

CITRUS HEIGHTS WATER DISTRICT

2020 URBAN WATER MANAGEMENT PLAN



Final
June 21, 2021



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List of Abbreviations and Acronyms

°F – Degrees Fahrenheit	DWR – California Department of Water Resources
Act – Urban Water Management Act	ETo – Evapotranspiration
AF – Acre-Feet	ft ² – Square-feet
AFY – Acre-Feet per Year	GCM – General Circulation Model
ARBS – American River Basin Study	GMP – Groundwater Management Plan
AWWA – American Water Works Association	gpcd – Gallons Per Capita per Day
AWWA – American Water Works Association	gpd – Gallons Per Day
BL – Baseline Climate Scenario	gpf – Gallons Per Flush
CalSIM 3.0 – Water resource planning model developed by DWR	gpm – Gallons Per Minute
CASGEM – California State Groundwater Elevation Monitoring	GSP – Groundwater Sustainability Plan
CCR – Consumer Confidence Report	Guidebook – Urban Water Management Plan Guidebook 2020
CHWD – Citrus Heights Water District	HD – Hot-Dry Climate Scenario
CII – Commercial, Industrial, and Institutional	HW – Hot-Wet Climate Scenario
CIMIS – California Irrigation Management Information System	kWh – Kilo-watt hours
CIP – Capital Improvement Program	LHMP – Local Hazard Mitigation Plan
CMIP5 – Coupled Model Intercomparison Project, Phase 5	LOCA – Localized Constructed Analogs
CT – Central Tendency Climate Scenario	M&I – Municipal and Industrial
CVP – Central Valley Project	mgd – Million Gallons per Day
CWC – California Water Code	MWEO – Model Water Efficient Landscape Ordinance
District – Citrus Heights Water District	Objectives – Water Use Objectives
DMM – Demand Management Measure	°F – Degrees Fahrenheit
DRA – Drought Risk Assessment	PCWA – Placer County Water Agency
	PET – Potential Evapotranspiration
	PRV – Pressure Reducing Valve
	PSA – Public Service Announcement

RCP – Representative Concentration Pathway

RWA – Regional Water Authority

SACOG – Sacramento Area Council of Governments

SASD – Sacramento Area Sewer District

SBX7-7 – Senate Bill X7-7, enacted in November 2009

SFR – Single Family Residential

SGA – Sacramento Groundwater Authority

SGMA – Sustainable Groundwater Management Act

SJWD – San Juan Water District

SMUD – Sacramento Municipal Utility District

SRCSD – Sacramento Regional County Sanitation District

SWE – Snow Water Equivalent

SWP – State Water Project

SWRCB – California State Water Resource Control Board

TAF – Thousand Acre-Feet

ULF – Ultra-Low Flush

USBR – United States Department of the Interior, Bureau of Reclamation

UWMP – Urban Water Management Plan

WCA – San Juan Water District’s Wholesale Customer Agencies

WD – Warm-Dry Climate Scenario

WEP – Water Efficiency Program

WFA – Water Forum Agreement

WRCC – Western Regional Climate Center

WSA – San Juan Water District’s Water Supply Agreement

WSCP – Water Shortage Contingency Plan

WSIP – Water Storage Investment Program

WTP – Water Treatment Plant

WW – Warm-Wet Climate Scenario

WWTP – Wastewater Treatment Plant

1 Urban Water Management Plan Introduction, Preparation, Overview, and Notice, Adoption, and Submittal

The Urban Water Management Act (Act) became part of the California Water Code (CWC) with the passage of Assembly Bill 797 during the 1983-1984 regular session of the California Legislature. The CWC requires every urban water supplier providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually (AFY) to adopt and submit an Urban Water Management Plan (UWMP) every five years to the California Department of Water Resources (DWR). The specific planning requirements are in the CWC Division 6, Part 2.6 Urban Water Management Planning.

Subsequent legislation has been passed that updates and imposes additional requirements for the UWMPs and water management. In particular, SB X7- 7 Water Conservation, required the State to achieve a 20 percent reduction in urban per capita water use by December 31, 2020, known as 20x2020. Reporting of 20x2020 compliance is incorporated into the 2020 UWMP requirements. Other items in the UWMP originating from new legislative requirements include reporting on energy intensity, a newly required Water Shortage Contingency Plan with mandatory elements, and a 5-Year Drought Risk Assessment.

The core requirements for the UWMP include:

- A simple lay description of reliability of supplies, projected supplies, and the strategy for meeting water needs.
- A description of the water service area.
- A description of the existing and planned supply sources.
- Estimates of past, present, and projected water use.
- 20x2020 analysis and target compliance.
- A description of water conservation Demand Management Measures (DMMs) already in place and planned, and other conservation measures.
- Inclusion of a 5-Year Drought Risk Assessment.
- A Water Shortage Contingency Plan/Conservation Program.

The 2020 UWMP must submit data in specific tables to DWR. DWR has provided these tables and this UWMP utilizes DWR's tables with minor changes to format or organization where applicable. The Citrus Heights Water District's (CHWD or District) 2020 UWMP complies with the CWC and DWR's Urban Water Management Plan Guidebook 2020 (Guidebook). A copy of the DWR checklist for compliance, as well as the DWR submittal tables, are included in Appendix A.

1.1 Plan Summary

Based on the information and analysis presented in this 2020 UWMP, the District anticipates reliable, sufficient water supplies necessary to meet expected demands under normal, single dry, and a five-year consecutive drought over the 25-year planning horizon through 2045. Under normal conditions, the District projects it will need approximately 13,400 acre-feet (AF) to meet

expected demands in 2045. The District’s wholesale supplier (San Juan Water District, or SJWD) has confirmed the ability to deliver the amount of water necessary to meet the District’s projected demands, including during dry year and consecutive drought year conditions. CHWD anticipates utilizing approximately 900 AF per year (AFY) of groundwater production during the planning period while maintaining the ability to produce up to 5,000 AFY. The District can rely on remaining available groundwater capacity should circumstances change with respect to wholesale supply availability. The District has updated its Water Shortage Contingency Plan (WSCP) in conjunction with this UWMP in Section 6. The WSCP is a tool to address supply shortages identified through an annual assessment of available supplies and unconstrained demand. The District’s demand management and supply augmentation tools provide necessary actions to address and mitigate supply shortfalls, if necessary.

1.2 Basis for Preparing a Plan

CHWD provides retail potable water service to over 3,000 connections per year, and over 3,000 AFY and is therefore required to complete the UWMP process. Table 1-1 reports CHWD’s public water system information as required by DWR. Information in this UWMP is presented on a calendar year basis, and volumes are presented in acre-feet (AF) unless otherwise noted. This 2020 UWMP reports solely on the CHWD service area and is therefore considered an individual UWMP.

Table 1-1: Public Water System Information

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 (AF)	Reporting Period
CA3410006	Citrus Heights Water District	19,991	12,484	Calendar Year

1.3 Coordination and Outreach

The Sacramento region’s water agencies have developed a proactive approach to planning and managing water resources throughout the area. The District is a member and actively participates in the two main regional water supplier organizations; the Regional Water Authority (RWA) and the Sacramento Groundwater Authority (SGA). The RWA consists of most of the region’s water agencies and focuses efforts on regional supply planning and representation efforts regarding State-wide water issues. The SGA focuses primarily on the area’s groundwater basin and helps support proactive management and monitoring of the basin to maintain sustainability. Many of the programs and efforts described within this UWMP that support the regional water supply needs are coordinated through RWA, SGA, and individual water purveyors.

CHWD receives wholesale surface supply water from the San Juan Water District (SJWD) and together with the other Wholesale Customer Agencies (WCAs) of SJWD (Fair Oaks Water District, Orange Vale Water Company, City of Folsom-Ashland, SJWD-retail), routinely coordinates supply planning and other issues. Per the Guidebook requirements, CHWD provided

25-year projections for service area population and service area demands to the SJWD (Appendix B).

1.4 Notice to Cities and Counties

Notice to the cities of Citrus Heights and Roseville, and Placer and Sacramento counties, as well as SJWD, was given on December 29, 2020, regarding CHWD's intentions of updating the UWMP, fulfilling the requirement to provide notice 60 days prior to the June 16, 2021 public hearing.

1.5 Notice of Public Hearing

Public notification regarding the District's public hearing was provided on June 2 and 9, 2021. Information on time, location, where to access the public draft, and contact information was provided. The hearing encouraged active public participation and involvement in developing this 2020 UWMP and the WSCP.

Notification of the time and place of the public hearing was provided to the cities of Citrus Heights and Roseville as well as the counties of Placer and Sacramento (Table 1-2). These entities were notified on May 26, 2021, in compliance with CWC section 10642. Notification letters to the listed parties are included in Appendix C.

Table 1-2: Notification to Cities and Counties

City/County Name	Received 60 Day Notice (Yes/No)	Received Notice of Public Hearing (Yes/No)
City of Citrus Heights	Yes	Yes
City of Roseville	Yes	Yes
Sacramento County	Yes	Yes
Placer County	Yes	Yes

1.6 Public Hearing and Adoption

The public hearing and adoption were conducted on June 16, 2021. The CHWD Board of Directors Resolution adopting this 2020 UWMP is included in Appendix D.

1.7 Plan Submittal

Pursuant to DWR requirements, this 2020 UWMP was submitted to the California State Library, City of Citrus Heights, and the counties of Placer and Sacramento within 30 days of adoption.

This 2020 UWMP and applicable submittal tables, were electronically submitted to DWR by July 1, 2021.

1.8 Public Availability

This 2020 UWMP is available to the public during normal business hours at the front desk of CHWD's main office as well as electronically on the District's website.

2 System Description

This section describes system characteristics, including service area size, location, climate, land uses, and population.

2.1 General Description and Service Area Map

CHWD is located in the northeast portion of Sacramento County and south Placer County, California, approximately 20 miles northeast of downtown Sacramento. The District was formed on October 25, 1920, under Division 11, the Irrigation District Act of the State of California Water Code. The District is governed by a three-member Board of Directors elected at large from divisions within the District.

CHWD provides water service to portions of the Cities of Citrus Heights and Roseville, and portions of the unincorporated communities of Orangevale, Fair Oaks, Carmichael, and a portion of unincorporated Placer County, as shown in Figure 2-1. The service area covers approximately 7,780 acres in Sacramento and Placer counties. A small portion of the District's service area, approximately 140 acres, is located in Placer County.

The District initially used American River surface water supply from the North Fork Ditch Company to serve its customers. The customer base was primarily comprised of small family farms and limited urban areas. Concurrent with the completion of Folsom Dam in 1956, San Juan Water District (SJWD) was formed and acquired the facilities and water rights of the North Fork Ditch Company. SJWD has also contracted for additional water from the United States Bureau of Reclamation (USBR) and Placer County Water Agency (PCWA). CHWD now receives surface water from the American River through SJWD. Along with CHWD, SJWD provides treated surface water to Fair Oaks Water District, Orange Vale Water Company, portions of the City of Folsom, and SJWD's own retail service area. These agencies are collectively referred to as the SJWD Wholesale Customer Agencies (WCAs). CHWD continues to supplement its surface water supply with groundwater for readiness-to-serve purposes and to meet peaking, pressure, shortage, and emergency demands.

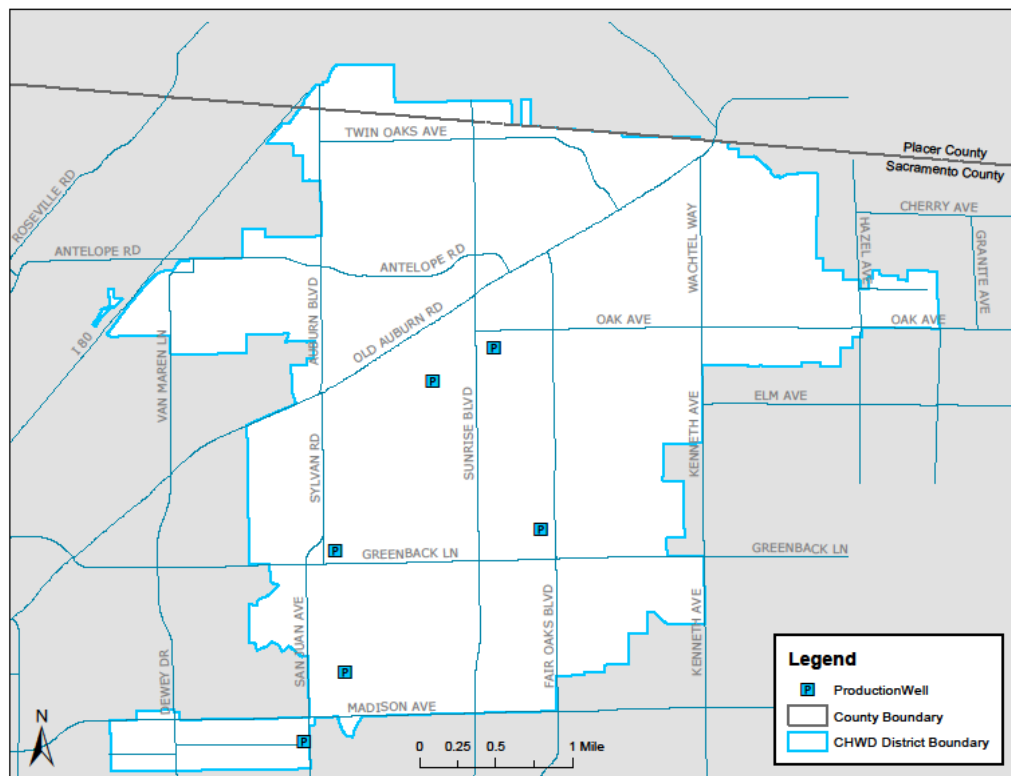


Figure 2-1. Service Area of Citrus Heights Water District

2.2 Service Area Climate

The CHWD service area experiences cool winters and hot, dry summers. The California Irrigation Management Information System (CIMIS) maintains historic climate data for select sites only. CIMIS does not have a station within the CHWD service area boundary and therefore the Fair Oaks station was utilized for the climate data analysis. The Fair Oaks station is located less than three miles outside the district service area and adequately represents the climate data for CHWD. The CIMIS website (cimis.water.ca.gov) maintains historical climate records for the Fair Oaks station beginning in 1997 and reports the monthly temperature ranges from an average low of 39.2 to an average high of 93.9 degrees Fahrenheit (°F). During the historical period of record, extreme conditions were recorded at 21.3 °F for the lowest temperature (1998) and 119.5 °F for the highest (2019).

Precipitation data is also documented from the CIMIS Fair Oaks station. For the period 1997 through 2020, average rainfall was measured at 20.13 inches. The wettest months are January, February, March, and December while the driest months are typically July and August.

Evapotranspiration (ET_o) varies seasonally. Standard monthly average ET_o data was obtained from the CIMIS Fair Oaks station. Average annual ET_o for the period 1997-2020 measured 50.38 inches.

Figure 2-2 presents the monthly average climate summary based on the historical data for the CIMIS Fair Oaks station. Additional ETo data from California Model Water Efficient Landscape Ordinance (MWELo) is also reported on Figure 2-2. Local agencies are to use the MWELo ETo values as the standard for approval of landscape plans associated with specific development projects. Since the City of Citrus Heights was not included in the MWELo ETo table, data for the nearby City of Roseville is considered representative of the District's service area.

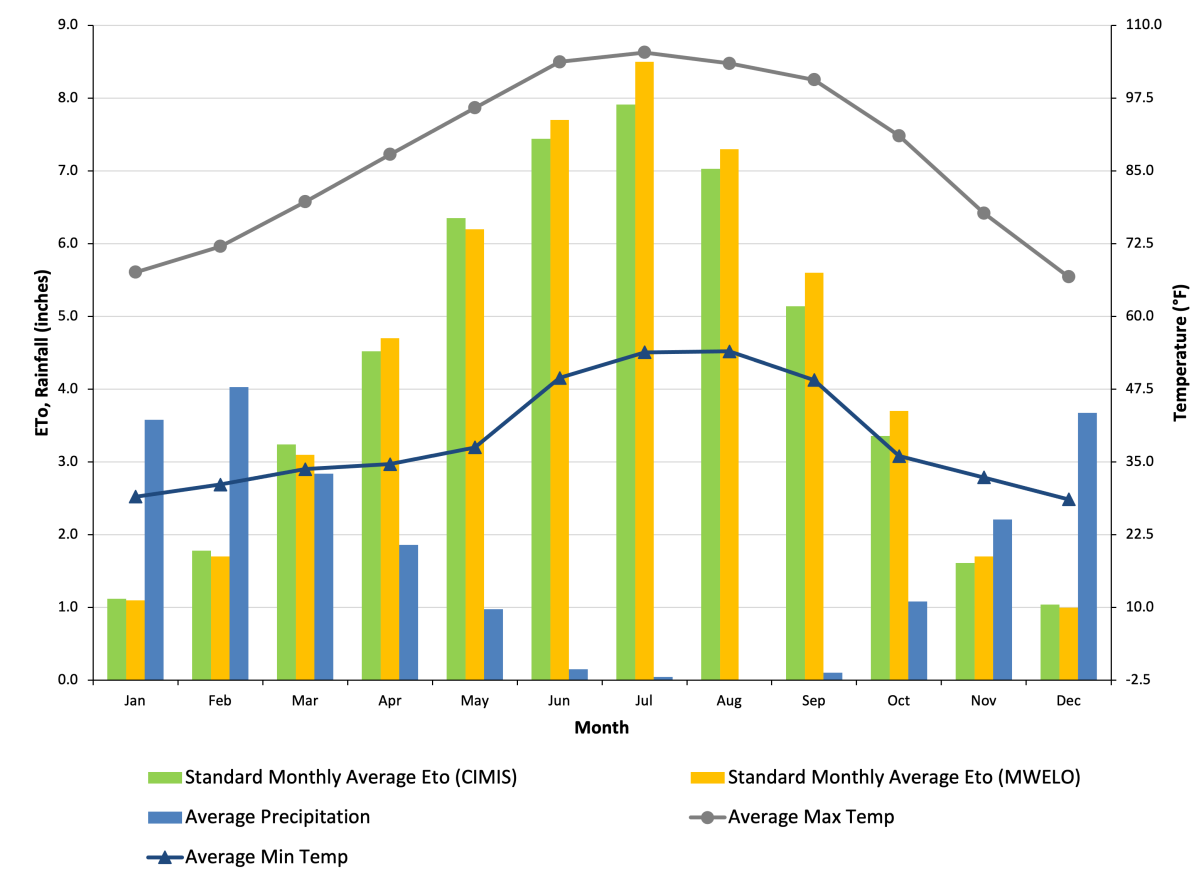


Figure 2-2: Monthly Average Climate for Citrus Height Water District

Source: CIMIS Fair Oaks Station, MWELo Appendix A

2.3 Service Area Population and Demographics (current and projected)

The CHWD service area boundary does not match up with census tract or block group zones. The existing service population is therefore estimated using the person per connection method. As Census data for 2020 is not available, the person per connection ratio from the District's 2015 UWMP, originally obtained from the DWR Population Tool is utilized. The DWR Population Tool uses the District boundary and available Census block data to estimate the population. The number of residential connections is then factored in to calculate the capita per connection. Projected populations assume the current capita per connection value of 3.4 and include

projected connections from future developments, including the Mitchell Farms Subdivision and the Sunrise Marketplace Redevelopment. See Chapter 3 for a more detailed discussion of projected customer connections. Population projections are summarized in Table 2-1.

Table 2-1: Population – Current and Projected

Population Served¹	2020	2025	2030	2035	2040	2045
	63,821	65,280	68,398	73,275	78,151	83,028

NOTES:

¹Service area population for 2020 estimated using the person-per-connection method. See Chapter 3 for projected customer connection methodologies

2.4 Other Social, Economic, and Demographic Factors

In the early years of the District, residential and agricultural growth was nominal. Since then, urban development continued to such a degree that presently there is no significant agricultural water use within the District. CHWD now serves a predominantly residential customer base, with a 2020 residential demand equal to 79 percent of its total annual demand.

In the years prior to the Covid-19 pandemic, some areas within the greater Sacramento Region experienced substantially low unemployment rates. Figure 2-3 displays the Sacramento metropolitan area Labor Force and Employed populations as well as the resulting Unemployment Rate for the period 1990 through 2020. As seen on the figure, in September 2019, the region experienced the lowest unemployment rate for the period (3.1 percent). Commensurate with the impacts on the labor market due to the pandemic, 2020 saw the largest increase in the unemployment rate for the period, resulting in a high of 14 percent (April 2020).

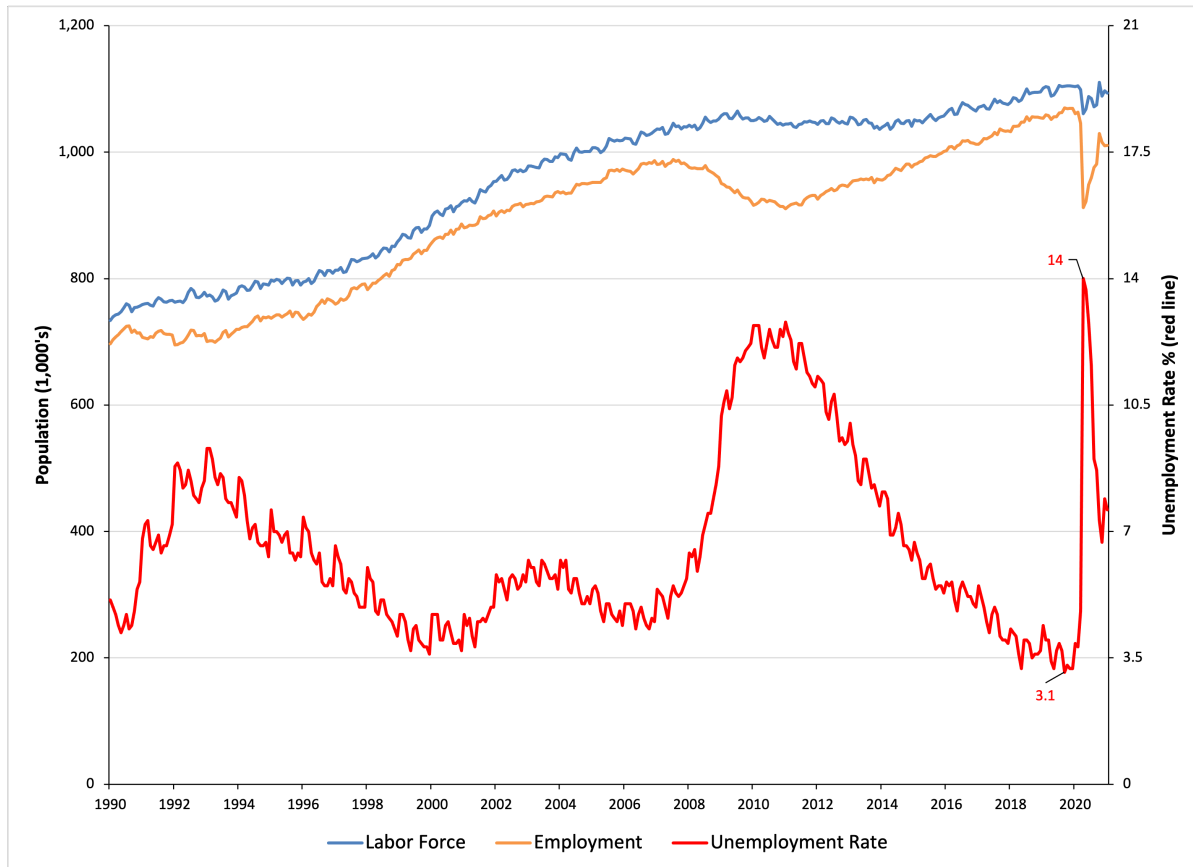


Figure 2-3: Sacramento Region Labor Statistics

Source: United States Bureau of Labor Statistics (Sacramento, Roseville, Arden-Arcade, CA)

The United States (US) Census Bureau provides demographic statistics for the City of Citrus Heights. Although the City's boundary does not match CHWD's service area boundary, information pertaining to the City is considered a proxy for CHWD, as approximately 70 percent of the District's service area boundary is within the City boundary. Per the US Census Bureau, approximately 11.5 percent of the population within the City of Citrus Heights is considered "in poverty", while the annual per capita income for the period 2015-2019 is \$30,884. The US Census Bureau also reports that 19.4 percent of the City's population (aged five years and higher) speak a language other than English at home, with 13.4 percent being foreign-born. Table 2-2 displays the percentage of the City's population based on age groups.

Table 2-2: Age Distribution of City of Citrus Heights

Age Range	Percent of Population
Persons Under 5 years	5.8
Persons Under 18 years	20.7
Persons Under 65 years	83.8
Persons 65 years and older	16.2

Source: US Census Bureau, Quick Facts

2.5 Land Uses within Service Area (current and projected)

Per the City of Citrus Heights General Plan (City of Citrus Heights, 2020), land uses within the CHWD service area include Residential (various densities), General Commercial, Business Professional, Industrial, Open Space, Public, and Corridor Transition Overlay. The Citrus Heights General Plan does not specifically inform on land use projections but does identify the Sacramento Area Council of Governments (SACOG) as the responsible entity relating to such planning projections. The CHWD service area is included in the SACOG planning area and is mainly classified as “Established Community”. With exception to the Sunrise MarketPlace project, no land uses changes that would affect CHWD’s water management planning are anticipated. Based on current and projected land use, SACOG’s 2020 MTP/SCS projects approximately 3,500 new residential units within the service area by 2045.

The Mitchell Farms Subdivision is currently under development. This project is located in the City of Citrus Heights (within CHWD’s service area), east of Interstate 80, and is bounded by Sunrise Boulevard to the west, Fair Oaks Boulevard to the east, Greenback Lane to the south, and Arcade Lake Lane to the north. The project encompasses approximately 56 acres of developed area and includes a total of 260 proposed single family residential units. Land uses associated with the project include Single-Family Residential (less than 3,600 square feet), Single-Family Residential (greater than 3,600 square feet), Commercial, and Industrial (MacKay & Soms, 2019).

Although in the early stages, redevelopment of the Sunrise Mall is expected. The proposed project includes redevelopment and conversion of the existing parcels into residential and commercial properties. A total of 2,220 residential units could be added, including a mixture of townhouses, multi-family lifestyle units (apartments, flats, and mixed-use), and senior housing, while commercial operations could include a hotel, retail shops, offices, and community and institutional developments totaling 1,730,000 square feet (De Novo, 2020).

3 Water Use Characterization

This section presents information on the District’s system water use, including past, current, and projected demands.

3.1 Past, Current, and Projected Water Use by Sector

Annual demand by use type for the period 2016 through 2020 is reported in Table 3-1. Past water use by sector has primarily consisted of residential (single and multi-family connections), averaging 77.5 percent of total use for the period 2016-2020. 2020 water use generally follows the historic trend of primarily consisting of residential (79 percent of 2020 total use). With the exception of 2020, water demands have generally stabilized over the last five years. This is likely attributed to implementation of conservation programs and ordinances in addition to very low growth.

Table 3-1: Demands by Use Type (2016-2020)

Use Type	AFY				
	2016	2017	2018	2019	2020 ¹
Single Family	6,384	6,966	6,946	6,955	7,812
Multi-Family	1,920	1,976	1,967	1,954	2,090
Commercial/Institutional	828	861	887	887	844
Industrial	281	323	321	321	329
Landscape	684	858	849	873	917
Other	12	12	12	0	14
Distribution Water Loss	702	579	586	572	478
District Total:	10,810	11,575	11,569	11,561	12,484

¹AWWA water loss audit not yet complete. Distribution Water Loss is estimated based on the difference in metered production and delivery during 2020.

2020 demands are approximately 1,000 AF higher than previous years. This can likely be attributed to the Covid-19 pandemic and associated stay-at-home orders and increased unemployment rate. Single family and multi-family use increased by 12 and 7 percent, respectively, and represent the largest two increases over 2019 use.

Table 3-2 reports the number of active connections for the period 2016 through 2020. All customers are metered and there are no un-metered connections. The “Other” category includes accounts such as construction meters, dormant accounts (vacant land and meters not used by customers), and dedicated fire service meters.

3-2: Number of Connections by Use Type (2016-2020)

Customer Type	Number of Connections				
	2016	2017	2018	2019	2020
Single Family	16,470	16,508	16,518	16,537	16,581
Multi-Family	2,186	2,186	2,187	2,189	2,190
Commercial/Institutional	749	753	699	701	701
Industrial	56	56	56	56	56
Landscape	390	393	395	395	395
Other	207	209	213	31	68
District Total:	20,058	20,105	20,068	19,909	19,991

Table 3-3 presents the unit demand factors for each customer category from 2016-2020. As seen in the table, the residential (single family and multi-family) unit demand factors increased in 2020 compared to previous years.

Table 3-3: Unit Factor by Use Type (2016-2020)

Customer Type	AFY/Connection				
	2016	2017	2018	2019	2020
Single Family	0.39	0.42	0.42	0.42	0.47
Multi-Family	0.88	0.90	0.90	0.89	0.96
Commercial/Institutional	1.10	1.14	1.27	1.26	1.20
Industrial	5.02	5.78	5.74	5.72	5.87
Landscape	1.75	2.18	2.15	2.21	2.32
Other	0.06	0.06	0.06	0.00	0.20

The District anticipates the majority of the future customer base will continue to be comprised of traditional density single-family residential and multi-family units. SJWD developed demand projections for each of the wholesale WCA entities (Tully and Young, 2020). These demand projections include the Mitchell Farms development and the MarketPlace redevelopment of the Sunrise Mall area. At that time, MarketPlace was still in early development, and general assumptions were made regarding use and demands. Since that time, the City of Citrus Heights Planning Department has published a more detailed listing of development capacity for residential units and commercial/retail square footage (see Table 3-5 below). These proposed values were used to update the demands as provided in the SJWD 25-Year Demand Forecast and Capacity Analysis.

The projected demands from the SJWD analysis, updated with the recent MarketPlace projections, are presented in Table 3-4.

Table 3-4: Projected Demands by Customer Category

Customer Category	AFY				
	2025	2030	2035	2040	2045
Single Family	7,245	7,389	7,343	7,487	7,631
Multi-Family	1,961	2,070	2,289	2,507	2,726
Commercial/Institutional ¹	877	902	944	980	1,017
Industrial	322	322	322	322	322
Landscape	856	883	917	963	989
Other	21	21	21	21	21
Distribution Water Loss	567	586	601	626	650
Total:	11,849	12,173	12,437	12,906	13,355

Based on SJWD 25-Year Demand Forecast updated with recent MarketPlace information.

Table 3-5 presents the projected number of connections. The connections are divided into two main groups, all service area minus MarketPlace, and MarketPlace. The main service area residential connections are based on those projected in the SJWD 25-Year analysis. The 25-Year analysis projected non-residential demands based on acreage, not connections. For Table 3-5, non-residential connections are projected using 2020 values and the annual growth rates experienced over the last five years. The Marketplace residential connections are provided based on the proposed maximum number of units of 2,200, for conservative supply planning purposes. For Table 3-5, the projected number of non-residential connections are not estimated due to uncertainty in actual water service accounts at this time. Instead, non-residential square footage is listed as a proxy for growth rates.

Table 3-5: Projected Connections by Customer Category

Customer Category	Number of Connections				
	2025	2030	2035	2040	2045
Service Area					
Single Family	16,553	16,953	17,353	17,753	18,153
Multi-Family	2,287	2,487	2,887	3,287	3,687
Commercial/Institutional	710	719	728	737	747
Industrial	56	56	56	56	56
Landscape	402	409	417	424	432
Other	69	69	70	70	71
MarketPlace Redevelopment					
Residential Connections	0	317	951	1,586	2,220
Non-Residential square feet	0	247,000 ft ²	741,000 ft ²	1,236,000 ft ²	1,730,000 ft ²

3.2 Distribution System Water Loss

The District conducts annual water loss audits per the American Water Works Association water audit methodology. Validated annual reports are presented in Appendix E and summarized in Table 3-6. The 2020 water loss audit is not yet complete. Therefore, the water loss reported for 2020 is estimated based on the difference in water produced and delivered during 2020. An assumed annual water loss of approximately 5.0 percent of total water use is used to project future water loss volumes in Table 3-4.

Table 3-6: 2016-2020 Water Loss Reporting

Reporting Period Start Date	Volume of Water Loss (AF)	Water Loss Percent
01/2016	702	6.5
01/2017	579	5.0
01/2018	586	5.1
01/2019	572	4.9
01/2020	478	3.8

3.3 Water Use for Lower Income Households

Legislation requires the District to project water demands for low-income housing needs. Although the CHWD service area does not match the City of Citrus Heights boundary, CHWD's service area encompasses about two-thirds of the geographic area of the City of Citrus Heights. This analysis assumes the City's housing element is representative of the CHWD service area as approximately 70 percent of CHWD's service area is within the City's boundary.

The City of Citrus Heights reports anticipated Very Low and Low Income unit needs of 146 and 102 units, respectively (City of Citrus Heights, 2020). Projected water demands for these units assume that all units are classified as single-family and are included in the projections presented in Table 3-4 above.

3.4 SBX7-7 Baseline, Target, and 2020 Compliance

Pursuant to CWC section 10608.24(b)¹, the District must demonstrate its 2020 water use met the gallons per capita per day (gpcd) target adopted in its 2015 UWMP. As set forth in the 2015 UWMP, the District's 2020 gpcd target was established as 229 gpcd, derived as the "gross water use" divided by the population during a defined baseline period. The District's 2020 actual gpcd must use the same methodology to derive "gross water use" for 2020, then divide by the estimated 2020 population presented in Chapter 2.

As presented in the District's 2015 UWMP, the District selected Urban Water Use Target Method 1, 80 percent of base daily per capita water use, resulting in a 2020 target of 229 gpcd. The actual 2020 gpcd is calculated as the gross water use divided by the served population.

The resulting gross water supplied to District customers in 2020 was 12,484 acre-feet. As shown in Table 2-1, the District's served population in 2020 was estimated to be 63,821. This results in a calculated 2020 compliance value of 175 gpcd, which is less than the established target. Thus, the District complies with CWC section 10608.24(b) and has met its 2020 gpcd target. The important compliance calculation parameters are summarized in Table 3-7.

Table 3-7: Demonstration of Compliance with 2020 gpcd Target

2020 Gross Water Supplied	12,484 AF
2020 Population	63,821
2020 Actual gpcd	175 gpcd
2020 Target gpcd	229 gpcd
Compliance Achieved?	Yes

3.4.1 Water Use Objectives Impacts

Water Use Objectives (Objectives) are defined in the CWC as, "an estimate of aggregate efficient water use for the previous year based on adopted water use efficiency standards and local service area characteristics for that year" (CWC § 10608.12(u)). Pursuant to CWC section 10609.2, the SWRCB is required to "adopt long-term standards for the efficient use of water" concerning outdoor residential, outdoor irrigation of landscape areas applicable to CII customers with dedicated landscape meters, and volume for water loss. The standards are currently being developed and are to be adopted by the SWRCB by June 30, 2022.

¹CWC section 10608.24(b) Each urban retail water supplier shall meet its urban water use target by December 31, 2020.

Developed standards for indoor residential water use are provided in section 10609.4 of the CWC. The standard for indoor residential water use shall be 55 gpcd until January 1, 2025, 52.5 gpcd for the period January 1, 2025 through December 31, 2029, and 50 gpcd after January 1, 2030. Using the assumed person per connection of 3.4 and 55 gpcd, the residential indoor budget is estimated as 0.21 AF/DU. The District's current average unit demand factor for single family connections is 0.42 AF/DU. The outdoor landscape budgets are not yet available for review, but once available, the District will evaluate the impact on its total water budget compliance.

Residential outdoor irrigation budgets are currently under development by the DWR. The water budget will be based on an estimated irrigation area as determined by satellite imagery, a maximum allowable water use (still to be determined), and assumed irrigation system efficiencies.

CII performance measures are to be developed and recommended to the SWRCB by October 1, 2021, with adoption by June 30, 2022. These performance measures will be developed based on recommendations for CII water use classification system, minimum size thresholds for converting mixed CII meters to dedicated irrigation meters, best management practices, and appropriate performance measures (consistent with the October 21, 2013 report to the Legislature entitled, "Water Use Best Management Practices")².

Water loss standards are to be developed by the Board, in coordination with DWR. Pursuant to CWC section 10608.34(i), the SWRCB "shall adopt rules requiring urban retail water suppliers to meet performance standards for the volume of water losses." As discussed further in detail in Section 3.2, CHWD annually validates the water loss audits and submits to DWR. Potential impacts to CHWD from the water loss regulations include the requirement of accelerated infrastructure repair and/or expansion of water loss programs.

Each water use objective is added together for an agency-wide total water budget the State will use for reporting and enforcement. It is then up to the water agency to enact measures to meet the total budget, focusing on the specific users or user types it selects. The water use objectives are to be calculated and reported to the Board by January 1, 2024 (and by January 1 annually thereafter). CWC section 10609.26 describes the reporting and enforcement of the Objectives. Pursuant to the code, an urban water supplier is required to calculate actual urban water use and report to the Board by January 1, 2024 (and by January 1 annually thereafter). For suppliers not meeting their respective Objectives, the SWRCB may issue informational orders, effective January 1, 2024. Beginning January 1, 2025, the SWRCB may issue a written notice to suppliers not meeting their Objectives. Written notices may request that the supplier addresses areas of concern in its next Objective report. In reporting actual urban water use and targets to the SWRCB, beginning on January 1, 2026, the SWRCB may issue conservation orders to urban water suppliers who are not meeting their target. Conservation orders may include referral to DWR for technical assistance, require enhanced education and outreach by the supplier, and require specific local enforcement.

²CWC, section 10609.10

4 Water Supply Characterization

CHWD uses both surface water and groundwater to supply its customers. The District purchases surface water from the San Juan Water District (SJWD). Groundwater is obtained from the District's six active wells. The following subsections present information on the District's supply portfolio and conditions regarding such supplies. The District's Consumer Confidence Report (CCR) detailing water quality is included in Appendix F.

4.1 Purchased or Imported Water

CHWD purchases surface water from the SJWD. SJWD obtains its surface water through a combination of rights and contracts totaling 82,200 AFY. The specifics and reliability of each right and contract is presented in SJWD's UWMP (Chapters 3 and 5) and summarized in Section 5 of this UWMP. All of the surface water supplies are withdrawn from Folsom Reservoir into SJWD's water treatment plant.

CHWD maintains a wholesale Water Supply Agreement (WSA) with SJWD to provide surface water, as does SJWD with all the WCAs. The WSA is dated 2008 and is valid until 2045. The wholesale WSA does not include a volumetric amount; rather it states that SJWD will provide CHWD the required supply. The other WCA contracts also include the same language. CHWD projects it will use approximately 900 AF of groundwater annually (discussed below), and rely on surface water to meet the majority of its customer demands.

CHWD maintains multiple connections with SJWD to receive its water supply, one on the CHWD 42-inch transmission main and three on the SJWD 72-inch Cooperative Transmission Pipeline. Barring the failure of these connections, there are no physical constraints to obtaining the required SJWD supply.

4.2 Groundwater

The groundwater basin underlying the District is the North American Sub-basin, part of the larger Sacramento Valley groundwater basin. California Department of Water Resources California's Groundwater Update 2003, Bulletin 118, identifies the basin as 5-21.64.

4.2.1 Basin Description

Water-bearing formations beneath the District occur in two major strata. The upper water-bearing units include the geologic formations of the Victor, Fair Oaks, and Laguna Formations and are typically unconfined. The lower water-bearing unit consists primarily of the Mehrten Formation, which exhibits confined conditions. The Mehrten Formation is the most productive fresh water-bearing unit in the eastern Sacramento Valley, though some of the permeable layers of the Fair Oaks Formation produce moderate amounts of water. Much of the recharge of these aquifer systems comes from rainfall and applied water (36%), subsurface flow from the South (26%), and the Sacramento River (21%) (SGA, 2014). To a lesser extent, aquifer recharge also occurs where the Mehrten Formation reaches the surface in the foothills in eastern Sacramento and western El Dorado County areas.

Supply wells in the Sacramento region draw water primarily from the Mehrten and Fair Oaks formations and typically produce 500-1,500 gpm. There are areas throughout the basin that exhibit elevated levels of iron, manganese, and arsenic. CHWD's wells do not exhibit any water quality issues that impact its use as potable water supply or require treatment other than disinfection prior to service.

The local groundwater basin does contain three significant major groundwater contamination areas: the United Pacific Railroad plume located northwest of the District in Roseville and the McClellan Air Force Base plume located west of the District. Both plumes are down-gradient and not expected to impact the District's groundwater quality. A third groundwater contamination plume attributed to Aerojet's historic operations was first detected in groundwater south of the American River in 1979. Since that time, Aerojet has installed groundwater treatment facilities and conducted other efforts to treat and control the plume migration. However, the plume was detected north of the American River near Fair Oaks in 2000, and another plume was detected north of the American River in 2005 near Ancil Hoffman Park in Carmichael. Additional monitoring wells and pump-and-treat facilities have been installed to monitor and treat the plumes attributed to Aerojet.

The basin is not adjudicated. Total usable capacity and safe yield of the basin have not yet been determined. Usable capacity is assumed to be the yield calculated in the DWR's American Basin Conjunctive Use Project Feasibility Study (1997). The study assumed a specific yield of 7 percent and an assumed thickness of 200 feet. Applying these assumptions to the total basin area results in a usable capacity of 70.2 million AF. More information on the management of the basin is presented in the following subsections.

4.2.2 Groundwater Management

Sacramento Groundwater Authority (SGA)

The Sacramento Groundwater Authority (SGA) is a joint powers authority originally formed in 1998 to manage the North Basin (SGA, 2014) in response to descending groundwater levels. Up until the early 2000s, groundwater levels had been generally declining in Sacramento County for the previous 50 years, with many areas declining at a rate of 1.2 to 2.0 feet per year. A groundwater depression that was evident in 1968 significantly expanded and deepened in 1996. The SGA developed a Groundwater Management Plan (GMP) in 2003, with several updates since. The current GMP was completed in 2014 and identified the following four basin management objectives:

1. Maintain groundwater elevations in the SGA area that provide for sustainable use of the groundwater basin.
2. Maintain or improve groundwater quality in the SGA area to ensure sustainable use of the groundwater basin.
3. Maintain groundwater levels to prevent inelastic land surface subsidence that would damage infrastructure or exacerbate flooding.
4. Protect against adverse impacts to surface water or groundwater resulting from the interaction between groundwater in the basin and surface water in the American River, the Sacramento River, and other surface water bodies within the SGA area.

The SGA has implemented a groundwater accounting framework that allows for SGA member agencies to account for groundwater banking and conjunctive use efforts and includes consideration and monitoring of groundwater levels. This information is used to proactively manage the basin's storage capacity and available yield to support a conjunctive use strategy.

As a result of these efforts, SGA reports that groundwater elevation levels have stabilized, or in some cases increased. SGA is also the California Statewide Groundwater Elevation Monitoring (CASGEM) reporting agency for the basin conditions. As a member of SGA, CHWD continues to track contamination threats and participate in conjunctive use programs or other projects to minimize the risk of contamination plumes. The comprehensive SGA basin monitoring program and other strategies to mitigate groundwater overdraft on a regional basis are included in the SGA GMP, located at <https://www.sgah2o.org/programs/groundwater-management-program/groundwater-management-plan/>.

Sustainable Groundwater Management Act (SGMA)

The enactment of the Sustainable Groundwater Management Act (SGMA) in 2014 required “management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results” (CWC § 10721(v)). SGMA empowered local entities to form Groundwater Sustainability Agencies (GSAs), whose purposes include implementation of SGMA. As such, SGA was designated as the exclusive GSA for its management area in early 2016. SGA has continually participated throughout the SGMA process, including development of the Groundwater Sustainability Plan (GSP), Emergency Regulations, Basin Boundary Modifications process, and the report on the surface water available for replenishment.

SGMA basin prioritization includes a process that identifies a groundwater basin as Very Low, Low, Medium, and High priority basins, with specific SGMA requirements for each. All basins identified as either High or Medium priority basins are required to be managed under a GSP or coordinated GSP (CWC § 10720.7). The North American Sub-Basin is identified as Medium/High priority (although not identified as being in critically overdraft conditions) and accordingly, must be managed under a GSP by January 31, 2022.

Although there are no current restrictions on CHWD's ability to produce groundwater, basin sustainability may ultimately require certain limitations on groundwater production.

4.2.3 Overdraft Conditions

DWR Bulletin 118 does not specifically identify the North American Sub-Basin as being in overdraft. Groundwater management efforts in the region through SGA and other partnerships have improved and stabilized basin groundwater levels. Hydrographs for the basin's monitoring wells are shown in Figure 4-1 below and can be accessed at <https://www.sgah2o.org/basin-conditions/groundwater-hydrographs/>. The red points indicate the Spring season groundwater level measurement, usually correlating to the highest groundwater level for the year (before pumping for agricultural purposes). The y-axis displays the reported groundwater surface elevation above (or below) mean sea level.

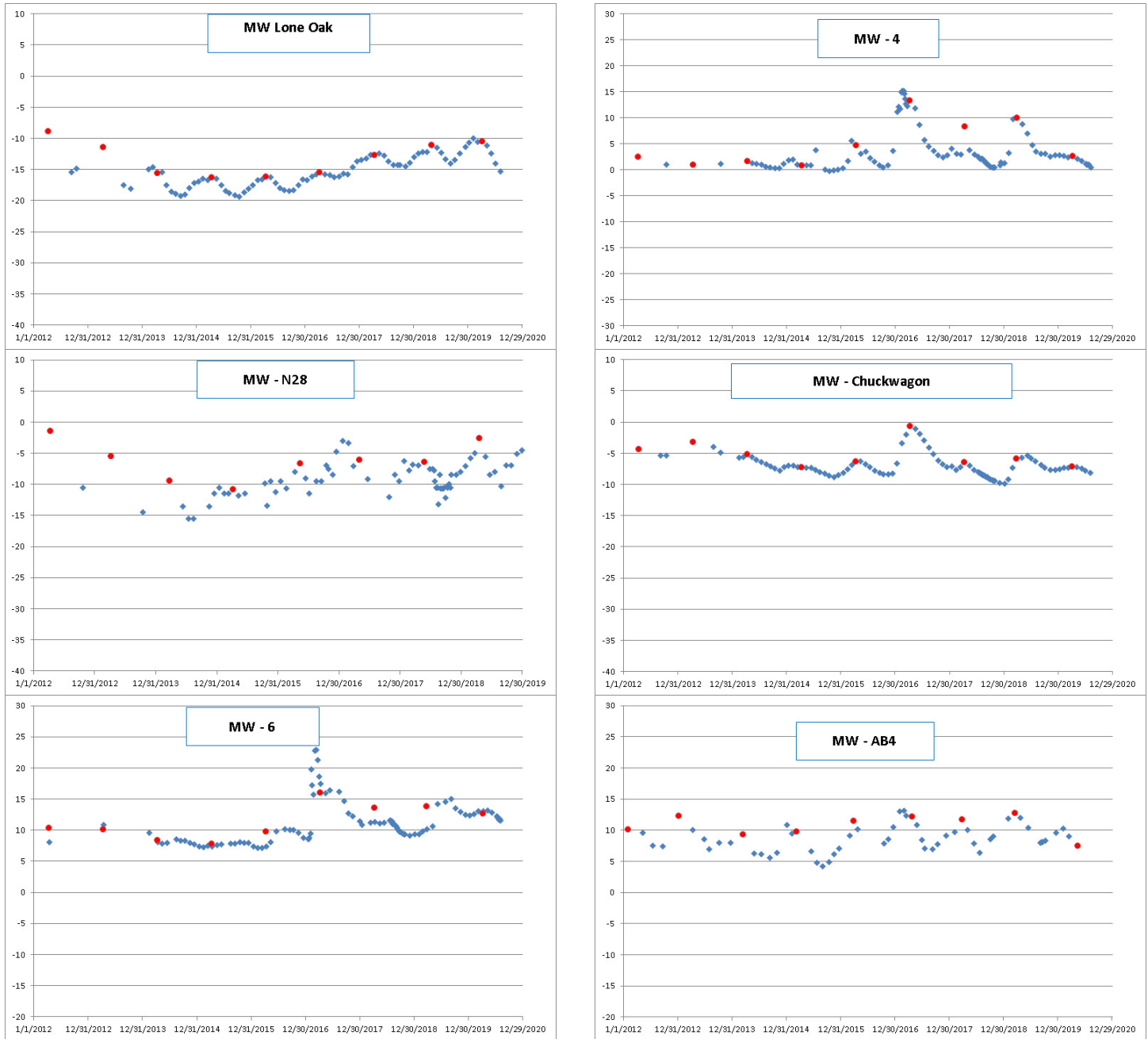


Figure 4-1: Hydrographs for Basin Monitoring Wells

4.2.4 Historical Pumping

CHWD maintains six operating wells with a projected total yield of approximately 5,000 AFY based on approximately seven months operation during the dry season. Well production rates vary from 800 to 2,100 gpm. CHWD cycles its wells weekly to maintain operational readiness-to-serve capabilities and to supplement the surface water supply. Over the last five years, this “maintenance” groundwater production has averaged approximately 1,100 AFY. Past groundwater usage from 2016-2020 is presented in Table 4-1. As noted in the table and discussed in Section 4.6, the District participated in a groundwater substitution/transfer program during 2018. There have been no issues that affect groundwater supply pumping over the last five years.

Table 4-1: Groundwater Volume Pumped (AF)

Groundwater Type	Basin Name	2016	2017	2018 ¹	2019	2020
Alluvial Basin	North American Sub-basin	1,173	713	1,842	359	1,473

¹Includes 1,584 AF of groundwater that was transferred to Kern County Water Agency and Dudley Ridge Water District.

4.3 Stormwater

Multiple entities are responsible for stormwater management within CHWD’s service area. For portions within the City of Citrus Heights’ boundary, stormwater is managed by the City of Citrus Heights and currently discharged to Arcade, Brooktree, and Cripple Creeks (including tributaries)³. For portions of CHWD’s service area outside of the City’s boundary (but within Sacramento County), Sacramento County Department of Water Resources is the responsible entity. For the small portion of the District’s service area located in Placer County, the management of stormwater is within the purview of Placer County and the City of Roseville (Placer County, rev. 2018).

No treatment facilities are within CHWD’s service area and therefore, stormwater is not considered a viable option for beneficial use at this time. Opportunities for development of stormwater as a supply source will be monitored and evaluated for feasibility.

4.4 Wastewater and Recycled Water

Information on wastewater and recycled water within CHWD’s service area is presented in the following subsections.

³Per Initial Study/Mitigated Negative Declaration accessible at <https://www.citrusheights.net/415/Stormwater-Program>.

4.4.1 Wastewater Collection, Treatment, and Disposal

The Sacramento Regional County Sanitation District (SRCSD), and its companion agency, the Sacramento Area Sewer District (SASD), conducts wastewater collection, treatment, and disposal for the CHWD service area. Wastewater is collected and conveyed approximately 25 miles southwest, near Elk Grove, to the regional wastewater treatment plant.

The regional wastewater treatment plant serves most of the entire Sacramento metropolitan area. The treatment plant receives and treats approximately 115-130 million gallons per day (mgd) of wastewater. The current capacity of the plant to treat dry weather flows is approximately 181 mgd. The treatment plant produces a disinfected secondary effluent that is discharged into the Sacramento River below Freeport. The principal treatment processes are primary sedimentation, pure-oxygen activated sludge, secondary sedimentation, and chlorination/de-chlorination. There are no recycled water facilities within the CHWD service area.

Estimated wastewater generation is based on the SRCSD unit wastewater generation factor of 310 gpd per equivalent dwelling unit (SRCSD, 2010). Estimated wastewater collected within the CHWD service area is presented in Table 4-2. No wastewater is treated or discharged within the CHWD service area.

Table 4-2: 2020 Amount of Wastewater Collected within Service Area (AF)

Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2020¹	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?
Sacramento Area Service District	Estimated	6,942	Sacramento Regional County Sanitation District	Regional San	No

¹Volume estimated based on SRCSD unit factor of 310 gpd/connection.

The annual 6,942 AF volume of wastewater collected is typically associated with year-round indoor water use and in 2020 averaged 580 AF per month within the CHWD service area. This monthly average quantity compares well with CHWD's average water use of 576 AF per month during the 2020 low water use months of January (519 AF), February (590 AF), and December (620 AF) when outdoor irrigation is minimal.

Similarly, this annual volume of wastewater collected within the CHWD service area equates to 6.197 million gallons per day (MGD) on average. When factoring in CHWD's 2020 population of 63,821, the amount of wastewater collected, treated, and then either recycled or discharged to the Sacramento River for downstream water supply and environmental benefit is estimated to be 97 gpcd. As noted in Section 3.4, CHWD's 2020 total annual gpcd was 175. Subtracting from this total the quantity of water returned to the system for other beneficial uses, CHWD's consumers' net impact on the State's surface and groundwater resources is estimated to be 78 gpcd in 2020.

4.4.2 Recycled Water System Description

CHWD does not use recycled water nor is recycled water available in the District's service area. Accordingly, this subsection presents the required information per the DWR requirements.

Potential, Current, and Projected Recycled Water Uses

Recycled water is currently not, nor has been, a supply option for the District. Due to this fact, DWR reporting Tables 6-4 and 6-5 are not presented in this UWMP.

Actions to Encourage and Optimize Future Recycled Water Use

SRCSO developed a recycled water opportunities plan in 2007 (Recycled Water Plan). The Recycled Water Plan divided its service area into specific opportunity areas. Each opportunity area was evaluated for recycled water use potential based on many factors such as demand, supply availability, infrastructure requirements, local support, costs, and others. The process utilized a Water Recycling Advisory Committee that provided a broad stakeholder view and input to the process. The Committee consisted of representatives from cities, water agencies, environmental groups, the State, and business groups. CHWD was represented on the Committee by the Regional Water Authority.

The CHWD service area is located in the Target Area 3 opportunity area identified in the Recycled Water Plan. Based on the analysis and alternative screening procedures, no potential recycled water applications were identified in the CHWD service area. One of the main reasons for the findings is relatively small potential demands that would require extensive infrastructure development, including a new local treatment plant to provide a supply source. Table 4-3 summarizes these planning efforts.

The SRCSD Recycled Water Plan concluded there were no viable opportunities for recycled water use from SRCSD in the CHWD service area. However, in the future, basic planning assumptions may change or new issues arise that could result in the identification and development of feasible recycled water programs. CHWD will continue to monitor its water resources issues and identify recycled water programs should the opportunity arise.

Future recycled water use will be part of a regional solution that involves the many entities involved in the SRCSD Water Recycling Opportunities Study. Incentives and methods to encourage recycled water use will depend on SRCSD and its regional partners identifying and developing a recycled water program for the north area of Sacramento County. Potential recycled water supply could also come from remediated groundwater if a plume is detected in the service area. CHWD will continue to follow recycled water use issues and will provide input as necessary. When a feasible program is identified through cooperation with the regional efforts, CHWD may develop incentives and methods to encourage recycled water use within its service area. Table 4-3 lists the current methods and programs to encourage recycled water use as zero as there is no recycled water supply.

Table 4-3: Methods to Expand Future Recycled Water Use

Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
SRCSO Water Recycling Opportunities Study	A periodically updated regional study that investigates feasible water recycling opportunities throughout the region	Ongoing	None at this time for CHWD service area

The City of Roseville to the north also produces recycled water at both the Pleasant Grove and Dry Creek wastewater treatment plants. However, the City's water resource strategy anticipates the City will utilize all of its recycled water for its own long-term supply requirements.

4.5 Desalinated Water Opportunities

CHWD does not foresee any desalinated water opportunities to provide additional supply. The service area is not located near any sea or brackish water supply sources, and there are no known brackish groundwater supplies nearby. Future issues and opportunities may provide for CHWD, through SJWD or another agency, to exchange water supplies with another agency that does have desalination opportunities. CHWD will continue to monitor potential opportunities and develop programs and alternatives as identified.

4.6 Water Exchange and Transfers

CHWD receives all of its surface water from its wholesale agency, SJWD. CHWD does not own rights or contracts to additional surface water supplies that it could transfer or exchange. In 2018, CHWD (through SJWD) participated in the American River Water Transfer. This regional groundwater substitution provided a total of 17,981 acre-feet of water to the Kern County Water Agency and Dudley Ridge Water District. CHWD reduced its surface water supply entitlement, resulting in an increased groundwater production for 2018 as shown in Table 4-1.

It is noted that CHWD could participate in a conjunctive use program through SJWD that could result in future transfer and exchange opportunities. At this time, CHWD does not anticipate any transfer or exchanges for the planning period for this UWMP.

4.7 Future Water Projects

CHWD plans to construct an additional four wells over the next 10 years to provide additional dry-year supplies. The District plans to maintain groundwater production capacity equivalent to at least 5,000 AFY from its well system. However, groundwater production could increase up to the full well capacities in successive dry-year scenarios. Well site availability could impact the number of wells constructed or the construction implementation schedule. The District continues to monitor its service area for potential well sites and obtains the land as available. The District actively evaluates its needs for new wells and will update the number or timing of new wells as appropriate. Future supply projects are summarized in Table 4-4.

Table 4-4: Expected Future Water Supply Projects or Programs

Name of Future Projects or Programs	Joint Project with other suppliers?	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply
Well #7	No	2023	All Year Types	1,000 gpm
Well #8	No	2030	All Year Types	1,000 gpm
Well #9	No	2030+	All Year Types	1,000 gpm
Well #10	No	2030+	All Year Types	1,000 gpm

4.8 Summary of Existing and Planned Sources of Water

Existing supplies for CHWD include both purchased water and groundwater. Groundwater is currently used to augment purchased water supplies. Planned sources of supply include new groundwater production facilities as stated in Section 4.7. The increased groundwater production capabilities will allow CHWD greater flexibility with respect to meeting customer demands under different scenarios.

CHWD's 2020 supplies, by type, are presented in Table 4-5, while Table 4-6 presents projected supplies that are "reasonably available" in five-year increments through 2045. As the SJWD WSA provides CHWD sufficient supply to meet its needs, SJWD supply is set equal to projected demands minus groundwater usage. Groundwater usage from "maintenance" pumping during normal years is assumed to be approximately 900 AFY.

Table 4-5: 2020 Water Supplies

Water Supply	Additional Detail on Water Supply	Actual Volume (AF)	Water Quality
Purchased or Imported Water	SJWD	11,012	Drinking Water
Groundwater (not desalinated)	CHWD	1,472	Drinking Water
Total		12,484	

Table 4-5: Projected Water Supplies (Reasonably Available Supply)

Water Supply	Additional Description	2025	2030	2035	2040	2045
Purchased or Imported Water	SJWD	10,949	11,273	11,537	12,006	12,455
Groundwater (not desalinated)	CHWD	900	900	900	900	900
Total		11,849	12,173	12,437	12,906	13,355

Supply from SJWD matches projected demand minus CHWD groundwater.

4.8.1 Climate Change Effects

The American River Basin (Basin) region conducted a climate change study in partnership with local water purveyors and the United States Bureau of Reclamation (USBR). The purpose of the American River Basin Study (ARBS or Study) was to develop data tools and analyses, identify supply-demand imbalances, and climate change adaptation strategies specific to the Basin. Under the “new normal” of a changing climate, the ARBS aims to improve the resolution of regional climate change data and to develop regionally-specific mitigation and adaptation strategies. More detail regarding the ARBS can be found at www.pcwa.net/planning/arbs.⁴ CHWD participated in the American River Basin Study as a member of the RWA.

Projected Future Conditions

Analysis of projected future climate conditions in the American River Basin and development of climate scenarios for the ARBS were based on an ensemble of bias-corrected and spatially downscaled climate projections.⁵ This ensemble has been used by the California Water Commission and DWR as the primary source of climate projection information in several recent studies, including the Water Storage Investment Program (WSIP) and California’s Fourth Climate Change Assessment (Pierce et al., 2018). Projected future climate conditions were evaluated and characterized based on the ensemble of downscaled climate projections.

Hydrology scenarios were used to develop streamflow inputs to CalSim 3.0, which was then used to evaluate changes in water supplies, demands, and management throughout the Central Valley Project (CVP) and State Water Project (SWP), including the Study Area. Demands for each water purveyor largely relied upon water purveyors’ information provided in the Regional Drought Contingency Plan/Regional Water Reliability Plan (RWA, 2017/2019) and 2015 Urban Water Management Plans.

Temperature

Surface air temperatures are projected to increase steadily, with average summer temperatures increasing by approximately 7.2 degrees Fahrenheit (°F) by the end of the 21st century, and winter temperatures increasing by 4.9°F. Projections of daily maximum and minimum temperatures suggest similar warming trends during all seasons, with maximum temperatures projected to increase as much as 7.3°F during the summer months.

Precipitation

Annual precipitation projections show no significant trend in the median of change over the 21st century. Many of the available general circulation model (GCM) projections show change in precipitation, but there is no consistency in the magnitude and direction of projected change between models. Approximately half of the projections indicate a minor increase in annual precipitation and half indicate a minor decrease, highlighting the large uncertainty in future precipitation over this region. Although lacking a clear trend in projected annual precipitation,

⁴Study not yet published; USBR policy review is currently pending.

⁵Climate projections were developed using Global Climate Models from the Coupled Model Intercomparison Project Phase 5 (CMIP5) and downscaled using Localized Constructed Analogs (LOCA) method projected and coupled with two future emission scenarios (RCP 4.5 and RCP 8.5) available from Dr. David Pierce at the Scripps Institution of Oceanography.

by the end of the 21st century the average fall and spring precipitation is expected to decrease, with winter and summer precipitation increasing. Increasing variability is also projected in winter and fall precipitation. Table 4-6 displays the projected (2070-2099) change in precipitation and temperature compared to 1980-2009 averages.

Table 4-6: Projected Change in Precipitation and Temperature Over the American River Basin Study Area Between 1980-2009 and 2070-2099

Season	Percent Change in Basin-Averaged Annual Mean Precipitation (%)	Change in Basin-Averaged Annual Mean Daily Air Temperature (°F)	Change in Annual Mean of Daily Maximum Air Temperature (°F)	Change in Annual Mean of Daily Minimum Air Temperature (°F)
Fall	-6.0	5.8	6.1	5.5
Winter	4.7	4.9	5.0	4.8
Spring	-11.9	5.8	6.3	5.1
Summer	10.4	7.2	7.3	7.0

Snowpack

Snow water equivalent (SWE) is a key indicator of water supplies in this region, where runoff is largely influenced by snowmelt. The increasing variability in precipitation, combined with increases in surface air temperatures, are key drivers in projections of a reduction in annual average SWE. Average SWE is forecasted to decrease by 50-85% across all climate scenarios and future time periods. In addition, areas that accumulate snow above Folsom Reservoir are also projected to have up to a 12-inch decrease in maximum snowpack by end of the century.

Evapotranspiration

Potential evapotranspiration (PET) serves as a key indicator of landscape water demands, including consumptive use by evaporation and transpiration from bare soil, water surfaces, native vegetation, and crops. Average annual PET is expected to increase 1.2 to 6.2 inches across all climate scenarios and future time periods. PET is strongly correlated with air temperature and thus expected to increase more under the hot scenarios (HD, HW) than under the warm scenarios (WD, WW).

Runoff

Watershed runoff is a direct indicator of local water supply available, as well as to statewide CVP-SWP system. Climate change projections indicate a pronounced shift in the distribution of runoff from May and June to earlier in the season (December to March), implying a transition in precipitation from snow to rainfall and/or earlier snowmelt and increasing the amount of runoff during the winter months. Peak runoff is expected to shift by more than a month earlier by mid to late century (Figure 4-2). Spring runoff will decrease due to reduced winter snowpack.

Similar to the precipitation scenarios, there is large uncertainty in projected runoff where the ‘wet’ scenarios suggest an increase in annual runoff and the ‘dry’ scenarios suggest a decrease in annual runoff. The projected changes in basin-wide runoff range from an increase of 486 thousand acre-feet (TAF) under the warm-wet scenario to a decrease of 203 TAF under the hot-dry scenario by the end of the century.

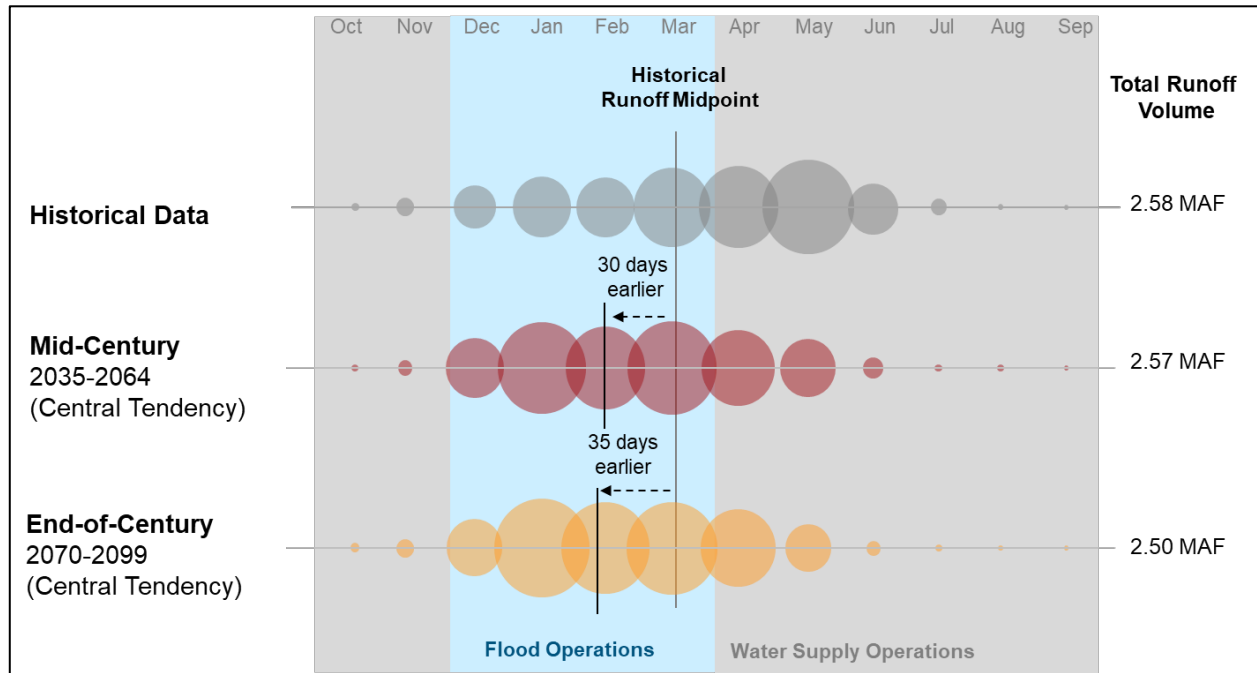


Figure 4-2: Distribution of Average Monthly Runoff for Historical Record (1922-2015) and Future Projections under Central Tendency Climate Scenario⁶

Table 4-7 lists the change in annual climatic and hydrologic indicators between historical baseline observations (1915 to 2015) and projected future conditions for the ARBS area.

⁶Figure provided by Sacramento Regional Water Authority.

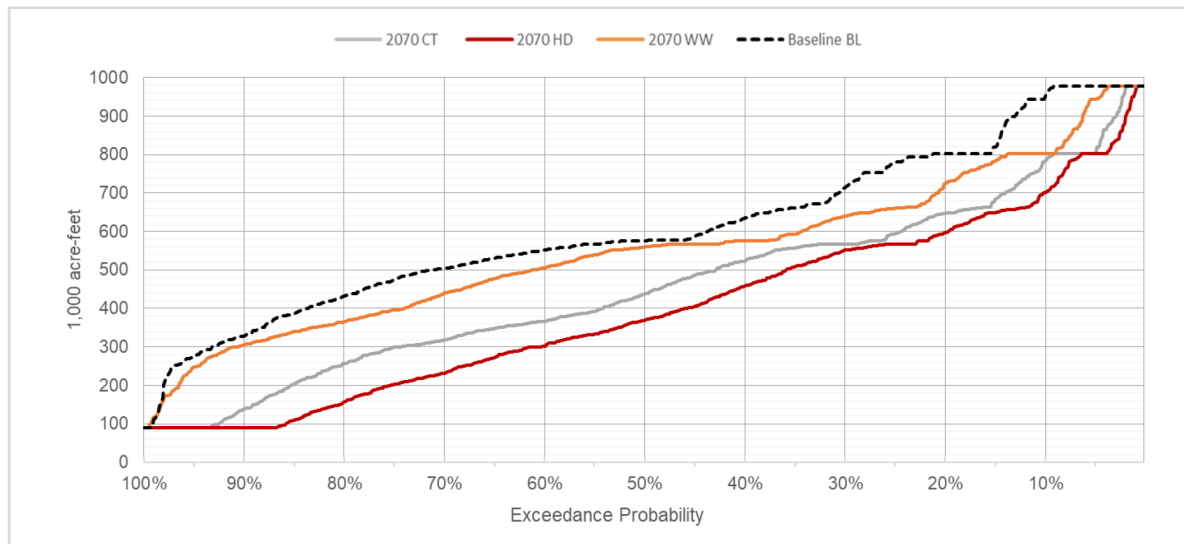
Table 4-7: Change in Hydrologic Indicators between Historical Observations and Projected Future Hydrology

Time Period	Climate Scenario	Precip (in)	T _{avg} (°F)	T _{max} (°F)	T _{min} (°F)	PET (in)	SWE ave (in)	SWE max (in)	Runoff (TAF)
1915-2015	Historical Observations	38.2	54.8	67.8	35.6	42.8	1.5	5.7	1,458
2040-2069	Warm-Wet	1.9	4	6.2	1.6	1.6	-0.7	-2.3	701
	Central Tendency	0.1	5	8.1	2.1	2.7	-0.9	-2.8	-2
	Hot-Dry	-2.8	6.2	10.4	2.7	3.7	-1.1	-3.4	-206
2055-2084	Warm-Wet	3.8	4.7	7.4	2	2	-0.8	-2.5	199
	Central Tendency	-1.1	6.3	11.1	2.6	4.1	-1.08	-3.5	-93
	Hot-Dry	-3.4	7.9	13.3	3.7	5	-1.2	-3.8	-185
2070-2099	Warm-Wet	7	5.4	8.3	2.5	1.8	-0.9	-2.9	486
	Central Tendency	-0.6	6.5	11	2.8	3.9	-1	-3.3	-54
	Hot-Dry	-4.6	8.9	15.7	4.1	6.2	-1.3	-4.3	-203

Water Supply Reliability

Changing climate conditions in the Sierra Nevada Mountains affect the volume of water stored in the snowpack and the timing of runoff entering Folsom Reservoir. Consequently, they can also affect the critical role of Folsom Reservoir in the CVP Operations. Reliance on Folsom Reservoir is expected to increase commensurate with the impact of sea level rise on salinity in the Delta. Modeling of these factors has illustrated that, without operational adjustments, Folsom Reservoir is projected to have lower end of conservation season (end of September) storage levels and approach “dead pool⁷” more often under most future climate scenarios (see Figure 4-3). Similarly, increased early season runoff would increase flood risks along the Lower American River, leaving less water in the upper watershed available during water supply operations.

⁷The term “dead pool” refers to water stored in a reservoir below the minimum level required to obtain supplies.



Key:

Baseline BL = Historic Conditions, 2070 CT = Central Tendency 2070 Climate Scenario, HD = Hot-Dry 2070 Climate Scenario, WW = Warm-Wet 2070 Climate Scenario

Figure 4-3: Exceedance Plot of Folsom Reservoir Storage (end of September) Under Future Climate Change⁸

Under the 2070 level of development, the ARBS projects a supply-demand imbalance of 63 to 78 TAF/year in the Upper Basin (or Foothills Area) without further conservation or management actions. In the Lower Basin, groundwater extraction is expected to increase by 62 to 155 TAF/year to offset the projected imbalance, which would affect groundwater sustainability.

Based on the water supply and demand imbalance results, the region's water supply reliability has vulnerabilities. The ARBS assessed several adaptation portfolios for addressing the range of vulnerabilities and future supply-demand imbalances for the Study Area for regional benefits. Portfolios analyzed were:

1. Foundational Institutions
2. No Assurances for Long-term CVP Water Contract
3. Alder Creek Storage and Conservation Project
4. Sacramento River Diversion Project
5. Federally Recognized Groundwater Bank (North and South Basin)
6. Folsom Dam Raise with Groundwater Banking (South Basin)
7. Modified Flow Management Standard

The seven formulated adaptation portfolios were quantitatively evaluated using CalSim 3.0 to alleviate supply-demand imbalances and benefits to the region. The Study's intent was not focused on individual water-supplier's portfolio, but rather how the region could plan to increase

⁸Figure provided by Sacramento Regional Water Authority.

regional reliability. The precise composition, scale, operations, partnerships, funding, and governance to advance these project concepts will require further evaluations and coordination among American River Basin interests, including the USBR, Department of Water Resources, and State Water Resources Control Board (SWRCB).

While climate change does have an impact on the basin, impacts are largely seen closer to the end of the century, and not within the timeline of this UWMP. Through proactive adaptation management actions, the Study highlights ways for the region to alleviate climate change impacts by the end of century; therefore, in consideration of the timeline of this UWMP, CHWD does not reflect any climate change impacts in supply and demand scenarios within this Plan.

4.8.2 Regulatory Conditions and Project Development

Regulatory conditions and projects that may directly/indirectly impact District supplies include:

- Bay-Delta Plan Update
- SWRCB Mandatory Conservation Orders

It is anticipated that effects from these regulatory conditions and projects could impact the amount of supply available to the District, although the magnitude of such impacts is not yet fully known.

2006 Bay-Delta Plan Update

The 2006 Bay-Delta Plan Update is currently being developed by the SWRCB. Proposed changes have the potential to impact District surface water supplies. In general, the SWRCB is recommending new and modified flow requirements for the Sacramento River (and its tributaries), Delta interior flows and outflows, cold water habitat, and ecosystem protection.

Information on the 2006 Bay-Delta Plan Update can be accessed at:

https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/.

The potential for impact on CHWD's supplies includes increased regulatory control on surface water diversions from Folsom Reservoir. As CHWD's wholesale supplier, SJWD's ability to deliver surface water to CHWD may be impacted based on the potential for regulatory restrictions to be imposed. In turn, there may be an impact on the groundwater basin which the District produces from, as local purveyors may increase their reliance on groundwater supplies.

SWRCB Mandatory Conservation Orders

In response to the California drought from 2014 through 2016, the Governor issued various executive orders that required mandatory conservation, including prohibitions on water waste and certain uses. Impacts to urban water suppliers included mandatory reduction in potable water production and submission of monthly monitoring reports.

In addition to the mandatory conservation orders from emergency drought declarations, the SWRCB, beginning in 2026, is authorized to impose mandatory conservation orders to urban water suppliers who do not meet their Water Use Objective.

4.8.3 Other Locally Applicable Criteria

USBR has adopted a shortage policy for Central Valley Project (CVP) water supplies. As a CVP contractor, SJWD's Municipal and Industrial (M&I) water supplies from Folsom Reservoir could be reduced up to 75 percent of historic use during dry years. In times of significantly limited supplies, the M&I allocation can be further reduced down to use for health and safety purposes. This restriction on use for health and safety purposes can only be applied after agricultural contracts have been reduced to 0 percent allocations.

As a signatory to the Water Forum Agreement (WFA) (Sacramento Water Forum, 2015), CHWD and SJWD have agreed to coordinate with other WFA participants when projected March through November unimpaired inflow into Folsom Reservoir is less than 400,000 AFY. The WFA signatories have agreed to meet and consult to develop a regional approach to address meeting demands in times of limited Folsom Reservoir supply.

4.9 Energy Intensity

The energy required to supply water to CHWD's customer base is reported in Table 4-8 below, per UWMP requirements. The treated surface water supplied by SJWD is gravity fed into CHWD's service area. The majority of CHWD's energy consumption to supply water is attributed to groundwater pumping. In 2020, a total of 727,663 kWhs were needed to deliver 1,472 AF of groundwater to CHWD's customer base. As the surface water supply is gravity fed to the District's distribution system, there is no energy use associated with SJWD supplies. The resulting energy intensity, expressed in kilowatt-hours per AF of water delivered (kWh/AF), is reported as 494 kWh/AF.

Table 4-8: CHWD 2020 Energy Intensity

Supply	Energy Consumed (kWh)	Volume of Water Entering Process (AF)	Energy Intensity (kWh/AF)
Surface Water	0	11,012	0
Groundwater	727,663	1,472	494

5 Water Service Reliability and Drought Risk Assessment

This section describes the supply reliability and summarizes the total water supplies for CHWD. Imported surface supply reliability is entirely dependent on SJWD's reliability analysis of its supplies. As such, a brief summary regarding SJWD's supply reliability is provided.

Long-term reliability is assessed using the Water Service Reliability Assessment, where drought conditions are assumed for the planning horizon. Near-term reliability is assessed using the Drought Risk Assessment (DRA), which assumes the next five years are considered drought conditions.

5.1 Water Service Reliability Assessment

A water service reliability assessment presents the reliability of meeting demands under various conditions, including Normal Year, Single Dry Year, and Five-Consecutive-Year Drought scenarios. CHWD's assessment of water service reliability is used to direct management actions, provide insight on funding allocations, and allows for project prioritization aimed at increasing service reliability under all scenarios.

5.1.1 Constraint on Water Sources

SJWD's water supplies are subject to legal constraints through the CVP and State Board cutbacks and use restrictions as described in the 2020 SJWD UWMP. CVP contract stipulations include requirements for SJWD to reduce the M&I Contractor allocation during dry years and was reduced to 25 percent of historic use during the recent drought. The reduction in SJWD's PCWA supply is dependent on Folsom Reservoir projected unimpaired runoff, which reduces SJWD's contract supply to 10,000 AF when the Folsom Reservoir projected unimpaired runoff is below 400,000 AF. SJWD's Pre-1914 water right is not subject to contract stipulations that require reductions. Total supply availability is also influenced by the WFA. The WFA stipulates that SJWD supply can be cut back to a minimum of 54,200 AFY; however, it is not a legal mandate such as the CVP and State Board restrictions. As discussed above, the impacts to surface water supplies from climate change are not expected during this 25-year planning period. The potential for impacts to supplies from regulatory conditions is acknowledged, although the degree and duration of such impacts are unknown. Should regulatory conditions warrant reduction in supplies, CHWD may enact an appropriate Water Shortage Contingency Plan (WSCP) Stage to address any identified supply shortage.

The quality of water from Folsom Reservoir is considered good as the drainage basin is mostly alpine-based snowpack at the higher elevations and forest at the lower elevations with little to no urbanization. There are no water quality impacts expected that would reduce supply. There are no legal constraints in the wholesale/water supply agreement (WSA) regarding supply allotment or shortage requirements.

CHWD's groundwater supplies are subject to factors that could impact reliability. Groundwater basin issues could impact CHWD's groundwater supply. If the wells begin to produce contaminated groundwater, the supply could either be eliminated, reduced, or treated. Although groundwater levels were once declining, they have stabilized or increased in recent years, as

shown above in Figure 4-1. If the groundwater levels decrease again, CHWD well capacities could be impacted or even eliminated. However, the SGA has a groundwater accounting framework implemented by the region's water agencies to mitigate and improve the groundwater basin conditions. Development of SGA's Groundwater Management Plan (GMP), and potential measures or programs developed to address basin sustainability may impact the amount of groundwater available to the District. Groundwater levels have stabilized in recent years. Therefore, it is assumed the only issue that could impact supply availability is groundwater contamination. Should this occur, CHWD will evaluate pump-and-treat alternatives versus drilling new wells.

5.1.2 Reliability by Type of Year

The Water Code requires the inclusion of three scenarios when considering the long-term reliability of a supply source, including Normal Year, Single Dry Year, and Five-Year Consecutive Drought scenarios. Table 5-1 presents the Reliability Assessment for Purchased Water and Groundwater for each year type. Surface water supplies for Single-Year and the Five-Year Consecutive Drought assume SJWD's reliability. SJWD provided information to CHWD regarding surface water supply availability during each year type. Through 2045, SJWD projects it will have sufficient surface water supply if demands are reduced 15 percent during dry years per the WFA. Average year surface water available listed in the table is SJWD's full entitlement, including contract water and surface water rights. Dry year (single and consecutive years) surface water available assumes the WFA supply limit of 54,200 AF. CHWD maintains approximately 5,000 AF of groundwater production capacity, which is assumed to be available during all year types. The same supply availability is assumed for the Single-Dry Year and the during the Five-Consecutive-Year Drought scenarios.

Table 5-1: Basis of Water Year Data -Reliability Assessment (AF)

Year Type	Base Year	Surface Water Available	Groundwater Available	Total Available
Average Year	2010	82,200	5,000	87,200
Single-Dry Year	1977	54,200	5,000	59,200
Consecutive Dry Years 1 st Year	2012	54,200	5,000	59,200
Consecutive Dry Years 2 nd Year	2013	54,200	5,000	59,200
Consecutive Dry Years 3 rd Year	2014	54,200	5,000	59,200
Consecutive Dry Years 4 th Year	2015	54,200	5,000	59,200
Consecutive Dry Years 5 th Year	2016	54,200	5,000	59,200

5.1.3 Water Service Reliability

Projections for Normal year supply indicate there is sufficient supply for the projected demands (Table 5-2). Single Dry Year (Table 5-3) and Five-Consecutive-Year Drought (Table 5-4) projections indicate sufficient supply for the projected demands. Projected demands during the dry year types are reduced 15 percent per the WFA.

Table 5-2: Normal Year Supply and Demand Comparison (AF)

Category	2025	2030	2035	2040	2045
Supply Totals ¹	11,849	12,173	12,437	12,906	13,355
Demand Totals ²	11,849	12,173	12,437	12,906	13,355
Difference	0	0	0	0	0

¹From Table 4-5.

²From Table 3-4.

Table 5-3: Single Dry Year Supply and Demand Comparison (AF)

Category	2025	2030	2035	2040	2045
Supply Totals	10,072	10,347	10,572	10,970	11,352
Demand Totals ¹	10,072	10,347	10,572	10,970	11,352
Difference	0	0	0	0	0

¹Single-Dry Year demands reduced 15 percent from Normal Year demands presented in Table 5-2.

Table 5-4: Multiple Dry Year Supply and Demand Comparison (AF)

		2025	2030	2035	2040
First Year ¹	Supply Totals	10,072	10,347	10,572	10,970
	Demand Totals	10,072	10,347	10,572	10,970
	Difference	0	0	0	0
Second Year	Supply Totals	10,127	10,392	10,651	11,047
	Demand Totals	10,127	10,392	10,651	11,047
	Difference	0	0	0	0
Third Year	Supply Totals	10,182	10,437	10,731	11,123
	Demand Totals	10,182	10,437	10,731	11,123
	Difference	0	0	0	0
Fourth Year	Supply Totals	10,237	10,482	10,811	11,199
	Demand Totals	10,237	10,482	10,811	11,199
	Difference	0	0	0	0
Fifth Year	Supply Totals	10,292	10,527	10,891	11,276
	Demand Totals	10,292	10,527	10,891	11,276
	Difference	0	0	0	0

¹Supply and demands reduced 15 percent from Normal Year demands.

As indicated in the tables, CHWD projects sufficient supplies during each dry year type. The groundwater supply, plus potential demand reductions during shortage periods, is assumed to provide sufficient reliability for these planning purposes.

5.1.4 Description of Management Tools and Options

Available management tools and options to maintain reliable water service aimed at maximizing local resources include the District's current conservation program (including issuance of penalties and charges, and curtailment/prohibition on end uses), public outreach and education, and utilizing unused groundwater production capacities.

The District's WSCP is another adaptive tool that allows the District to address any shortage in supplies. The current WSCP, including specific actions aimed at reducing any identified supply-demand shortage gap, is presented in the following chapter.

5.2 Drought Risk Assessment

This subsection provides the detailed approach for conducting CHWD's Drought Risk Assessment (DRA), including the data and methods used. The DRA is a near-term planning exercise to assess the District's ability to meet customer demands based on the assumption that the next five years are considered drought conditions. Results from the District's DRA are provided.

5.2.1 Data, Methods, and Basis for Water Shortage Condition

Data used for the DRA include projected supplies (as outlined in Section 4) and demands (as outlined in Section 3) for the period 2021 through 2025. Projected supplies and demands are compared and used for identification of a shortage. Based on an identified shortage gap, an initial Stage Declaration from the District's WSCP is used to analyze an expected shortage reduction. The available demand reduction and supply augmentation actions (collectively referred to as "shortage response actions") for the initial Stage Declaration are applied to the supply and demand totals. If results of administering shortage response actions for the initial Stage Declaration indicate adequate supplies to meet expected demands, the Stage Declaration is proclaimed. Conversely, if results of administering shortage response actions for the initial Stage Declaration indicate inadequate supplies to meet expected demands, the Stage Declaration is increased, and the resulting shortage response actions are analyzed. This process is repeated until an appropriate Stage Declaration (and subsequent shortage response actions) results in expected supplies' ability to meet expected demands.

For the DRA simulated drought, District demands are assumed to be reduced by 15 percent, per the WFA.

5.2.2 DRA Water Source Reliability

Surface water supply reliability is primarily dependent on hydrologic conditions. During the recent drought (2012-2016), which represented the driest 5-year sequence of unimpaired inflow to Folsom Reservoir, SJWD's total surface water supply was restricted to 54,200 AF (2015). SJWD was able to provide CHWD with the surface water supply needed to meet demands during this period, despite the legal restrictions and contract provisions imposed. Considering SJWD's ability to provide surface water supplies during the recent drought, for planning purposes, it is

anticipated that SJWD will maintain the ability to provide the surface water supply needed by CHWD during the DRA.

As indicated earlier there have been no issues affecting the District's ability to produce groundwater, including during the recent drought (2012-2016). The District's average groundwater production is approximately 900 AFY. It is assumed that groundwater production capabilities during the DRA's simulated drought will reflect the District's ability to produce increased groundwater. CHWD anticipates the ability to produce at least 5,000 AFY of groundwater during the DRA simulated drought. Active monitoring for the groundwater basin includes water level elevation, groundwater quality, and land subsidence (SGA, 2014). The monitoring provides the framework for which the basin can be assessed with regard to identifying negative impacts on the ability to sustainably produce groundwater. To date, there have no observable impacts requiring curtailment, additional treatment, or mitigation with regard to groundwater production from CHWD wells.

5.2.3 Total Water Supply and Use Comparison

Table 5-5 presents CHWD's water supply and use comparison for the five-year DRA. The DRA assumes water consumption patterns return to pre-pandemic levels. As indicated in the table, CHWD anticipates meeting expected demands during the 5-year simulated drought.

Table 5-5: Five-Year Drought Risk Assessment (AF)

	2021	2022	2023	2024	2025
Total Water Use	9,876	9,925	9,974	10,023	10,072
Total Supplies	9,876	9,925	9,974	10,023	10,072
Surplus/Shortfall w/o WSCP Action	0	0	0	0	0
Planned WSCP Action	none	none	none	none	none
WSCP – Supply Augmentation Benefit	n/a	n/a	n/a	n/a	n/a
WSCP – Use Reduction Savings Benefit	n/a	n/a	n/a	n/a	n/a
Resulting % Use Reduction from WSCP Action	n/a	n/a	n/a	n/a	n/a

6 Water Shortage Contingency Plan

This Water Shortage Contingency Plan (WSCP) presents Citrus Heights Water District's (CHWD) approach for identifying and mitigating various water shortage conditions, pursuant to California Water Code (CWC) section 10632. This WSCP is included in the District's 2020 Urban Water Management Plan (UWMP), although the WSCP can be amended, as needed, without the requirement to amend the UWMP. It is noted that the CWC does not exclude the District from taking actions not specifically contained in its WSCP in response to supply shortage conditions.

This WSCP applies to any shortage condition identified or incurred by the District, including shortages identified by the annual assessment. Further, the WSCP shortage levels are also applicable to catastrophic interruption in supplies, including but not limited to, an earthquake, a regional power outage, and other emergency events.

6.1 Legal Authorities

The District has the legal authority to implement and enforce its WSCP. California Constitution Article X, Section 2 and CWC section 100 provide that water must be put to beneficial use, the waste or unreasonable use or unreasonable method of use of water shall be prevented, and the conservation of water is to be exercised with a view of the reasonable and beneficial use thereof in the interest of the people and the public welfare. Sections of CWC Chapter 3 commencing with Section 350 of Division 1, provide the authority for the governing body of a water agency to declare a water shortage and to adopt and enforce water conservation restrictions. (CWC §§ 350-359, 375-378.0.)

If necessary, the District shall declare a water shortage emergency in accordance with CWC Chapter 3 of Division 1. Once having declared a water shortage, the District is provided with broad powers to implement and enforce regulations and restrictions for managing a water shortage. For example, CWC section 375(b) grants the District with the authority to set prices to encourage water conservation.

Under California law, including CWC Chapters 3.3 and 3.5 of Division 1, Parts 2.55 and 2.6 of Division 6, Division 13, and Article X, section 2 of the California Constitution, the District is authorized to implement the water shortage actions outlined in this WSCP. In water shortage cases, shortage response actions to be implemented will be at the discretion of the District and will be based on an assessment of the supply shortage, customer response, and need for demand reductions as outlined in this WSCP.

CHWD is organized under the Irrigation District Law (CWC §§ 20500-29978) and is authorized to do any act necessary to furnish sufficient water in the district for any beneficial use (CWC § 22075), and is therefore granted the authority to enforce its rules and regulations. As a public entity, the District is authorized to "adopt and enforce a water conservation program to reduce the quantity of water used by those persons for the purpose of conserving the water supplies of the public entity" (CWC § 375). For the ordinance or resolution regarding the adoption of a conservation plan, the ordinance/resolution is made effective upon adoption (CWC § 376).

The aforementioned powers derived from CHWD’s organizing statutes are in addition to general powers granted to water distributors in CWC section 350-359. CWC section 350 authorizes the governing body of a distributor of a public water supply to declare a water shortage emergency 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 there would be insufficient water for human consumption, sanitation, and fire protection. Upon a finding of such an emergency condition, the distributor can adopt such regulations and restrictions on the delivery and consumption of water as will conserve the water supply for the greatest public benefit, with particular regard to domestic use, sanitation, and fire protection (CWC § 353). The regulations and restrictions remain in force and effect until the supply of water available for distribution within such area has been replenished or augmented, and restrictions may include the right to deny new service connections and discontinue service for willful violations (CWC § 355 and § 356).

The District will vote to adopt its UWMP and WSCP as stated in Resolutions No. 03-2021 and No. 04-2021, respectively. The two Resolutions authorize the implementation and enforcement of this WSCP, which is included in the 2020 UWMP.

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

CHWD will also coordinate with the City of Citrus Heights, as well as the counties of Sacramento and Placer for the possible proclamation of a “local emergency” under California Government Code, California Emergency Services Act (Article 2, Section 8558).

6.2 Water Supply Reliability Analysis

CHWD’s water supply consists of surface water purchased from San Juan Water District (SJWD) and locally produced groundwater from its own wells. Both supply sources can be impacted by climate factors, catastrophic events, and regulatory measures. The District evaluates its overall water supply reliability through its Urban Water Management Plan, as well as through other regional and San Juan Water District planning efforts. The following summarizes the District’s current understanding of its supply reliability.

SJWD holds a pre-1914 appropriative water right of 26,400 acre-feet per year (AFY) and an appropriative water right of 6,600 AFY both from the American River. The senior water right status prompted the U.S. Department of the Interior, Bureau of Reclamation (USBR) to enter into an agreement with SJWD upon construction of Folsom Reservoir, setting the District’s maximum diversion under its water rights to 33,000 AFY at a rate of 75 cubic feet per second. SJWD also has the following contractual water entitlements: (1) a Central Valley Project (CVP) water supply contract for 24,200 AFY; and (2) a water supply contract with Placer County Water Agency (PCWA) for 25,000 AFY. SJWD has an existing Warren Act Contract with USBR to wheel non-CVP water supply through federal facilities, such as Folsom Reservoir and the intake facilities that connect to the District’s water treatment plant (WTP).

The District's groundwater supplies are projected to be available for pumping during drought periods. The groundwater supply, the North American Subbasin, is sustainably managed by all the region's pumpers in coordination with the region's groundwater sustainability agencies. The District does not currently project any groundwater shortages during a drought lasting up to five years. However, the ability to pump the groundwater may be limited by regulatory or legal requirements, including under the Sustainable Groundwater Management Act (SGMA). The District will address these restrictions as they materialize and modify its water shortage supply strategy as necessary.

The surface water supply purchased from SJWD is subject to reliability challenges during a drought. CHWD's current strategy to address supply shortages includes both demand reductions and increasing groundwater pumping depending on the declared shortage, as described below.

6.3 Annual Water Supply and Demand Assessment Procedures

The District conducts an annual analysis of supply and demand projections to help inform water resources management decisions for the coming year. The analysis incorporates numerous data sources used as evaluation criteria to project probable demands and supply availability for the coming year. Sources the District will consider include:

- Projected weather conditions
 - Precipitation versus historical on a monthly basis
- Projected Unconstrained Demand
 - Production versus historic on a monthly basis
 - New customer growth
 - Identify artificially supplied water features separate from swimming pools and parks
 - Water Use Objective tracking
- Projected Supply Availability
 - SJWD supply projections
 - Groundwater production capacity

The general procedure is listed below. The District may modify this process based on available data, significant events, process restrictions, or other external factors that may impact the process.

1. Compile existing weather data to characterize past 12 months' conditions. Considering recent conditions and available forecasts, identify the projected dry year scenario available supply from :
 - SJWD-provided supply availability
 - CHWD groundwater well current capacity
2. Estimate unconstrained District demands based on recent and representative customer use data. Development of unconstrained demand will incorporate recent use patterns (unit factors for each customer type) and anticipated customer growth.
3. Identify and incorporate any applicable constraints (infrastructure, regulatory, etc.) regarding receiving wholesaler supply or groundwater production.

4. Compare projected wholesaler supplies and available groundwater production facilities with anticipated District demands.
5. Develop, analyze, and propose water resource management strategies to address the projected demand to supply comparison, including reference to the water shortage stages identified in this WSCP.
6. Present to Board of Directors for approval of Annual Water Supply and Demand Assessment (and resulting Conservation Stage Declaration, if applicable).

The general proposed timeline is as follows:

- Begin assessment by District staff – March/April
- Present assessment to Board of Directors – June
- Submit to State per CWC §10632.1 – No later than July 1

6.4 Water Shortage Stages

The following subsections and tables present information on the District’s supply scenarios, including Normal Water Supply and the six standard water shortage stages. Results from the annual Water Supply and Demand Assessment are used to declare a respective shortage stage.

No provisions of this WSCP shall apply to fire hydrants, fire mains, fire sprinkler lines, or other equipment used solely for fire protection purposes. Nor shall any provisions apply to any hospital, health care or convalescent facility, or any other type of facility where the health and welfare would be affected by restrictions on water used, nor shall it apply to veterinary hospitals. Such facilities are encouraged to conserve water to the extent possible. However, this WSCP does apply to the outdoor grounds, yards, and parking areas of these facilities.

6.4.1 Normal Water Supply

The District’s water supply and distribution system is able to meet all the water demands of its customers in the immediate future. Regulations for Normal Water Supply apply to all stages and include the following:

1. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.
2. Water shall be confined to the customer’s property and shall not be allowed to run off to adjoining properties or to the roadside ditch or gutter. Care shall be taken not to water past the point of saturation.
3. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached to any hose or filling apparatus in use.
4. Leaking customer pipes or faulty sprinklers shall be repaired within five working days or less if warranted by the severity of the problem.
5. All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof.

6. Washing streets, parking lots, driveways, sidewalks, or buildings, is prohibited except as necessary for health, esthetic, or sanitary purposes.
7. Customers are encouraged to take advantage of the District's water conservation programs and rebates.

Stage 1 – 10% Supply Shortage

Actions include regulations from Normal stage plus those listed below. When implemented as a whole program, these actions together are expected to eliminate up to a 10 percent gap between supplies and demands.

Customers - Actions to Reduce Demand up to 10 Percent

- Reduce total water use by 10%. Contact the District for tips and techniques to reduce indoor and outdoor water use.
- Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations.
- Users of construction meters and fire hydrant meters will be monitored for efficient water use.

District Actions

- Leak repair receives higher priority.
- Increase drought awareness through additional public outreach measures that notify public and customers of declared stage, requirements, and available conservation program support.
- Standard rates in effect.
- Increased monitoring of customer use.
- Accelerate infrastructure repairs and improvements.
- Increase groundwater pumping as available.

Stage 2 – 20% Supply Shortage

Actions include regulations from Stage 1 plus those listed below. When implemented as a whole program, these actions together are expected to eliminate up to a 20 percent gap between supplies and demands.

Customers - Actions to Reduce Demand up to 20 Percent

- Leaking customer pipes or faulty sprinklers shall be repaired within two working days or less if warranted by the severity of the problem.
- Reduce total water use by 20%. Contact the District for tips and techniques to reduce indoor and outdoor water use.
- Requested to only irrigate three times per week.
- Application of potable water to outdoor landscapes during and within 12 hours after measurable rainfall is prohibited.

District Actions

- Communicate mandatory reduction targets to customers.
- Provisions of the Water Shortage Rate Structure may be implemented by the Board of Directors.
- Decrease system flushing frequency.
- Increase groundwater pumping as available.

Stage 3 – 30% Supply Shortage

Actions include regulations from preceding stages plus those listed below. When implemented as a whole program, these actions together are expected to eliminate up to a 30 percent gap between supplies and demands.

Customers - Actions to Reduce Demand up to 30 Percent

- Leaking customer pipes or faulty sprinklers shall be repaired within 24 hours or less if warranted by the severity of the problem.
- Special Water Feature Distinction - All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof. No potable water from the District's system shall be used to fill or refill swimming pools, artificial lakes, ponds, or streams. Water use for ornamental ponds and fountains is prohibited.
- Reduce total water use by 30%. Contact the District for tips and techniques to reduce indoor and outdoor water use.
- Irrigation shall be limited to two days per week. The days of the week when outdoor water will be permitted shall be set based on the last digit of the street address. Odd addresses, streetscapes, and medians shall limit watering to Tuesdays and Saturdays; even addresses shall limit watering to Wednesdays and Sundays. No irrigation is permitted on Mondays, Thursdays, or Fridays. Irrigation should be limited to the minimal amount of water necessary to keep plants and trees alive.
- Application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall is prohibited.
- Use of reclaimed water for construction purposes is encouraged.
- Flushing of sewers or fire hydrants is prohibited except in case of emergency and for essential operations or unless specifically authorized by the District.
- Installation of new turf, lawn, and/or landscaping is prohibited.
- Restaurants shall serve water only upon request.

District Actions

- Communicate mandatory reduction targets to customers.
- Provisions of the Water Shortage Rate Structure may be implemented by the Board of Directors.
- Increase groundwater pumping as much as possible to avoid Stage 4 supply shortage condition.
- No commitments will be made to provide service for new water service connections unless the Department of Water Resources Model Water Efficient Landscape Ordinance, found at: <http://www.water.ca.gov/wateruseefficiency/docs/MWELO09-10-09.pdf>, is followed and the plans have been approved by the county or city building department which has jurisdiction over the property location. Any authorized landscape for new connections is subject to all restrictions set forth in Stage 3.

Stage 4 – 40% Supply Shortage

Actions include regulations from preceding stages plus those listed below. When implemented as a whole program, these actions together are expected to eliminate up to a 40 percent gap between supplies and demands.

Customers - Actions to Reduce Demand up to 40 Percent

- Water for flow testing and construction purposes from water agency fire hydrants and blow-offs is prohibited.
- Reduce total water use by 40%. Contact the District for tips and techniques to reduce indoor and outdoor water use.
- Irrigation is allowed only once per week. Odd addresses, streetscapes, and medians shall limit watering to Tuesdays; even addresses shall limit watering to Thursdays.

District Actions

- Communicate mandatory reduction targets to customers.
- Provisions of the Water Shortage Rate Structure may be implemented by the Board of Directors.
- Increase groundwater pumping as much as possible to avoid Stage 5 supply shortage condition.
- New connections to the District's water distribution system will not be allowed.

Stage 5 – 50% Supply Shortage

Actions include regulations from preceding stages plus those listed below. When implemented as a whole program, these actions together are expected to eliminate up to a 50 percent gap between supplies and demands.

Customers - Actions to Reduce Demand up to 50 Percent

- Leaking customer pipes or faulty sprinklers shall be repaired immediately. Water service will be suspended until repairs are made.
- Reduce total water use by more than 50%. Contact the District for tips and techniques to reduce indoor and outdoor water use.
- Landscape and pasture irrigation is prohibited.
- Use of construction meters and fire hydrants is prohibited except in case of emergency and for essential operations or unless specifically authorized by the District.
- No potable water from the District's system shall be used for construction purposes including but not limited to dust control, compaction, or trench jetting.
- Automobiles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water.

District Actions

- Communicate mandatory reduction targets to customers.
- Provisions of the Water Shortage Rate Structure may be implemented by the Board of Directors.
- Increase groundwater pumping as much as possible to avoid Stage 6 supply shortage condition.

Stage 6 – Over 50% Supply Shortage

Actions include regulations from preceding stages plus those listed below. Actions will be identified to address each specific shortage situation to eliminate the gap between supplies and demands.

Customers - Actions to Reduce Demand greater than 50 Percent

- Health and safety use of water only.

District Actions

- Communicate mandatory reduction targets to customers.
- Provisions of the Water Shortage Rate Structure may be implemented by the Board of Directors.
- Other actions as identified specific to the shortage condition.
- Declare Water Shortage Emergency in accordance with Section 350 of Division 1, Chapter 3 Water Shortage Emergencies of the California Water Code.

6.5 Enforcement and Variances

Enforcement measures for all stages, including Normal Water Supply, are presented below.

- A. Upon initial observation by District personnel or authorized designee of a violation of any of the regulations enumerated in this Water Shortage Contingency Plan, the violator shall be informed of the District's current Water Conservation Stage Regulations, shall be provided with appropriate water conservation information, and offered a free Water Efficiency Review. If no contact is made, a Courtesy Notice will be left at the premises informing the customer of the observed violation. The customer will be informed of the consequences of further violations, including potential penalties as set forth in the District's miscellaneous charges and fees.
- B. Upon a second observation by District personnel or authorized designee of a violation of any of the regulations enumerated in this Water Shortage Contingency Plan, a Notice of Violation will be issued and left at the premises informing the customer of the violation and the consequences of further violations. A penalty will be applied to the customer's account for noncompliance with the Mandatory Conservation Stage Regulations, pursuant to the District's miscellaneous charges and fees. The customer's water service will be terminated (at District's discretion) until the violation is corrected. Prior to a scheduled water service termination, the customer may choose to pay the penalty fee and correct the violation as specified in the required time frame designated by the current Stage Declaration.
- C. Upon a third observation by District personnel or authorized designee of a violation of any of the regulations enumerated in this Water Shortage Contingency Plan, a Notice of Violation will be issued and left at the premises informing the customer of the violation and the consequences of further violations. A penalty will be applied to the customer's account for noncompliance of the Mandatory Water Conservation Stage Regulations, pursuant to the District's miscellaneous charges and fees. The customer's water service will be terminated (at District's discretion) until the violation is corrected. Prior to a scheduled water service termination, the customer may choose to pay the penalty fee and correct the violation as specified in the required time frame designated by the current Stage Declaration.
- D. Upon a fourth observation by District personnel or authorized designee of a violation of any of the regulations enumerated in this Water Shortage Contingency Plan, a Notice of Violation will be issued and left at the premises informing the customer of the violation and the consequences of further violations. A penalty will be applied to the customer's account for noncompliance of the Mandatory Water Conservation Stage Regulations, pursuant to the District's miscellaneous charges and fees. The customer's water service will be terminated (at District's discretion) until the violation is corrected. Prior to a scheduled water service termination, the customer may choose to pay the penalty fee and correct the violation as specified in the required time frame designated by the current Stage Declaration.
- E. Customers for whom these Mandatory Water Conservation Stage Regulations may present an undue hardship may request a variance from the District. Variance requests shall be submitted to the Water Efficiency Coordinator and shall accurately describe the reason for non-compliance with specific requirements in the Mandatory Water Conservation Stage Regulations. A variance request will be approved or denied in writing by the District's General Manager or the Board of Directors.

- F. Violation notices from other than the current calendar year shall be considered null and void when applying the enforcement provisions of the Mandatory Water Conservation Stage Regulations.

6.6 Communication Protocols

Communication protocols for the WSCP include public outreach and notification to entities within the District upon a change in stage declaration. Information shall include the appropriate shortage response actions for the declared stage. Such communication will be delivered by direct mail, District website, and media outlets. Other regional agencies, including SJWD and RWA, will be notified of the identified shortage.

CHWD will also coordinate with the City of Citrus Heights and the counties of Placer and Sacramento, to declare a local emergency with respect to anticipated water supplies and demands in the event conditions necessitate.

6.7 Financial Consequences of WSCP

The District understands the potential for decreased revenues and increased costs during prolonged water shortage conditions and enforcement of excessive residential water use during a drought (compliance with Chapter 3.3, Division 1 of the CWC). The decreased revenues can be expected due to a reduction in water sales. 2020 volumetric sales were approximately 32 percent of total revenue.⁹ Assuming a reduction in sales commensurate with the particular WSCP stage declaration, a decrease in total revenues in the range of 3 – 17 percent may be expected.

Additional monitoring, public outreach, and enforcement is expected to increase total costs to the District in declaring a water shortage. These additional efforts are prioritized for current staff, and other normal work efforts and projects would be delayed or reassigned. If conditions warrant, the District will seek assistance through additional staffing for third-party service providers. These costs depend on the level of support and will be evaluated on a case-by-case basis.

The District maintains a Water Efficiency Reserve (Efficiency Reserve) for purposes including water efficiency projects, drought response, and water loss programs. When required, budget allocations to the Efficiency Reserve are provided annually. The target amount of \$200,000 is to be maintained for the Efficiency Reserve per the District's Budget Policy (\$6280.00). In addition to the Efficiency Reserve, the District may enact a range of management and financial resources depending on the specific situation that include:

- Water Shortage Rate Structure enactment (Stage 3 and higher)
- Capital project deferment
- Operational and maintenance expense deferment
- Increased revenues from penalties

⁹CHWD 2020 Budget Performance Report

- Others as identified

6.8 Monitoring and Reporting

The District anticipates the ability to monitor customer use through real-time metering. Data collected from the real-time meters allows tracking of water demands during a declared shortage stage. The ability to track performance metrics allows refinement and enhancement of the WSCP by providing valuable data, including information on customer use and system loss. The real-time monitoring offers insight regarding the efficacy of a declared shortage stage and associated shortage response actions.

Reporting on the implementation of the WSCP is conducted by District staff. Specifically, at a regularly scheduled Board meeting, District staff will update the Board (and public) with information on the Water Efficiency Program, including information on the performance of the declared shortage stage.

The District will report on the implementation of this WSCP as specifically required by the State, as applicable.

6.9 Response Action Estimates

The following table presents the individual estimated demand savings of each response action. Actual savings will likely vary greatly based on external influences, shortage stage level, and general customer understanding of drought severity. It is assumed the savings estimates are not additive, but when implemented together as a program with all the actions in each respective stage, they will eliminate the supply to demand shortage gap.

Table 6-1: Shortage Response Action Measures Estimates

Stage	Shortage Response Action	Potential Shortage Gap Reduction
1	Customer – Asked to reduce total water use by 10%.	up to 10%
1+	Customer – Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations.	0-1%
1+	Customer – Users of construction meters and fire hydrant meters will be monitored for efficient water use.	0-2%
1+	District – Leak repairs receive higher priority.	0-3%
1+	District – Increase drought awareness through additional public outreach measures that notify public and customers of declared stage, requirements, and available conservation program support.	3-5%
1+	District – Increased monitoring of customer use.	0-3%
1+	District – Accelerate infrastructure repairs and improvements.	0-5%

Stage	Shortage Response Action	Potential Shortage Gap Reduction
1+	District – Increase groundwater pumping as available.	Up to full gap shortage
2	Customer – Reduce total water use by 20%.	up to 20%
2	Customer – Leaking pipes or faulty sprinklers shall be repaired within two working days or less if warranted by the severity of the problem.	0-1%
2	Customer – Requested to only irrigate three times per week.	3-5%
2+	Customer – Application of potable water to outdoor landscape during and within 12 hours after measurable rainfall prohibited.	0-2%
2+	District – Provisions of the Water Shortage Rate Structure may be implemented by the Board of Directors.	5-7%
2+	District – Decrease system flushing frequency.	1-3%
3	Customer – Reduce total water use by 30%.	up to 30%
3+	Customer – Leaking pipes or faulty sprinklers shall be repaired within 24 hours or less if warranted by the severity of the problem.	0-1%
3+	Customer – All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof. No potable water from the District’s system shall be used to fill or refill swimming pools, artificial lakes, ponds, or streams. Water use for ornamental ponds and fountains is prohibited.	0-2%
3	Customer – Irrigation shall be limited to two days per week. Irrigation should be limited to minimal the amount of water necessary to keep plants and trees alive.	5-20%
3+	Customer – Application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall is prohibited.	1-4%
3+	Customer – Use of reclaimed water for construction purposes is encouraged.	0-1%
3+	Customer – Flushing of sewers or fire hydrants is prohibited except in case of emergency and for essential operations or unless specifically authorized by the District.	0-2%
3+	Customer – Installation of new turf, lawn, and/or landscape is prohibited.	0-3%
3+	Customer – Restaurants shall serve water only upon request.	0-1%
3+	District – Provisions of the Water Shortage Rate Structure may be implemented by the Board of Directors.	10-15%
3+	District – No commitments will be made to provide service for new water service connections unless the DWR MWEL0 is followed and the plans have been approved by the appropriate building department(s).	3-6%

Stage	Shortage Response Action	Potential Shortage Gap Reduction
4	Customer – Reduce total water use by 40%	Up to 40%
4+	Customer – Water for flow testing and construction purposes from fire hydrants and blow-offs is prohibited.	0-1%
4	Customer – Irrigation is allowed only once per week.	20-30%
4+	District – New connections to the District water distribution system will not be allowed.	0-3%
5	Customer – Reduce total water use more than by 50%.	Up to 50%
5+	Customer – Leaking customer pipes or faulty sprinklers shall be repaired immediately. Water service will be suspended until repairs are made.	0-1%
5+	Customer – Landscape and pasture irrigation is prohibited.	25-40%
5+	Customer – Use of construction meters and fire hydrants is prohibited except in case of emergency and for essential operations or unless specifically authorized by the District.	1-3%
5+	Customer – No potable water from the District’s system shall be used for construction purposes including but not limited to dust control, compaction, or trench jetting.	0-2%
5+	Customer – Automobiles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water.	0-1%
6	Customer – Health and safety use of water only.	up to 50%
6	District – Communicate mandatory reduction targets to customers.	2-4%
6	District – Other actions as identified specific to the shortage condition.	varies
6	District – Declare Water Shortage Emergency in accordance with Section 350 of Division 1, Chapter 3 Water Shortage Emergencies of the California Water Code.	varies

6.10 WSCP Refinement Procedures

The District’s WSCP is an adaptive plan that allows for active refinement to particular shortage conditions. The general procedures for refinement are presented below.

1. For each shortage response action, compare expected results with actual shortage response and identify any shortfall or over-achievement.
2. Revise expected reduction for a specific shortage response action based on updated information.
3. Assess the aggregate expected reductions (from revised shortage response actions) for each shortage stage.

4. Revise stage declaration or modify stage shortage response actions to balance demands with supplies.

The procedures presented above will be relied upon during all shortage stage declarations, ensuring an adaptive WSCP, capable of being relied upon under various circumstances, is produced.

6.11 Plan Adoption, Submittal, and Availability

The WSCP (including subsequent updates) shall be adopted in accordance with the CWC and standard District procedures, including requirements for public participation (public hearing), and approval by the Board. Upon adoption, the WSCP will be submitted to DWR no later than 30 days after and made available for inspection at the District Office and website. Further, the WSCP will be provided to the City of Citrus Heights and the counties of Placer and Sacramento no later than 30 days after the submission to DWR.

6.12 Seismic Risk Assessment and Mitigation Plan

Sacramento and Placer Counties have completed a Local Hazard Mitigation Plan (LHMP) under the federal Disaster Mitigation Act of 2000 (Public Law 106-390). Per DWR requirements, a copy of the most recent adopted LHMP by each entity will be submitted to DWR. The documents can be accessed at:

Sacramento County - <https://waterresources.saccounty.net/stormready/Pages/Local-Hazard-Mitigation-Report.aspx>

Placer County - <https://www.placer.ca.gov/1381/Local-Hazard-Mitigation-Plan>

Sacramento County's LHMP 2016 Hazard Identification Assessment for the City of Citrus Heights characterizes the earthquake and liquefaction probability as "unlikely" (less than 1 percent chance of occurrence in the next year, or has a recurrence interval of greater than 100 years). Further, both earthquake and liquefaction significance is listed to be "low," meaning minimal potential impact within the City of Citrus Heights.

Sacramento County is currently in the process of updating the LHMP 2016. The update includes participation with other entities, including CHWD, Cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, Isleton, Rancho Cordova, and other special districts. The update is anticipated to be completed and finalized in 2021.

7 Demand Management Measures

This section includes descriptions of the nature and extent of existing Demand Management Measures (DMMs) implemented by CHWD. DMMs are intended to facilitate CHWD's management and reduction of customer demands, and aid in maintaining supply reliability. The DMMs have been relied upon in meeting customer use targets, including SBX7-7 and drought conservation targets. The District anticipates that these DMMs will serve as tools for CHWD to rely on when meeting compliance with future water use targets, including Water Use Objectives. All of the DMMs presented have been implemented over the past five years. More information on the implementation of DMMs by CHWD is presented below.

7.1 Water Waste Prevention Ordinances

CHWD prohibits water waste and requires water to be used for beneficial purposes through all stages of CHWD's WSCP. The WSCP prohibits all users from unreasonable waste and includes graduated penalties for waste and/or unreasonable use during all stage declarations. For all WSCP conditions, including Normal Water Supply, restrictions on waste include:

- Runoff from landscape watering or irrigation is prohibited
- Free-flowing hoses for all uses are prohibited
- Pools, spas, ponds, and fountains are required to use recirculated water
- Washing streets, parking lots, driveways, sidewalks, or buildings is prohibited (except for health and sanitary purposes)

In addition, CHWD utilizes a "Report Water Waste" link on their website (chwd.org) which facilitates the identification of water waste and promotes active urban conservation. This feature allows CHWD to better respond to potential waste through proactive management.

CHWD has implemented this DMM over the last five years and anticipates actively implementing this DMM for the planning horizon (2020-2045).

7.2 Metering

The USBR contract in which the SJWD operates requires all water connections using USBR contract water to be metered by 2025, including CHWD customers. As such, The District began implementing a meter replacement program in 1997. As of December 2006, CHWD's customers are fully metered. There are no un-metered customer connections in which the CHWD provides water.

CHWD is currently conducting a Meter Replacement Program Advanced Planning Study. The meters currently being considered for installation in the future will allow customers to track their water use through real-time measurements. The District has partnered with other regional water agencies to plan for the installation and funding of such meters.

This DMM is active and ongoing. CHWD has implemented this DMM over the planning period and anticipates actively implementing this DMM for the planning horizon (2020-2045).

7.3 Conservation Pricing

CHWD employs a volumetric rate structure for all domestic, commercial, and irrigation customers water use. The rate structure promotes conservation as the customer is charged based on the quantity of water used. The District also maintains the ability to employ a “Water Shortage Rate Structure” if WSCP Stage 4 (or higher) is declared. The “Water Shortage Rate Structure” serves to re-coup revenues associated with decreased deliveries and encourage conservation.

The District relied on the “Water Shortage Rate Structure” during the recent drought to mitigate decreased revenues and promote customer conservation. The District does not evaluate this DMM for water savings as it provides indirect benefits to the District’s other, quantifiable DMMs. CHWD anticipates actively implementing this DMM for the planning horizon (2020-2045).

7.4 Public Education and Outreach

Through the years, the District has been committed to an active public education and outreach program. CHWD offers a series of free educational classes to the public. The WaterSmart Landscape classes and webinars present tips and tools to assist residents in increasing their water efficiency. Classes are archived and accessible at CHWD’s website. CHWD also uses a Community Garden to present water efficient garden practices and encourages active community involvement through a volunteer program. Updates on District activity and materials regarding public education and outreach are provided to customers through the District’s newsletter titled, “Waterline”. The newsletter is delivered to customers through direct mail and archives are available through the District’s website.

The District also partners with local schools within its service area to educate students regarding water conservation. One-hour interactive classroom presentations are offered to elementary and junior high school students. Presentations center around the water cycle, water treatment, and other water conservation-related material.

As part of its water conservation and efficiency efforts, CHWD also implements a public information program through active participation in the RWA Regional Water Efficiency Program. In collaboration with 19 water provider members and other wastewater, stormwater, and energy partners, RWA formed the Water Efficiency Program (WEP, or Program) in 2001 to bring cost effectiveness through economies of scale to public education and outreach activities. The WEP operates on an average annual budget of \$530,000 and is supplemented by grant funding. Grants are an important funding resource for the Program. Since 2003, the Program has been awarded \$13.2 million in grant funding for public outreach and education as well as a variety of rebate programs, fixture direct install programs, system water loss, individualized customer usage reports, large landscape budgets, and more. Of those funds, \$3.8 million was awarded between 2016 and 2020.

The main function of the WEP is to develop and distribute public outreach messages to customers in the region by collaborating with its water provider members. The Program distributes these messages on a regional scale through regional media and advertising buys and

was honored with the United States Environmental Protection Agency WaterSense Excellence in Education and Outreach Award in 2016. From 2016-2020, the WEP created a series of public outreach campaigns. Below is a summary of each campaign and highlighted achievements.

Following the historic 2015 California drought, the WEP launched the “Rethink Your Yard” Campaign in 2016 with a focus on prioritizing landscape watering, putting trees first, and transitioning thirsty lawn and landscaping to beautiful, low water use, River-Friendly landscapes. The Program advertised the campaign through online ads, social media, commercial radio, Raley Field (local baseball stadium), and local billboards. The campaign featured local homeowners with their newly redesigned yards on billboards throughout the region.

The campaign launched in 2017 focused on encouraging customers to understand and deliver the amount of water their landscape really needs and to make permanent equipment changes to improve efficiency such as installing weather-based irrigation controllers, more efficient sprinklers, and drip irrigation. The Program partnered on this messaging with local nurseries through a “Get Growing this Fall” initiative to encourage residents to plant in the fall when days are cooler and plants don’t need as much water to establish roots.

From 2018 through 2020, the regional campaign focused on tackling the landscape overwatering problem with a “Check and Save” message encouraging residents to check the soil moisture with a moisture meter before turning on sprinklers. To support this message, the Program provided free moisture meters via an online request form and at events. In 2019, WEP distributed 3,000 moisture meters to customers throughout the region.

These campaigns are implemented through both paid advertising buys and earned media from public service announcements (PSAs). Every year the campaigns can be heard on local radio stations such as Capital Public Radio and online through Google, Facebook, and YouTube advertisements. From 2016-2020, the WEP public outreach campaigns produced:

- Radio Advertising (2016-2020)
 - 3,443 radio advertisements ran
 - 17.2 million impressions
- Digital Advertising (Facebook, Google Display Network and Spotify) (2016-2020)
 - 24.3 million impressions
 - 262,900 clicks
- Additional advertising (billboards in 2016)
 - 1.8 million digital advertisements ran
 - 51.6 million impressions
- Public Service Announcements (Television and Radio) (2016-2020)
 - 20 million impressions
 - \$570,000 in value had they been purchased as advertising

The Program also continues messaging through its own Facebook page. From 2016-2020, the Program created about 60 Facebook posts a year featuring water-saving tips and other relevant information. The WEP hosted several Facebook sweepstake contests including Tree Hugger in 2016, where participants submitted pictures hugging a tree to raise awareness about the

importance of healthy trees and the Under/Over Debate in 2020, where participants were asked to weigh in on what is the proper way to hang toilet paper to raise awareness of toilet leaks. The winner of the Under/Over Debate sweepstakes received a case of toilet paper delivered via mail and a gift card to a local hardware store.

The Program continues to utilize the public outreach website bewatersmart.info to reach customers throughout the region. The website contains regional and local water provider information on rebates and services, top ways to save, an interactive watering and water waste information map, a water-wise gardening database, recent press releases, the Sacramento Smart Irrigation Scheduler tool, and more. Educational information and customer services were modified to address the COVID pandemic in 2020 including online water efficiency lessons for kids, a list of nurseries that offered curbside pick-up, virtual water-wise house calls, and numerous virtual educational customer workshops. Between 2016 and 2020, the website averaged 96,000 unique visitors per year.

For more targeted outreach, the Program distributed quarterly e-newsletters to participating residents. The e-newsletters are filled with water-saving tips, upcoming events, and other interesting articles. They are usually timed around changes in the weather to help signal the need for residents to adjust their irrigation systems, such as daylight savings coupled with a message to dial back sprinkler systems. The e-newsletter reaches approximately 6,300 households.

Every year the WEP selects 3 public events to attend for the public to interact with local water efficiency staff, providing an opportunity for the region to communicate its messages in person. Events have included the Sacramento Home & Landscape Show at Cal Expo, Creek Week, Harvest Day, Farm-to-Fork Festival, and several Earth Day events. Additionally, RWA, in coordination with participating local water providers, hosts an annual Mulch Mayhem event in which customers can pick up a truckload of free mulch from selected locations throughout the region. All in-person regional events were canceled in 2020 due to the COVID pandemic. The Program is also very active in communicating to local media outlets such as the Sacramento Bee. Between 2016 and 2020, RWA issued 50 press releases on WEP activities and regionally significant news and participated in nearly 30 radio public affairs interviews. The RWA and the WEP were mentioned in dozens of news articles published by local and regional media outlets both within and outside of the Sacramento region during the same time frame.

To support public outreach messaging and water savings tips, the Program coordinated several regional rebate programs, which were partially funded by state and federal grants. A variety of rebate options were provided including toilets, clothes washers, and irrigation efficiencies (full summary in Table 7-1 as provided by RWA). Collectively, rebates and installations will produce an estimated lifetime (10 years) savings of 6 billion gallons of water and 6.4 million kilowatt hours (kWh) of energy.

Table 7-1: Regional Rebates and Installations from 2016-2020

Rebate/Installation Type	2016	2017	2018	2019	2020	Lifetime Water Savings per Type 2016-2020 (AF)	Lifetime Energy Savings per Type 2016-2020 (kWh)²
High Efficiency Clothes Washer Rebates	491	480	453	366	518	341.3	118,094
High Efficiency Toilets Rebates	4,494	3,124	2,255	4,868	904	1,572.2	544,076
Smart Irrigation Controllers Rebates	245	358	801	556	1,298	2,049.7	709,299
Irrigation Efficiencies Rebates ¹	21,271	5,879	5,548	1,724	NA	11,620.0	4,021,178
Turf Replacement Rebates (square feet)	376,613	584,535	236,064	85,375	NA	1,456.5	503,980
Toilet Direct Installation	1,943	4,542	968	NA	NA	728.6	252,066
Showerhead Direct Installation	1,141	2,512	704	NA	NA	683.1	236,447
Faucet Aerators Direct Installation	1,162	4,314	317	NA	NA	56.8	19,648
Urinal Direct Installation	NA	403	79	NA	NA	31.3	10,878
Total Water Savings per year/Lifetime (AF)	874.6	424.1	320.4	131.7	100.7	18,539.5	--
Total Energy savings per year/Lifetime (kwh)	303,626	146,717	110,915	45,509	34,799	--	6,415,666

¹Includes: pressure regulator equipment, pipe and pipe fittings, drip or low volume equipment, and sprinkler heads or nozzles.

²Regional average of 346 kWh/AF (GEI, 2014).

NA = No funding available

Lifetime = 10 years

In addition to public outreach, the Program also coordinates school education activities. Since 2012, the Program has hosted the Water Spots Video Contest for high school and middle school students. The WEP provides a new contest theme each year and provides the region's teacher and students with relevant facts and images to help develop 30-second video PSAs. Students submit their videos to RWA who hosts a panel of local celebrities including Monica Woods from ABC 10 to decide on a first, second, and third place winner. The top 10 scoring videos are then posted online for public voting to select a "people's choice" winner as well. Both teachers and students receive cash prizes and the winning videos are played at Raley Field during River Cats games and in select movie theaters throughout the region. The winning PSAs are incorporated into the WEP's media activities as well. Past themes include *WATER MYTHS BUSTED!*, *H2o Hero*, and *Show Off Your Water Smarts*. Between 2016 and 2019, 450 videos were submitted (an average of 90 videos a year). The 2020 Water Spots Video Contest was canceled due to the COVID pandemic.

Implementation of this DMM is active and ongoing. CHWD plans to continue to develop information and activities aimed at public education and outreach.

7.5 Programs to Assess and Manage Distribution System Real Loss

The District maintains information specific to the distribution system, including age of infrastructure and performance, to inform the Capital Improvement Program (CIP). The CIP is the primary program to assess and manage distribution system real loss, and budget allocations consistently reflect the District's commitment thereto. Recent budget allocations aimed at addressing distribution system real loss include water main pipeline, valve, and meter replacements.

Additionally, CHWD conducts annual Distribution System Water Audits (consistent with AWWA M36 methodology using software analysis) to characterize water system loss. The audits use detailed internal records and allow CHWD to assess and report distribution system water loss on an annual basis. Results from the audits inform the CIP by identifying the need for addressing distribution system real loss. Copies of CHWD's recent validated water audits are contained in Appendix E.

7.6 Water Conservation/Efficiency Program Coordination and Staffing Support

In addition to the public outreach presented above, the District also employs an active Water Conservation/Efficiency Program (Efficiency Program). The Efficiency Program is staffed with an Efficiency Supervisor, Specialist, and Technician. Staff from the Efficiency Program coordinate with the Board of Directors regarding projected water supply and conservation stages to be implemented. Goals and objectives of the Efficiency Program include:

- Implementation of the District's conservation program
- Track and monitor State and Federal legislation that may impact conservation efforts
- Work with RWA Water Efficiency Program Advisory Committee to develop and implement beneficial water efficiency programs

In addition, the District has established and maintains a Water Efficiency Reserve (Efficiency Reserve). The Efficiency Reserve aims to provide funds for use in a water supply shortage, water supply interruption, government mandates (Federal, State, Regional, and Local), and other programmatic needs and can be used to fund additional staff as well as other efforts

7.7 Other Demand Management Measures

In addition to the DMMs presented above, CHWD also undertakes various programs and provides rebates aimed at increasing water use efficiency and reducing waste. Information on each program is presented below.

7.7.1 Free Smart Irrigation Controller Program

In partnership with WaterWise Consulting and Orbit, CHWD offers an irrigation smart controller to District customers. The service includes an Irrigation Efficiency Review. Customers meeting requirements are provided the smart controller, including installation, at no charge. Once installed, the smart controller allows for more efficient application of irrigation water as it accounts for current and forecasted local weather data to determine the irrigation schedule. The smart controller can reduce water use by 50 percent compared to a traditional irrigation controller.

7.7.2 Pressure Reducing Valve (PRV) Rebates

Pressure Reducing Valves (PRVs) automatically reduce water pressure entering a customer's system. Reduced pressure allows for lower energy and water heating costs, and decreases the potential for damaging pipes and valves. Further, the PRV facilitates higher efficiency operation for customer irrigation systems, fixtures, and appliances. The District provides rebates to qualifying customers who have installed a PRV.

7.7.3 Ultra-Low Flush (ULF) Toilet Rebates

Customers who install an Ultra-Low Flush (ULF) or a new high efficiency toilet can apply for the ULF toilet rebate offered by the District. Customers who replace less water efficient toilets (3.5 gallons per flush (gpf) or higher) with more efficient toilets (1.6 gpf or less) may be eligible for a rebate. This program is part of CHWD's conservation program, subject to funding availability and saturation.

7.7.4 High-Efficiency Clothes Washer Rebate

CHWD offers a \$50 rebate to customers who purchase and install a high-efficiency clothes washer, which is estimated to save approximately 3,000 gallons per year. This rebate is available to all District customers, subject to available funding.

7.7.5 Poster Contest

The District annually conducts a poster contest for students in grades 4 – 6. The contest offers awards to students and teachers. Student submissions are judged by a panel that includes other

public and community organizations such as Citrus Heights Chamber of Commerce, City and Citrus Heights, and Sunrise Parks and Recreation. Winning submissions are announced at a District Board meeting and included in CHWD's annual calendar for the following year.

Appendix A: DWR Compliance Checklist and Submittal Tables

CHWD 2020 UWMP
Appendix A.1 - DWR Compliance Checklist

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	Chapter 4 Chapter 3 Chapter 7
x	x	Chapter 1	10630.5	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	Section 1.1
x	x	Section 2.2	10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 1.2
x	x	Section 2.6	10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 1.3
x	x	Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	Sections 1.3 through 1.6
x		Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	Section 1.3 Appendix B
	x	Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	n/a
x	x	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	Section 2.1 Figure 2-1
x	x	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 2.2
x	x	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 2.3 Table 2-1
x	x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Section 2.4 Figure 2-3
x	x	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Table 2-1
x	x	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	Section 2.5
x	x	Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 3.1 Table 3-1 Table 3-4
x	x	Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	Section 3.2 Table 3-6 Appendix E
x	x	Section 4.2.6	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.	System Water Use	n/a

CHWD 2020 UWMP
Appendix A.1 - DWR Compliance Checklist

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	Section 3.1
x	optional	Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	Table 3-6 Appendix E
x	optional	Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Table 3-4 Section 3.3
x	x	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	Section 5.1.1
x		Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Section 3.4 Table 3-7
x		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Section 3.4 Table 3-7
	x	Section 5.1	10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	n/a
x		Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	n/a
x		Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5-year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 3.4 Table 3-7
x		Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	Section 3.4 Table 3-7
x	x	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	Section 5.1.2 Table 5-1
x	x	Sections 6.1	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, <i>including changes in supply due to climate change</i> .	System Supplies	Section 4.8.1 Section 5.1.1
x	x	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	Section 4.8
x	x	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Section 4.8 Table 4-4
x	x	Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	Section 4.8 Table 4-5 Table 4-6

CHWD 2020 UWMP
Appendix A.1 - DWR Compliance Checklist

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 4.2 (and subsections) Section 4.8 Table 4-5
x	x	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 4.2.2 Appendix G
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Section 4.2.1
x	x	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	n/a
x	x	Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	Section 4.2.3
x	x	Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five year.	System Supplies	Section 4.2.4 Table 4-1
x	x	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Section 4.8 Table 4-6
x	x	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 4.6
x	x	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 4.4 (and subsections)
x	x	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 4.4.2
x	x	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 4.4.2
x	x	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 4.4.2
x	x	Section 6.2.5	10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 4.4.2
x	x	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 4.4.2
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 4.5

CHWD 2020 UWMP
Appendix A.1 - DWR Compliance Checklist

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal methods.	System Supplies (Recycled Water)	Section 4.4.1 Table 4-2
x	x	Section 6.2.8, Section 6.3.7	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	Section 4.7 Table 4-4
x	x	Section 6.4 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	Section 4.9 Table 4-8
x	x	Section 7.2	10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 4.2.1 Table 4-5 Section 5.1.1 Appendix F
x	x	Section 7.2.4	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 5.1.4
x	x	Section 7.3	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 5.1 (and subsections) Table 5-2 Table 5-3 Table 5-4
x	x	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	Section 5.2 (and subsections)
x	x	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	Section 5.2.1
x	x	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	Section 5.2.2
x	x	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	Section 5.2.3 Table 5-5
x	x	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	Section 4.8.1 Section 4.8.2 Section 5.1.1
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Chapter 6
x	x	Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	Section 6.2

CHWD 2020 UWMP
Appendix A.1 - DWR Compliance Checklist

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	Section 6.10
x	x	Section 8.2	10632(a)(2)(A)	Provide the written decision-making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	Section 6.3
x	x	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	Section 6.3
x	x	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	Section 6.4 (and subsections)
x	x	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	n/a
x	x	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	Section 6.4 (and subsections). Stage tables list information regarding supply augmentation methods.
x	x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Section 6.4 (and subsections). Stage tables list information regarding demand reduction methods.
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Section 6.4 (and subsections). Stage tables list information regarding locally appropriate operational changes.
x	x	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	Section 6.4 (and subsections). Stage tables list information regarding mandatory prohibitions.
x	x	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	Section 6.9 Table 6-1
x	x	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Section 6.12 Appendix H
x	x	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	Section 6.6
x	x	Section 8.5 and 8.6	10632(a)(5)(B) 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	Section 6.6

CHWD 2020 UWMP
Appendix A.1 - DWR Compliance Checklist

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 8.6	10632(a)(6)	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	Section 6.8
x	x	Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Section 6.1
x	x	Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	Section 6.1 Section 6.4 (and subsections) Section 6.6 Table 6-1
x	x	Section 8.7	10632(a)(7)(C)	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	Section 6.6
x	x	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Section 6.7
x	x	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Section 6.7
x		Section 8.8	10632(a)(8)(C)	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought	Water Shortage Contingency Planning	Section 6.7
x		Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	Section 6.8
x		Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water Shortage Contingency Planning	Section 6.4 (and subsections)
x	x	Sections 8.12 and 10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 6.11
x	x	Section 8.14	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.	Water Shortage Contingency Planning	Section 6.11
	x	Sections 9.1 and 9.3	10631(e)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	n/a
x		Sections 9.2 and 9.3	10631(e)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Chapter 7 (and subsections)
x		Chapter 10	10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	Section 1.6

CHWD 2020 UWMP
Appendix A.1 - DWR Compliance Checklist

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	Section 1.5 Table 1-2
x	x	Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	Section 1.7
x	x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Section 1.8 Appendix C
x	x	Section 10.2.2	10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Appendix C
x	x	Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 1.6 Appendix D
x	x	Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 1.7
x	x	Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 1.7
x	x	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Section 1.7
x	x	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 1.8
x	x	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 6.11
x	x	Section 10.6	10621(c)	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	n/a
x	x	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	Section 6.11

Submittal Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
<i>Add additional rows as needed</i>			
CA3410006	Citrus Heights Water District	19,991	12,484
TOTAL		19,991	12,484
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES:			

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

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

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

Submittal Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045(opt)
	63,821	65,280	68,398	73,275	78,151	83,028
NOTES:						

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable ¹ Water - Actual			
Use Type	2020 Actual		
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume ²
Add additional rows as needed			
Single Family		Drinking Water	7,812
Multi-Family		Drinking Water	2,090
Commercial	Includes Institutional and Governmental	Drinking Water	844
Industrial		Drinking Water	329
Landscape		Drinking Water	917
Other	Non-revenue water	Drinking Water	14
Other	Distribution system water loss	Drinking Water	478
TOTAL			12,484
¹ Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4. Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES: AWWA water loss audit not yet complete. Distribution Water Loss estimated based on the difference in metered productin and delivery during 2020.			

Submittal Table 4-2 Retail: Use for Potable and Non-Potable ¹ Water - Projected						
Use Type	Additional Description (as needed)	Projected Water Use ² <i>Report To the Extent that Records are Available</i>				
<u>Drop down list</u> May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Single Family		7,245	7,389	7,343	7,487	7,631
Multi-Family		1,961	2,070	2,289	2,507	2,726
Commercial	Includes Institutional and Governmental	877	902	944	980	1,017
Industrial		322	322	322	322	322
Landscape		856	883	917	963	989
Other	Non-revenue water	21	21	21	21	21
Other	Distribution system water loss	567	586	601	626	650
TOTAL		11,849	12,173	12,437	12,906	13,355
¹ Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4. measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
² Units of						
NOTES:						

Submittal Table 4-3 Retail: Total Water Use (Potable and Non-Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable <i>From Tables 4-1R and 4-2 R</i>	12,484	11,849	12,173	12,437	12,906	13,355
Recycled Water Demand ¹ <i>From Table 6-4</i>	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage ²						
TOTAL WATER USE	12,484	11,849	12,173	12,437	12,906	13,355
¹ Recycled water demand fields will be blank until Table 6-4 is complete ² Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier <i>may</i> deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.						
NOTES:						

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss ^{1,2}
01/2016	702
01/2017	579
01/2018	586
01/2019	572
01/2020	478
¹ Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet. ² Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.	
NOTES: 2020 AWWA water loss audit not yet complete. Distribution Water Loss estimated based on the difference in metered production and delivery during 2020.	

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

Submittal Table 5-1 Baselines and Targets Summary From SB X7-7 Verification Form <i>Retail Supplier or Regional Alliance Only</i>				
Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	1995	2004	286	229
5 Year	2003	2007	258	
*All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)				
NOTES:				

Submittal Table 5-2: 2020 Compliance SB X7-7 2020 Compliance Form <i>Retail Supplier or Regional Alliance Only</i>				From
2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* <i>(Adjusted if applicable)</i>		
175	n/a	n/a	229	Yes
<i>*All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)</i>				
NOTES:				

Submittal Table 6-1 Retail: Groundwater Volume Pumped						
<input type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.					
<input type="checkbox"/>	All or part of the groundwater described below is desalinated.					
Groundwater Type <i>Drop Down List</i> May use each category multiple times	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	North American Sub-basin	1173	713	1842	359	1473
TOTAL		1,173	713	1,842	359	1,473
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES: Groundwater pumped in 2018 includes a total of 1,584 AF that was transferred to Kern County Water Agency and Dudley Ridge pursuant to 2018 American River Water Transfer.						

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020						
<input type="checkbox"/>	There is no wastewater collection system. The supplier will not complete the table below.					
	Percentage of 2020 service area covered by wastewater collection system <i>(optional)</i>					
	Percentage of 2020 service area population covered by wastewater collection system <i>(optional)</i>					
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? <i>Drop Down List</i>	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? <i>Drop Down List</i>	Is WWTP Operation Contracted to a Third Party? <i>(optional)</i> <i>Drop Down List</i>
Sacramento Area Sewer District	Estimated	6,942	Sacramento Regional County Sanitation District	Regional San	No	
Total Wastewater Collected from Service Area in 2020:		6,942				
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3 .						
NOTES: Volume estimated based on Sacramento Regional County Sanitation District unit factor of 310 gallons per day per connection						

Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020											
<input checked="" type="checkbox"/>	No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.										
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number ² (optional)	Method of Disposal <i>Drop down list</i>	Does This Plant Treat Wastewater Generated Outside the Service Area? <i>Drop down list</i>	Treatment Level <i>Drop down list</i>	2020 volumes ¹				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
Total							0	0	0	0	0

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

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

NOTES:

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area											
<input checked="" type="checkbox"/>	Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.										
Name of Supplier Producing (Treating) the Recycled Water:											
Name of Supplier Operating the Recycled Water Distribution System:											
Supplemental Water Added in 2020 (volume) <i>Include units</i>											
Source of 2020 Supplemental Water											
Beneficial Use Type <i>additional rows if needed.</i>	<i>Insert</i>	Potential Beneficial Uses of Recycled Water (Describe)	Amount of Potential Uses of Recycled Water (Quantity) <i>Include volume units ¹</i>	General Description of 2020 Uses	Level of Treatment <i>Drop down list</i>	2020 ¹	2025 ¹	2030 ¹	2035 ¹	2040 ¹	2045 ¹ (opt)
Agricultural irrigation											
Landscape irrigation (exc golf courses)											
Golf course irrigation											
Commercial use											
Industrial use											
Geothermal and other energy production											
Seawater intrusion barrier											
Recreational impoundment											
Wetlands or wildlife habitat											
Groundwater recharge (IPR)											
Reservoir water augmentation (IPR)											
Direct potable reuse											
Other (Description Required)											
Total:						0	0	0	0	0	0
2020 Internal Reuse											
¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.											
NOTES:											

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual		
<input checked="" type="checkbox"/>	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.	
Beneficial Use Type	2015 Projection for 2020 ¹	2020 Actual Use ¹
<i>Insert additional rows as needed.</i>		
Agricultural irrigation		
Landscape irrigation (exc golf courses)		
Golf course irrigation		
Commercial use		
Industrial use		
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Reservoir water augmentation (IPR)		
Direct potable reuse		
Other (Description Required)		
Total	0	0
¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.		
NOTE:		

Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
<input type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
<i>Add additional rows as needed</i>			
SRCSD Water Recycling Opportunities Study	A periodically updated regional study that investigates feasible water recycling opportunities throughout the region.	ongoing	none at this time for CHWD service area
Total			0
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES:			

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
<input type="checkbox"/>	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
<input type="checkbox"/>	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type <small>Drop Down List</small>	Expected Increase in Water Supply to Supplier* <small>This may be a range</small>
	<small>Drop Down List (y/n)</small>	<small>If Yes, Supplier Name</small>				
<i>Add additional rows as needed</i>						
Well #7	No			2023	All Year Types	1,000 gpm
Well #8	No			2030	All Year Types	1,000 gpm
Well #9	No			2030+	All Year Types	1,000 gpm
Well #10	No			2030+	All Year Types	1,000 gpm
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES:						

Submittal Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Purchased or Imported Water	San Juan Water District	11,012	Drinking Water	
Groundwater (not desalinated)		1,472	Drinking Water	
Total		12,484		0
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.				
NOTES:				
Totals may not add due to rounding				

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Submittal Table 6-9 Retail: Water Supplies — Projected											
Water Supply	Additional Detail on Water Supply	Projected Water Supply * Report To the Extent Practicable									
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		2025		2030		2035		2040		2045 (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Add additional rows as needed											
Purchased or Imported Water	San Juan Water District	10,949		11,273		11,537		12,006		12,455	
Groundwater (not desalinated)		900		900		900		900		900	

Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)			
Year Type	Base Year <small>If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020</small>	Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		<input type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	% of Average Supply
Average Year	2010	87200	100%
Single-Dry Year	1977	59200	
Consecutive Dry Years 1st Year	2012	59200	
Consecutive Dry Years 2nd Year	2013	59200	
Consecutive Dry Years 3rd Year	2014	59200	
Consecutive Dry Years 4th Year	2015	59200	
Consecutive Dry Years 5th Year	2016	59200	
<i>Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.</i>			
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES: Base years for water supplies are equal. Volumes available includes 5,000 AF of CHWD groundwater with the remainder being attributed to San Juan Water District supplies.			

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (<i>Opt</i>)
Supply totals (<i>autofill from Table 6-9</i>)	11,849	12,173	12,437	12,906	13,355
Demand totals (<i>autofill from Table 4-3</i>)	11,849	12,173	12,437	12,906	13,355
Difference	0	0	0	0	0
NOTES:					

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	10,072	10,347	10,572	10,970	11,352
Demand totals*	10,072	10,347	10,572	10,970	11,352
Difference	0	0	0	0	0
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.					
NOTES: Demands reduced 15 percent.					

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	10,072	10,347	10,572	10,970	11,352
	Demand totals	10,072	10,347	10,572	10,970	11,352
	Difference	0	0	0	0	0
Second year	Supply totals	10,072	10,347	10,572	10,970	11,352
	Demand totals	10,072	10,347	10,572	10,970	11,352
	Difference	0	0	0	0	0
Third year	Supply totals	10,072	10,347	10,572	10,970	11,352
	Demand totals	10,072	10,347	10,572	10,970	11,352
	Difference	0	0	0	0	0
Fourth year	Supply totals	10,072	10,347	10,572	10,970	11,352
	Demand totals	10,072	10,347	10,572	10,970	11,352
	Difference	0	0	0	0	0
Fifth year	Supply totals	10,072	10,347	10,572	10,970	11,352
	Demand totals	10,072	10,347	10,572	10,970	11,352
	Difference	0	0	0	0	0
Sixth year (optional)	Supply totals	10,072	10,347	10,572	10,970	11,352
	Demand totals	10,072	10,347	10,572	10,970	11,352
	Difference	0	0	0	0	0
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES:						

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

2021	Total
Total Water Use	9,876
Total Supplies	9,876
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2022	Total
Total Water Use	9,925
Total Supplies	9,925
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2023	Total
Total Water Use	9,974
Total Supplies	9,974
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2024	Total
Total Water Use	10,023
Total Supplies	10,023
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2025	Total
Total Water Use	10,072
Total Supplies	10,072
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

Submittal Table 8-1		
Shortage Level	Percent Shortage Range	Shortage Response Actions (Narrative description)
1	Up to 10%	<p>Customers shall reduce total water use by 10 percent.</p> <p>Limitations on pool refilling.</p> <p>Monitor users of construction meters and fire hydrants for efficient water use.</p> <p>District leak repairs receive higher priority.</p> <p>Increase drought awareness and public outreach.</p> <p>Increase monitoring of customer use.</p> <p>Accelerate infrastructure repairs and improvements.</p> <p>Increase groundwater pumping as available.</p>
2	Up to 20%	<p>Customers required to repair leaking pipes or faulty sprinklers within two working days or less.</p> <p>Customers required to reduce total use by 20 percent.</p> <p>Customers are requested to only irrigate three times per week.</p> <p>Prohibit application of potable water to outdoor landscapes during and within 12 hours after measurable rainfall.</p> <p>Water Shortage Rate Structure may be enacted.</p> <p>Decrease District's system flushing frequency.</p> <p>Increase groundwater pumping as available.</p>
3	Up to 30%	<p>Customers required to repair leaking pipes or faulty sprinklers within 24 hours or less.</p> <p>Prohibit use of potable water to fill swimming pools, artificial lakes, ornamental fountains, ponds, or streams.</p> <p>Customers required to reduce total use by 30 percent.</p> <p>Customers may only irrigate twice per week, on schedule outlined in WSCP.</p> <p>Prohibit application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall.</p> <p>Encourage use of reclaimed water for construction purposes.</p> <p>Prohibit flushing of sewers and fire hydrants (except in case of emergency and for essential operations).</p> <p>Prohibit installation of new turf, lawn, and/or landscaping.</p> <p>Restaurants shall serve water only on request.</p> <p>No commitments will be made to provide service for new connections unless DWR MWEL0 is followed and the plans have been approved by the appropriate county or city building department.</p>
4	Up to 40%	<p>Prohibit the use of District water from fire hydrants and blow-offs for flow testing and construction purposes.</p> <p>Customers required to reduce total use by 40 percent.</p> <p>Customers may only irrigate once per week, on schedule outlined in WSCP.</p> <p>Prohibit new connections to the District's water distribution system.</p>
5	Up to 50%	<p>Customers required to repair leaking pipes or faulty sprinklers immediately.</p> <p>Customers required to reduce total use by more than 50 percent.</p> <p>Prohibit landscape and pasture irrigation.</p> <p>Prohibit use of construction meters and fire hydrants (except in case of emergency and for essential operations).</p> <p>Prohibit use of water from District's system for construction purposes, including but not limited to dust control, compaction, or trench jetting.</p> <p>Automobiles or equipments shall be washed only at commercial establishments that use recycled or reclaimed water.</p>
6	>50%	<p>Water used for health and safety purposes only.</p> <p>Declare Water Shortage Emergency in accordance with Section 350 of Division 1, Chapter 3 Water Shortage Emergencies of the California Water Code.</p>
NOTES:		

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Appendix A.2 - DWR Submittal Tables

Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions Drop down list <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i>
Add additional rows as needed				
1	Other	up to 10%	Customers asked to reduce total water use by 10%.	Yes
1+	Other water feature or swimming pool restriction	0-1%	Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations.	Yes
1+	Other	0-2%	Users of construction meters and fire hydrant meters will be monitored for efficient water use.	Yes
1+	Expand Public Information Campaign	3-5%	Increase drought awareness through additional public outreach measures that notify public and customers for declared stage, requirements, and available conservation program support.	No
1+	Increase Frequency of Meter Reading	0-3%	Increased monitoring of customer use.	No
2	Other	up to 20%	Reduce total water use by 20%.	Yes
2	Other	0-1%	Leaking pipes or faulty sprinklers shall be repaired within two working days or less if warranted by the severity of the problem.	Yes
2	Landscape - Limit landscape irrigation to specific days	3-5%	Requested to only irrigate three times per week.	Yes
2+	Landscape - Other landscape restriction or prohibition	0-2%	Application of potable water to outdoor landscape during and within 12 hours after measureable rainfall prohibited.	Yes
2+	Implement or Modify Drought Rate Structure or Surcharge	5-7%	Provisions of the Water Shortage Rate Structure may be implemented by the Board of Directors.	No
2+	Decrease Line Flushing	1-3%	Decrease system flushing frequency.	No
3	Other	up to 30%	Reduce total water use by 30%.	Yes
3+	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Leaking pipes or faulty sprinklers shall be repaired within 24 hours or less if warranted by the severity of the problem.	Yes

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Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions Drop down list <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i>
Add additional rows as needed				
3+	Other water feature or swimming pool restriction	0-2%	All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof. No potable water from the District's system shall be used to fill or refill swimming pools, artificial lakes, ponds or streams. Water use for ornamental ponds and fountains is prohibited.	Yes
3	Landscape - Limit landscape irrigation to specific days	5-20%	Irrigation shall be limited to two days per week. Irrigation should be limited to minimal amount of water necessary to keep plants and trees alive.	Yes
3+	Landscape - Other landscape restriction or prohibition	1-4%	Application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall is prohibited.	Yes
3+	Other	0-1%	Use of reclaimed water for construction purposes is encouraged.	No
3+	Other	0-2%	Flushing of sewers or fire hydrants is prohibited except in case of emergency and for essential operations or unless specifically authorized by the District.	Yes
3+	Landscape - Other landscape restriction or prohibition	0-3%	Installation of new turf, lawn, and/or landscape is prohibited.	Yes
3+	CII - Restaurants may only serve water upon request	0-1%	Restaurants shall serve water only upon request.	Yes
3+	Implement or Modify Drought Rate Structure or Surcharge	10-15%	Provisions of the Water Shortage Rate Structure may be implemented by the Board of Directors.	No
3+	Moratorium or Net Zero Demand Increase on New Connections	3-6%	No commitments will be made to provide service for new water service connections unless the DWR MWELO is followed and the plans have been approved by the appropriate building department(s).	No

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Appendix A.2 - DWR Submittal Tables

Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i>
Add additional rows as needed				
4	Other	up to 40%	Reduce total water use by 40%.	Yes
4+	Other	0-1%	Water for flow testing and construction purposes from fire hydrants and blow-offs is prohibited.	Yes
4	Landscape - Limit landscape irrigation to specific days	20-30%	Irrigation is allowed only once per week.	Yes
4+	Moratorium or Net Zero Demand Increase on New Connections	0-3%	New connections to the District water distribution system will not be allowed.	No
5	Other	up to 50%	Reduce total water use by more than 50%	Yes
5+	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Leaking customer pipes or faulty sprinklers shall be repaired immediately. Water service will be suspended until repairs are made.	Yes
5+	Landscape - Other landscape restriction or prohibition	25-40%	Landscape and pasture irrigation is prohibited.	No
5+	Other	1-3%	Use of construction meters and fire hydrants is prohibited except in case of emergency and for essential operations or unless specifically authorized by the District.	Yes
5+	Other - Prohibit use of potable water for construction and dust control	0-2%	No potable water from the District's system shall be used for construction purposes including but not limited to dust control, compaction, or trench jetting.	Yes
5+	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	0-1%	Automobiles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water.	Yes
6	Other	up to 50%	Health and safety use of water only.	Yes
6	Expand Public Information Campaign	2-4%	Communicate mandatory reduction targets to customers.	No
6	Other	varies	Other actions as identified specific to the shortage condition.	No
6	Other	varies	Declare Water Shortage Emergency in accordance with Section 350 of Division 1, Chapter 3 Water Shortage Emergencies of the California Water Code.	No

Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions <i>Drop down list</i> <small>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.</small>	How much is this going to reduce the shortage gap? <small>Include units used (volume type or percentage)</small>	Additional Explanation or Reference <small>(optional)</small>	Penalty, Charge, or Other Enforcement? <small>For Retail Suppliers Only Drop Down List</small>
<small>Add additional rows as needed</small>				
NOTES:				

Submittal Table 8-3: Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>
Add additional rows as needed			
1+	Other Actions (describe)	0-3%	Leak repairs receive higher priority.
1+	Expand Public Information Campaign	3-5%	Increase drought awareness through additional public outreach measures that notify public and customers for declared stage, requirements, and available conservation program support.
1+	Other Actions (describe)	0-5%	Accelerate infrastructure repairs and improvements.
1+	Other Actions (describe)	up to full gap shortage	Increase groundwater pumping as available.
2+	Implement or Modify Drought Rate Structure or Surcharge	5-7%	Provisions of the Water Shortage Rate Structure may be implemented by the Board of Directors.
2+	Other Actions (describe)	1-3%	Decrease system flushing frequency.
3+	Implement or Modify Drought Rate Structure or Surcharge	10-15%	Provisions of the Water Shortage Rate Structure may be implemented by the Board of Directors.
NOTES:			

Submittal Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
Citrus Heights	Yes	Yes
Roseville	Yes	Yes
County Name <i>Drop Down List</i>	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
Sacramento County	Yes	Yes
Placer County	Yes	Yes
NOTES:		

SB X7-7 Table 0: Units of Measure Used in 2020 UWMP*

(select one from the drop down list)

Acre Feet

**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*

NOTES:

SB X7-7 Table 2: Method for 2020 Population Estimate	
Method Used to Determine 2020 Population (may check more than one)	
<input type="checkbox"/>	1. Department of Finance (DOF) or American Community Survey (ACS)
<input checked="" type="checkbox"/>	2. Persons-per-Connection Method
<input type="checkbox"/>	3. DWR Population Tool
<input type="checkbox"/>	4. Other DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: 2020 Service Area Population	
2020 Compliance Year Population	
2020	63,821
NOTES:	

SB X7-7 Table 4: 2020 Gross Water Use							
Compliance Year 2020	2020 Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	2020 Deductions					2020 Gross Water Use
		Exported Water *	Change in Dist. System Storage* (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use*	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>	
	12,484			-		-	12,484
* Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.							
NOTES:							

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment			
Complete one table for each source.			
Name of Source		Groundwater	
This water source is (check one) :			
<input checked="" type="checkbox"/>	The supplier's own water source		
<input type="checkbox"/>	A purchased or imported source		
Compliance Year 2020	Volume Entering Distribution System ¹	Meter Error Adjustment ² Optional (+/-)	Corrected Volume Entering Distribution System
	1,473	-	1,473
¹ Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3. ² Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document			
NOTES			

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s) Meter Error Adjustment			
Complete one table for each source.			
Name of Source		Surface Water	
This water source is (check one) :			
<input type="checkbox"/>	The supplier's own water source		
<input checked="" type="checkbox"/>	A purchased or imported source		
Compliance Year 2020	Volume Entering Distribution System ¹	Meter Error Adjustment ² Optional (+/-)	Corrected Volume Entering Distribution System
	11,012		11,012
¹ Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3. ² Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document			
NOTES:			

SB X7-7 Table 4-B: 2020 Indirect Recycled Water Use Deduction (For use only by agencies that are deducting indirect recycled water)									
2020 Compliance Year	2020 Surface Reservoir Augmentation					2020 Groundwater Recharge			Total Deductible Volume of Indirect Recycled Water Entering the Distribution System
	Volume Discharged from Reservoir for Distribution System Delivery ¹	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/ Treatment Loss ¹	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility ^{1,2}	Transmission/ Treatment Losses ¹	Recycled Volume Entering Distribution System from Groundwater Recharge	
			-		-			-	
<div>¹ Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.²</div> <div>Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this cell must be less than total groundwater pumped - See Methodology 1, Step 8, section 2.c.</div>									

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C: 2020 Process Water Deduction Eligibility

(For use only by agencies that are deducting process water) Choose Only One

<input type="checkbox"/>	Criteria 1- Industrial water use is equal to or greater than 12% of gross water use. Complete SB X7-7 Table 4-C.1
<input type="checkbox"/>	Criteria 2 - Industrial water use is equal to or greater than 15 GPCD. Complete SB X7-7 Table 4-C.2
<input type="checkbox"/>	Criteria 3 - Non-industrial use is equal to or less than 120 GPCD. Complete SB X7-7 Table 4-C.3
<input type="checkbox"/>	Criteria 4 - Disadvantaged Community. Complete SB x7-7 Table 4-C.4

NOTES:

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in
Excel format.

SB X7-7 Table 4-C.1: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 1)*

Criteria 1				
Industrial water use is equal to or greater than 12% of gross water use				
2020 Compliance Year	2020 Gross Water Use Without Process Water Deduction	2020 Industrial Water Use	Percent Industrial Water	Eligible for Exclusion Y/N
	12,484		0%	NO

NOTES:

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel
format.

SB X7-7 Table 4-C.2: 2020 Process Water Deduction Eligibility (For use only by agencies that are deducting process water using Criteria 2)				
Criteria 2 Industrial water use is equal to or greater than 15 GPCD				
2020 Compliance Year	2020 Industrial Water Use	2020 Population	2020 Industrial GPCD	Eligible for Exclusion Y/N
		63,821	-	NO
NOTES:				

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.3: 2020 Process Water Deduction Eligibility (For use only by agencies that are deducting process water using Criteria 3)						
Criteria 3 Non-industrial use is equal to or less than 120 GPCD						
2020 Compliance Year	2020 Gross Water Use Without Process Water Deduction <i>Fm SB X7-7 Table 4</i>	2020 Industrial Water Use	2020 Non-industrial Water Use	2020 Population <i>Fm SB X7-7 Table 3</i>	Non-Industrial GPCD	Eligible for Exclusion Y/N
	12,484		12,484	63,821	175	NO
NOTES:						

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.4: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 4)*

Criteria 4

Disadvantaged Community. A "Disadvantaged Community" (DAC) is a community with a median household income less than 80 percent of the statewide average.

SELECT ONE

"Disadvantaged Community" status was determined using one of the methods listed below:

1. IRWM DAC Mapping tool <https://gis.water.ca.gov/app/dacs/>

☐ If using the IRWM DAC Mapping Tool, include a screen shot from the tool showing that the service area is considered a DAC.

2. 2020 Median Income

	California Median Household Income*		Service Area Median Household Income	Percentage of Statewide Average	Eligible for Exclusion? Y/N
<input type="checkbox"/>	2020	\$75,235		0%	YES
*California median household income 2015 -2019 as reported in US Census Bureau QuickFacts.					

NOTES

Data from these tables will not be entered into WUEdata. Instead, the entire tables will be uploaded to WUEdata as a separate upload in Excel format.

This table(s) is only for Suppliers that deduct process water from their 2020 gross water use.

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume

Complete a

separate table for each industrial customer with a process water exclusion

Name of Industrial Customer		Enter Name of Industrial Customer 1			
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
					-

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

NOTES:

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume

Complete a

separate table for each industrial customer with a process water exclusion

Name of Industrial Customer		Enter Name of Industrial Customer 2			
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
					-

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

NOTES:

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume

Complete a

separate table for each industrial customer with a process water exclusion

Name of Industrial Customer		Enter Name of Industrial Customer 3			
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
					-

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

NOTES:

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume

Complete a

separate table for each industrial customer with a process water exclusion

Name of Industrial Customer		<i>Enter Name of Industrial Customer 4</i>			
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
					-

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

NOTES:

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume

Complete a

separate table for each industrial customer with a process water exclusion

Name of Industrial Customer		<i>Enter Name of Industrial Customer 5</i>			
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
					-

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

NOTES:

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume

Complete a

separate table for each industrial customer with a process water exclusion

Name of Industrial Customer		<i>Enter Name of Industrial Customer 6</i>			
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
					-

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

NOTES:

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume <i>Complete a</i>					
<i>separate table for each industrial customer with a process water exclusion</i>					
Name of Industrial Customer		<i>Enter Name of Industrial Customer 7</i>			
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
					-
* Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.					
NOTES:					

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume <i>Complete a</i>					
<i>separate table for each industrial customer with a process water exclusion</i>					
Name of Industrial Customer		<i>Enter Name of Industrial Customer 8</i>			
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
					-
* Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.					
NOTES:					

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume <i>Complete a</i>					
<i>separate table for each industrial customer with a process water exclusion</i>					
Name of Industrial Customer		<i>Enter Name of Industrial Customer 9</i>			
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
					-
* Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.					

NOTES:

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume					<i>Complete a</i>
<i>separate table for each industrial customer with a process water exclusion</i>					
Name of Industrial Customer		<i>Enter Name of Industrial Customer 10</i>			
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
					-
* 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 <i>Fm SB X7-7 Table 4</i>	2020 Population <i>Fm</i> <i>SB X7-7 Table 3</i>	2020 GPCD
12,484	63,821	175
NOTES:		

SB X7-7 Table 9: 2020 Compliance							
Actual 2020 GPCD ¹	Optional Adjustments to 2020 GPCD					2020 Confirmed Target GPCD ^{1, 2}	Did Supplier Achieve Targeted Reduction for 2020?
	Enter "0" if Adjustment Not Used			TOTAL Adjustments ¹	Adjusted 2020 GPCD ¹ <i>(Adjusted if applicable)</i>		
	Extraordinary Events ¹	Weather Normalization ¹	Economic Adjustment ¹				
175	-	-	-	-	175	229	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:							

Urban Water Supplier:

Citrus Heights Water District

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

Retail Potable Deliveries

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

Enter Start Date for Reporting Period <u>01/01/2019</u>		Urban Water Supplier Operational Control		
End Date <u>12/31/2019</u>				
<input type="checkbox"/>	Is upstream embedded in the values reported?	Sum of All Water Management Processes	Non-Consequential Hydropower	
Water Volume Units Used <u>AF</u>		Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (volume unit)		12484	0	12484
Energy Consumed (kWh)		727663	0	727663
Energy Intensity (kWh/volume)		58.3	0.0	58.3
Quantity of Self-Generated Renewable Energy <input type="text"/> kWh				
Data Quality (<i>Estimate, Metered Data, Combination of Estimates and Metered Data</i>) <input type="text"/>				
Data Quality Narrative: <input type="text"/>				
Narrative: Energy Use is associated with groundwater production of 1,473 AF. Surface water delivered (11,012 AF) from wholesaler is gravity fed into distribution system. Totals may not add due to rounding.				

Appendix B: Water Use Projections to Wholesaler

Citrus Heights Water District Wholesale Demand Projections to San Juan Water District

Use Type	Annual Demand (AFY)				
	2025	2030	2035	2040	2045
Single Family	7,245	7,389	7,343	7,487	7,631
Multifamily	1,961	2,070	2,289	2,507	2,726
Commercial/Institutional	877	902	944	980	1,017
Industrial	322	322	322	322	322
Landscape	856	883	917	963	989
Other	21	21	21	21	21
System Loss	567	586	601	626	650
DISTRICT TOTAL	11,849	12,173	12,437	12,906	13,355

Appendix C: Notification Documentation

PROOF OF PUBLICATION/AFFIDAVIT
STATE OF CALIFORNIA
County of Sacramento

I am a citizen of the United States and a resident of the County afore-said, I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of the Carmichael Times, Grapevine Independent, Citrus Heights Messenger, and The Rio Linda News newspapers of general circulation printed and published in the County of Sacramento, State of California, under date of (CT)February 7, 1984, by Superior Court Order Number 317294, (GVI) September 18, 1969, by Superior Court Order Adjudication Number 195380, (CHM) March 12, 2020 by Superior Court Order Adjudication Number 34-2020-00273535, and (RLN) March 2, 1988 by Superior Court order No. 358073 that the notice, of which the annexed is printed copy (set in type not smaller than nonpareil) has been published in each regular and entire issues of said newspapers and not in any supplement therefore on the following dates, to wit:

May 28 & June 4, 2021

I certify (or declare) under penalty of perjury that the foregoing is true and correct.


Jenny Margherone

DATED: June 4, 2021

CARMICHAEL TIMES
GRAPEVINE INDEPENDENT
CITRUS HEIGHTS MESSENGER
THE RIO LINDA NEWS
7144 FAIR OAKS BLVD., SUITE 5
CARMICHAEL, CA 95608

PROOF OF PUBLICATION OF:

NOTICE OF PUBLIC HEARING

By: CITRUS HEIGHTS WATER DISTRICT

CITRUS HEIGHTS WATER DISTRICT
NOTICE OF HEARING FOR 2020 URBAN WATER
MANAGEMENT PLAN, WATER SHORTAGE
CONTINGENCY PLAN, AND WATER CONSERVATION
PROGRAM

A Public Hearing will be held on June 16, 2021 at 6:30 p.m. at the office of the Citrus Heights Water District (CHWD), located at 6230 Sylvan Rd., Citrus Heights, CA, 95610, and accessible via Zoom at Phone Call In: (253) 215-8782, Phone Meeting ID: 936 0581 6651, Computer Audio/Live Meeting Presentations: <https://zoom.us/j/93605816651>, to consider adoption of CHWD's 2020 Urban Water Management Plan (UWMP), Water Shortage Contingency Plan (WSCP), and amended Water Conservation Program (Program). Copies of the draft documents may be reviewed at the aforementioned address or at CHWD's website, www.chwd.org.

The purpose of this Public Hearing is to present the draft documents to the CHWD Board of Directors and accept and respond to any public questions or comments. California State law requires CHWD to update its UWMP every five years and submit it to the Department of Water Resources (DWR). The 2020 UWMP must be submitted to DWR by July 1, 2021. The 2020 UWMP documents CHWD's plans to ensure adequate water supplies to meet existing and future demands under a range of water supply conditions, including water shortages. The WSCP documents CHWD's plans to manage and mitigate an actual water shortage condition, should one occur because of drought or other impacts on water supplies. The Program would replace CHWD's current Water Conservation Program and is a comprehensive water conservation program. The Program establishes permanent water use regulations to prohibit water waste, sets six drought stages with required customer and CHWD actions, and sets procedures for enforcement, penalties, and variances.

Spoken or written comments on the draft documents may be presented at the Public Hearing, and written comments may be submitted in advance of the Hearing at the aforementioned address by June 11, 2021. Questions or comments about the draft documents may be directed to Water Resources Supervisor Brian Hensley at (916) 725-6873.

CITRUS HEIGHTS WATER DISTRICT
By Hilary M. Straus, General Manager
Citrus Heights Messenger May 28 and June 4, 2021

25, 2021
6-25-21
OF CALIFORNIA
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of California,
Sacramento,
J. Van Sant

916-927-9001
Publish: May 21, 28 and June 4,
2021
VAN SANT 170622 6-4-21

NOTICE OF PETITION TO ADMINISTER ESTATE OF OLIMPIO M. GUANLAO

CASE No. 34-2021-00296355
To all heirs, beneficiaries,
creditors, and contingent
creditors of and persons who
may be otherwise interested
in the will or estate, or both of
Olimpio M. Guanlao, deceased
A Petition for Probate has been
filed by Reginald R. Guanlao, in
the Superior Court of California,
County of Sacramento,
requesting Reginald R. Guanlao
be appointed as personal
representative to administer
the estate of the decedent.
The petition requests authority
to administer the estate under
the Independent Administration
of Estates Act. (This authority
will allow the executor to take
many actions without obtaining
court approval. Before taking
certain very important actions,
however, the executor will be
required to give notice to
interested persons unless they
have waived notice or have
consented to the proposed
action.) The independent
administration authority will
be granted unless an interested
person files an objection to
the petition and shows good
cause why the court should
not grant the authority.
A hearing on the petition will
be held in this court as follows
July 21, 2021 9:00 a.m. in
Dept 129. IF YOU OBJECT to
the granting of the petition,
you should appear at the
hearing and state your
objections or file written
objections with the court
before the hearing. Your
appearance may be in person
or by your attorney. IF YOU
ARE A CREDITOR or a
contingent creditor of the
deceased, you must file
your claim with the court
and mail a copy to the
personal representative
appointed by the court
within the later of either
(1) four months from the
date of first issuance of
letters to a general
personal representative,
as defined in section 58(b)
of the California Probate
Code, or (2) 60 days from
the date of mailing or
personal delivery to you
of a notice under section
9052 of the California
Probate Code. Other
California statutes and
legal authority may affect
your rights as a creditor.
You may want to consult
with an attorney
knowledgeable in California
law. YOU MAY EXAMINE
the file kept by the court.
If you are interested in
the estate, you may file
with the court a Request
for Special Notice (form
DE-154) of the filing of
an inventory and appraisal
of estate assets or of any
petition or account as
provided in Probate Code
section 1250. A Request
for Special Notice form is
available from the

petitioner without an attorney
are: (El nombre, dirección
y número de teléfono del
abogado del peticionario, o
del peticionario sin abogado
es:) Roberta Miller, In Pro Per
3903 Coon Hollow Road
Placerville, CA 95667
Date: (Fecha) 4/12/2021
By Clerk of Court Deputy
STANDARD FAMILY LAW
RESTRaining ORDERS
Starting immediately, you
and your spouse or domestic
partner are restrained from:
1. removing the minor children
of the parties from the state
or applying for a new or
replacement passport for those
minor children without the prior
written consent of the other
party or an order of the court;
2. cashing, borrowing against,
canceling, transferring, disposing
of, or changing the beneficiaries
of any insurance or other
coverage, including life, health,
automobile, and disability, held
for the benefit of the parties
and their minor children;
3. transferring, encumbering,
hypothecating, concealing, or
in any way disposing of any
property, real or personal, whether
community, quasi-community,
or separate, without the written
consent of the other party or
an order of the court, except in
the usual course of business
or for the necessities of life; and
4. creating a nonprobate transfer
or modifying a nonprobate
transfer in a manner that affects
the disposition of property
subject to the transfer, without
the written consent of the
other party or an order of the
court. Before revocation of a
nonprobate transfer can take
effect or a right of survivorship
to property can be eliminated,
notice of the change must be
filed and served on the other
party.
You must notify each other
of any proposed extraordinary
expenditures at least five
business days prior to incurring
these extraordinary expenditures
and account to the court for
all extraordinary expenditures
made after these restraining
orders are effective. However,
you may use community
property, quasi-community
property, or your own separate
property to pay an attorney to
help you or pay court costs.
NOTICE-ACCESS TO
AFFORDABLE HEALTH
INSURANCE:
Do you or someone in your
household need affordable health
insurance? If so, you should
apply for Covered California.
Covered California can help
reduce the cost you pay towards
high quality affordable health
care. For more information,
visit www.coveredca.com. Or call
Covered California at 1-800-300-1506
WARNING-IMPORANT
INFORMATION
California law provides that,
for purposes of division of
property upon dissolution of a
marriage

All questions received and agency answers will be posted on the JPA website.

Grapevine Independent June 4 and 11, 2021

Public Hearing Notice Recreation Fees

The Fair Oaks Recreation & Park District (FORPD) Board of Directors will consider a revision to the fee schedule for recreational programming during the meeting listed below. Members of the public may attend and address the Board.

Wed., June 16, 2021
6:00 pm Meraki High School
10700 Fair Oaks Blvd,
Fair Oaks, CA 95628

*Check online for Zoom meeting information

If you challenge this resolution in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered at or prior to the public hearing. Please submit any written comments to the Parks & Recreation Department prior to the public hearing.

Copies of the revised fees report prepared for the Board will be available for review after June 11, 2021 at the FORPD Administration Office at 4150 Temescal St. For questions or comments, please call (916) 966-1036.

A public notice from:
Fair Oaks Recreation & Park District www.forpd.org
Carmichael Times June 4 and 11, 2021

CITRUS HEIGHTS WATER DISTRICT

NOTICE OF HEARING FOR 2020 URBAN WATER MANAGEMENT PLAN, WATER SHORTAGE CONTINGENCY PLAN, AND WATER CONSERVATION PROGRAM

A Public Hearing will be held on June 16, 2021 at 6:30 p.m. at the office of the Citrus Heights Water District (CHWD), located at 6230 Sylvan Rd., Citrus Heights, CA, 95610, and accessible via Zoom at Phone Call In: (253) 215-8782, Phone Meeting ID: 936 0581 6651, Computer Audio/Live Meeting Presentations: <https://zoom.us/j/93605816651>, to consider adoption of CHWD's 2020 Urban Water Management Plan (UWMP), Water Shortage Contingency Plan (WSCP), and amended Water Conservation Program (Program). Copies of the draft documents may be reviewed at the aforementioned address or at CHWD's website, www.chwd.org.

The purpose of this Public Hearing is to present the draft documents to the CHWD Board of Directors and accept and respond to any public questions or comments. California State law requires CHWD to update its UWMP every five years and submit it to the Department of Water Resources (DWR). The 2020 UWMP must be submitted to DWR by July 1, 2021. The 2020 UWMP documents CHWD's plans to ensure adequate water supplies to meet existing and future demands under a range of water supply conditions, including water shortages. The WSCP documents CHWD's plans to manage and mitigate an actual water shortage condition, should one occur because of drought or other impacts on water supplies. The Program would replace CHWD's current Water Conservation Program and is a comprehensive water conservation program. The Program establishes permanent water use regulations to prohibit water waste, sets six drought stages with required customer and CHWD actions, and sets procedures for enforcement, penalties, and variances.

Spoken or written comments on the draft documents may be presented at the Public Hearing, and written comments may be submitted in advance of the Hearing at the aforementioned address by June 11, 2021. Questions or comments about the draft documents may be directed to Water Resources Supervisor Brian Hensley at (916) 725-6873.

CITRUS HEIGHTS WATER DISTRICT
By Hilary M. Straus, General Manager
Citrus Heights Messenger May 28 and June 4, 2021

Appendix D: Board Resolutions Adopting Water Shortage Contingency Plan and Urban Water Management Plan

CITRUS HEIGHTS WATER DISTRICT
RESOLUTION NO. 3-2021

RESOLUTION ADOPTING THE 2020 URBAN WATER MANAGEMENT PLAN

WHEREAS, The California Urban Water Management Planning Act, (Wat. Code § 10610, et seq. (the Act)), mandates that every urban supplier of water providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare, and adopt an Urban Water Management Plan (Plan); and

WHEREAS, the Act generally requires that said Plan be updated and adopted at least once every five years on or before July 1, in years ending in six and one; and

WHEREAS, pursuant to recent amendments to the Act, urban water suppliers are required to update and electronically submit their 2020 Plans to the California Department of Water Resources (DWR) by July 1, 2021; and

WHEREAS, pursuant to Water Conservation Act of 2009, also referred to as SB X7-7 (Wat. Code § 10608 et seq.), an “urban retail water supplier” is defined as a water supplier that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre feet of potable water annually at retail for municipal purposes, and an “urban wholesale water supplier” is defined as a water supplier that provides more than 3,000 acre feet of water annually at wholesale for potable municipal purposes; and

WHEREAS, Citrus Heights Water District (CHWD) meets the definition of an urban retail water supplier for purposes of the Act and SB X7-7; and

WHEREAS, CHWD has prepared a 2020 Plan in accordance with the Act and SB X7-7, and in accordance with applicable legal requirements, has undertaken certain coordination, notice, public involvement, public comment, and other procedures in relation to its 2020 Plan; and

WHEREAS, in accordance with the Act and SB X7-7, CHWD has prepared its 2020 Plan with its own staff, with the assistance of consulting professionals, and in cooperation with other governmental agencies, and has utilized and relied upon industry standards and the expertise of industry professionals in preparing its 2020 Plan, and has also utilized DWR’s Urban Water Management Plan Guidebook 2020, including its related appendices, in preparing its 2020 Plan; and

WHEREAS, in accordance with applicable law, including Water Code sections 10608.26 and 10642, and Government Code section 6066, a Notice of a Public Hearing regarding CHWD’s 2020 Plan was published within the jurisdiction of CHWD on May 28, 2021 and June 4, 2021; and

WHEREAS, in accordance with applicable law, including but not limited to Water Code sections 10608.26 and 10642, a public hearing was held on June 16, 2021 at 6:30 p.m., or soon thereafter, at Phone Call In: (253) 215-8782, Phone Meeting ID: 936 0581 6651, <https://zoom.us/j/93605816651>, in order to provide members of the public and other interested

entities with the opportunity to be heard in connection with proposed adoption of the 2020 Plan and issues related thereto; and

WHEREAS, pursuant to said public hearing on CHWD's 2020 Plan, CHWD, among other things, encouraged the active involvement of diverse social, cultural, and economic members of the community within CHWD's service area with regard to the 2020 Plan and encouraged community input regarding CHWD's 2020 Plan; and

WHEREAS, the CHWD Board of Directors has reviewed and considered the purposes and requirements of the Act and SB X7-7, the contents of the 2020 Plan, and the documentation contained in the administrative record in support of the 2020 Plan, and has determined that the factual analyses and conclusions set forth in the 2020 Plan are legally sufficient; and

WHEREAS, the CHWD Board of Directors desires to adopt the 2020 Plan prior to July 1, 2021 in order to comply with the Act and SB X7-7; and

WHEREAS, Section 10652 of the California Water Code provides that the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) (CEQA) does not apply to the preparation and adoption of the 2020 Plan pursuant to this part.

NOW THEREFORE BE IT RESOLVED, the CHWD Board of Directors hereby resolves as follows:

1. The CHWD's 2020 Plan is hereby adopted as amended by changes incorporated by the Board of Directors as a result of input received (if any) at the public hearing and ordered filed with the Secretary of the Board of Directors.
2. The General Manager or designee is hereby authorized and directed to include a copy of this Resolution in CHWD's 2020 Plan.
3. The General Manager or designee is hereby authorized and directed, in accordance with Water Code sections 10621(d) and 10644(a)(1)-(2), to electronically submit a copy of the 2020 Plan to the DWR no later than July 1, 2021.
4. The General Manager or designee is hereby authorized and directed, in accordance with Water Code section 10644(a), to submit a copy of the 2020 Plan to the California State Library, and any city or county within which CHWD provides water supplies no later than thirty (30) days after this adoption date.
5. The General Manager or designee is hereby authorized and directed, in accordance with Water Code section 10645, to make the 2020 Plan available for public review at the CHWD's offices during normal business hours or on the CHWD website no later than thirty (30) days after filing a copy of the Plan with DWR.
6. The General Manager or designee is hereby authorized and directed, in accordance with Water Code Section 10635(c), to provide that portion of the 2020 Plan prepared pursuant to Water Code Section 10635(a)-(b) to any city or county within which CHWD provides water supplies no later than sixty (60) days after submitting a copy of the Plan with DWR.

7. The General Manager or designee is hereby authorized and directed to implement the 2020 Plan in accordance with the Act and SB X7-7 and to provide recommendations to the Board of Directors regarding the necessary budgets, procedures, rules, regulations, or further actions to carry out the effective and equitable implementation of the 2020 Plan.

8. The CHWD Board of Directors finds and determines that this resolution is not subject to CEQA pursuant to Water Code Section 10652 because CEQA does not apply to the preparation and adoption, including addenda thereto, of an urban water management plan or to the implementation of the actions taken pursuant to such plans. Because this resolution comprises the CHWD Board of Director's adoption of its Addendum to the 2020 Plan and involves its implementation, no CEQA review is required.

9. The document and materials that constitute the record of proceedings on which this resolution and the above findings have been based are located at 6230 Sylvan Road, Citrus Heights, CA 95610. The custodian for these records is the Chief Board Clerk.

PASSED AND ADOPTED by the Board of Directors of the CITRUS HEIGHTS WATER DISTRICT this 16th day of June, 2021, by the following vote, to wit:

AYES: Directors:
NOES: Directors:
ABSTAIN: Directors:
ABSENT: Directors:



A handwritten signature in black ink, appearing to read "D. Wheaton", written over a horizontal line.

DAVID WHEATON, President
Board of Directors
Citrus Heights Water District

ATTEST:

A handwritten signature in blue ink, appearing to read "Madeline Henry", written over a horizontal line.

MADELINE HENRY, Administrative Services Manager/
Chief Board Clerk
Citrus Heights Water District

CITRUS HEIGHTS WATER DISTRICT
RESOLUTION NO. 4-2021

RESOLUTION ADOPTING THE WATER SHORTAGE CONTINGENCY PLAN

WHEREAS, The California Urban Water Management Planning Act, (Wat. Code §10610, et seq. (the Act)), mandates that every urban supplier of water providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare and adopt, in accordance with prescribed requirements, a Water Shortage Contingency Plan (WSCP) as part of its Urban Water Management Plan (Plan); and

WHEREAS, the Act specifies the requirements and procedures for adopting such WSCPs; and

WHEREAS, pursuant to recent amendments to the Act, urban water suppliers are required to adopt and electronically submit their WSCPs to the California Department of Water Resources (DWR) by July 1, 2021; and

WHEREAS, pursuant to the Act, “urban water supplier” means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers; and

WHEREAS, Citrus Heights Water District (CHWD) meets the definition of an urban water supplier for purposes of the Act and is required to prepare and adopt and WSCP as part of its 2020 Plan; and

WHEREAS, CHWD has prepared a WSCP in accordance with the Act, and in accordance with applicable legal requirements, has undertaken certain coordination, notice, public involvement, public comment, and other procedures in relation to its WSCP; and

WHEREAS, in accordance with the Act, CHWD has prepared its WSCP with its own staff, with the assistance of consulting professionals, and in cooperation with other governmental agencies, and has utilized and relied upon industry standards and the expertise of industry professionals in preparing its WSCP, and has also utilized DWR’s Urban Water Management Plan Guidebook 2020, including its related appendices, in preparing its WSCP; and

WHEREAS, in accordance with applicable law, including Water Code section 10642, and Government Code section 6066, a Notice of a Public Hearing regarding CHWD’s WSCP was published within the jurisdiction of CHWD on May 28, 2021 and June 4, 2021; and

WHEREAS, in accordance with applicable law, including but not limited to Water Code section 10642, a public hearing was held on June 16, 2021 at 6:30 p.m., or soon thereafter, at Phone Call In: (253) 215-8782, Phone Meeting ID: 936 0581 6651, <https://zoom.us/j/93605816651>, in order to provide members of the public and other interested entities with the opportunity to be heard in connection with proposed adoption of the WSCP and issues related thereto; and

WHEREAS, pursuant to said public hearing on CHWD's WSCP, CHWD, among other things, encouraged the active involvement of diverse social, cultural, and economic members of the community within CHWD's service area with regard to the WSCP, and encouraged community input regarding CHWD's WSCP; and

WHEREAS, the CHWD Board of Directors has reviewed and considered the purposes and requirements of the Act, the contents of the WSCP, and the documentation contained in the administrative record in support of the WSCP, and has determined that the factual analyses and conclusions set forth in the WSCP are legally sufficient; and

WHEREAS, the CHWD Board of Directors desires to adopt the WSCP and to incorporate it as part of its 2020 Plan prior to July 1, 2021 in order to comply with the Act.

WHEREAS, Section 10652 of the California Water Code provides that the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) (CEQA) does not apply to the preparation and adoption of a WSCP as part of Plan pursuant to California Water Code section 10632.

NOW THEREFORE BE IT RESOLVED, the CHWD Board of Directors hereby resolves as follows:

1. The Water Shortage Contingency Plan (WSCP) is hereby adopted as amended by changes incorporated by the CHWD Board of Directors as a result of input received (if any) at the public hearing and ordered filed with the Secretary of the CHWD Board of Directors and shall be incorporated into CHWD's 2020 Plan;
2. The General Manager or designee is hereby authorized and directed to include a copy of this Resolution in CHWD's WSCP and/or in CHWD's 2020 Plan;
3. The General Manager or designee is hereby authorized and directed, in accordance with Water Code sections 10621(d) and 10644(a)(1)-(2), to electronically submit a copy of the WSCP, as part of its 2020 Plan, to DWR no later than July 1, 2021;
4. The General Manager or designee is hereby authorized and directed, in accordance with Water Code section 10644(a), to submit a copy of the WSCP, as part of its 2020 Plan, to the California State Library, and to any city or county within which CHWD provides water supplies no later than thirty (30) days after this adoption date;
5. The General Manager or designee is hereby authorized and directed, in accordance with Water Code section 10645, to make the WSCP available for public review at CHWD's office during normal business hours and on its website at www.chwd.org no later than thirty (30) days after filing a copy of the WSCP, as part of its 2020 Plan, with DWR;
6. The General Manager or designee is hereby authorized and directed to implement the WSCP in accordance with the Act and to provide recommendations to the CHWD Board of Directors regarding the necessary budgets, procedures, rules, regulations, or further actions to carry out the effective and equitable implementation of the WSCP.

7. The CHWD Board of Directors finds and determines that this resolution is not subject to CEQA pursuant to Water Code Section 10652 because CEQA does not apply to the preparation and adoption of a WSCP or to the implementation of the actions taken pursuant to such plans. Because this resolution comprises the CHWD Board of Directors' adoption of its WSCP and involves its implementation, no CEQA review is required.

8. The document and materials that constitute the record of proceedings on which this resolution and the above findings have been based are located at 6230 Sylvan Road, Citrus Heights, CA 95610. The custodian for these records is the Chief Board Clerk.

PASSED AND ADOPTED by the Board of Directors of the CITRUS HEIGHTS WATER DISTRICT this 16th day of June, 2021, by the following vote, to wit:

AYES: Directors:
NOES: Directors:
ABSTAIN: Directors:
ABSENT: Directors:



A handwritten signature in dark ink, appearing to read "David Wheaton", written over a horizontal line.

DAVID WHEATON, President
Board of Directors
Citrus Heights Water District

ATTEST:

A handwritten signature in blue ink, appearing to read "Madeline Henry", written over a horizontal line.

MADELINE HENRY, Administrative Services Manager/
Chief Board Clerk
Citrus Heights Water District

CITRUS HEIGHTS WATER DISTRICT
ORDINANCE NO. 01-2021

ORDINANCE ADOPTING THE AMENDED WATER CONSERVATION PROGRAM

WHEREAS, pursuant to California Water Code section 375, this Ordinance restates and reauthorizes the establishment of a Water Conservation Program, Mandatory Water Conservation Stage Regulations, and progressive Enforcement Measures (“Water Conservation Program”) to be implemented to reduce water consumption within Citrus Heights Water District (“CHWD” or “District”); and

WHEREAS, this Ordinance supersedes, nullifies, and replaces Ordinance 01-2016 and any amendments thereto, regarding the District’s Water Conservation Program; and

WHEREAS, the District recognizes that water is a valuable natural resource, which should not be wasted, and the District has the mission of providing its customers with high quality water for domestic, commercial, irrigation, and fire protection purposes at adequate pressures and equitable rates; and

WHEREAS, the District recognizes that water availability can be adversely affected by weather conditions, environmental commitments, a depleting ground-water basin, and growth; and

WHEREAS, no provisions of the District’s Water Conservation Program shall apply to fire hydrants, fire mains, fire sprinkler lines or other equipment used solely for fire protection purposes. No provisions of the District’s Water Conservation Program shall apply to any hospital, health care or convalescent facility or any other type of facility where the health and welfare would be affected by restrictions on water used, nor shall it apply to veterinary hospitals. Such facilities are encouraged to conserve water to the extent possible. However, the District’s Water Conservation Program does apply to the outdoor grounds, yards and parking areas of these facilities; and

WHEREAS, the adoption and enforcement of a comprehensive Water Conservation Program will allow the District to delay or avoid declaring a water shortage emergency pursuant to Water Code Section 350; and

WHEREAS, it is necessary for the District to adopt this Ordinance 01-2021 regarding the District’s Water Conservation Program in order to conserve the District’s water supplies; and

WHEREAS, the California Urban Water Management Planning Act, (Water Code § 10610, et seq. (the Act)), mandates that every urban supplier of water providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare and adopt, in accordance with prescribed requirements, a Water Shortage Contingency Plan (WSCP) as part of its Urban Water Management Plan; and

WHEREAS, the District’s WSCP is a detailed plan for how the District, an urban water supplier, intends to act in the case of any actual water shortage condition; and

WHEREAS, Ordinance 01-2021 regarding the District’s Water Conservation Program enables the District to implement its WSCP; and

Appendix D.3 - Board Resolution Adopting Amended Water Conservation Program

WHEREAS, amendments to the Act require the WSCP to contain six water shortage levels based on the water suppliers' water supply conditions; and

WHEREAS, in order to make the District's Water Conservation Program consistent with the WSCP, it is necessary to amend the District's Water Conservation Program; and

WHEREAS, notice of this Ordinance will be posted or published in the District as required by Water Code section 376.

NOW, THEREFORE, BE IT ORDAINED that all of the above recitals are true and that the Board of Directors of CHWD adopt this Ordinance 01-2021 regarding the District's Water Conservation Program, Mandatory Water Conservation Stage Regulations, and progressive Enforcement Measures, as follows:

WATER CONSERVATION PROGRAM - MANDATORY WATER CONSERVATION STAGE REGULATIONS:

NORMAL WATER SUPPLY

The District's water supply and distribution system is able to meet all the water demands of its customers in the immediate future. Regulations for Normal Water Supply are applicable at all times and to all stages and include the following:

1. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.
2. Water shall be confined to the customer's property and shall not be allowed to run off to adjoining properties or to the roadside ditch or gutter. Care shall be taken not to water past the point of saturation.
3. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.
4. Leaking customer pipes or faulty sprinklers shall be repaired within five working days or less if warranted by the severity of the problem.
5. All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof.
6. Washing streets, parking lots, driveways, sidewalks, or buildings, is prohibited except as necessary for health, esthetic, or sanitary purposes.
7. Customers are encouraged to take advantage of the District's water conservation programs and rebates.

STAGE 1: 10% SUPPLY SHORTAGE

Actions include all regulations from Normal Water Supply Stage plus those listed below. When implemented as a whole program, these actions together are expected to eliminate up to a 10 percent gap between supplies and demands.

Appendix D.3 - Board Resolution Adopting Amended Water Conservation Program

1. Reduce total water use by 10%. Contact the District for tips and techniques to reduce indoor and outdoor water use.
2. Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations.
3. Users of construction meters and fire hydrant meters will be monitored for efficient water use.

STAGE 2: 20% SUPPLY SHORTAGE

Actions include regulations from Stage 1 plus those listed below. When implemented as a whole program, these actions together are expected to eliminate up to a 20 percent gap between supplies and demands.

1. Leaking customer pipes or faulty sprinklers shall be repaired within two working days or less if warranted by the severity of the problem.
2. Reduce total water use by 20%. Contact the District for tips and techniques to reduce indoor and outdoor water use.
3. Requested to only irrigate three times per week.
4. Application of potable water to outdoor landscapes during and within 12 hours after measurable rainfall is prohibited.

STAGE 3: 30% SUPPLY SHORTAGE

Actions include regulations from preceding stages plus those listed below. When implemented as a whole program, these actions together are expected to eliminate up to a 30 percent gap between supplies and demands.

1. Leaking customer pipes or faulty sprinklers shall be repaired within 24 hours or less if warranted by the severity of the problem.
2. Special Water Feature Distinction - All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof. No potable water from the District's system shall be used to fill or refill swimming pools, artificial lakes, ponds or streams. Water use for ornamental ponds and fountains is prohibited.
3. Reduce total water use by 30%. Contact the District for tips and techniques to reduce indoor and outdoor water use.
4. Irrigation shall be limited to two days per week. The days of the week when outdoor water will be permitted shall be set based on the last digit of the street address. Odd addresses, streetscapes, and medians shall limit watering to Tuesdays and Saturdays; even addresses shall limit watering to Wednesdays and Sundays. No irrigation is permitted on Mondays, Thursdays and Fridays. Irrigation should be limited to the minimal amount of water necessary to keep plants and trees alive.
5. Application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall is prohibited.
6. Use of reclaimed water for construction purposes is encouraged.
7. Flushing of sewers or fire hydrants is prohibited except in case of emergency and for essential operations or unless specifically authorized by the District.
8. Installation of new turf, lawn, and/or landscaping is prohibited.

Appendix D.3 - Board Resolution Adopting Amended Water Conservation Program

9. Restaurants shall serve water only upon request.

STAGE 4: 40% SUPPLY SHORTAGE

Actions include regulations from preceding stages plus those listed below. When implemented as a whole program, these actions together are expected to eliminate up to a 40 percent gap between supplies and demands.

1. Water for flow testing and construction purposes from water agency fire hydrants and blow-offs is prohibited.
2. Reduce total water use by 40%. Contact the District for tips and techniques to reduce indoor and outdoor water use.
3. Irrigation is allowed only once per week. Odd addresses, streetscapes, and medians shall limit watering to Tuesdays; even addresses shall limit watering to Thursdays.

STAGE 5: 50% SUPPLY SHORTAGE

Actions include regulations from preceding stages plus those listed below. When implemented as a whole program, these actions together are expected to eliminate up to a 50 percent gap between supplies and demands.

1. Leaking customer pipes or faulty sprinklers shall be repaired immediately. Water service will be suspended until repairs are made.
2. Reduce total water use by more than 50%. Contact the District for tips and techniques to reduce indoor and outdoor water use.
3. Landscape and pasture irrigation is prohibited.
4. Use of construction meters and fire hydrants is prohibited except in case of emergency and for essential operations or unless specifically authorized by the District.
5. No potable water from the District's system shall be used for construction purposes including but not limited to dust control, compaction, or trench jetting.
6. Automobiles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water.

STAGE 6: OVER 50% SUPPLY SHORTAGE

Actions include regulations from preceding stages plus those listed below. Actions will be identified to address each specific shortage situation to eliminate the gap between supplies and demands.

1. A severely low water supply exists. Water to be used for purposes of interior residential, sanitation, and fire protection.

WATER CONSERVATION PROGRAM - ENFORCEMENT MEASURES:

Enforcement measure for all stages, including Normal Water Supply, are presented below.

- A. Upon initial observation by District personnel or authorized designee of a violation of any of the regulations enumerated in this Water Shortage Contingency Plan, the violator shall be informed of the District's current Water Conservation Stage Regulations, shall

Appendix D.3 - Board Resolution Adopting Amended Water Conservation Program

be provided with appropriate water conservation information, and offered a free Water Efficiency Review. If no contact is made, a Courtesy Notice will be left at the premises informing the customer of the observed violation. The customer will be informed of the consequences of further violations.

- B. Upon a second observation by District personnel or authorized designee of a violation of any of the regulations enumerated in this Water Shortage Contingency Plan, a Notice of Violation will be issued and left at the premises informing the customer of the violation and the consequences of further violations. A \$50.00 penalty will be applied to the customer's account for noncompliance of the Mandatory Conservation Stage Regulations. The customer's water service will be terminated (at District's discretion) until the violation is corrected. Prior to a scheduled water service termination, the customer may choose to pay the penalty fee and correct the violation as specified in the required time frame designated by the current Stage Declaration.
- C. Upon a third observation by District personnel or authorized designee of a violation of any of the regulations enumerated in this Water Shortage Contingency Plan, a Notice of Violation will be issued and left at the premises informing the customer of the violation and the consequences of further violations. A \$100.00 penalty will be applied to the customer's account for noncompliance of the Mandatory Water Conservation Stage Regulations. The customer's water service will be terminated (at District's discretion) until the violation is corrected. Prior to a scheduled water service termination, the customer may choose to pay the penalty fee and correct the violation as specified in the required time frame designated by the current Stage Declaration.
- D. Upon a fourth observation by District personnel or authorized designee of a violation of any of the regulations enumerated in this Water Shortage Contingency Plan, a Notice of Violation will be issued and left at the premises informing the customer of the violation and the consequences of further violations. A \$250.00 penalty will be applied to the customer's account for noncompliance of the Mandatory Water Conservation Stage Regulations. The customer's water service will be terminated (at District's discretion) until the violation is corrected. Prior to a scheduled water service termination, the customer may choose to pay the penalty fee and correct the violation as specified in the required time frame designated by the current Stage Declaration.
- E. Customers for whom these Mandatory Water Conservation Stage Regulations may present an undue hardship may request a variance from the District. Variance request shall be submitted to the Water Efficiency Coordinator and shall accurately describe the reason for non-compliance with specific requirements in the Mandatory Water Conservation Stage Regulations. A variance request will be approved or denied in writing by the District's General Manager or the Board of Directors.
- F. Violation notices from other than the current calendar year shall be considered null and void when applying the enforcement provisions of the Mandatory Water Conservation Stage Regulations.

PASSED AND ADOPTED by the Board of Directors of the CITRUS HEIGHTS WATER DISTRICT this 16th day of June, 2021, by the following vote, to wit:

Appendix D.3 - Board Resolution Adopting Amended Water Conservation Program

AYES: Directors:
NOES: Directors:
ABSTAIN: Directors:
ABSENT: Directors:



A handwritten signature in black ink, appearing to read "David Wheaton", written over a horizontal line.


DAVID WHEATON, President
Board of Directors
Citrus Heights Water District

ATTEST:

A handwritten signature in blue ink, appearing to read "Madeline Henry", written over a horizontal line.

MADELINE HENRY, Administrative Services Manager/
Chief Board Clerk
Citrus Heights Water District

Appendix E: Validated Water Loss Audits



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association
Copyright © 2014. All Rights Reserved

?

Click to access definition

+

Click to add a comment

Water Audit Report for: **Citrus Heights Water District (CA3410006)**

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 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: **ACRE-FEET 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.

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

Volume from own sources: + ? 5 1,173.000 acre-ft/yr

Water imported: + ? 7 9,673.000 acre-ft/yr

Water exported: + ? n/a 0.000 acre-ft/yr

Master Meter and Supply Error Adjustments

Pcnt: Value:

+ ? 8

⊖

⊕

acre-ft/yr

+ ? 8

⊖

⊕

acre-ft/yr

+ ?

⊖

⊕

acre-ft/yr

Enter negative % or value for under-registration

Enter positive % or value for over-registration

WATER SUPPLIED:

10,846.000 acre-ft/yr

AUTHORIZED CONSUMPTION

Billed metered: + ? 5 10,117.000 acre-ft/yr

Billed unmetered: + ? n/a 0.000 acre-ft/yr

Unbilled metered: + ? 5 0.000 acre-ft/yr

Unbilled unmetered: + ? 5 27.115 acre-ft/yr

Click here: ? for help using option buttons below

Pcnt: Value:

⊖

⊕

27.115 acre-ft/yr

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION: ? 10,144.115 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

701.885 acre-ft/yr

Apparent Losses

Unauthorized consumption: + ? 27.115 acre-ft/yr

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

Customer metering inaccuracies: + ? 3 206.469 acre-ft/yr

Systematic data handling errors: + ? 25.293 acre-ft/yr

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

Apparent Losses: ? 258.877 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? 443.008 acre-ft/yr

WATER LOSSES: 701.885 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: ? 729.000 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains: + ? 6 271.0 miles

Number of active AND inactive service connections: + ? 8 19,789

Service connection density: ? 73 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 90.0 psi

COST DATA

Total annual cost of operating water system: + ? 10 \$9,247,000 \$/Year

Customer retail unit cost (applied to Apparent Losses): + ? 8 \$0.99 \$/100 cubic feet (ccf)

Variable production cost (applied to Real Losses): + ? 5 \$190.31 \$/acre-ft

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 63 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: Water imported

2: Customer metering inaccuracies

3: Billed metered



AWWA Free Water Audit Software:
System Attributes and Performance Indicators

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Water Audit Report for: **Citrus Heights Water District (CA3410006)**

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

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 63 out of 100 ***

System Attributes:

	Apparent Losses:	258.877	acre-ft/yr
	+ Real Losses:	443.008	acre-ft/yr
	= Water Losses:	701.885	acre-ft/yr
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">?</div> <div>Unavoidable Annual Real Losses (UARL):</div> <div style="border: 1px solid black; flex-grow: 1; text-align: right;">447.05</div> <div style="text-align: right;">acre-ft/yr</div> </div>			
		\$111,312	
		\$84,309	Valued at Variable Production Cost
Return to Reporting Worksheet to change this assumption			

Performance Indicators:

Financial:

{

Non-revenue water as percent by volume of Water Supplied: 6.7%

Non-revenue water as percent by cost of operating system: 2.2%

Real Losses valued at Variable Production Cost

{

Apparent Losses per service connection per day: 11.68 gallons/connection/day

Real Losses per service connection per day: 19.99 gallons/connection/day

Real Losses per length of main per day*: N/A

Real Losses per service connection per day per psi pressure: 0.22 gallons/connection/day/psi


From Above, Real Losses = Current Annual Real Losses (CARL): 443.01 acre-feet/year

?

 Infrastructure Leakage Index (ILI) [CARL/UARL]: 0.99

* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

AWWA Free Water Audit Software: Reporting Worksheet										WAS v5.0 American Water Works Association Copyright © 2014, All Rights Reserved.	
<div style="display: flex; justify-content: space-between;"> <div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">?</div> <div style="border: 1px solid #ccc; padding: 2px;">Click to access definition</div> </div> <div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">+</div> <div style="border: 1px solid #ccc; padding: 2px;">Click to add a comment</div> </div> </div>		Water Audit Report for: Citrus Heights Water District (CA3410006)									
		Reporting Year: 2017		1/2017 - 12/2017							
<p style="font-size: x-small;">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</p> <p style="text-align: center; color: red; font-weight: bold;">All volumes to be entered as: ACRE-FEET PER YEAR</p>											
<p style="font-size: x-small;">To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds <u>all</u> criteria for that grade and all grades below it.</p>											
WATER SUPPLIED				<----- Enter grading in column 'E' and 'J' ----->				Master Meter and Supply Error Adjustments			
				Volume from own sources: + ? 5 713.000 acre-ft/yr				Pcnt: + ? 8 0.00% Value: ● ○ acre-ft/yr			
				Water imported: + ? 6 10,910.140 acre-ft/yr				+ ? 3 0.00% ● ○ acre-ft/yr			
				Water exported: + ? n/a 0.000 acre-ft/yr				+ ? ● ○ acre-ft/yr			
WATER SUPPLIED:				11,623.140				acre-ft/yr			
AUTHORIZED CONSUMPTION								Click here: ? for help using option buttons below			
				Billed metered: + ? 5 11,014.520 acre-ft/yr				Pcnt: Value: acre-ft/yr			
				Billed unmetered: + ? n/a 0.000 acre-ft/yr				Use buttons to select percentage of water supplied OR value			
				Unbilled metered: + ? 9 0.490 acre-ft/yr				Pcnt: Value: acre-ft/yr			
				Unbilled unmetered: + ? 5 29.058 acre-ft/yr				1.00% acre-ft/yr			
AUTHORIZED CONSUMPTION:				11,044.068				acre-ft/yr			
WATER LOSSES (Water Supplied - Authorized Consumption)				579.072				acre-ft/yr			
Apparent Losses								Pcnt: 0.25% Value: acre-ft/yr			
				Unauthorized consumption: + ? 29.058 acre-ft/yr				0.25% acre-ft/yr			
Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed											
				Customer metering inaccuracies: + ? 3 111.263 acre-ft/yr				1.00% acre-ft/yr			
				Systematic data handling errors: + ? 27.536 acre-ft/yr				0.25% acre-ft/yr			
Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed											
Apparent Losses:				167.857				acre-ft/yr			
Real Losses (Current Annual Real Losses or CARL)											
Real Losses = Water Losses - Apparent Losses:				411.215				acre-ft/yr			
WATER LOSSES:				579.072				acre-ft/yr			
NON-REVENUE WATER											
NON-REVENUE WATER:				608.620				acre-ft/yr			
= Water Losses + Unbilled Metered + Unbilled Unmetered											
SYSTEM DATA											
				Length of mains: + ? 9 271.0 miles							
				Number of <u>active AND inactive</u> service connections: + ? 8 19,902							
				Service connection density: ? 73 conn./mile main							
				Are customer meters typically located at the curbside or property line? Yes				(length of service line, <u>beyond</u> 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 85.0 psi							
COST DATA											
				Total annual cost of operating water system: + ? 10 \$9,879.662 \$/Year							
				Customer retail unit cost (applied to Apparent Losses): + ? 10 \$0.99 \$/100 cubic feet (ccf)							
				Variable production cost (applied to Real Losses): + ? 5 \$247.95 \$/acre-ft				<input type="checkbox"/> Use Customer Retail Unit Cost to value real losses			
WATER AUDIT DATA VALIDITY SCORE:											
*** YOUR SCORE IS: 64 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: Water imported											
2: Customer metering inaccuracies											
3: Billed metered											



AWWA Free Water Audit Software:
System Attributes and Performance Indicators

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Water Audit Report for: Citrus Heights Water District (CA3410006)

Reporting Year: 2017 1/2017 - 12/2017

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 64 out of 100 ***

System Attributes:


	Apparent Losses:	167.857	acre-ft/yr
	+ Real Losses:	411.215	acre-ft/yr
	= Water Losses:	579.072	acre-ft/yr
?	Unavoidable Annual Real Losses (UARL):	423.83	acre-ft/yr
	Annual cost of Apparent Losses:	\$72,175	
	Annual cost of Real Losses:	\$101,961	Valued at Variable Production Cost

Return to Reporting Worksheet to change this assumption

Performance Indicators:

Financial:	{	Non-revenue water as percent by volume of Water Supplied:	5.2%	
		Non-revenue water as percent by cost of operating system:	1.8%	Real Losses valued at Variable Production Cost
Operational Efficiency:	{	Apparent Losses per service connection per day:	7.53	gallons/connection/day
		Real Losses per service connection per day:	18.45	gallons/connection/day
		Real Losses per length of main per day*:	N/A	
		Real Losses per service connection per day per psi pressure:	0.22	gallons/connection/day/psi
		From Above, Real Losses = Current Annual Real Losses (CARL):	411.22	acre-feet/year
		?	Infrastructure Leakage Index (ILI) [CARL/UARL]:	0.97

* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline



**AWWA Free Water Audit Software:
Reporting Worksheet**

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Water Audit Report for: Citrus Heights Water District (CA3410006)

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 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: ACRE-FEET PER YEAR

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

WATER SUPPLIED

	Grade	Value	Unit
Volume from own sources:	3	1,842.330	acre-ft/yr
Water imported:	6	9,940.600	acre-ft/yr
Water exported:	n/a	0.000	acre-ft/yr
WATER SUPPLIED:		11,782.930	acre-ft/yr

AUTHORIZED CONSUMPTION

	Grade	Value	Unit
Billed metered:	7	11,167.000	acre-ft/yr
Billed unmetered:	n/a	0.000	acre-ft/yr
Unbilled metered:	5	0.000	acre-ft/yr
Unbilled unmetered:	5	29.457	acre-ft/yr
AUTHORIZED CONSUMPTION:		11,196.457	acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

586.473 acre-ft/yr

Apparent Losses

Unauthorized consumption:	29.457	acre-ft/yr
Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed		
Customer metering inaccuracies:	3	345.371
Systematic data handling errors:	5	27.918
Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed		
Apparent Losses:	402.746	acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: **183.727** acre-ft/yr

WATER LOSSES: **586.473** acre-ft/yr

Master Meter and Supply Error Adjustments

Pcnt:	Value:	Unit
5	0.00%	acre-ft/yr
3	0.00%	acre-ft/yr
		acre-ft/yr

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

Click here: [?](#) for help using option buttons below

Pcnt: ☐ 0 ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

Value: acre-ft/yr

Use buttons to select percentage of water supplied OR value

Pcnt: ☒ 0.25% ☐ 0.50% ☐ 1.00% ☐ 1.50% ☐ 2.00% ☐ 2.50% ☐ 3.00% ☐ 3.50% ☐ 4.00% ☐ 4.50% ☐ 5.00%

Value: acre-ft/yr

Value: acre-ft/yr

Value: acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: **615.930** acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	3	271.0	miles
Number of <u>active AND inactive</u> service connections:	8	21,006	
Service connection density:		78	conn./mile main

Are customer meters typically located at the curbside or property line? ☒ Yes (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line: (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: psi

COST DATA

Total annual cost of operating water system:	10	\$12,155,090	\$/Year
Customer retail unit cost (applied to Apparent Losses):	9	\$1.02	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	6	\$312.94	\$/acre-ft

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 62 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: Water imported

2: Customer metering inaccuracies

3: Volume from own sources



AWWA Free Water Audit Software:
System Attributes and Performance Indicators

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Water Audit Report for: **Citrus Heights Water District (CA3410006)**

Reporting Year: **2018** | **1/2018 - 12/2018**

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 62 out of 100 ***

System Attributes:

	Apparent Losses:	402.746	acre-ft/yr
	+ Real Losses:	183.727	acre-ft/yr
	= Water Losses:	586.473	acre-ft/yr
<div style="display: flex; align-items: center;"> <div style="background-color: #4f81bd; color: white; padding: 2px 5px; margin-right: 5px;">?</div> Unavoidable Annual Real Losses (UARL): </div> <div style="display: flex; justify-content: flex-end; align-items: center;"> <div style="text-align: right;">465.45</div> <div style="text-align: right;">acre-ft/yr</div> </div>			
	Annual cost of Apparent Losses:	\$178,945	
	Annual cost of Real Losses:	\$57,496	Valued at Variable Production Cost
			Return to Reporting Worksheet to change this assumption

Performance Indicators:

Financial: {


Operational Efficiency: {

Non-revenue water as percent by volume of Water Supplied:	5.2%	
Non-revenue water as percent by cost of operating system:	2.0%	Real Losses valued at Variable Production Cost
<div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <p>Apparent Losses per service connection per day:</p> <p>Real Losses per service connection per day:</p> <p>Real Losses per length of main per day*:</p> <p>Real Losses per service connection per day per psi pressure:</p> </div> <div style="width: 30%;"> <p style="text-align: right;">17.12</p> <p style="text-align: right;">7.81</p> <p style="text-align: right;">N/A</p> <p style="text-align: right;">0.09</p> </div> <div style="width: 30%; text-align: right;"> <p>gallons/connection/day</p> <p>gallons/connection/day</p> <p>N/A</p> <p>gallons/connection/day/psi</p> </div> </div>		
From Above, Real Losses = Current Annual Real Losses (CARL):		183.73 acre-feet/year
<div style="display: flex; align-items: center;"> <div style="background-color: #4f81bd; color: white; padding: 2px 5px; margin-right: 5px;">?</div> Infrastructure Leakage Index (ILI) [CARL/UARL]: </div>		0.39

* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

CHWD 2020 UWMP

Appendix E.4 - 2019 Validated Water Loss Audit



AWWA Free Water Audit Software: Reporting Worksheet

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[+](#) Click to add a comment

Water Audit Report for: Citrus Heights Water District (CA3410006)

Reporting Year: 2019 1/2019 - 12/2019

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: ACRE-FEET PER YEAR

WATER SUPPLIED

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.

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

Volume from own sources:	+	?	3	359.000	acre-ft/yr
Water imported:	+	?	8	11,068.000	acre-ft/yr
Water exported:	+	?	n/a	0.000	acre-ft/yr

WATER SUPPLIED: 11,605.825 acre-ft/yr

Master Meter and Supply Error Adjustments

Pcnt:	8	0.00%	●	○	Value:		acre-ft/yr
	8	-1.59%	●	○			acre-ft/yr
	8		●	○			acre-ft/yr

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

AUTHORIZED CONSUMPTION

Billed metered:	+	?	6	11,011.380	acre-ft/yr
Billed unmetered:	+	?	n/a	0.000	acre-ft/yr
Unbilled metered:	+	?	n/a	0.000	acre-ft/yr
Unbilled unmetered:	+	?	7	22.000	acre-ft/yr

AUTHORIZED CONSUMPTION: 11,033.380 acre-ft/yr

Click here: [?](#)
for help using option buttons below

Use buttons to select percentage of water supplied OR value

Pcnt:	○	●	Value:		acre-ft/yr
	0.25%	●			acre-ft/yr
	3.00%	○			acre-ft/yr
	0.25%	●			acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

572.445

Apparent Losses

29.015

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

340.558

27.528

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

397.101

Real Losses (Current Annual Real Losses or CARL)

175.343

572.445

29.015

340.558

27.528

397.101

175.343

572.445

NON-REVENUE WATER

594.445

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

271.0

21,006

78

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

90.0

594.445

271.0

21,006

78

90.0

COST DATA

\$13,790,560

\$1.07

\$333.89

\$13,790,560

\$1.07

\$333.89

*** YOUR SCORE IS: 72 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:

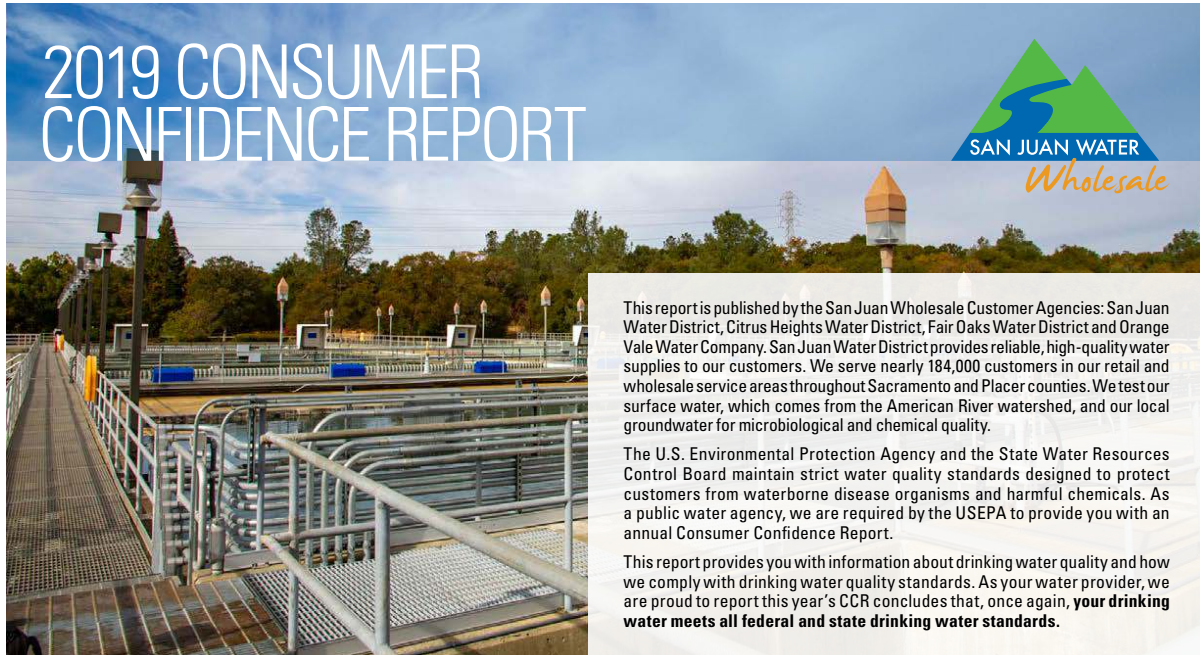
1: Water imported

2: Billed metered

3: Customer metering inaccuracies

AWWA Free Water Audit Software: System Attributes and Performance Indicators		WAS v5.0 American Water Works Association Copyright © 2014. All Rights Reserved.
Water Audit Report for: Citrus Heights Water District (CA3410006) Reporting Year: 2019 1/2019 - 12/2019		
*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 72 out of 100 ***		
System Attributes:		
	Apparent Losses:	397.101 acre-ft/yr
	+ Real Losses:	175.343 acre-ft/yr
	= Water Losses:	572.445 acre-ft/yr
?	Unavoidable Annual Real Losses (UARL):	465.45 acre-ft/yr
	Annual cost of Apparent Losses:	\$185,086
	Annual cost of Real Losses:	\$58,545 Valued at Variable Production Cost
Return to Reporting Worksheet to change this assumption		
Performance Indicators:		
Financial:	{	Non-revenue water as percent by volume of Water Supplied: 5.1%
		Non-revenue water as percent by cost of operating system: 1.8% Real Losses valued at Variable Production Cost
Operational Efficiency:	{	Apparent Losses per service connection per day: 16.88 gallons/connection/day
		Real Losses per service connection per day: 7.45 gallons/connection/day
		Real Losses per length of main per day*: N/A
		Real Losses per service connection per day per psi pressure: 0.08 gallons/connection/day/psi
		From Above, Real Losses = Current Annual Real Losses (CARL): 175.34 acre-feet/year
?	Infrastructure Leakage Index (ILI) [CARL/UARL]:	0.38
* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline		

Appendix F: Consumer Confidence Report (2019)



This report is published by the San Juan Wholesale Customer Agencies: San Juan Water District, Citrus Heights Water District, Fair Oaks Water District and Orange Vale Water Company. San Juan Water District provides reliable, high-quality water supplies to our customers. We serve nearly 184,000 customers in our retail and wholesale service areas throughout Sacramento and Placer counties. We test our surface water, which comes from the American River watershed, and our local groundwater for microbiological and chemical quality.

The U.S. Environmental Protection Agency and the State Water Resources Control Board maintain strict water quality standards designed to protect customers from waterborne disease organisms and harmful chemicals. As a public water agency, we are required by the USEPA to provide you with an annual Consumer Confidence Report.

This report provides you with information about drinking water quality and how we comply with drinking water quality standards. As your water provider, we are proud to report this year's CCR concludes that, once again, **your drinking water meets all federal and state drinking water standards.**

WHERE DOES YOUR WATER COME FROM?

Water from the Agencies comes from two sources: treated surface water and groundwater. San Juan Water District diverts and treats surface water from Folsom Lake. This treated water is then distributed to the Agencies. Orange Vale Water Company and San Juan Water District receive 100 percent of their supply from treated surface water. If you are a consumer of Citrus Heights or Fair Oaks Water Districts, your water is a mixture of treated surface water from San Juan Water District and groundwater from local wells.

SJWD – 100% surface water
OVWC – 100% surface water
CHWD – 97% surface water, 3% groundwater
FOWD – 77.25% surface water, 22.75% groundwater

Source water assessments have been conducted for all the water sources to enable the Agencies to understand the activities that have the greatest potential for contaminating the drinking water supplies. The groundwater sources were assessed in 2002 and the surface water source was evaluated in 2001. New wells for Citrus Heights Water District were assessed in 2008, 2009, and 2015. A new well for Fair Oaks Water District was assessed in 2014. These assessments were conducted in accordance with State Water Board guidelines and copies of the complete assessments are available for review at the respective agency offices.

San Juan Water District conducted the evaluation of the Folsom Lake source. It was found to be most vulnerable to potential contamination from the Folsom Lake State Recreation Area facilities, high-density housing and associated activities such as sewer and septic systems and fertilizer, pesticide and herbicide application, as well as illegal activities and dumping. The source water is typically treated using conventional treatment with filtration and disinfection that is designed to remove many contaminants. Again this year, your water meets all federal and state drinking water standards.

Citrus Heights and Fair Oaks water districts conducted assessments of their local groundwater wells. It was found that all the wells are vulnerable to commercial urban activities, such as active and historic gas stations, dry cleaners, leaking underground storage tanks, known contaminant plumes, automobile repair shops, and sewer collection systems, none of which are associated with any detected contaminants. One well for Fair Oaks Water District was found to be vulnerable to irrigation, associated with low level detects of nitrate.

Although Orange Vale Water Company does not currently utilize available local groundwater, assessments found that wells within their service area would be most vulnerable to rural grazing activities.

WHAT'S IN YOUR WATER?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in the source water include:

- Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive contaminants, that can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Water Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Water Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline (1-800-426-4791).

A NOTE FOR SENSITIVE POPULATIONS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. U.S. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

GENERAL INFORMATION ON LEAD

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The San Juan Family Agencies are responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at epa.gov/lead.

The San Juan Family Agencies also conducts lead tap sampling in schools if requested. None was requested in 2019.

KEY TO ABBREVIATIONS

PPB	parts per billion or micrograms per liter (µg/L)
PPM	parts per million or milligrams per liter (mg/L)
pCi/L	picocuries per liter
NTU	nephelometric turbidity units
µS/CM	microsiemens per centimeter
ND	not detected
NR	not required
N/A	not applicable

WATER QUALITY DEFINITIONS

Maximum Contaminant Level (MCL) — The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Public Health Goal (PHG) — The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG) — The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL) — The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) — The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Primary Drinking Water Standard (PDWS) — MCLs, MRDLs and Treatment Techniques (TT) for contaminants that affect health, along with their monitoring and reporting requirements.

Treatment Technique (TT) — A required process intended to reduce the level of a contaminant in drinking water.

Regulatory Action Level (AL) — The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Notification Level (NL) — Health-based advisory level set by the State Water Board for constituents with no MCL. This is not an enforceable standard, although requirements and recommendations may apply if detected above this level.

UNREGULATED CONTAMINANT MONITORING RULE (UCMR) RESULTS

USEPA requires public water systems to collect data for unregulated constituents in drinking water supplies under the Unregulated Contaminant Monitoring Rule program. Currently, these constituents have no drinking water standards but may be regulated in the future. The third round (UCMR3) was conducted from 2013 – 2015 and the fourth round (UCMR4) will be conducted from 2018 – 2020.

More information on the UCMR3 round can be found at epa.gov/dwucmr/third-unregulated-contaminant-monitoring-rule. Citrus Heights Water District and Fair Oaks Water District conducted sampling in 2014, while Orange Vale Water Company and San Juan Water District conducted sampling in 2015. Several constituents were detected, none at any level of human health concern.

Constituent	Range (ug/L)	Average (ug/L)	Human Health Advisory	Potential Sources
HCFC-22 (chlorodifluoromethane)	ND-0.11 ¹	ND ¹	None	Refrigerant and propellant
Vanadium	1.1-11 ¹ 0.52-8.1 ² 0.47-1.0 ³ 0.63-1.2 ⁴	7.2 ¹ 3.4 ² 0.67 ³ 1 ⁴	State Water Board Notification Level – 50 ug/L	Naturally-occurring metal
Molybdenum	ND-1 ¹ ND-1.7 ²	ND ^{1,2}	USEPA Lifetime Health Advisory – 40 ug/L	Naturally-occurring metal
Strontium	46-460 ¹ 46-220 ² 52-64 ³ 46-59 ⁴	245 ¹ 120 ² 59.8 ³ 53 ⁴	USEPA Lifetime Health Advisory – 4,000 ug/L	Naturally-occurring metal
Hexavalent Chromium	0.056 – 2.3 ¹ 0.035 – 0.47 ² 0.067 – 0.09 ³	1.41 ¹ 0.17 ² 0.08 ³	Public Health Goal – 0.02 ug/L	Naturally-occurring metal
Chlorate	ND-40 ¹ ND-240 ²	ND ¹ 37 ²	State Water Board Notification Level – 800 ug/L	Oxidant used in pyrotechnics and possible by-product of water treatment
Testosterone	ND-0.00013 ¹	ND ¹	None	Mammalian hormone

1 – Citrus Heights Water District (wells, treated surface water from SJWD, and distribution system - 2014)

2 – Fair Oaks Water District (wells, treated surface water from SJWD, and distribution system - 2014)

3 – SJWD (treated surface water and distribution system - 2015)

4 – Orange Vale Water Company (treated surface water from SJWD and distribution system - 2015)

More information on the UCMR4 round can be found at epa.gov/dwucmr/fourth-unregulated-contaminant-monitoring-rule. Fair Oaks Water District was required to monitor in 2018, while San Juan Water District, Citrus Heights Water District, and Orange Vale Water Company conducted sampling in 2019. Several constituents were detected, none at any level of human health concern.

Constituent	Range (ug/L)	Average (ug/L)	Human Health Advisory	Potential Sources
Manganese	ND – 1.9 ¹ ND – 3.24 ² 1.8 – 9.92 ³ 0.56 – 4.9 ⁴	1.9 ¹ 1.05 ² 3.81 ³ 2.72 ⁴	USEPA Lifetime Health Advisory - 300 ug/L State Board Notification Level – 500 ug/L	Naturally-occurring metal
HAA5	ND - 25 ¹ 18.97 – 31.6 ² 19.46 – 21.22 ³ 22.8 – 33 ⁴	6.7 ¹ 21.14 ² 20 ³ 27.1 ⁴	State Water Board Maximum Contaminant Level – 60 ug/L	By-product of drinking water disinfection
HAA6Br	ND – 1.44 ⁴	1.03 ⁴	None	By-product of drinking water disinfection
HAA9	ND - 17 ¹ 15.57 – 32.62 ² 20.04 – 22.21 ³ 23.42 – 34.38 ⁴	14.5 ¹ 24.66 ² 20.85 ³ 28.11 ⁴	None	By-product of drinking water disinfection
Bromide	ND - 32 ¹	24.7 ¹	None	Naturally-occurring compound

1 – Fair Oaks Water District (wells, treated surface water from SJWD, and distribution system – 2018 and 2019)

2 – SJWD (treated surface water and distribution system - 2019)

3 – Citrus Heights Water District (wells, treated surface water from SJWD, and distribution system - 2019)

4 – Orange Vale Water Company (treated surface water from SJWD and distribution system - 2019)

SAN JUAN WHOLESALE CUSTOMER AGENCIES – 2019 TABLE OF DETECTED CONSTITUENTS

DETECTED PRIMARY DRINKING WATER CONSTITUENTS regulated to protect your health													
CONSTITUENT	UNITS	PHG or (MCLG) or (MRDLG)	MCL or (MRDL)	San Juan Surface Water Including Orange Vale Water Company(a)			Citrus Heights Groundwater			Fair Oaks Groundwater			MAJOR SOURCES
				RANGE	AVERAGE	YEAR SAMPLED	RANGE	AVERAGE	YEAR SAMPLED	RANGE	AVERAGE	YEAR SAMPLED	
Arsenic	PPB	0.004	10	ND	ND	2019	ND - 2.2	ND	2016, 2019	ND - 4.6	ND	2019	Erosion of natural deposits; runoff from orchards; glass and electronics production waste
Barium	PPM	2	1	ND	ND	2019	ND - 0.11	ND	2016, 2019	ND	ND	2019	Erosion of natural deposits and wastes from metal refineries
Fluoride	PPM	1	2.0	ND	ND	2019	ND - 0.18	0.11	2016, 2019	ND - 0.11	ND	2014	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (as N)	PPM	10	10	ND	ND	2019	ND - 2.8	2.4	2019	ND	ND	2019	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Uranium	pCi/L	0.43	20	NR	N/A	N/A	ND - 1.3	ND	2017	ND	ND	2018	Erosion of natural deposits
Chlorine Residual - distribution system	PPM	[4]	[4]	0.35 - 0.9 (0.3 - 0.93)	0.68 (0.59)	2019	0.31 - 1.11	0.68	2019	0.19 - 0.87	0.49	2019	Drinking water disinfectant added for treatment
Total Trihalomethanes - distribution system	PPB	N/A	80	37 - 60 (26 - 64)	47 (57)	2019	ND - 49	41	2019	ND - 49	45.0	2019	By-product of drinking water disinfection
Haloacetic Acids - distribution system	PPB	N/A	60	20 - 36 (15 - 37)	27 (34)	2019	ND - 32	19	2019	ND - 29	30.5	2019	By-product of drinking water disinfection
Control of Disinfection By-Product Precursors (TOC) (treated water) (b)	PPM	N/A	TT = 2	0.81 - 1.67	1.13	2019	NR	N/A	N/A	NR	N/A	N/A	Various natural and manmade sources
CONSTITUENT	UNITS	PHG OR (MCLG)	MCL	LEVEL FOUND		YEAR SAMPLED	LEVEL FOUND		YEAR SAMPLED	LEVEL FOUND		YEAR SAMPLED	MAJOR SOURCES
Turbidity (b)	NTU	N/A	TT = 1 NTU	0.041		2019	NR		N/A	NR		N/A	Soil runoff
	% Samples	N/A	TT = ≤0.3 NTU	100		2019	NR		N/A	NR		N/A	
CONSTITUENT	UNITS	PHG OR (MCLG)	AL	90th PERCENTILE	# SAMPLED/ # EXCEED AL	YEAR SAMPLED	90th PERCENTILE	# SAMPLED/ # EXCEED AL	YEAR SAMPLED	90th PERCENTILE	# SAMPLED/ # EXCEED AL	YEAR SAMPLED	MAJOR SOURCES
Lead (c)	PPB	0.2	15	ND (ND)	30/1 (30/1)	2018 (2018)	ND	30/0	2018	ND	31/0	2019	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper	PPM	0.3	1.3	0.067 (0.11)	30/0 (30/0)	2018 (2018)	0.095	30/0	2018	0.063	31/0	2019	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
DETECTED SECONDARY DRINKING WATER CONSTITUENTS regulated for aesthetic qualities													
CONSTITUENT	UNITS	PHG or (MCLG)	MCL	San Juan Surface Water Including Orange Vale Water Company			Citrus Heights Groundwater			Fair Oaks Groundwater			MAJOR SOURCES
				RANGE	AVERAGE	YEAR SAMPLED	RANGE	AVERAGE	YEAR SAMPLED	RANGE	AVERAGE	YEAR SAMPLED	
Total Dissolved Solids	PPM	N/A	1,000	30	30	2019	220 - 260	245	2016, 2019	110 - 190	140	2019	Runoff/leaching from natural deposits
Specific Conductance	µS/CM	N/A	1,600	50 - 98	64.8	2019	280 - 360	325	2016, 2019	120 - 240	182	2018	Substances that form ions when in water
Sulfate	PPM	N/A	500	3.8	3.8	2019	8.4 - 12	10.6	2016, 2019	4.3 - 15	8.45	2019	Runoff/leaching from natural deposits
Chloride	PPM	N/A	500	1.8	1.8	2019	12 - 18	15.5	2016, 2019	3.2 - 7.4	4.4	2019	Runoff/leaching from natural deposits
Turbidity	NTU	N/A	5	0.019 - 0.041	0.023	2019	ND - 0.1	ND	2016, 2019	ND	ND	2019	Soil runoff
DETECTED UNREGULATED DRINKING WATER CONSTITUENTS (d)													
CONSTITUENT	UNITS	PHG or (MCLG)	NL	San Juan Surface Water Including Orange Vale Water Company			Citrus Heights Groundwater			Fair Oaks Groundwater			MAJOR SOURCES
				RANGE	AVERAGE	YEAR SAMPLED	RANGE	AVERAGE	YEAR SAMPLED	RANGE	AVERAGE	YEAR SAMPLED	
Bicarbonate Alkalinity	PPM	N/A	NONE	13	13	2019	130 - 180	150	2016, 2019	54 - 93	74	2019	Bicarbonate alkalinity is the measure of the capacity of water or any solution to neutralize or "buffer" acids, represented as the bicarbonate ion.
Hardness	PPM	N/A	NONE	12	12	2019	110 - 150	132.5	2016, 2019	47 - 83	65	2019	Hardness is the sum of polyvalent cations present in the water, generally naturally occurring magnesium and calcium.
Sodium	PPM	N/A	NONE	1.6	1.6	2019	16 - 22	19	2016, 2019	4.9 - 17	9.1	2019	Naturally occurring salt in the water
Calcium	PPM	N/A	NONE	3.3	3.3	2019	24 - 33	29.25	2016, 2019	12 - 21	16	2019	Erosion of natural deposits
Magnesium	PPM	N/A	NONE	1	1	2019	12 - 16	14.25	2016, 2019	4.2 - 8.3	6.3	2019	Erosion of natural deposits

- (a)—Data for OVWC Distribution System is shown in parenthesis.
 (b)—Only surface water sources must comply with PDWS for Control of Disinfection By-Product Precursors and turbidity. Turbidity is a measure of the cloudiness of water. We monitor for it because it is a good indicator of the effectiveness of our filtration system.
 (c)—No schools requested any of the family agencies conduct monitoring for lead in 2019
 (d)—Unregulated contaminant monitoring helps determine where certain contaminants occur and whether they need to be regulated.
 The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.



2019 CONSUMER CONFIDENCE REPORT
Yearly Water Quality Report

San Juan Wholesale Customer Agencies
P.O. Box 2157
Granite Bay, CA 95746

Board of Directors
Edward J. "Ted" Costa Marty Hanneman
Kenneth H. Miller Dan Rich
Pamela Tobin

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. Favor de comunicarse San Juan Family Agency para asistirlo en español.

Этот отчет содержит важную информацию о вашей питьевой воде. Пожалуйста, свяжитесь с San Juan Family Agency для получения помощи на русском языке.



CONTACT US

If you have any questions about this report or your water supply, please contact your local water provider.
Each of the member agencies holds monthly board meetings that are open to the public as indicated below.



Contact Person:
Brian Hensley
(916) 725-6873
bhensley@chwd.org
chwd.org

Board Meetings:
3rd Wednesday each month
6:30 p.m.
6230 Sylvan Road
Citrus Heights



Contact Person:
Michael Nisenboym, P.E.
(916) 844-3513
mnisenboym@fowd.com
fowd.com

Board Meetings:
2nd Monday every month
6:30 p.m.
10326 Fair Oaks Boulevard
Fair Oaks



Contact Person:
Mark Dubose
(916) 988-1693
mdubose@orangevalewater.com
orangevalewater.com

Board Meetings:
1st Tuesday each month
4:00 p.m.
9031 Central Avenue
Orangevale



Contact Person:
Greg Turner
(916) 791-1715
gturner@sjwd.org
sjwd.org

Board Meetings:
4th Wednesday each month
6:00 p.m.
9935 Auburn-Folsom Road
Granite Bay

LEARN MORE ABOUT YOUR WATER AT SJWD.ORG

Appendix G: References

- City of Citrus Heights. Citrus Heights General Plan. August 2020.
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