safety. (Ord. 723 § 1 (part), 1989)

13.05.040 Application.

The provisions of this chapter shall apply to all persons, customers and property whether receiving water from

the city or other source, such as private wells, within the limits of the city. (Ord. 723 § 1 (part), 1989)

13.05.050 Prohibition on water waste.

The following uses of water are defined as a “waste of water” and are prohibited except as otherwise authorized:

A. The use of water which allows substantial amounts of water to run off to a gutter, ditch or drain. Every water user is deemed to have their water distribution lines and facilities under their control at all times and to know the manner and extent of their water use and excess runoff;

B. The excessive use, loss or escape of water through breaks, leaks or malfunctions in the water user’s plumbing or distribution facilities for any period of time after such escape of water should reasonably have been discovered and corrected. It shall be presumed that a period of forty-eight hours after discovery is a reasonable time within which to correct such leak or break;

C. The washing of vehicles, building exteriors, sidewalks, driveways, parking areas, tennis courts, patios or other paved areas without the use of a positive shutoff nozzle on the hose, which results in excessive runoff, except where necessary to dispose of liquids or substances that would endanger the public’s health and safety after obtaining authorization from city officials;

D. The watering of lawns, groundcover and shrubbery between the hours of eleven a.m. and six p.m. from May 1st to September 30th.

Exception: Commercial nurseries, commercial sod farmers, golf courses and similar establishments are exempt from the restrictions in subsection (D) of this section, but will be requested to minimize water waste at all times. (Ord. 723 § 1 (part), 1989)

13.05.060 Outdoor water use—Water conservation stages.

No one within the city shall knowingly make, cause, use or permit the use of water for residential, commercial, industrial, agricultural, governmental or any other purpose in a manner contrary to any provision of this chapter, or in an amount in excess of that use permitted by the conservation stage in effect pursuant to action taken by the city manager, or his designee, in accordance with the provisions of this chapter. Authorized personnel shall promulgate guidelines which shall set forth the criteria for determining when a particular conservation stage is to be implemented and terminated. Such guidelines shall be updated when, in the opinion of the city manager, the conditions of the utility system have changed so as to necessitate such update. The city manager shall include in such guidelines a scheduling system designating allowed days for irrigation by customers. Said guidelines shall be available for inspection at the city offices, and the public works administrative office, Alta Irrigation District, and the library during normal business hours.

A. Stage 1. Voluntary Conservation. Water users in the city are requested to voluntarily limit the amount of water used at all times to that amount absolutely necessary for health, business and irrigation.

B. Stage 2. Mandatory Compliance-Water Alert. Upon implementation by the city manager, and publication of notice, the following restrictions shall apply to all persons. All elements of Stage 1 shall remain in effect in Stage 2 except that:

1. Irrigation utilizing individual sprinklers or sprinkler systems of lawns, gardens, landscaped areas, trees, shrubs or other plants is permitted only on designated days between the hours of seven p.m. and ten a.m. Irrigation of lawns, gardens, landscaped areas, trees, shrubs or other plants is permitted at any time if:

a. A handheld hose with a positive shut off nozzle is used or,

b. A handheld bucket is used or,

c. A drip irrigation system is used.

Exception: Commercial nurseries, commercial sod farmers, and similar establishments are exempt from Stage 2 irrigation restrictions, but will be requested to curtail all nonessential water use.

2. The washing of automobiles, trucks, trailers, boats, airplanes and other types of mobile equipment is permitted only between the hours of seven p.m. and ten a.m. Such washing, when allowed, shall be done with a handheld bucket, or a handheld hose equipped with a positive shutoff nozzle for quick rinses.

Exception: Washing may be done at any time on the immediate premises of a commercial carwash or commercial service station. Further, such washing may be exempted from these regulations if the health, safety and welfare of the public is contingent upon frequent vehicle cleanings, such as emergency vehicles, garbage trucks and vehicles to transport food and perishables.

3. The refilling or adding of water to swimming pools, wading pools and/or spas is permitted only between the hours of seven p.m. and ten a.m.

4. The operation of any ornamental fountain or other structure making similar use of water is prohibited unless the fountain uses a recycling system, such as an electric pump.

5. The washing of sidewalks, driveways, parking areas, courts, patios or other paved areas is absolutely prohibited.

6. All restaurants are requested to serve water to customers only when specifically requested by the customers.

C. Stage 3. Mandatory Compliance-Water Emergency. Upon implementation by the city manager and publication of notice, the following restrictions shall apply to all persons. All elements of Stage 2 shall remain in

effect in Stage 3 except that:

1. All outdoor irrigation of vegetation shall be permitted only between the hours of eight p.m. and twelve midnight on designated days.

2. The washing of automobiles, trucks, trailers, boats, airplanes and other types of mobile equipment not occurring upon the immediate premises of commercial carwashes and commercial service stations and not in the immediate interest of the public health, safety and welfare shall be prohibited.

3. Use of water from fire hydrants shall be limited to firefighting and/or other activities immediately necessary to maintaining the health, safety and welfare of the citizens of Dinuba.

4. Commercial nurseries, commercial sod farmers, and similar establishments shall water only on designated days between the hours of ten a.m. and six p.m. and shall use only handheld hoses, drip irrigation systems, or handheld buckets.

5. The filling, refilling, water to swimming pools, wading pools and/or spas is prohibited.

6. The operation of any ornamental fountain or similar structure is prohibited. (Ord. 723 § 1 (part), 1989)

13.05.070 Mandatory conservation phase implementation.

The public works department along with Alta Irrigation District shall monitor the projected supply and demand for water within the city shall recommend to the city manager the extent of the conservation required through the implementation and/or termination of particular conservation stages in order to assure the water supply of the city. Thereafter, the city manager, as directed by administrative policies, shall order that the appropriate phase of water conservation be implemented or terminated in accordance with the applicable provisions of this chapter. Said order shall be made by public announcement and shall be published a minimum of one time in a daily newspaper of general circulation and shall continue to be published on a weekly basis until such time as all restrictions are removed and shall become effective immediately upon such publication. (Ord. 723 § 1 (part), 1989)

13.05.080 Enforcement.

It is one of the objectives of the city council that the residents of Dinuba be encouraged to voluntarily comply with the provisions of this chapter, therefore, in furtherance of said objective, the enforcement of this chapter will permit the issuance of up to three warnings of violations of Sections 13.04.090 and/or 13.04.100, by way of written notices of violation to the violating water use, before the issuance of a citation for said violations.

Notwithstanding the foregoing, any person, firm or corporation violating any provisions of Sections 13.04.090 and/or 13.04.100, of this chapter, including any or all other amendments, revisions or supplements, is guilty of an infraction and, upon conviction, shall be punished accordingly, as set forth in Section 1.16.010 of this code. If any violation is continued, each day's violation is deemed a separate infraction. (Ord. 96-2 § 10, 1996: Ord. 723

§ I (part), 1989)

13.05.090 Public nuisance—Definitions.

In addition to any other remedies which may otherwise be available to the city, the city council makes the following findings and declarations:

The waste of water, as that term is defined herein, on public or private property within the city, is hereby found to contribute to and compound drought conditions which may, from time to time, exist in the city, to the detriment of one of our most precious and finite resources, water. Such conditions cause injury to the health, safety and general welfare of the citizens of Dinuba. Therefore, the waste of water within the city on private or public property, except as expressly permitted in this chapter is declared to constitute a public nuisance which may be abated in an action brought on behalf of the people of the state, by the city attorney, in any court of competent jurisdiction. (Ord. 723 § I (part), 1989)

13.05.100 Enforcement officers.

All peace officers and persons authorized by law to issue citations within the city shall, in conjunction with duties imposed by the law, diligently enforce the provisions of this chapter.

Pursuant to the provisions of Section 836.5 of the Penal Code, the following officers and employees of the city are designated as enforcement officers and authorized to issue citations for enforcement of this chapter:

Director of public works Animal control officer City engineer

Building official

Public works superintendent Building inspector

Employees of the city are authorized by this chapter to issue written notices of violations of Sections 13.04.090 and 13.04.100 but are not authorized by law to issue citations for said violations. (Ord. 723 § I (part), 1989)

13.05.110 Exceptions.

Consideration of written applications for exceptions regarding regulations and restrictions on water use not otherwise set forth in previous sections of this chapter shall be as follows:

1. Written application for exception may be granted by the director of the public works department.

2. Exceptions may be granted if.

    a. Compliance with this chapter would cause an unnecessary and undue hardship to the applicant, including, but not limited to, adverse economic impacts, such as loss of production or jobs; or

b. Compliance with this chapter would cause a condition affecting the health, sanitation, fire protection or safety of the applicant or the public. (Ord. 723 § 1 (part), 1989)

Appendix G:

AWWA Water Audit Reporting Worksheets:

- 2016 through 2018

AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

American Water Works Association

Click to access definition

Click to add a comment

Water Audit Report for: City of Dinuba (CA5410002)

Reporting Year: 2016 | 1/2016 - 12/2016

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades

<---------- Enter grading in column 'E' and 'J' ---------->

Master Meter and Supply Error Adjustments

WATER SUPPLIED

					Pcnt:	Value:	
Volume from own sources:	3	1,273.730	MG/Yr		3		MG/Yr
Water imported:	n/a	0.000	MG/Yr				MG/Yr
Water exported:	n/a	0.000	MG/Yr				MG/Yr

Enter negative % or value for under-registration

Enter positive % or value for over-registration

WATER SUPPLIED: 1,273.730 MG/Yr

AUTHORIZED CONSUMPTION

Click here: for help using option buttons

				Pcnt:	Value:	
Billed metered:	3	1,196.626	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	9	61.140	MG/Yr			
Unbilled unmetered:	9	0.500	MG/Yr		0.500	MG/Yr

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION: 1,258.266 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption) 15.464 MG/Yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:	8	3.184	MG/Yr		3.184	MG/Yr
Customer metering inaccuracies:	1	25.669	MG/Yr	2.00%		MG/Yr
Systematic data handling errors:		2.992	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 31.845 MG/Yr

Check input values; APPARENT LOSSES should be less than WATER LOSSES

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: -16.381 MG/Yr

WATER LOSSES: 15.464 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 77.104 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	2	70.0	miles
Number of active AND inactive service connections:	9	6,009	
Service connection density:		86	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 | 55.0 psi

COST DATA

Total annual cost of operating water system:	10	$2,693,301	$/Year	
Customer retail unit cost (applied to Apparent Losses):	5	$1.99	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	5	$610.00	$/Million gallons	☐ Use Customer Retail Unit Cost to value real

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 48 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources

2: Billed metered

3: Customer metering inaccuracies

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Dinuba (5410002)
Reporting Year: 2017 1/2017 - 12/2017

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	5	1,354.220	MG/Yr	3			MG/Yr
Water imported:	n/a	0.000	MG/Yr				MG/Yr
Water exported:	n/a	0.000	MG/Yr				MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 1,354.220 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	3	1,177.170	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	9	126.080	MG/Yr			
Unbilled unmetered:	5	3.386	MG/Yr		3.386	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 1,306.636 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption) 47.584 MG/Yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		3.386	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	1	13.164	MG/Yr	1.00%		MG/Yr
Systematic data handling errors:		2.943	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 19.493 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 28.092 MG/Yr

WATER LOSSES: 47.584 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 177.050 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	2	70.0	miles
Number of active AND inactive service connections:	9	6,009	
Service connection density:		86	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 50.0 psi

COST DATA

Total annual cost of operating water system:	10	$2,830,670	$/Year	
Customer retail unit cost (applied to Apparent Losses):	8	$1.62	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	3	$610.00	$/Million gallons	Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 53 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Billed metered
3: Customer metering inaccuracies

AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

American Water Works Association

Click to access definition

Click to add a comment

Water Audit Report for: City of Dinuba (5410002)

Reporting Year: 2018 (1/2018 - 12/2018)

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all

<---------- Enter grading in column 'E' and 'J' ---------->

Master Meter and Supply Error Adjustments

WATER SUPPLIED

		Grading			Pcnt:	Value:	
Volume from own sources:	1,489.070	5	MG/Yr		3		MG/Yr
Water imported:		n/a	MG/Yr				MG/Yr
Water exported:		n/a	MG/Yr				MG/Yr

Enter negative % or value for under-registration

Enter positive % or value for over-registration

WATER SUPPLIED: 1,489.070 MG/Yr

AUTHORIZED CONSUMPTION

Click here: for help using option buttons

		Grading		Pcnt:	Value:	
Billed metered:	1,272.385	4	MG/Yr			
Billed unmetered:		n/a	MG/Yr			
Unbilled metered:	76.190	5	MG/Yr			
Unbilled unmetered:	3.723	5	MG/Yr		3.723	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 1,352.298 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption) 136.772 MG/Yr

Apparent Losses

		Grading		Pcnt:	Value:	
Unauthorized consumption:	3.723		MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	13.622	3	MG/Yr	1.00%		MG/Yr
Systematic data handling errors:	3.181	5	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 20.526 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 116.247 MG/Yr

WATER LOSSES: 136.772 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 216.685 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

		Grading	
Length of mains:	77.4	6	miles
Number of active AND inactive service connections:	6,031	6	
Service connection density:	78		conn./mile main
Are customer meters typically located at the curbstop or property line?	Yes		
Average length of customer service line:			(length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	50.0	5	psi

COST DATA

		Grading		
Total annual cost of operating water system:	$2,237,502	10	$/Year	
Customer retail unit cost (applied to Apparent Losses):	$2.26	8	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	$123.00	5	$/Million gallons	Use Customer Retail Unit Cost to value real

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 54 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources

2: Billed metered

3: Customer metering inaccuracies

Appendix H:

Tulare County MJLHMP:

- City of Dinuba Annex

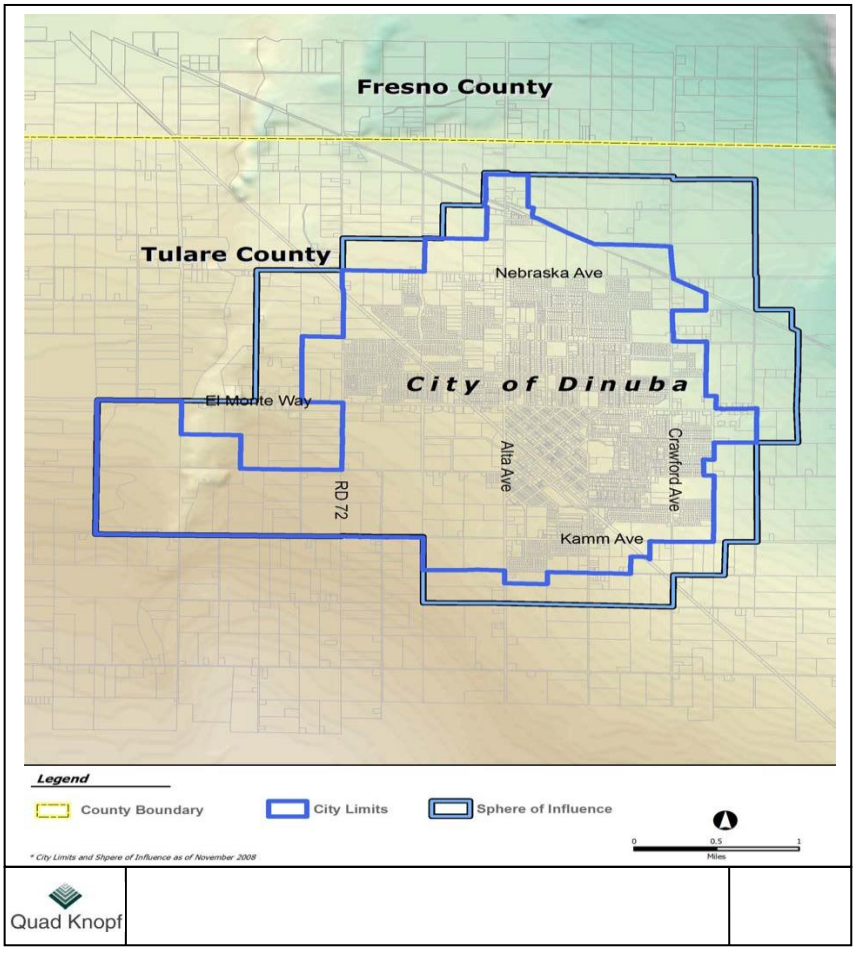
Annex A City of Dinuba

The City of Dinuba is in the northwestern corner of the County, approximately 20 miles north of Visalia. The City provides the following services:

- Public safety (police, fire protection, and ambulance service)
- Domestic water
- Sanitary sewer treatment and disposal
- Transportation
- Parks and recreation
- Vocational training

The City contracts with a private carrier to provide pickup of solid waste within the City limits. **Figure A-1** provides a map of Dinuba and its associated sphere of influence.

Figure A-1: Dinuba Map



2017 Tulare County MJLHMP –
Appendix J: Cities, Tule River Tribe and County Office of Education
Annex A City of Dinuba

A.1 Community Profile

Geography and Climate: The City has an area of 6.47 square miles. The City is relatively flat with an elevation of approximately 330 feet above sea level. Dinuba's climate can be described as dry Mediterranean. The summers are hot and dry, and winters are characterized by moderate temperatures and light precipitation. Temperatures and rainfall for Dinuba are typical of that of the rest of the valley floor portion of the County.

Government: The City was founded in 1888, incorporated in 1906, and became a charter city on July 7, 1994. Dinuba operates as a council-manager form of municipal government which is comprised of five members serving four-year overlapping terms.

Population and demographics: The City had an estimated 2016 population of 24,657, representing 26% growth since 2007. The 2010 U.S. Census reported that Dinuba had a population of 21,453. The population density was 3,315.7 people per square mile (1,280.2/km²). The racial makeup of Dinuba was 11,166 (52.0%) White; 141 (0.7%) African American; 193 (0.9%) Native American; 454 (2.1%) Asian; 17 (0.1%) Pacific Islander; 8,630 (40.2%) from other races; and 852 (4.0%) from two or more races. Hispanic or Latino of any race were 18,114 persons (84.4%). The Census reported that 21,291 people (99.2% of the population) lived in households, 77 people (0.4%) lived in non-institutionalized group quarters, and 85 people (0.4%) were institutionalized.

There were 5,593 households, out of which 3,275 (58.6%) had children under the age of 18 living in them; 3,162 (56.5%) were opposite-sex married couples living together; 1,077 (19.3%) had a female householder with no husband present; and 481 (8.6%) had a male householder with no wife present. There were 544 (9.7%) unmarried opposite-sex partnerships, and 37 (0.7%) same-sex married couples or partnerships. 672 households (12.0%) were made up of individuals and 324 (5.8%) had someone living alone who was 65 years of age or older. The average household size was 3.81. There were 4,720 families (84.4% of all households); the average family size was 4.04.

Housing: There were 5,868 housing units at an average density of 906.9 per square mile (350.2/km²), of which 3,176 (56.8%) were owner-occupied and 2,417 (43.2%) were occupied by renters. The homeowner vacancy rate was 2.3%; the rental vacancy rate was 4.2%. 11,975 people (55.8% of the population) lived in owner-occupied housing units and 9,316 people (43.4%) lived in rental housing units.

Economy: The economy of Dinuba is largely based on agriculture and food production. A variety of crops are cultivated including cotton, nuts, vegetables and fruits, including grapes (table grapes and wine), raisins, plums, peaches and citrus. Raisins are a major product in the Dinuba area, where 40 percent of the world's raisins are grown and dried, totaling approximately 300,000 tons annually. The largest employer is Ruiz Foods which is America's leading frozen Mexican food manufacturer. The City is also home to Best Buy Distribution, Patterson Logistics, Wal-Mart and Ed Dena's GM Auto Center. The Best Buy Regional Distribution Center consists of 1,024,000 square feet and services retail stores in California, Nevada and Arizona.

Major employers in the City (2012 data) are:

1.	Ruiz Foods Products, Inc. Frozen Food	1,540	(employees)
2.	Dinuba Public Schools Education	639	
3.	Family Tree Farms Produce Packing	500	
4.	Walmart Retail	400	
5.	Best Buy Stores, Inc. Distribution Center	330	
6.	Odwalla, Inc. Fruit Juices	210	
7.	City of Dinuba Local Government	151	
8.	Surabian and Sons Produce/Packing	125	
9.	Kmart Retail	98	

Land use: Major industries in Dinuba are concentrated in warehousing and distribution, food processing and agriculture production. Key economic growth opportunities identified in the General Plan include a combination of large scale and small scale industrial developments. Large scale, heavy industry development could occur in agricultural chemicals and fertilizers, and in some of the food processing and packaging material production industries, subject to industrial pretreatment. Wholesale and distribution centers may also be a large-scale development opportunity. Other growing business sectors represent smaller scale light industrial opportunities. **Figure A-2** provides detail on zoning and land use for Dinuba.

Development trends: Historical population data and future projections have been obtained from the U.S. Census Bureau, and the California Department of Finance. For analysis purposes, this data is compared to other source data relating to growth and population including the City's General Plan population projections. Historical census data indicates that the City of Dinuba had a population of 12,743 in 1990, 16,844 in 2000, and 21,453 in 2010. This equates to an average annual growth rate of approximately 2.64% between 1990 and 2010. **Table A-1** provides historic and projected population growth.

Table A-1: Dinuba Historic and Projected Population Growth

Year	Tulare County	Dinuba	% of Total County Population
1990	311,921	12,743	4.1%
2000	368,021	16,844	4.6%
2010	442,179	21,453	4.9%
2020	526,471	27,893	5.3%
2030	626,833	36,266	5.8%
2040	746,326	47,153	6.3%

Notes: 1) 1990 to 2010 population data based on U.S. Census Data
2) 2020 to 2040 population projection based in 1990 to 2010 average annual growth rates

The City plans for future growth through the implementation of policies and standards set forth in its General Plan. The General Plan is a long-term, comprehensive framework to guide physical, social and economic development within the community's planning area. Dinuba's General Plan is a long-range guide for attaining the City's goals within its ultimate service area and accommodating its population growth to the year 2026. The City adopted a 10-year urban development boundary (UDB) as part of its General Plan Update, based upon the capabilities of the City to accommodate new growth. The adoption of tiered UDB's also promotes orderly development by discouraging "leap frog" development.

Development in hazard prone areas:
Because population growth was less than one percent per year since approval of the 2011 MJLHMP, there has been no development in hazard prone areas that has affected overall vulnerability of the City. Development that did occur, was primarily infill in urban areas where vulnerabilities are well understood and described.

The new MJLHMP addresses the new hazard of climate change. This hazard impacts the entire County. Development in the City and globally with increased carbon emissions will result in increasing overall vulnerabilities to its impacts.

A.2 Hazards Identification and Analysis

Hazards: Dinuba faces many of the hazards that are present in the County. **Table A-2** below provides a summary of hazards. There are no hazards that are unique to Dinuba. Hazards in the City with unlikely frequency, limited extent, limited magnitude and low significance were not included. These include wildfire, earthquake liquefaction - subsidence, civil unrest and terrorism/cyber terrorism.

Table A-2: Dinuba Summary of Hazards					
Hazard	**Frequency**	**Extent**	**Magnitude**	**Significance**	**Potential Locations**
Climate Change	Highly likely	Extensive	Catastrophic	High	Entire City
Dam Failure	Unlikely	Limited	Limited	Low	Map B-8 depicts
Drought	Likely	Extensive	Catastrophic	High	Entire City
Earthquake: Shaking	Occasional	Extensive	Limited	Low	Entire City
Flood	Occasional	Limited	Limited	Medium	Map B-7 depicts
Energy Emergency	Occasional	Extensive	Critical	Medium	Entire City
Extreme Heat	Highly Likely	Extensive	Critical	High	Entire City
Hazardous Materials	Likely	Limited	Limited	Low	Entire City
Fog	Likely	Extensive	Limited	Low	Entire City
Levee Failure	Occasional	Limited	Limited	Medium	Unknown
Pandemic and Vector Borne Disease	Likely	Extensive	Critical	Medium	Entire City
Severe Storms and High Winds	Highly Likely	Significant	Limited	Medium	Entire City

Guidelines for Hazard Rankings
Frequency of Occurrence:

Highly Likely	Near 100% probability in next year
Likely	Between 10 and 100% probability in next year or at least one chance in ten years
Occasional	Between 1 and 10% probability in next year or at least one chance in next 100 years
Unlikely	Less than 1% probability in next 100 years

Spatial Extent:

Limited	Less than 10% of planning area
Significant	10-50% of planning area
Extensive	50-100% of planning area

Potential Magnitude:

Catastrophic	More than 50% of area affected
Critical	25 to 50% of area affected
Limited	10 to 25% of area affected
Negligible	Less than 10%

Significance (subjective):
low, medium, high

A.3 Risk Assessment

The intent of this section is to assess Dinuba's vulnerability separate from that of the Operational Area as a whole which has already been assessed in **Section 5.3 Risk Assessment** in the base plan. This risk assessment analyzes the population, property, and other assets vulnerable to the hazards ranked of medium or high significance that may vary from other parts of the planning area. For more information about how hazards affect the County as a whole, see **Section 5** of the base plan.

Infrastructure and Values at Risk:

2017 Tulare County MJLHMP –
Appendix J: Cities, Tule River Tribe and County Office of Education
Annex A City of Dinuba

The following data was provided by the City's Fire Chief. This data should only be used as a guideline to estimate facility values in the City as the information has some limitations. Generally, the land itself is not a loss. **Table A-3** shows the 2016 inventory broken down by property type for the City.

Table A-3: Dinuba 2016 Asset Inventory

Name	Address	Value	Hazard Vulnerability
Alice Park	Alice Avenue and W North Way	$22,155.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Centennial Water Tower	N/E corner Rd 72/Sierra	$2,564,541.00	Earthquake, Fog, Severe Winter Storm
CNG Fueling Station	1088 Kamm Avenue	$903,175.00	Earthquake, Fog, Severe Winter Storm
Dinuba City Hall	405 E. El Monte Way	$1,704,020.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Fire Administrative Office and Fire Department Water Tower	496 E. Tulare Street	$1,234,848.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Library	150 S. I Street		Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Old Public Works Yd.	110 College Avenue	$1,114,721.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Parks and Recreation Center	1390 E. Elizabeth Way	$1,146,013.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Police Department	680 S. Alta Avenue	$5,149,236.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Public Works	1088 E. Kamm Avenue	$1,731,793.00	Earthquake, Fog, Severe Winter Storm
Dinuba Senior Citizen's Center	437 Eaton Avenue	1,863,199.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Veteran's Mem. Bldg.	249 S. Alta Avenue		Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Vocational Center	199 N. L Street	$6,601,580.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Waste Water Treatment Facility	6675 Avenue 408	$6,637,338.00	Earthquake, Fog
Felix Delgado Park	Vassar Avenue and S Green Avenue	$154,132.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Gregory Park	S. College Avenue and E Academy Way		Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
K/C Park	W Kern Street and S Q Street	$684,266.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Nebraska Park	E Nebraska Avenue and Marks Drive	$57,324.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Nebraska Water Tower	Nebraska / Crawford	$2,611,605.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station 1218 Golden	1218 Golden Way	$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm

Table A-3: Dinuba 2016 Asset Inventory			
Name	**Address**	**Value**	**Hazard Vulnerability**
Pump Station 245 W Northway	245 W Northway	$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station 680 S. Alta	S Alta / 680 S Alta Avenue	$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station 889 N Alta	889 N Alta Avenue	$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station Alta Avenue	S Alta / W Kern Street	$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station Alta/Davis Drive	N Alta / E Davis Drive	$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station Arno Street	Arno Street Lindara Tract	$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station Crawford/Davis	N Crawford/Davis Drive	$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station E Crawford	E Crawford/S Mt. View	$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station Kamm Avenue	N Kamm / S Alta	$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station Kamm/Alta	E Kamm / S Alta Avenue	$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station Lillie/North Way	Lillie/North Way/Peach	$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station Marshall/Wright	Marshall / Wright Avenue	$43,217.00	Earthquake, Fog
Pump Station Merced/N M St	Merced / N M Streets	$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station N Ridge/Newton	Northridge/Newton Drive	$43,217.00	Earthquake, 100-Year Floodplain
Pump Station Olive/Randle	E Olive / Randle Avenue	$43,217.00	Earthquake, Fog, Severe Winter Storm
Pump Station Roberts Place	Roberts Place	$43,217.00	Earthquake, 100_Year Floodplain, Fog, Severe Winter Storm
Pump Station S Alta Avenue	S Alta / N M Street	$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station S Alta Avenue	S Alta / E Kern Street	$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station W El Monte	W El Monte / Rd 72	$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station/Newton	Northridge/Newton Drive	$43,217.00	Fog, Severe Winter Storm
Pump Station/Water Well Sierra/Rd 72	W Sierra Way/Rd 72	$848,941.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Ridge Creek Golf Course	3018 W. El Monte Way	$7,395,585.00	Earthquake, Fog, Severe Winter Storm
Roosevelt Park	S. California Street between E. Elizabeth Way and E. Park Way	$324,458.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm

Table A-3: Dinuba 2016 Asset Inventory			
Name	**Address**	**Value**	**Hazard Vulnerability**
Rose Ann Vuich Park	E. El Monte Way and El Monte Park Streets	$903,077.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Sewer Lift Station 651 Saginaw	651 Saginaw Avenue	$168,020.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Sewer Lift Station Crawford	N Crawford/Gerald Avenue	$168,020.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Sewer Lift Station Davis Drive	Davis Drive E of Newton	$168,020.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Sewer Lift Station E El Monte	1725 E. El Monte Way	$168,020.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Sewer Lift Station Edwards Pl	Edwards Pl / N Millard	$168,020.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Sewer Lift Station Kamm Avenue	Kamm / Alta Avenue	$168,020.00	Earthquake, Fog
Sewer Lift Station Laurel Avenue	Laurel / Crawford Avenue	$168,020.00	Earthquake, Fog
Sewer Lift Station Randle Avenue	Randle Avenue / E El Monte	$168,020.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Sewer Lift Station S O Street	Kamm / S O Street	$168,020.00	Earthquake, Fog
Sewer Lift Station Sequoia/Alt	Sequoia Drive N Alta	$168,020.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Water Well 500 W Sierra Way	500 W Sierra Way	$805,724.00	Earthquake, Fog, Severe Winter Storm
Water Well 820 Euclid Avenue	820 Euclid Avenue	$805,724.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Water Well College/S L Street	College / S. L Street	$805,724.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Water Well Kamm/Greene St	Kamm Avenue/Greene St	$805,724.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Water Well Milsap/Magnolia	Milsap N of Magnolia	$805,724.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Water Well Pamela/Lillie	Pamela W Lillie Avenue	$805,724.00	Earthquake, Fog, Severe Winter Storm
Water Well W El Monte/Rd 72	W El Monte /N Road 72	$805,724.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Transit Center	180 Merced Street	$926,160.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
College Park Recreation Center	920 S College Avenue		Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm

Critical Facilities: The City has identified the following infrastructure in **Table A-4** as critical facilities:

Table A-4: Dinuba Critical Facilities		
Facility	**Address**	**Value**
Centennial Water Tower	N/E corner Rd 72/Sierra	$2,564,541.00
Dinuba Police Department	680 S. Alta Avenue	$5,149,236.00
Dinuba Public Works	1088 E. Kamm Avenue	$1,731,793.00
Dinuba Waste Water Treatment Facility	6675 Avenue 408	$6,637,338.00
Lift Stations	Various	$168,020.00 each
Nebraska Water Tower	Nebraska / Crawford	$2,611,605.00
22 Pump Stations	Various	$43,217.00 each
Pump Station/Water Well Sierra/Rd 72	W Sierra Way/Rd 72	$848,941.00
Water Well 500 W Sierra Way	500 W Sierra Way	$805,724.00
Water Well 820 Euclid Avenue	820 Euclid Avenue	$805,724.00
Water Well College/S L Street	College / S. L Street	$805,724.00
Water Well Kamm/Greene St	Kamm Avenue/Greene St	$805,724.00
Water Well Milsap/Magnolia	Milsap N of Magnolia	$805,724.00
Water Well Pamela/Lillie	Pamela W Lillie Avenue	$805,724.00
Water Well W El Monte/Rd 72	W El Monte /N Road 72	$805,724.00

Vulnerabilities and Potential Losses:
A risk assessment determines the vulnerability of assets within the City by evaluating the inventory of City owned existing property and the population exposed to a hazard. A quantitative vulnerability assessment is limited to the exposure buildings, and infrastructures to the identified hazards. This risk assessment includes only those hazards that are natural.

Populations and Businesses at Risk
Residential population data for the City was obtained from the State of California Department of Finance E-1 Population Estimates for Cities, Counties, and the State — January 1, 2016/2017. The population is estimated to be 24,657 in an area of 6.47 square miles. The 2010 Census Data lists 5,964 residential units valued at $465,266,000.

The largest employer is Ruiz Foods which is America's leading frozen Mexican food manufacturer. The City is also home to Best Buy Distribution, Patterson Logistics, Wal-Mart and Ed Dena's GM Auto Center. The Best Buy Regional Distribution Center consists of 1,024,000 square feet and services retail stores in California, Nevada and Arizona.

Economic Risks
The economy of Dinuba is largely based on agriculture and food production. A variety of crops are cultivated including cotton, nuts, vegetables and fruits, including grapes (table grapes and wine), raisins,

plums, peaches and citrus. Raisins are a major product in the Dinuba area, where 40 percent of the world's raisins are grown and dried, totaling approximately 300,000 tons annually.

Vulnerability and Potential Losses

FEMA requires that an estimation of loss be conducted for the identified hazards to include the number of potential structures impacted by the hazards and the total potential costs. The analysis of potential losses calculated in **Table A-5** used the best data currently available to produce an understanding of potential loss. These estimates may be used to understand relative risk from hazards and potential losses. There are uncertainties in any loss estimation method, resulting from lack of scientific study and the exact result of hazard effects on the built environment, and from the use of approximations that are necessary for a comprehensive analysis.

Table A-5: Summary of Vulnerabilities and Potential Loss	
Hazard Type	**Impacts/Costs**
Climate Change	Impacts: Climate change will cause multiple effects to infrastructure and community public health. Warmer weather associated with climate change will result in more heat related illness. Drier weather will place increasing demands on imported and well water, and may lead to long lasting draughts that result in water rationing. Costs: Climate change costs are difficult to specify. They will occur and accrue over centuries. As temperatures rise, additional costs for climate control such as air conditioning will occur. Less precipitation may result in depletion of stored and ground water reserves with potential for increased water costs and rationing. Much of these costs will be borne by individuals and families. Increased costs will also affect businesses and government owned facilities. Researchers at UC Berkeley (Science, May 2017) concluded that for every 1-degree Fahrenheit increase in global temperatures, the U.S. economy stands to lose about 0.7 percent of its Gross Domestic Product, with each degree of warming costing more than the last.
Drought	Impacts: Drought produces a variety of impacts that span many sectors of the economy. Reduced crops productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality; and rationing are a few examples of direct impacts. These problems can result in increased prices for food and lumber, unemployment, reduced tax revenues, increased crime, and foreclosures on bank loans to farmers and businesses, and migration. Populations that rely on or are affected by a lack of water or annual rainfall are most directly affected by droughts. The City is dependent on imported water for most of its needs. During prolonged draughts, water rationing is possible resulting in potentially higher water costs and loss of private and public landscaping. Costs: Potential costs from draught to the City and its communities are difficult to quantify and are dependent upon draught duration and severity. In addition to increased costs for water, prolonged draught may result in reduced property values, loss of tax revenues and migration, all of which will cause economic losses.
Extreme Heat	Impacts: Extreme heat events, present serious health risks to the City's most vulnerable populations. The effects of extreme heat (over 84°F) on human health are well documented. Increased temperature or extended periods of elevated temperatures can increase heat-related mortality, cardiovascular-related mortality, respiratory mortality, and heart attacks, while increasing hospital admissions and emergency room visits. Extreme heat can also affect a person's ability to thermo-regulate, causing heat stress and sometimes leading to death. Costs: Extreme heat results in increased electricity usage and additional health care costs. While additional power costs affect both commercial and residential properties, added health care costs impact individuals and families. Extreme heat may reduce economic activity if prolonged.
Flood	Impacts: Flooding occurs in the City during periods of heavy rain due to inadequate drainage. The flat geography also contributes to ponding. The Dinuba Town Ditch has flooded the downtown area of the City in the past. Costs: There are no accurate costs values associated with past flood events. Future flood incidents will likely result in structural damage and lost economic activity. Flood cost could be in excess of $100,000,000.

Based upon previously occurring incidents and the risk assessment, the following hazards are most likely to affect Dinuba:

- Climate Change
- Drought
- Extreme heat
- Flood

These hazards which may impact agriculture, the economic driver of the city, represent critical vulnerabilities. In addition, these are hazards that represent vulnerabilities to infrastructure. Specifically, flooding from the Dinuba Town Ditch represents a hazard to downtown Dinuba. Mitigation strategy #1, Construction of 60" storm drain line to address flooding issues in the downtown area, was developed to mitigate this vulnerability. Other hazards present vulnerabilities but to a lesser extent.

A.4 Capabilities Assessment

FEMA REGULATION CHECKLIST: CAPABILITY ASSESSMENT

Capability Assessment

44 CFR § 201.6(c)(3): – The plan must include mitigation strategies based on the jurisdiction's "existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools."

Elements

C1. Does the plan document the jurisdiction's existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs? 44 CFR § 201.6(c)(3)

C2. Does the Plan address the jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? 44 CFR § 201.6(c)(3)(ii)

Source: FEMA, *Local Mitigation Plan Review Tool*, March 2013.

Note: **For coverage of Elements C3 – C5, see Section 8, Mitigation Strategies. For coverage of Element C6, see Section 9,**

The reason for conducting a capability assessment is to identify Dinuba's capacity to successfully implement mitigation activities. Understanding internal and external processes, resources and skills forms the basis of implementing a successful HMP. Understanding strengths and weaknesses also helps ensure that goals and objectives are realistic and attainable.

The planning team conducted an assessment of the City's capabilities that contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include authorities and policies, such as legal and regulatory resources, staff, and fiscal resources. Staff resources include technical personnel such as planners/engineers with knowledge of development and land management practice and an understanding of natural or human-caused hazards. The planning team also considered ways to expand on and improve existing policies and programs with the goal of integrating hazard mitigation into the day-to-day activities and programs of the City. In carrying out the capability assessment, several areas were examined:

- Planning and regulatory capabilities
- Administrative and technical resources
- Fiscal resources including grants, mutual aid agreements, operating funds and access to funds
- Technical and staff resources to assist in implementing/overseeing mitigation activities
- Previous and Ongoing Mitigation Activities

Tables A-6 through **A-9** provide a list of the City's capabilities.

Planning and Regulatory Capabilities: These include local ordinances, policies and laws to manage growth and development. Examples include land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes and zoning ordinances.

Table A-6: Dinuba Planning and Regulatory Capabilities				
Name	**Description (Effect on Hazard Mitigation)**	**Hazards Addressed**	**Updated since 2010 (if yes, identify parts applicable to mitigation)**	**Capability Type (Regulatory, Administrative, Technical, or Financial) If known**
2008 General Plan	The City's General Plan provides a policy base to guide future growth within the City. It was created by planners, engineers and technical staff with knowledge of land development, land management practices, as well as human-caused and natural hazards. The General Plan: • Develops and maintains the General Plan, including the Safety Element. • Develops area plans based on the General Plan to provide more specific guidance for the development of more specific areas. • Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the General Plan. • Anticipates and acts on the need for new plans, policies, and Code changes. • Applies the approved plans, policies, code provisions, and other regulations to proposed land uses. The MJLHMP may be adopted as part of the Safety Element by the City Counsel. As the Safety Element is updated, revised hazard analysis from the MHLHMP will be incorporated. Safety Element actions will be aligned with MJLHMP mitigation measures.	All	No requires updating.	Planning

Table A-6: Dinuba Planning and Regulatory Capabilities				
Name	**Description (Effect on Hazard Mitigation)**	**Hazards Addressed**	**Updated since 2010 (if yes, identify parts applicable to mitigation)**	**Capability Type (Regulatory, Administrative, Technical, or Financial) If known**
California Building Code Enforcement	The California Building Standards Code, Title 24 serves as the basis for the design and construction of buildings in California including housing, public buildings and maintenance facilities. Improved safety, sustainability, maintaining consistency, new technology and construction methods, and reliability are paramount to the development of building codes during each Triennial and Intervening Code Adoption Cycle. California's building codes are published in their entirety every three (3) years. Amendments to California's building standards are subject to a lengthy and transparent public participation process throughout each code adoption cycle. The California Seismic Safety Commission provides access to an array of regulatory and advisory information at: http://www.seismic.ca.gov/cog.html	Earthquake, Fire, Floods, Severe winter storm/high winds		Regulatory
Capital Improvement Program (CIP)	The City's CIP provides a foundation and planning tool to assist in the orderly acquisition of municipal facilities and to assure that service needs for the future are met. The CIP provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management. The MJLHMP will be used to select potential projects for the CIP. As the CIP is updated, additional mitigation measures will be analyzed and included in the Dinuba section of the MJLHMP. Funding for CIP projects identified in the MJLHMP will be reviewed for mitigation grant program eligibility.	Dam Failure, Earthquake, Fire, Floods, Landslides, Levee failure, Severe winter storm/high winds		Planning

Table A-6: Dinuba Planning and Regulatory Capabilities				
Name	**Description (Effect on Hazard Mitigation)**	**Hazards Addressed**	**Updated since 2010 (if yes, identify parts applicable to mitigation)**	**Capability Type (Regulatory, Administrative, Technical, or Financial) If known**
Municipal Service Review (MSR)	MSRs are intended to provide a comprehensive analysis of service provision by each of the special districts and other service providers within the legislative authority of the (LAFCo) of a city. This analysis focuses on service providers within the City of Dinuba and makes determinations in each area of evaluation. The MSR considers and makes recommendations based on the following information: • Present and planned land uses in the area. • Present and probable need for services in the area. • Present ability of each service provider to provide necessary services. • The fiscal, management, and structural health of each service provider. • The existence of any social or economic communities of interest in the area.	All	Yes 2012 Chapter Three: Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs or Deficiencies	Planning

Table A-6: Dinuba Planning and Regulatory Capabilities				
Name	**Description (Effect on Hazard Mitigation)**	**Hazards Addressed**	**Updated since 2010 (if yes, identify parts applicable to mitigation)**	**Capability Type (Regulatory, Administrative, Technical, or Financial) If known**
Dinuba Urban Water Management Plan	The Urban Water Management Plan is required by California Water Code §10644(a) and requires urban water suppliers to file with the Department of Water Resources (DWR), the California State Library, and any City or County within which the supplier provides water supplies, a copy of its Urban Water Management Plan. UWMP's are to be prepared every five years by urban water suppliers with 3,000 or more service connections or supplying 3,000 or more acre-feet of water per year. The purpose of this UWMP is to be a baseline document and source of information for DWR and to serve as: • A short and long range planning document for water supply, • Data source for the development of a regional water supply plan, • A source document for the City of Dinuba in preparing updated General Plans, and • A key component of an Integrated Regional Water Management Plan	Climate change, Drought	2012	Planning
Transit Development Plan (TDP)	A TDP is a blueprint for the delivery of transportation services provided to the general public. The TDP will serve as a guide for improving public transit services within the Dinuba area over a five-year planning horizon. The TDP will provide the community, policy makers, and city staff an opportunity to understand current transit conditions, define the future demand for service within the area, and establish an operational and capital plan to meet those demands.	Dam inundation, Fire, Floods, Terrorism,	2014	Planning

Table A-6: Dinuba Planning and Regulatory Capabilities				
Name	**Description (Effect on Hazard Mitigation)**	**Hazards Addressed**	**Updated since 2010 (if yes, identify parts applicable to mitigation)**	**Capability Type (Regulatory, Administrative, Technical, or Financial) If known**
City Code Chapter 13.76 Flood Damage Prevention	This purpose is to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas by designated provisions: The MJLHMP contains several specific mitigation measures in support flood control. The City Flood Damage Prevention Code will be reviewed based on MJLHMP hazard description updates and mitigation actions.	Flood	2016	Regulatory
Emergency Operations Plan (revised 2003)	Describes what the local jurisdiction's actions will be during a response to an emergency. Includes annexes that describe in more detail the actions required of the local jurisdiction's departments/agencies. Further, this plan describes the role of the Emergency Operation Center (EOC) and the coordination that occurs between the EOC and the local jurisdiction's departments and other response agencies. Finally, this plan describes how the EOC serves as the focal point among local, State, and Federal governments in times of disaster. Describes what the local jurisdiction's actions will be during a response to an emergency. Includes annexes that describe in more detail the actions required of the local jurisdiction's departments/agencies. Further, this plan describes the role of the Emergency Operation Center (EOC) and the coordination between the EOC and the local/tribal jurisdictions. Lastly, the EOP describes how the EOC serves as the point of coordination between local, tribal, State, and Federal agencies during a disaster. The MJLHMP provides the basis for the hazards included and described in the EOP.	All	No	Regulatory

Table A-6: Dinuba Planning and Regulatory Capabilities				
Name	**Description (Effect on Hazard Mitigation)**	**Hazards Addressed**	**Updated since 2010 (if yes, identify parts applicable to mitigation)**	**Capability Type (Regulatory, Administrative, Technical, or Financial) If known**
	The MJLHMP will be used as an essential tool to update the City EOP. Cal OES requires that EOPs describe applicable hazards as part of the Plan. The latest MJLHMP hazards descriptions will be included. Mitigation actions that are preparedness and response in nature will be analyzed for applicability to include in the description of EOP processes and procedures.			
Other City Code of Ordinances	The purpose of this code is to establish the minimum requirements to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation and energy conservation, and safety to life and property from fire and other hazards attributed to the built environment; to regulate and control the demolition of all buildings and structures and for related purposes. The MJLHMP will provide both hazard descriptions and mitigation actions that may address energy conservation, fire protection and development in hazard prone areas. The maps of Dinuba related hazards will be used to augment other mapping products to protect public health and safety when updating City Code.	Earthquake, Fire, Flooding,		Regulatory
Fire Department Master Plan	The purpose of this plan is to guide the City in regards to maintaining levels of service and account for the impact of future growth.	All		Planning

Administrative and Technical: These capabilities include community (including public and private) staff and their skills and tools used for mitigation planning and implementation. They include engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, and floodplain managers.

Table A-7: Dinuba Administrative and Technical Capabilities

Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
City Public Works Department	Maintains and operates a wide range of local equipment and facilities as well as provides assistance to members of the public. Services include providing sufficient potable water, reliable waste water services, street maintenance, storm drainage systems, street cleaning, street lights and traffic signals.	All		Technical
Procurement Department	Provides a full range of municipal financial services, administers several licensing measures, and functions as the plan participant's Procurement Services Manager.	All		Technical
City Engineering Services Department	• Develops and maintains the General Plan including the Safety Element. • Develops area plans based on the General Plan, to provide more specific guidance for the development of more specific areas. • Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the General Plan. • Anticipates and acts on the need for new plans, policies, and Code changes. • Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.	All		Technical
City Development	Provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.	All		Technical

Table A-7: Dinuba Administrative and Technical Capabilities				
Name	**Description (Effect on Hazard Mitigation)**	**Hazards Addressed**	**Updated since 2010 (if yes, identify parts applicable to mitigation)**	**Capability Type (Regulatory, Administrative, Technical, or Financial) If known**
Services Department				
City Fire Department	Maintains and updates the Emergency Operations Plan and coordinates local response and relief activities within the Emergency Operation Center. Works closely with County, State, and Federal partners to support planning and training and to provide information and coordinate assistance.	All		Technical

Fiscal: These capabilities include general funds, property sales, bonds, development impact fees, or other fees.

Table A-8: Dinuba Fiscal Capabilities				
Name	**Description (Effect on Hazard Mitigation)**	**Hazards Addressed**	**Updated since 2010 (if yes, identify parts applicable to mitigation)**	**Capability Type (Regulatory, Administrative, Technical, or Financial) If known**
Dinuba General Fund	Program operations and specific projects.	All		Financial, Financial Services Department
Dinuba General Obligation (GO) Bonds	GO Bonds are appropriately used for the construction and/or acquisition of improvements to real property broadly available to residents and visitors. Such facilities include, but are not limited to, libraries, hospitals, parks, public safety facilities, and cultural and educational facilities.	All		Financial, Financial Services Department
Lease Revenue Bonds	Lease revenue bonds are used to finance capital projects that (1) have an identified budgetary stream for repayment (e.g., specified fees, tax receipts, etc.); (2) generate project revenue but rely on a broader pledge of general fund revenues to reduce borrowing costs; or (3) finance the acquisition and installation of	All		Financial, Financial Services Department

	equipment for the local jurisdiction's general governmental purposes.			

Education and Outreach: These capabilities include programs in place such as fire safety programs, hazard awareness campaigns, public information or communications offices.

Table A-9: Dinuba Education and Outreach Capabilities

Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
Tulare County Association of Governments (TCAG)	TCAG is committed to improving the quality of life for residents and visitors throughout the County. They address traffic congestion, coordinate regional transit programs to make getting around easy and convenient, work to improve air quality and strive to continue to meet national standards. TCAG addresses current and future rail needs and possibilities and gathers data which is used by the census and the public to properly forecast housing and transit needs.	All		Education and Outreach
Dinuba Website http://www.dinuba.org/ and other social media	Provides easily accessible conduit to information about planning and zoning, permits and applications and programs that address hazard mitigation such as clean energy efforts. The updated MJLHMP will be posted to City media sites. As the planned is reviewed annually and new updates made, information on the planning process will be included on web sites and announced on social media.	All		Education and Outreach

A.5 Mitigation Strategy

Table A-10 lists the City specific mitigation actions from the 2011 Plan and provides their status.

Table A-10: Dinuba-Specific Mitigation Actions

No.	Selected (Y/N)	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Status
2	Y	Integrate the Tulare County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	A, B, C, D, E	Not Applicable	City of Dinuba Development Services Dept.	Ongoing – Mitigation Action 5 in 2017 MJLHMP
3	Y	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	A, B, C	Unknown	City of Dinuba Development Services Dept.	Ongoing – Mitigation Action 6 in 2017 MJLHMP
8	Y	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	A, B, C, D	Unknown	City of Dinuba Development Services Dept.	Ongoing – Mitigation Action 7 in 2017 MJLHMP

Prioritization Criteria

- A local jurisdiction department or agency champion currently exists or can be identified
- The action can be implemented during the 5-year lifespan of the HMP
- The action may reduce expected future damages and losses (cost-benefit)
- The action mitigates a high-risk hazard
- The action mitigates multiple hazards

All of the City's mitigation strategies from the 2011 HMP are still relevant to this update. **Table A-11** contains an updated set of potential mitigation strategies. Theses mitigation strategies were derived from numerous sources including the General Plan, City Code, Capital Improvement Plan and input from the public and stakeholders.

Table A-11: Dinuba-Potential Mitigation Strategies			
Strategy Number	**Mitigation Strategy**	**Applicable Hazards**	**Mitigation Type**
1	Create a GIS-based pre-application review for new construction and major remodels of residential and/or non-residential structures in hazard areas, such high and/or very high wildfire areas.	All	Mit.
2	Integrate the City LHMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	All	Mit.
3	Permit development only in areas where the potential danger to the health and safety of people and property can be mitigated to an acceptable level.	All	Mit.
4	Designate areas with a potential for significant hazardous conditions for open space, agriculture, and other appropriate low intensity uses.	All	Mit.
5	Except as otherwise allowed by State law, ensure that all new buildings intended for human habitation are designed in compliance with the latest edition of the California Building Code, California Fire Code, and other adopted standards based on risk (e.g., seismic hazards, flooding), type of occupancy, and location (e.g., floodplain, fault).	All	Mit.
6	Ensure that development in very high or high fire hazard areas is designed and constructed in a manner that minimizes the risk from fire hazards and meets all applicable State, County and City fire standards.	FR	Mit.
7	Identify and map existing housing structures that do not conform to contemporary fire standards in terms of building materials, perimeter access, and vegetative hazards in very high fire hazard severity zones or State responsibility area by fire hazard zone designation. Identify plans and actions to improve substandard housing structures and neighborhoods.	FR	Mit.
8	Acquire, relocate, or elevate residential structures, in particular those that have been identified as Repetitive Loss (RL) properties that are located within the 100-year floodplain.	FL	Mit.
9	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	FL	Mit.

10	Reinforce ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	FL	Mit.
11	Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide DFIRM, Community Assessment Visits, and/or the DWR.	FL	Mit.
12	Increase participation in the NFIP by entering the Community Rating System program through which enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	FL	Mit.
13	Continue to create, revise, and maintain emergency plans for the broad range of natural and human-made disasters and response activities that could foreseeably impact the City. This shall include, but not be limited to, flooding, dam failure, extreme weather, evacuation/transportation, mass care and shelter, and animal evacuation and sheltering.	All	Prep.
14	Continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures.	EQ, FL, FR	Mit.
15	Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	FL, DF, LF	Mit.
16	Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts.	CT	Mit.
17	Coordinate emergency response with local, State, and Federal governmental agencies, community organizations, volunteer agencies, and other response partners during emergencies or disasters using the California Standard Emergency Management System and the National Incident Management System.	All	Resp.
18	Participate in established local, State, and Federal mutual aid systems. Where necessary and appropriate, the City shall enter into agreements to ensure the effective provision of emergency services, such as mass care, heavy rescue, hazardous materials, or other specialized function.	All	Resp.
19	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe valley fog and extreme heat conditions.	FG, EH	Resp.

20	Use Geographic Information Systems (GIS) technology to track fire and law enforcement response times and provide technical assistance to fire and law enforcement agencies.	FR, TR	Mit.
21	Require, where feasible, road networks (public and private) to provide for safe and ready access for emergency equipment and provide alternate routes for evacuation	All	Mit.
22	Fire Station # 2: Construct a second fire station on the west side of Dinuba to account for increased population. Estimated cost is $4M.	FR, HZ	Resp.
23	Kern Street Storm Drain: Construction of 60" storm drain line to address flooding issues in the downtown area. Estimated cost is $3.3M.	FL	Mit

A list of mitigation actions was selected from the mitigation strategies. **Table A-12** provides the mitigation 2017 MJLHMP actions for the City. New priorities for mitigation actions are listed in the table.

Table A-12: Dinuba - Mitigation Actions					
Action Number	**Mitigation Strategy**	**Department**	**Cost**	**Priority**	**Timeframe**
1	Kern Street Storm Drain: Construct a 60" storm drain line to address flooding issues in the downtown area.	Public Works	Estimated cost is $3.3 M	High	2-5 years
2	Fire Station # 2: Construct a second fire station on the west side of Dinuba to account for increased population. Estimated cost is $4M.	Fire	Estimated cost is $4M	High	2-5 years
3	Reinforce bridges and roads from flooding through protection activities, including installing /increasing the size of culverts beneath roads in areas that experience regular flooding.	Public Works	Unknown	High	5 or more years
4	Permit development only in areas where the potential danger to the health and safety of people and property can be mitigated to an acceptable level.	Planning	Unknown	High	5 or more years
5	Integrate the Tulare County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	All	Unknown	Medium	One year
6	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	Public Works	Unknown	Low	5 or more years
7	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	Development	Unknown	High	5 or more years

Incorporation into other plans: FEMA requires the HMP be consistent with and incorporated into other planning documents and processes. In Dinuba, these other planning documents include the General Plan Update, Capital Improvement Program, Dinuba Urban Water Management Plan, Transit Development Plan and Fire Department Master Plan. The term "consistency" in planning terms means that the general plan

and the other plans have similar community goals and policies, that they advocate similar land use patterns, and they are consistent in their guidance of direction and rate of growth.

Many of the plans listed in the Capabilities Assessment mentioned in Section A.4 have not been updated since the 2011 MJLHMP was adopted. Recommended ways to use and incorporate the new Plan over the next five-year planning cycle, discussed by the Planning Team, included:

- Incorporation of the Dinuba Annex into the Health and Safety Element of the City's General Plan.
- Use of, or reference to, Plan elements in updates to general and comprehensive planning documents, codes, and ordinances
- Addition of defined mitigation actions to capital improvement programming
- Inclusion of Plan elements into development planning and practices
- Resource for developing and/or updating emergency operations plans, emergency response plans, etc.

The Plan will continue to function as a standalone document subject to its own review and revision schedule presented in Sections 7.1 and 7.2. The Plan will also serve as a reference for other mitigation and land planning needs of the participating jurisdictions. Whenever possible, each jurisdiction will endeavor to incorporate the risk assessment results and mitigation actions and projects identified in the Plan, into existing and future planning mechanisms.

At a minimum, each of the responsible agencies/departments noted in **Table 6.3 and the Annexes of Appendix J** will review and reference the Plan and revise and/or update the legal and regulatory planning documents, manuals, codes, and ordinances as appropriate. Specific incorporation of the Plan risk assessment elements into the natural resources and safety elements of each jurisdictions' General Plans (County comprehensive plan) and development review processes, adding or revising building codes, adding or changing zoning and subdivision ordinances, and incorporating mitigation goals and strategies into general and/or comprehensive plans, will help to ensure hazard mitigated future development.