



FINAL MAY 2017

OLIVEHURST PUBLIC UTILITY DISTRICT

# 2015 Urban Water Management Plan



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# 2015 Urban Water Management Plan

Prepared for

## Olivehurst Public Utility District

Project #749-12-16-01



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May 18, 2017

Date

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May 18, 2017

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### List of Acronyms and Abbreviations

AB	Assembly Bill
AC	Asbestos Cement
Act	Urban Water Management Planning Act
AFY	Acre-Feet Per Year
AWWA	American Water Works Association
Baseline GPCD	Baseline Gallons Per Capita Per Day
BE	Bookman-Edmonston Engineering
bgs	Below Ground Surface
BMPs	Best Management Practices
CASGEM	California Statewide Groundwater Elevation Monitoring
CDP	Census Designated Places
CDPH	California Department of Public Health
CII	Commercial Industrial Institutional
CIMIS	California Irrigation Management Information System
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
District	Olivehurst Public Utilities District
DMMs	Demand Management Measures
DWR	Department of Water Resources
DWR Guidebook	2015 Urban Water Management Plans Guidebook for Urban Water Suppliers
ET <sub>o</sub>	Reference Evapotranspiration
GPCD	Gallons Per Capita Per Day
gpd/ft	Gallons Per Day Per Foot
GPM	Gallons Per Minute
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan



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KASL	KASL Consulting Engineers
LCWD	Linda County Water District
MCL	Maximum Contaminated Level
MG	Million Gallons
MGD	Million Gallons Per Day
MGY	Million Gallons Per Year
MOU	Memorandum of Understanding
NAICS	North American Industry Classification System
PG&E	Pacific Gas & Electric
SB X7-7	Water Conservation Act of 2009 (Senate Bill X7-7)
SCADA	Supervisory Control and Data Acquisition
SGMA	Sustainable Groundwater Management Act of 2014
SWRCB	State Water Resources Control Board
ULFT	Ultra-Low Flush Toilet
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
West Yost	West Yost Associates
WSCP	Water Shortage Contingency Plan
WUE	Water Use Efficiency
WWTP	Wastewater Treatment Plant
YCWA	Yuba County Water Agency

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## EXECUTIVE SUMMARY

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### ES.1 INTRODUCTION

Over the last several years, Urban Water Management Plans (UWMPs) have assumed a very important role in water supply planning and management for communities in California. UWMPs have become the foundational documents which cities and water agencies use to develop water supply assessments and other key water supply reliability documents in support of providing water service to existing customers and future development in accordance with adopted General Plans and established Spheres of Influence.

With the recent unprecedented water supply conditions in California, development of the 2015 UWMPs comes at a pivotal time. Recent drought conditions resulted in State mandates for water conservation and led to the passage of the Sustainable Groundwater Management Act of 2014. These actions have impacted all water suppliers and all water users in the State. With the improving economy statewide, the need for reliable water supplies to serve existing customers, as well as new development, is more critical than ever. Also, 2015 was the first compliance year for the interim per capita water use targets required by the Water Conservation Act of 2009 (SB X7-7).

As described in this 2015 UWMP, the Olivehurst Public Utility District (District) residents and businesses have responded positively to the call for water conservation and the District continues to be committed to the implementation of good water management practices to ensure that adequate, reliable water supplies are available to meet existing and projected demands. The District has met its interim 2015 per capita water use target and is well positioned to meet the final 2020 per capita water use target.

### ES.2 WATER CODE REQUIREMENTS

The Urban Water Management Planning Act (UWMP Act) requires water suppliers that provide over 3,000 acre-feet per year (AFY) or have over 3,000 connections to prepare and submit to the State Department of Water Resources (DWR) an Urban Water Management Plan every 5 years.

The UWMP Act has been modified over the years in response to the State's water shortages, droughts and other factors. A significant amendment was made in 2009, after the 2007 to 2009 drought, and as a result of the Governor's call for a statewide 20 percent reduction in urban water use by the year 2020. This was the Water Conservation Act of 2009, also known as SB X7-7. This act required agencies to establish per capita water use targets for 2015 and 2020 that would result in statewide water savings of 20 percent by 2020.

The primary objective of the UWMP Act is to direct "urban water suppliers" to develop an UWMP which provides a framework for long-term water supply planning and documents how urban water suppliers are carrying out their long-term resource planning responsibilities to ensure adequate water supplies are available to meet existing and future water demands.

In fiscal year (FY) 2015, the District supplied approximately 1,012 million gallons (MG) (equivalent to 3,106 AFY) of potable water to approximately 6,585 connections located within its water service area. The District is therefore considered an urban water supplier and is required to submit an UWMP. This 2015 UWMP describes the District water system, historical and projected



## Executive Summary

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water use, water supply sources, and a comparison of projected water supply to water demands during normal, single-dry, and multiple-dry years in five-year increments from 2020 to 2040. As required by SB X7-7, this 2015 UWMP also confirms the District's 2015 and 2020 per capita water use targets, verifies the District's compliance with the interim 2015 per capita water use target, and describes the District's implementation plan for meeting the District's final 2020 per capita water use target.

The District's 2015 UWMP (or Plan) has been prepared in accordance with the UWMP Act, as defined by the California Water Code, Division 6, Part 2.6, Sections 10610 through 10656 (Urban Water Management Planning), and the Water Conservation Act of 2009 (also known as SB X7-7), as defined by California Water Code, Division 6, Part 2.55, Section 10608 (Sustainable Water Use and Demand Reduction). A copy of the relevant sections of the Water Code are included in Appendix A of this document.

A brief summary of this 2015 UWMP's contents and the public review and adoption process is provided below, following a discussion of the legislative changes that have been enacted since the 2010 UWMPs were prepared and adopted.

### ES.3 LEGISLATIVE CHANGES FROM 2010 UWMP

The legislative changes to the UWMP Act are described in Chapter 1. Some highlighted changes include:

- Demand Management Measures: Address the nature and extent of each water demand management measure implemented over the past 5 years in narrative form.
- 2015 UWMP Submittal Date to DWR: Changed from December 31, 2015 to July 1, 2016.
- Water Loss: Requires water suppliers to quantify and report on distribution system water loss using the American Water Works Association (AWWA) Water Audit methodology.
- Voluntary Reporting of Passive Savings: Due to new water codes and requirements.
- Voluntary Reporting of Energy Intensity: Describe the water/energy nexus.
- Defining Water Features: Water Shortage Contingency Plans must distinguish between water features that are artificially supplied with water (including ponds, lakes, waterfalls, and fountains) and swimming pools and spas.

### ES.4 PLAN ORGANIZATION

This 2015 UWMP contains the appropriate sections and tables required per California Water Code Division 6, Part 2.6 (Urban Water Management Planning Act), included in Appendix A of this 2015 UWMP, and has been prepared based on guidance provided by the California Department of Water Resources (DWR) in their March 2016 "2015 Urban Water Management Plans, Guidebook for Urban Water Suppliers" (DWR Guidebook).



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

This 2015 UWMP is organized into the following chapters:

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

Appendices (listed in Chapter 1) provide relevant supporting documents, including the 2015 UWMP tables and SB X7-7 Verification Form.

### ES.5 PLAN REVIEW AND ADOPTION

The UWMP Act requires the water supplier to coordinate the preparation of its Plan with other appropriate agencies, including other water suppliers that share a common source, water management agencies, and relevant public agencies. These agencies, as well as the public, participated in the coordination and preparation of this 2015 UWMP. The District's coordination and outreach are described in Chapter 2.

A public hearing to discuss the Draft 2015 UWMP was held on May 18, 2017. Public hearings provide an opportunity for all District water users and the general public to become familiar with the Plan and to ask questions about its water supply and the District's continuing plans for providing a reliable, safe, high-quality water supply. The adoption, implementation and economic impact of revised per capita water use targets (described in Chapter 5) was also discussed. Copies of the Draft UWMP were made available for public inspection at the District office and on the District's website.

Water Code Section 10621(b) requires agencies to notify the cities and counties to which they serve water that the Plan is being updated and reviewed. This notification must be sent out at least 60 days in advance of the public hearing. In February 2017, a notice of preparation was sent to Yuba County and other stakeholders, to inform them of the District's UWMP update process and schedule and to solicit input for the Plan update. The notifications to cities and counties, the public hearing notifications, and the public hearing and adoption are discussed in Chapter 10 and provided in Appendix D.



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This Plan was adopted by the District's Board of Directors on May 18, 2017. A copy of the adoption resolution is provided in Appendix K.

Within 30 days of Plan adoption, a copy of the Plan was submitted to DWR, the California State Library, and Yuba County.

Within 30 days of submitting the adopted 2015 UWMP to DWR, copies of this 2015 UWMP will be made available during normal business hours at the following location:

- Olivehurst Public Utility District, 1970 9<sup>th</sup> Street, Olivehurst

A copy of the adopted Plan will also be available for review and download on the District's website ([www.opud.net](http://www.opud.net)).

Should this Plan be amended or changed, copies of amendments or changes to the Plan shall be submitted to DWR, the California State Library, and Yuba County within 30 days after adoption of the amendment(s).



## **CHAPTER 1**

### **Introduction and Overview**

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This chapter provides an introduction and overview of the Olivehurst Public Utility District (District) 2015 Urban Water Management Plan (UWMP) including the importance and extent of the District’s water management planning efforts, changes since the preparation of the District’s 2010 UWMP, and organization of the District’s 2015 UWMP. This 2015 UWMP has been prepared jointly by District staff and West Yost Associates (West Yost).

#### **1.1 INTRODUCTION**

The Urban Water Management Planning Act (Act) was originally established by Assembly Bill (AB) 797 on September 21, 1983. Passage of the Act was recognition by state legislators that water is a limited resource and a declaration that efficient water use and conservation would be actively pursued throughout the state. The primary objective of the Act is to direct “urban water suppliers” to develop an UWMP which provides a framework for long-term water supply planning and documents how urban water suppliers are carrying out their long-term resource planning responsibilities to ensure adequate water supplies are available to meet existing and future water demands. A copy of the current version of the Act, as incorporated in Sections 10610 through 10656 of the California Water Code (CWC), is provided in Appendix A of this document.

#### **1.2 IMPORTANCE AND EXTENT OF DISTRICT’S WATER MANAGEMENT PLANNING EFFORTS**

The purpose of the UWMP is to provide a planning tool for the District for developing and delivering municipal water supplies to the District’s water service area. Since 1949, the District has been providing water and sewer services for the communities of Olivehurst and Plumas Lake located in Yuba County. Currently, the District receives all of its potable water from groundwater. The District has a contract with the Yuba County Water Agency (YCWA) for the potential use of 2,447 acre-feet per year (AFY) (797 million gallons per year (MGY)) in surface water supplies, but the District does not yet have the infrastructure to put the contracted YCWA surface water to use. To continue to meet the water needs of the community, the District carefully manages its available water resources. The District’s UWMP is a comprehensive guide for planning for a safe and adequate water supply.

#### **1.3 CHANGES FROM THE 2010 UWMP**

The Urban Water Management Planning Act has been modified over the years in response to the State’s water shortages, droughts and other factors. A significant amendment was made in 2009, after the 2007 to 2009 drought, and as a result of the Governor’s call for a statewide 20 percent reduction in urban water use by the year 2020. This was the Water Conservation Act of 2009, also known as Senate Bill X7-7 (SB X7-7). SB X7-7 required agencies to establish per capita water use targets for 2015 and 2020 that would result in statewide water savings of 20 percent by 2020.



# Chapter 1

## Introduction and Overview

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There have been several additions and changes to the California Water Code since the District's 2010 UWMP was prepared. These are summarized below:

- AB 2067 (Weber 2014)
  - CWC Section 10631 (f)(1) and (2): Demand Management Measures
    - Requires water suppliers to provide narratives describing their water demand management measures, as provided.
    - Requires retail water suppliers to address the nature and extent of each water demand management measure implemented over the past 5 years and describe the water demand management measures that the supplier plans to implement to achieve its water use targets.
    - See Chapter 9 of this 2015 UWMP for a description of the District's Demand Management Measures.
  - CWC Section 20621 (d): Submittal Date
    - Requires each urban water supplier to submit its 2015 plan to the Department of Water Resources by July 1, 2016.
- SB 1420 (Wolk 2014)
  - CWC Section 10644(a)(2): Submittal Format
    - Requires the plan, or amendments to the plan, to be submitted electronically to the department.
  - CWC Section 10644(a)(2): Standardized Forms
    - Requires the plan, or amendments to the plan, to include any standardized forms, tables, or displays specified by the department.
  - CWC 10631 (e)(1)(J) and (e)(3)(A) and (B): Water Loss
    - Requires a plan to quantify and report on distribution system water loss.
    - See Chapter 4 of this 2015 UWMP for a description of the District's distribution system water losses.
  - CWC 10631 (e)(4): Voluntary Reporting of Passive Savings
    - Provides for water use projections to display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans, when that information is available and applicable to an urban water supplier.
    - See Chapter 4 of this 2015 UWMP for a description of the District's passive water savings.
- SB 1036 (Pavley 2014)
  - CWC 10631.2 (a) and (b): Voluntary Reporting of Energy Intensity
    - Provides for an urban water supplier to include certain energy-related information, including, but not limited to, an estimate of the amount of the energy used to extract or divert water supplies.
    - The District has opted to not report on energy intensity in this 2015 UWMP.



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- CWC 10632: Defining Water Features
  - Commencing with the 2015 UWMP update, for purposes of developing the water shortage contingency analysis, requires urban water suppliers to analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.
  - See Chapter 8 of this 2015 UWMP for a discussion of the District’s water shortage contingency planning.

### 1.4 PLAN ORGANIZATION

This 2015 UWMP contains the appropriate sections and tables required per California Water Code Division 6, Part 2.6 (Urban Water Management Planning Act), included in Appendix A of this 2015 UWMP, and has been prepared based on guidance provided by the California Department of Water Resources (DWR) in their “2015 Urban Water Management Plans Guidebook for Urban Water Suppliers” (DWR Guidebook).

This 2015 UWMP is organized into the following chapters:

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

This 2015 UWMP also contains the following appendices of supplemental information and data related to the District’s 2015 UWMP:

- Appendix A: Legislative Requirements
- Appendix B: DWR UWMP Tables
- Appendix C: DWR UWMP Checklist
- Appendix D: Agency and Public Notices
- Appendix E: Population Estimate
- Appendix F: Water Audit



# Chapter 1

## Introduction and Overview

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- Appendix G: SB X7-7 Verification Form
- Appendix H: Groundwater Information
- Appendix I: Water Conservation Ordinance
- Appendix J: Water Rate Schedule
- Appendix K: UWMP Adoption Resolution

Furthermore, this 2015 UWMP contains all of the tables recommended in the DWR Guidebook, both embedded into the UWMP chapters where appropriate and included in Appendix B.

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



## CHAPTER 2 Plan Preparation

This chapter describes the preparation of the District’s 2015 UWMP, including the basis for the preparation of the plan, individual or regional planning, fiscal or calendar year reporting, units of measure, and plan coordination and outreach.

### 2.1 BASIS FOR PREPARING A PLAN

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

As shown in Table 2-1, in 2015, the District provided water supplies to 6,585 customers (connections), and supplied 1,012 million gallons (MG) (equivalent to 3,106 AFY) of potable water. Therefore, the District is required to prepare an UWMP. The District’s last UWMP, the 2010 UWMP, was adopted by the District’s Board of Directors in November 2011.

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

Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015
CA5810003	Olivehurst System	4,108	652
CA5805001	Plumas Lake System	2,477	360
<b>TOTAL</b>		<b>6,585</b>	<b>1,012</b>

NOTES: Volumes are in million gallons (MG).

### 2.2 REGIONAL PLANNING

As described in Section 2.3 below, the District has prepared this 2015 UWMP on an individual reporting basis, not a part of a regional planning process.

### 2.3 INDIVIDUAL OR REGIONAL PLANNING AND COMPLIANCE

This 2015 UWMP has been prepared on an Individual Reporting basis, covering only the District’s service area (see Table 2-2). As described below in Section 2.5, the District has notified and coordinated with appropriate regional agencies, including the YCWA, and the Linda County Water District (LCWD), as well as several local agencies and stakeholders.



## Chapter 2

### Plan Preparation

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

Select Only One	Type of Plan	Name of RUWMP or Regional Alliance <i>if applicable</i>
<input checked="" type="checkbox"/>	<b>Individual UWMP</b>	
	<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"/>	<b>Regional Urban Water Management Plan (RUWMP)</b>	

## 2.4 FISCAL OR CALENDAR YEAR AND UNITS OF MEASURE

The District is a water retailer.

The District's 2015 UWMP has been prepared on a calendar year basis, with the calendar year starting on January 1 and ending on December 31 of each year.

The District's reporting of water volumes in this 2015 UWMP is reported in MG.

The District's reporting methods for this 2015 UWMP are summarized in Table 2-3.

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

<b>Type of Agency (select one or both)</b>	
<input type="checkbox"/>	Agency is a wholesaler
<input checked="" type="checkbox"/>	Agency is a retailer
<b>Fiscal or Calendar Year (select one)</b>	
<input checked="" type="checkbox"/>	UWMP Tables Are in Calendar Years
<input type="checkbox"/>	UWMP Tables Are in Fiscal Years
<b>Units of Measure Used in UWMP</b>	
Unit	MG

## 2.5 COORDINATION AND OUTREACH

This section includes a discussion of the District's inter-agency coordination and coordination with the general public. The UWMP Act requires the District to coordinate the preparation of its Plan with other appropriate agencies, including other water suppliers that share a common source, water management agencies, and relevant public agencies. The District coordinated the preparation of its Plan with YCWA and LCWD. These neighboring water agencies, as well as the public, participated in the coordination and preparation of this 2015 UWMP, and are summarized below.



## Chapter 2 Plan Preparation

### 2.5.1 Wholesale and Retail Coordination

*Water Code §10631*

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

Currently, the District does not receive any water supplies from a wholesale agency. Therefore, Water Code Section 10631, is not applicable to the District and the District is not required to complete Table 2-4.

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

The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.
Wholesale Water Supplier Name
N/A

### 2.5.2 Coordination with Other Agencies and the Community

The District coordinated its UWMP preparation with other local agencies and the community.

#### 2.5.2.1 Coordination with Other Agencies

*Water Code §10620 (d)(2)*

*(d)(2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.*

The District participates in regional planning with YCWA. Participation in these planning efforts helps ensure that the District will have access to an adequate amount of water to provide for its residents and businesses. It also provides for drought-condition planning and coordination within the region so that no one particular water provider is unduly impacted by a regional or local shortage.

Land use planning and development approvals within the District's boundaries are the responsibility of Yuba County. Yuba County, YCWA, LCWD, as well as the public, participated in the coordination and preparation of this 2015 UWMP.



## Chapter 2

### Plan Preparation

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#### 2.5.2.2 Coordination with the Community

##### *Water Code §10642*

*Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately-owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.*

The District has actively encouraged community participation in water management activities and specific water-related projects. The District's public participation program includes both active and passive means of obtaining input from the community, such as mailings, public meetings, and web-based communication. The District's website describes on-going projects and posts announcements of planned rate increases.

As part of development of this 2015 UWMP update, the District allowed a public review period following noticing and prior to adoption to allow ample time for public comments to be developed and received. Public noticing, pursuant to Section 6066 of the Government Code, was conducted prior to commencement of the public comment period. Public hearing notices are included in Appendix D of this document. During the public comment period, the Draft 2015 UWMP was made available at the District office, as well as on the District's website.

#### 2.5.3 Notice to Cities and Counties

##### *Water Code §10621(b)*

*Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.*

Water Code Section 10621(b) requires agencies to notify the cities and counties to which they serve water at least 60 days in advance of the public hearing that the plan is being updated and reviewed. In February 2017, a notice of preparation was sent to Yuba County and other stakeholders, to inform them of the District's UWMP update process and schedule and to solicit input for the UWMP update. The notifications to cities and counties, the public hearing notifications, and the public hearing and adoption are further discussed in Chapter 10.



## CHAPTER 3

### System Description

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

#### 3.1 GENERAL DESCRIPTION

Founded in 1949, the District is located in Yuba County and currently provides potable water, wastewater, recreation, and fire protection services for the communities of Olivehurst and Plumas Lake. The District operates two separate water pumping and distribution systems for Olivehurst and Plumas Lake.

The District's Olivehurst system is made up of six active groundwater wells, one standby groundwater well, two storage tanks, two hydropneumatic tanks, eight filter vessels, three treatment facilities, and a distribution system made up of steel, asbestos cement (AC) and C-900 pipelines. The Olivehurst system was constructed in 1951 and is currently undergoing improvements to increase efficiency. In the District's 2016-2026 Capital Improvement Plan, the highest priority item is replacing the Olivehurst system's aging pipelines.

The District's Plumas Lake system was constructed between 2003 and 2007, so the system is relatively new and currently operates more efficiently than the Olivehurst system. The Plumas Lake system includes three active wells, one standby well, one storage tank, two treatment plants, and C-900 distribution pipelines.

A description of the District's distribution system and groundwater well capacities is discussed further in Section 6.2.3 (Groundwater Well Capacity).

#### 3.2 SERVICE AREA

The District is located in California's Central Valley, approximately 30 to 38 miles north of the City of Sacramento. The District's Olivehurst system resides at approximately 66 feet above sea level and the District's Plumas Lake system resides at approximately 46 feet above sea level. As of 2015, the District's total service area boundary encompasses approximately nine square miles and includes a total of 6,585 service connections.

The District's service area boundaries and sphere of influence are shown on Figure 3-1.

#### 3.3 SERVICE AREA CLIMATE

The District experiences an arid Mediterranean climate characterized by long, dry summers and cool, rainy winters. Summer weather trends extend from May through October. Average daily maximum temperatures for July are in the mid 90's with lows in the low 60's. Winter daytime temperatures are generally in the mid 60's to mid 50's, with average lows in the upper 30's and occasional freezing temperatures. The rainy season extends from late November to mid-April and the average rainfall is about 21 inches per year.



## Chapter 3

### System Description

Water use within the District's service area is dependent on various climate factors such as temperature, precipitation, and evapotranspiration (ET<sub>o</sub>). Climate data, including temperature and precipitation estimates, were obtained from the Western Regional Climate Center for Marysville, California. The period of record was from February 1, 1897 to October 31, 2007.

ET<sub>o</sub> describes the combined water lost through evaporation from the soil and surface-water bodies and plant transpiration. In general, a reference ET<sub>o</sub> is given for turf grass, and then corrected for a specific crop type. Local ET<sub>o</sub> data was obtained from the California Irrigation Management Information System (CIMIS) monitoring station in Verona (Station #235), which is located in the Sacramento Valley just south of the District's service area.

The historical climate characteristics affecting water management in the District's service area are shown in Table 3-1.

**Table 3-1. Monthly Average Climate Data Summary**

Month	Standard Monthly Average ET <sub>o</sub> , inches <sup>(a)</sup>	Average Total Rainfall, inches <sup>(b)</sup>	Average Temperature, degrees Fahrenheit <sup>(b)</sup>	
			Max	Min
January	0.98	4.01	54.1	37.7
February	1.78	3.73	60.4	41.3
March	3.27	2.88	66	44
April	4.78	1.53	73	47.6
May	6.48	0.75	81.2	52.7
June	7.55	0.22	89.6	58.1
July	7.84	0.03	96.3	61.3
August	6.88	0.06	94.6	59.3
September	5.02	0.34	89.2	56.2
October	3.39	1.21	79	49.9
November	1.66	2.44	65.2	42.2
December	0.98	3.76	55.1	38
Totals	50.61	20.96	75.3	49.0

(a) Source: California Irrigation Management Information System (CIMIS) data for Station #235: Verona (downloaded December 27, 2016)

(b) Source: Western Regional Climate Center ([www.wrcc.dri.edu](http://www.wrcc.dri.edu)) data for Marysville, California (period of record: February 1, 1897 to October 31, 2007)



## Chapter 3

### System Description

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#### 3.4 SERVICE AREA POPULATION AND DEMOGRAPHICS

##### 3.4.1 Population

The District's Olivehurst system is a mostly urbanized, well-established community, and little growth in the area is anticipated. Developments in the District's Plumas Lake system had experienced significant growth from 2004 through 2010. Although the recent economic downturn has slowed new development substantially, it is envisioned that new development in the District's service area will rebound.

Land use planning and development approvals within the District's boundaries are the responsibility of Yuba County. Yuba County's most recent General Plan (Yuba County 2030 General Plan) was prepared in August 2010. The 2030 General Plan provides the opportunity for up to 48,000 additional residents in the unincorporated areas of Olivehurst and Plumas Lake. However, according to the Yuba County 2030 General Plan, these buildout estimates are not official growth projections and actual population may vary due to:

- The need to preserve the agricultural base, grazing lands, and other types of open space;
- Infrastructure availability, including transportation facilities, public services, and facilities;
- The need to limit development on steep slopes, flood risk, fire risk, geologic and soils constraints, presence of habitat and biological resources, and presence of other important natural resources; and
- Other factors, as described in the General Plan, community plans, specific plans, and County codes and ordinances.

The District's service area generally includes the Census Designated Places (CDP) of Olivehurst and Plumas Lake. However, the District's actual distribution area for the Olivehurst system also includes approximately 291 houses in the Wheeler Ranch area that are outside of the Olivehurst CDP boundary, and does not include approximately 20 houses in the northwestern area of the Olivehurst CDP boundary. The District's actual distribution area for the Plumas Lake system is consistent with the Plumas Lake CDP boundary. In accordance with DWR's *Methodologies* document, the District has chosen the option of developing its population estimates using a person-per-connection methodology.

According to U.S. Census data, approximately 13,656 people and 4,487 housing units were reported in the Olivehurst CDP in 2010 (approximately 3.0 persons per housing unit). Assuming approximately 3.0 persons per housing unit (2010 U.S. Census data), there are about 873 people in the Wheeler Ranch area and about 60 people in the northwestern Olivehurst CDP boundary. Therefore, in 2010, the total population in the Olivehurst water service area is approximately 14,469 people ( $13,656 + 873 - 60 = 14,469$  people). Based on Olivehurst service area's 2010 population (14,469 people) and total number of connections in 2010 (4,091 connections), the calculated number of persons per connection in the Olivehurst service area is 3.54 persons per connection.



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### System Description

As mentioned previously, the District’s actual distribution area for Plumas Lake is consistent with the Plumas Lake CDP. Because Census population data are not available for 2015, the 2015 population of Plumas Lake was estimated based on the number of persons per connection using the 2010 U.S. Census data and District’s number of total water service connections in Plumas Lake in 2010. Based on the Plumas Lake service area’s 2010 population (5,853 people) and total number of connections in 2010 (2,383 connections), the calculated number of persons per connection in the Plumas Lake service area is 2.46 persons per connection.

The District’s 2015 population in the Olivehurst service area was based on the Olivehurst system’s total number of connections in 2015 (4,108 connections) and an average of 3.54 persons per connection. For the District’s Plumas Lake service area, the 2015 population was based on the Plumas Lake system’s total number of connections in 2015 (2,477 connections) and an average of 2.46 persons per connection.

Based on the methodology discussed above, the District’s 2015 water service area population was estimated to be approximately 20,626 people. Of which, there are approximately 14,542 people in the Olivehurst system and 6,084 people in the Plumas Lake system.

Additional discussion of the District’s historical and 2015 service area population, for purposes of determining the District’s SBX 7-7 baseline and target per capita use and 2015 compliance, is provided in Chapter 5 (SBX 7-7 Baselines and Targets). The District’s population calculations separated for the Olivehurst and Plumas Lake systems are provided in Appendix E.

The District’s projected population at buildout was calculated using the District’s 2010 population (20,322 people) plus the maximum additional population that is projected to occur in the District’s service area at buildout (48,000 people) based on the population projections reported in the Yuba County 2030 General Plan<sup>1</sup>. This results in a total population of up to 68,300 people in the District’s future service area by 2030.

The District’s current (2015) and projected service area population is shown in Table 3-2.

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

Population Served	2015	2020	2025	2030	2035	2040(opt)
	20,626	30,700	45,800	68,300	68,300	68,300

NOTES: 2015 population is estimated using a persons-per connection methodology. Population projections are according to the Yuba County 2030 General Plan.

<sup>1</sup> Yuba County 2030 General Plan, Table Community Development-3: New Development under 2030 General Plan for Unincorporated County.



## Chapter 3

### System Description

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It is important to note that new developments within the District's service area are required to install new wells and treatment facilities as necessary, with maintenance and ownership transferred to the District. Development must be located within the District's boundaries to receive water service. The District has ample groundwater available to support the continued growth of residential uses, however, existing infrastructure cannot support the future development. Since water delivery infrastructure will be developed and funded by the developers, it is assumed that adequate water service will be available for planned residential uses in Yuba County.

#### 3.4.2 Demographic Factors

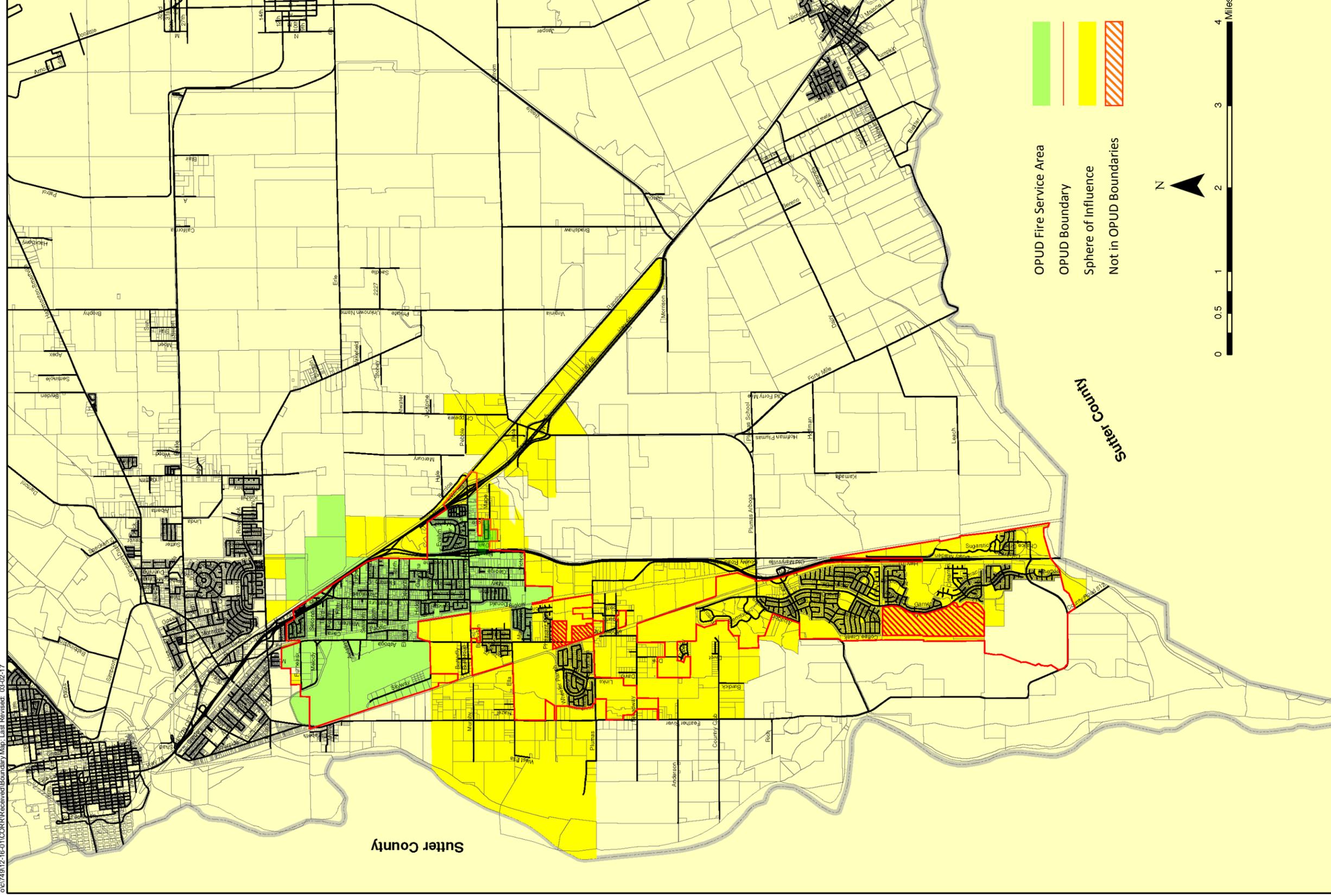
As mentioned previously, land use planning within the District is undertaken by Yuba County. Yuba County has a variety of specific plan areas, which are required to be consistent with the General Plan. Typically, specific plans describe future land use, provide for major infrastructure and public facilities, present standards for development and conservation, and outline implementation measures to carry out the plan. The Yuba County 2030 General Plan assumes development consistent with the following adopted Specific Plans:

- East Linda Specific Plan,
- Olivehurst Avenue Specific Plan,
- Plumas Lake Specific Plan, and
- Spring Valley Specific Plan.

Historically, Yuba County has relied heavily on agricultural-based industries for employment. The largest use of agricultural land has been for field crops and vegetables. According to the Yuba County Municipal Service Review Background Report (2008), the average income per capita in Yuba County was \$14,124. The communities of Honcut and Prarie had a significantly higher per capita income of \$41,926. The community of Linda had the lowest income per capita in the County with only \$9,784 and the highest rate of poverty with 38 percent of the population below the poverty line. Other communities within Yuba County that had high poverty rates were Plumas Lake (26 percent), Strawberry Valley (25 percent), and Camptonville (25 percent).

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06174812-16-01\CORR\Revised\Boundary Map: Last Revised: 09-02-17



**Figure 3-1**  
**Olivehurst Public Utility District Service Area Boundaries**

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## CHAPTER 4

### System Water Use

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This chapter describes and quantifies the District's past, current, and projected water use. Accurately tracking and reporting current water demands allows the District to properly analyze the use of their resources and conduct good water resource planning.

#### 4.1 RECYCLED VERSUS POTABLE AND RAW WATER DEMAND

Potable water is water that is safe to drink and which typically has had various levels of treatment and disinfection. The District's potable water supply consists of only local groundwater.

Recycled water is municipal wastewater that has been treated to a specified quality to enable it to be used again. Currently, there is no infrastructure in place to deliver tertiary treated recycled water to the District's customers. Because land use planning and development approvals within the District's service area are the responsibility of Yuba County, the District does not have the authority to approve the delivery of recycled water supplies to its customers.

Raw water is untreated water that is used in its natural state or with minimal treatment. The District does not currently provide any raw water supplies to its customers.

A complete description of the District's water supplies is discussed in Chapter 6.

#### 4.2 WATER USES BY SECTOR

This section describes the District's past, current and projected water use by sector through the year 2040 in five-year increments. This section identifies the usage among water use sectors including single-family residential, multifamily residential, commercial, industrial, institutional/governmental, landscape irrigation, agricultural, and others. These classifications were used to analyze current consumption patterns among various types of customers. The District uses similar definitions for each sector as outlined in the DWR Guidebook. The following definitions are from the DWR Guidebook:

- **Single-family residential:** A single-family dwelling unit. A lot with a free-standing building containing one dwelling unit that may include a detached secondary dwelling.
- **Multi-family:** Multiple dwelling units contained within one building or several buildings within one complex.
- **Commercial:** A water user that provides or distributes a product or service (CWC 10608.12(d)).
- **Industrial:** A water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System (NAICS) code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development (CWC 10608.12(h)).



## Chapter 4

### System Water Use

- **Institutional (and governmental):** A water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions (CWC 10608.12(i)).
- **Landscape:** Water connections supplying water solely for landscape irrigation. Such landscapes may be associated with multi-family, commercial, industrial, or institutional/governmental sites, but are considered a separate water use sector if the connection is solely for landscape irrigation.
- **Agricultural:** Water used for commercial agricultural irrigation.
- **Other:** Any other water demand that is not adequately described by the water sectors defined above. Unlike previous UWMPs, system water losses are not to be reported in the “Other” category.

The District’s past water use among water use sectors are presented in Table 4-1. These are the same values reported in the District’s 2010 UWMP.

**Table 4-1. Historical Water Use by Customer Type**

Water Use Type	2010 Actual Volume, MG <sup>(a)</sup>
Single-Family <sup>(b)</sup>	908
Multi-Family	1
Commercial / Industrial	20
Institutional	3
Irrigation (Landscape)	8
Total <sup>(c)</sup>	941

<sup>(a)</sup> Based on Olivehurst Public Utility District 2010 UWMP, Table 7, converted from AFY to MG.  
<sup>(b)</sup> Only includes metered water use for single-family accounts.  
<sup>(c)</sup> Total water use is the total production reported in Table 5 of the Olivehurst Public Utility District 2010 UWMP.

The District’s actual 2015 water demands for the Olivehurst system and Plumas Lake system are presented in Table 4-2. Because the District’s Olivehurst system is not yet fully metered, actual water losses are unknown. As shown in Table 4-2, the District’s Olivehurst system assumes that approximately 10 percent of the total supply is due to distribution system losses.

The District’s total water demands in 2015 are presented in Table 4-3. There are no existing or projected uses of saline barriers, groundwater recharge, or conjunctive use within the District’s service area.

## Chapter 4

### System Water Use



**Table 4-2. Actual 2015 Demands by Customer Type**

Water Use Type	Olivehurst System		Plumas Lake System	
	Volume, MG	Percentage of Total Supply	Volume, MG	Percentage of Total Supply
Single Family	316.3	48.5%	298.4	82.9%
Multi-Family	100.8	15.5%	0.0	0.0%
Commercial	17.8	2.7%	2.2	0.6%
Industrial	8.3	1.3%	0.0	0.0%
Institutional / Governmental	28.1	4.3%	16.9	4.7%
Landscape	25.4	3.9%	19.0	5.3%
Potable System Losses <sup>(a)</sup>	31.0	4.8%	19.1	5.3%
Unmetered	116.2	17.8%	0.0	0.0%
Unbilled Unmetered	8.2	1.3%	4.5	1.3%
<b>Total</b>	<b>652</b>	<b>100%</b>	<b>360</b>	<b>100%</b>

<sup>(a)</sup> Potable water losses for the Olivehurst system are assumed to be 10 percent.

**Table 4-3. Retail: Demands for Potable and Raw Water – Actual (DWR Table 4-1)**

Use Type	2015 Actual		
	Additional Description <i>(as needed)</i>	Level of Treatment When Delivered	Volume
Single Family		Drinking Water	615
Multi-Family		Drinking Water	101
Commercial		Drinking Water	20
Industrial		Drinking Water	8
Institutional/Governmental		Drinking Water	45
Landscape		Drinking Water	44
Losses	Potable System Losses	Drinking Water	50
Other	Unmetered Accounts (Olivehurst system)	Drinking Water	116
Other	Unbilled Unmetered	Drinking Water	13
<b>TOTAL</b>			<b>1,012</b>

NOTES: Volumes are in MG.

Water demand projections in this 2015 UWMP are based on population projections and the SB X7-7 targets for the District. Customer growth is assumed as the same rate as population growth. Customer growth in the District's service area will primarily come from the residential sector with small percentages of growth in commercial (retail) and industrial sectors support.



## Chapter 4

### System Water Use

The water use projections for 2020 through 2040 assume that the District will achieve its 2020 water use target (167 gallons per capita per day (GPCD)). The projected water demands through the year 2040 are reported in Table 4-4.

The District is currently in the process of converting all its customers to meters, and the meter retrofit program is anticipated to be completed by 2019. Therefore, there are no unmetered water uses in the District's service area from 2020 through 2040. Because the District's unmetered water accounts are all single-family residential accounts, the District's unmetered water uses have been included in the District's projected single-family accounts. The remaining projected water uses by use type are based on 2015 percentage of total supply.

**Table 4-4. Retail: Demands for Potable and Raw Water – Projected (DWR Table 4-2)**

Use Type	Additional Description (as needed)	Projected Water Use <i>Report To the Extent that Records are Available</i>				
		2020	2025	2030	2035	2040-opt
Single Family		1,352	2,016	3,006	3,006	3,006
Multi-Family		186	278	415	415	415
Commercial		37	55	82	82	82
Industrial		15	23	34	34	34
Institutional/Governmental		83	124	185	185	185
Landscape		82	123	183	183	183
Losses	Includes potable system losses and unbilled-unmetered	116	173	258	258	258
<b>TOTAL</b>		<b>1,871</b>	<b>2,792</b>	<b>4,163</b>	<b>4,163</b>	<b>4,163</b>

NOTES: Volumes are in MG.

The actual and projected water demands reported in Tables 4-3 and 4-4, and the recycled water demands reported in Table 6-7 (DWR Table 6-4), are summarized in Table 4-5.

**Table 4-5. Retail: Total Water Demands (DWR Table 4-3)**

	2015	2020	2025	2030	2035	2040 (opt)
Potable and Raw Water <i>From Tables 4-1 and 4-2</i>	1,012	1,871	2,792	4,163	4,163	4,163
Recycled Water Demand* <i>From Table 6-4</i>	0	0	0	0	0	0
<b>TOTAL WATER DEMAND</b>	<b>1,012</b>	<b>1,871</b>	<b>2,792</b>	<b>4,163</b>	<b>4,163</b>	<b>4,163</b>
<i>*Recycled water demand fields will be blank until Table 6-4 is complete.</i>						

NOTES: Volumes are in MG; table numbers refer to DWR table numbers.



## Chapter 4

### System Water Use

#### 4.3 DISTRIBUTION SYSTEM WATER LOSSES

System losses are the difference between the actual volume of water treated and delivered into the distribution system and the actual metered consumption. Such apparent losses are always present in a water system due to pipe leaks, unauthorized connections or use, faulty meters, unmetered services such as fire protection and training, and system and street flushing.

The estimated annual system losses for the District's water service area (i.e., the difference between the annual production and annual sales) for the most recent 12-month period available (beginning on January 1, 2015) are summarized in Table 4-6. The estimated system loss for the District's service area includes 31 MG of losses from the Olivehurst system and 19 MG of losses from the Plumas Lake system.

Actual water losses within the District's Olivehurst water system cannot be confirmed until the District has completed its current efforts to implement metering throughout its service area. The District's meter retrofit program is expected to be completed in 2019. The District's unmetered accounts are estimated to be approximately 18 percent of the Olivehurst system's total water production. Unaccounted-for water and system losses are estimated to be approximately 6 percent of the Olivehurst system's total water production.

A copy of the District's 2015 Water Audit worksheets for the Olivehurst system and Plumas Lake system is provided in Appendix F.

**Table 4-6. Retail: 12-Month Water Loss Audit Reporting (DWR Table 4-4)**

Reporting Period Start Date	Volume of Water Loss*
01/2015	50
<i>* Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.</i>	
NOTES: The water loss shown represents the combined water loss from the District's Olivehurst and Plumas Lake systems; volumes in MG; a copy of the District's 2015 Water Audit for the Olivehurst system and Plumas Lake system is provided in Appendix F.	

#### 4.4 ESTIMATING FUTURE WATER SAVINGS

Water savings from codes, standards, ordinances, or transportation and land use plans (passive savings) can decrease the water use for new and future customers. The impact of the new water codes, etc., is reflected in the 2020 per capita water demand target. The District has not independently calculated the impact of recent codes, standards, ordinances, or transportation and land use plans.



## Chapter 4

### System Water Use

Table 4-7 indicates that passive water saving estimates are not included in the District's water demand projections.

**Table 4-7. Retail Only: Inclusion in Water Use Projections (DWR Table 4-5)**

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

#### 4.5 WATER USE FOR LOWER INCOME HOUSEHOLDS

SB 1087 (2006) requires that water providers develop written policies that give priority to development that includes affordable housing to low-income households. The projected water demands shown in Table 4-3 include water use for single-family and multi-family residential housing needed for low-income households, as identified in the Yuba County Housing Element.

A lower income household has an income below 80 percent of an Area Median Income, adjusted for family size. According to the Yuba County 2013-2021 Housing Element, adopted in January 2014, approximately 41.5 percent of households in Yuba County are classified as Low, Very Low or Extremely Low income<sup>1</sup>.

Therefore, based on the Yuba County Housing Element, it is estimated that approximately 41.5 percent of the District's residential water demands are attributed to low income households. Table 4-8 presents these projected water demands for single family and multi-family households.

**Table 4-8. Projected Water Demands for Lower Income Households**

Water Use Sector	Water Demands for Low Income Households <sup>(a)</sup> , MG				
	2020	2025	2030	2035	2040
Single-Family	561	837	1,247	1,247	1,247
Multi-Family	77	115	172	172	172
Total	638	952	1,419	1,419	1,419
<sup>(a)</sup> Based on data from the Yuba County Housing Element (2014) indicating that 41.5 percent of households in the District's service area are classified as low, very low or extremely low income.					

As indicated in Table 4-7, the water demands for the lower income households are included in the District's water demand projections.

<sup>1</sup> Table H-16: Household Income Distribution by Tenure, Yuba County Housing Element 2013-2021, adopted January 14, 2014.



## Chapter 4

### System Water Use

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#### 4.6 CLIMATE CHANGE

The District's water demand and use patterns may be impacted by climate change. Increased irrigation (outdoor landscape or agricultural) is anticipated to occur with temperature rise, increased evaporative losses due to warmer temperature, and a longer growing season.

The potential impacts of climate change on the District's water supplies are described in *Chapter 6 System Supplies*.

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## CHAPTER 5

### SB X7-7 Baselines and Targets

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Population data from the 2010 U.S. Census were not made available until 2012. Because the District revised its 2010 UWMP in December 2014, the District's population data and baseline and target calculations reflect the 2010 U.S. Census data. However, because the District's actual distribution area overlaps with less than 95 percent of the CDP boundaries (actual: 92 percent), the District's population data and baseline and target calculations have been updated for this 2015 UWMP to reflect the District's actual service area. The following sections describe these updates.

#### 5.1 BASELINE PERIODS

SB X7-7 requires each urban water retailer to determine their baseline daily per capita water use, measured in gallons per capita per day (Baseline GPCD), over a 10-year or 15-year baseline period. The 10-year baseline period is defined as a continuous 10-year period ending no earlier than December 31, 2004 and no later than December 31, 2010. SB X7-7 also defines that for those urban water retailers that met at least 10 percent of their 2008 water demand using recycled water, the urban water retailer can extend the Baseline GPCD calculation for a maximum of a continuous 15-year baseline period, ending no earlier than December 31, 2004 and no later than December 31, 2010. In 2008, the District had no recycled water deliveries. SB X7-7 also requires each urban water retailer to determine a 5-year baseline per capita water demand, which DWR calls the Target Confirmation, calculated over a continuous 5-year period ending no earlier than December 31, 2007 and no later than December 31, 2010.

Based on these requirements, the District has selected the following baseline periods:

- 10-year Baseline Period: 2001 to 2010
- 5-year Baseline Period: 2003 to 2007

These baseline periods are listed in SB X7-7 Table 1 in Appendix G. It should be noted that the 10-year and 5-year periods are the same as reported in the District's 2010 UWMP.

#### 5.2 SERVICE AREA POPULATION

*DWR Guidebook, Required Use of 2010 U.S. Census Data page 5-5 – if an agency did not use 2010 Census data for their baseline population calculations in the 2010 UWMP...DWR has determined that these agencies must recalculate their baseline populations for the 2015 UWMPs using 2000 and 2010 Census data. This may affect the baseline and target GPCD values calculated in the 2010 UWMP, which must be modified accordingly in the 2015 UWMP.*

This section includes a discussion of the District's service area population including 2000 and 2010 U.S. Census data. Service area population reported in the District's 2010 UWMP included 2010 U.S. Census data because the District's 2010 UWMP was revised in December 2014, which was after the full U.S. Census data set was available in 2012.

As described in Chapter 3, the District's service area generally includes the CDPs of Olivehurst and Plumas Lake. However, the District's actual distribution area for the Olivehurst system also includes approximately 291 houses in the Wheeler Ranch area that are outside of the Olivehurst CDP boundary, and does not include approximately 20 houses in the northwestern area of the



## Chapter 5

### SB X7-7 Baselines and Targets

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Olivehurst CDP boundary. The District's actual distribution area for the Plumas Lake system is consistent with the Plumas Lake CDP boundary. In accordance with DWR's *Methodologies* document, the District has chosen the option of developing its population estimates using a person-per-connection methodology. However, based on the District's estimated service area population using the persons-per-connection method, approximately 96 percent of the District's actual distribution area population is included in the District's CDP boundaries. The calculations and assumptions used to estimate the District's historical population are provided in Appendix E and are summarized below.

- There are approximately 291 houses in the Wheeler Ranch area. These houses were constructed between 2005 and 2008.
- There are approximately 20 houses in the northwestern area of the Olivehurst CDP boundary that are outside of the Olivehurst water service area. These houses are older residential homes that are located between Feather River Road and an abandoned railroad.
- The number of people in the Wheeler Ranch area and northwestern Olivehurst CDP boundary assumes an average of 3.0 persons per housing unit (based on U.S. Census 2010 data for Olivehurst CDP).
- The number of total water service connections in the Olivehurst system for 2000, 2010, and 2015 were provided by the District (dated March 2017). The number of connections in the Olivehurst system assume constant growth from 2000 to 2010 and from 2010 to 2015.
- The number of total water service connections in the Plumas Lake system for 2010 and 2015 were provided by the District (dated March 2017). The Plumas Lake system was first constructed in 2004. To account for the effects of the economic downturn, the number of connections assume constant (rapid) growth from 2004 to 2007 and constant (less rapid) growth from 2007 to 2015.
- The District's 2015 population for the Olivehurst system is based on the calculated number of persons per connection in 2010 and the total number of service connections in 2015. Based on 2010 Census data and total number of connections in 2010, the Olivehurst service area has an average of 3.54 persons per connection.
- The District's 2015 population for the Plumas Lake system is based on the calculated number of persons per connection in 2010 and the total number of service connections in 2015. Based on 2010 Census data and total number of connections in 2010, the Plumas Lake service area has an average of 2.46 persons per connection.

As indicated in SB X7-7 Table 2 in Appendix G, a person-per-connection method was used to determine the District's historical and current (2015) service area population for purposes of confirming/revising the District's baselines and targets and confirming the District's compliance with its 2015 SB X7-7 target.

Historical population estimates in the District's 2010 UWMP are based on U.S. Census data for the Olivehurst CDP and Plumas Lake CDP. In this 2015 UWMP, the population estimates have been revised to account for the housing units in the Olivehurst water service area that are not



## Chapter 5

### SB X7-7 Baselines and Targets

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included in the Olivehurst CDP boundary. In general, the current estimated service area populations are slightly greater than those used in the District's 2010 UWMP. The 2010 service area population is now estimated to be 20,322 people, which is 4 percent greater than the 19,509 people as included in the District's 2010 UWMP. Based on the persons-per-connection method, the 2015 service area population is estimated to be 20,626. The population calculations for the District's service area, separated for the Olivehurst and Plumas Lake service areas, are provided in Appendix E and the population values are included in SB X7-7 Table 3 in Appendix G.

#### 5.3 GROSS WATER USE

Annual gross water use is the water that enters the District's distribution system over a 12-month period (calendar year) with certain exclusions. This section discusses the District's annual gross water use for each year in the baseline periods, as well as 2015, in accordance with Methodology 1: Gross Water of DWR's *Methodologies* document.

*CWC 10608.12 (g) "Gross Water Use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:*

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

*California Code of Regulations Title 23 Division 2 Chapter 5.1 Article Section 596 (a) An urban retail water supplier that has a substantial percentage of industrial water use in its service area is eligible to exclude the process water use of existing industrial water customers from the calculation of its gross water use to avoid a disproportionate burden on another customer sector*

The District's gross water use is based on the volume of water obtained from the local groundwater basin. Annual gross water use for the baseline periods and 2015 are summarized in Appendix G.

#### 5.4 BASELINE DAILY PER CAPITA WATER USE

As indicated above, daily per capita water use is reported in GPCD. Annual gross water use is divided by annual service area population to calculate the annual per capita water use for each year in the baseline periods. As discussed above, the District has used updated population data in this 2015 UWMP. Because the District's historical service area populations are slightly greater than those used in the District's 2010 UWMP, the revised per capita water use values are slightly less than those documented in the District's 2010 UWMP. The District's baseline daily per capita water use has been calculated as follows:

- 10-year Base Daily Per Capita Water Use
  - 178 GPCD (for the period from 2001 to 2010)
  - This value is 8 GPCD less than the value calculated in the 2010 UWMP (186 GPCD)



## Chapter 5

### SB X7-7 Baselines and Targets

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- 5-year Base Daily Per Capita Water Use
  - 190 GPCD (for the period from 2003 to 2007)
  - This value is 7 GPCD less than the value calculated in the 2010 UWMP (197 GPCD)

These values are shown in SB X7-7 Table 5 in Appendix G.

#### 5.5 2015 AND 2020 TARGETS

SB X7-7 requires a state-wide average 20 percent reduction of urban per capita water use by the year 2020. Therefore, the District must set an interim (2015) water use target and a final (2020) water use target using one of four methods defined by SB X7-7 and DWR. Three of these methods are defined in Water Code Section 10608.20(a)(1), and the fourth method was developed by DWR. The 2020 water use target is calculated using one of the following four methods:

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

Analysis using Methods 1 and 3 are included in Appendix G (SB X7-7 Tables 7A and 7E). The calculated 2020 target using Method 1 is 142 GPCD, and the 2020 target using Method 3 is 167 GPCD. Methods 2 and 4 require specific detailed data which were not readily available, so those two methods were not considered. Target Method 3 results in the highest allowable SB X7-7 final (2020) target (167 GPCD by 2020), and would therefore be most favorable to the District.

Urban water suppliers must verify that their 2020 final water use targets are least a 5 percent reduction from the 5-year baseline GPCD. As shown in SBX7-7 Table 7-F in Appendix G, the District's maximum 2020 target is 180 GPCD (95 percent of the District's 5-year base daily per capita water use of 190 GPCD). The District's Method 3 2020 target of 167 GPCD complies with this minimum reduction.

The 2015 interim targets for each of the target methods are calculated based on the midpoint of the District's 10-year Base Daily Per Capita Water Use and the 2020 targets calculated for each of the respective target methods. The 2015 interim target is the midpoint between the District's 10-Year Base Daily Per Capita Water Use (178 GPCD) and the final 2020 target (167 GPCD). Therefore, the City interim 2015 target is 172 GPCD.

The District's interim and final targets are summarized in Table 5-1.



## Chapter 5

### SB X7-7 Baselines and Targets

**Table 5-1. Baselines and Targets Summary (DWR Table 5-1)**

Baseline Period	Start Year	End Year	Average Baseline GPCD*	2015 Interim Target *	Confirmed 2020 Target*
10-15 year	2001	2010	178	172	167
5 Year	2003	2007	190		

\*All values are in Gallons per Capita per Day (GPCD)

For the District's 2010 UWMP, Method 1 was used to establish the District's 2015 target (167 GPCD) and 2020 target (149 GPCD). For this 2015 UWMP, the District has revised the target method to Method 3, resulting in a revised 2015 target (172 GPCD) and a revised 2020 target (167 GPCD). The District understands that the target method and resulting targets presented in this 2015 UWMP may not be changed in any amendments to the 2015 UWMP or 2020 UWMP.

#### 5.6 2015 COMPLIANCE DAILY PER CAPITA WATER USE (GPCD)

The District has calculated its actual 2015 water use for the 2015 calendar year in accordance with Methodology 4 of DWR's *Methodologies* document. As shown in Table 5-2, the District's urban per capita water use in 2015 was 134 GPCD, which is below the District's 2015 interim water use target of 172 GPCD. Therefore, the District has met its interim 2015 water use target. The complete set of SB X7-7 verification tables used to document this compliance is included in Appendix G.

**Table 5-2. 2015 Compliance (DWR Table 5-2)**

Actual 2015 GPCD*	2015 Interim Target GPCD*	Optional Adjustments to 2015 GPCD <i>From Methodology 8</i>					2015 GPCD* <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2015? Y/N
		Extraordinary Events*	Economic Adjustment*	Weather Normalization*	TOTAL Adjustments*	Adjusted 2015 GPCD*		
134	172				0	134	134	Yes

\*All values are in Gallons per Capita per Day (GPCD)

As detailed in DWR's *Methodologies* document, there are allowable adjustments that can be made to an agency's gross water use in 2015 for unusual weather, land use changes, or extraordinary institutional water use. The District has elected not to make the adjustments allowed by Water Code Section 10608.24 because these exceptions are not needed to demonstrate compliance with SB X7-7.

#### 5.7 REGIONAL ALLIANCE

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

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## CHAPTER 6

### System Supplies

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This chapter describes the water supplies currently available to the District, as well as future anticipated water supplies. Local groundwater from the South Yuba Subbasin is currently the only source of water supply for the District.

A description of this groundwater source, along with the limitations of other water possible water supplies, are described in this chapter.

#### 6.1 PURCHASED OR IMPORTED WATER

The District currently does not receive any purchased or imported water supplies, nor does it expect to receive purchased supplies by the year 2040.

#### 6.2 GROUNDWATER

Groundwater is currently the only source of potable water supply for the District. The District's groundwater resource is further described in the sections below.

##### 6.2.1 Groundwater Basin Description

The South Yuba Subbasin (Basin Number 5-21.61) is a subbasin of the Sacramento Valley Basin (Basin Number 5-21) contained within DWR Sacramento River Hydrologic Region. The Sacramento Valley Basin is the second largest in California, and includes a total of 18 subbasins. The Sacramento Valley consists of a large northwest-trending, elongated, asymmetric structural trough that extends 150 miles north from the Sacramento-San Joaquin Delta to the City of Red Bluff. The valley is dominated by sedimentary water-bearing deposits that are thickest west of the Valley axis. These deposits thin in the eastern portion of the Valley where they overlie the crystalline rocks of the Sierra Nevada basement complex.

The South Yuba Subbasin is located in the southern portion of the Sacramento Basin Hydrologic Study Area and is described in the DWR's Bulletin 118 (see basin description in Appendix H). The subbasin encompasses about 107,000 acres and is bounded on the east by the Sierra Nevada, on the west by the Feather River, on the north by the Yuba River, and on the south by the Bear River. Prior to development, groundwater flowed to the west and southwest from the Sierra Nevada toward the Feather River. Water bearing alluvial deposits range in thickness from less than 300 feet near the Sierra Nevada in the east to approximately 1,000 feet along the Feather River in the west. Two geologic units provide the majority of water to wells: the Laguna Formation deposits and the overlying and more productive Older Alluvium deposits. Most domestic wells pump from the shallower Older Alluvium (100 to 150 feet below ground surface (bgs)), while irrigation and public supply wells tend to be deeper and may pump from both deposits for additional well yield.

This groundwater basin is not adjudicated, and DWR has not identified the South Yuba Subbasin as either in overdraft, or expected to be in overdraft.



## Chapter 6

### System Supplies

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#### 6.2.1.1 Subbasin Geology

The South Yuba Subbasin is bounded to the east by the relatively impermeable Sierra Nevada complex. These rocks extend beneath the subbasin and are overlain by younger consolidated and unconsolidated rocks at a gradually increasing depth toward the Feather River and beyond to the Sacramento Valley trough. The resulting wedge-shaped body of stratified alluvial deposits dips gently to the west and stores fresh groundwater to depths of up to 1,000 feet in the west and less than 300 feet in the east (Bookman-Edmonston Engineering (BE), 1992). Saline groundwater may exist in consolidated rocks beneath the alluvial deposits.

As indicated above, the Laguna Formation and the overlying Older Alluvium are the principal water-bearing formations in the South Yuba Subbasin. These formations are described below in order from oldest to youngest. Several geologic and hydrogeologic studies have been conducted in the area, including Bryan (1923), Olmstead and Davis (1961), DWR (1978), and BE (1992).

The geologic structure of the South Yuba Subbasin is relatively simple, with no faults or folds. The Sutter Buttes, located just west of Yuba County, consist of an intrusive volcanic plug, which caused the uplift and faulting of older marine sediments in the central portion of the Sacramento Valley. This intrusion may have resulted in slightly uplifted marine-deposited sediments in the vicinity of Marysville, but the magnitude of the deformation is minor. The principal geologic units that underlie the Subbasin are summarized below.

**Sierra Nevada Bedrock:** Metamorphic and igneous granitic rocks dominate the bedrock that forms the eastern boundary of the groundwater basin. Where exposed in the foothills, this sequence of rocks can supply small quantities of water from weathered and fractured zones. Metamorphic rocks contain volcanics with high manganese and iron content.

**Eocene and Cretaceous Rocks:** Cretaceous marine deposits that overlie the bedrock in most of the subbasin originally contained saline, connate water. Most of the saline water has been flushed out toward the valley trough (BE, 1992), but water quality is still poorer in the marine deposits. The marine deposits are overlain by Eocene non-marine deposits, including the Ione Formation, which also has poorer water quality than overlying formations.

**Mehrten Formation:** This Tertiary volcanic rock sequence is dominated by alluvial, andesitic sand and gravel intervals interbedded with clay and silt. These rocks include conglomerate, sandstone, and tuff-breccia of mud flow origin that extend westward from their exposure in the vicinity of Beale Air Force Base. Sand and gravel lenses in the Mehrten are highly permeable and tapped by wells throughout the Sacramento Valley.

**Laguna Formation:** This Pliocene formation is the thickest and most extensive water-bearing unit in the South Yuba Subbasin. It is exposed along the foothills from Oroville south to Stockton and intermittently in the eastern portion of the Sacramento Valley. Detritus from the weathered Sierras was transported into the Valley by slow-flowing streams and deposited on low sloping broad alluvial fans, concentrating coarser grained materials in river and stream channels and depositing finer-grained materials laterally. This heterogeneous formation contains silt to sandy silt with abundant clay and minor lenticular gravel beds. The sand and gravel layers are thin, discontinuous, compact, and commonly cemented with calcium carbonate, reducing their overall permeability.



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### System Supplies

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Considerable amounts of coarse materials occur in the vicinity of the Yuba River at depths of 150 to 600 feet, but decrease north and south of the river. The thickness of the Laguna Formation is highly variable, from 400 feet near the Yuba River to up to 1,000 feet in the southwest portion of Yuba County (BE, 1992).

**Older Alluvium and Victor Formation:** In the early Pleistocene, uplift of the Sierra Nevada block resulted in increased erosive power and transport capacity of rivers and streams draining to the west. This higher-energy alluvial system increased the proportion of sand and gravel deposited in lenticular beds along with lesser amounts of silt and clay. The Older Alluvium unit is exposed over much of the South Yuba Subbasin with varying thicknesses from less than 100 feet to over 150 feet atop the highly eroded surface of the Laguna Formation. Gravels are located at shallower depths and are thickest near the foothills and the Yuba River. These deposits provide overall moderate permeability, with increased permeability in sand and gravel lenses and reduced permeability where hardpan soils have developed.

**Older Floodplain Deposits:** Along the Feather River and its tributaries, gravelly sand, silt, and clay were deposited from flood events during the Pleistocene. The thickness of this unit ranges from 5 to 15 feet. Its moderate permeability allows for infiltration of precipitation and irrigation water to the water table unless prevented by buried hardpan soils at its lower contact with the Older Alluvium.

**Recent Stream Channel and Floodplain Deposits:** These Holocene age alluvial deposits are found along Honcut Creek and the Yuba, Bear, and Feather Rivers. Dominated by coarse sand and gravels, these highly permeable deposits have a thickness of up to 110 feet. Grain size and thickness decrease as the distance from streams increases. This unit also occurs as abandoned overflow channels two to five miles south of the Yuba River. The greatest volume of these deposits is found along the channel of the Yuba River and is about 3.5 miles wide. The coarse-grained and highly permeable nature of these deposits allows for significant groundwater recharge, and the unit can yield large quantities of water to shallow wells.

**Dredge Tailings:** Tailings from hydraulic mining completely obscured the original channel of the Yuba River during the 1870s and 1880s. Several thousands of acres of the Yuba River floodplain upstream of Marysville were excavated by gold dredges, and parallel ridges of coarse gravel characterize the resulting topography. Piles of coarse gravel and cobbles up to 125 feet thick can be located in the upper reaches of the Yuba and Bear Rivers.

#### 6.2.1.2 Aquifer Characteristics

Aquifer characteristics refer to the ability of aquifers to transmit and store groundwater. Calculations based on data from long-term, constant rate pumping tests are the preferred method for estimating aquifer characteristics. However, other methods can be used when aquifer test data are limited, as is the case in the South Yuba Subbasin.



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### System Supplies

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#### 6.2.1.2.1 Well Yields

Well yields and aquifer characteristics in Yuba County were summarized by BE (1992). A review of drillers' logs indicated that wells in the South Yuba Subbasin range in depth from a few hundred to over 700 feet. Most of the well yield is derived from the Older Alluvium, which is much more permeable than the underlying Laguna Formation. Well yields in the subbasin typically range from 1,000 to 3,000 gpm, with an average of 1,650 gpm. Wells in the western and northern portions of the subbasin near the Feather and Yuba River had the highest yields (1,500 to 3,000 gpm), and wells in the southern and eastern portions of the subbasin generally had lower yields (1,000 to 1,500 gpm).

#### 6.2.1.2.2 Specific Capacity

Specific capacity is the ratio of well yield to drawdown and provides a measure of productivity for both the aquifer and the well. Specific capacity is calculated as  $Q/s$ , where  $Q$  is the yield of the well in gpm and  $s$  is the drawdown in feet. The BE (1992) report contains a summary of specific capacity in the South Yuba Subbasin based on drillers logs and Pacific Gas & Electric (PG&E) pump efficiency tests. Specific capacities based on pump tests conducted immediately after wells are drilled tend to be lower because permanent pumps have not been installed and the wells may not be fully developed. Based on drillers reports, BE (1992) reported that specific capacities in the South Yuba subbasin range from 16 to 65 gpm/ft, with an average of 40 gpm/ft. Specific capacities calculated from PG&E tests in the subbasin ranged from 18 to 95 gpm/ft, with an average of 55 gpm/ft.

#### 6.2.1.2.3 Transmissivity

The ability of an aquifer to transmit water is measured by the transmissivity, which can be defined as the permeability times the saturated thickness. The U.S. Geological Survey (USGS) estimated transmissivity in the central portion of the South Yuba Subbasin to be about 260,000 gallons per day per foot (gpd/ft) (Bloyd, 1978). Transmissivity estimates were higher (390,000 gpd/ft) along the Feather River due to the presence of over 100 feet of highly permeable stream channel sediments. Transmissivity estimates were lower (65,000 gpd/ft) for the southeastern portion of the subbasin because the primary aquifer in this area is comprised of the less permeable Laguna Formation.

Transmissivity estimates for the District's newest wells (Wells 29 and 30) are based on aquifer tests conducted by KASL Consulting Engineers (KASL, 2005). The estimated transmissivities were 127,000 and 239,000 gpd/ft at Wells 29 and 30, respectively. Aquifer test data are not available for the District's other wells, but transmissivity was estimated from specific capacity using an empirical equation for a confined aquifer:  $T = Q/s * 2000$ , where  $T$  is the transmissivity in gpd/ft and  $Q/s$  is the specific capacity in gpm/ft. In the subbasin, the transmissivities estimated from specific capacity range from 69,000 to 234,000 gpd/ft.



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### System Supplies

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#### 6.2.1.2.4 Storage Coefficient

The ability of an aquifer to store groundwater is measured by the storage coefficient, which is defined as the volume of water that is released from or added to storage per unit surface area and per unit change in hydraulic head. For unconfined aquifers, a change in head means a change in the elevation of the water table, and the storage coefficient is called the specific yield. Specific yields of common aquifer materials range from 3 percent for clay to 20 percent for unconsolidated sand or sand and gravel (Olmstead and Davis, 1961). BE (1992) estimated specific yield for the South Yuba Subbasin ranging from 8 percent for the shallowest zone (20-50 feet bgs) to 6.2 percent for the 100 to 200 feet depth zone, with an average of 6.8 percent (Grinnell, 2005).

In confined aquifers, storage coefficients are much smaller, and accurate estimates are only possible based on aquifer tests in which drawdown is measured in an observation well located at some distance from the pumped well. The District's monitoring well MW-1D was used as an observation well during the aquifer tests of the District's Wells 29 and 30 conducted in March 2005. The estimated storage coefficients are  $3.7 \times 10^{-4}$  and  $8.6 \times 10^{-4}$  for Wells 29 and 30, respectively (KASL, 2005). Data were not available to estimate storage coefficients for the District's other wells.

#### 6.2.1.2.5 Summary

Available data to determine aquifer characteristics in the South Yuba Subbasin are limited, and the subsurface sediments are heterogeneous. Overall, the well yields, specific capacities, transmissivities, and storage coefficients calculated from tests conducted in the District's wells are indicative of a semi-confined aquifer containing relatively high-yielding formation materials. Aquifer characteristics estimated based on data from the District's wells are generally similar to estimates for the entire subbasin made by Bloyd (1978) and BE (1992).

### 6.2.2 Groundwater Management

A Groundwater Management Plan, prepared by YCWA in November 2010, has been developed for the South Yuba Subbasin. A copy of the Groundwater Management Plan is included in Appendix H.

#### 6.2.2.1 Groundwater Sustainability

Groundwater is a significant portion of the total water supply for the State of California. It is estimated that California's reliance on groundwater will increase during drought periods and with an increase in population. The California Statewide Groundwater Elevation Monitoring (CASGEM) program was created with SB X7-6, as part of the 2009 Comprehensive Water Package. The California legislature created the CASGEM program to collect groundwater elevations, facilitate collaboration and to report this information to the public. CASGEM is part of the state's plan to sustainably manage groundwater in the state's alluvial groundwater basins and subbasins.

The Sustainable Groundwater Management Act of 2014 (SGMA), a three-bill legislative package composed of AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley), was passed in September 2014. The legislation provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for state intervention when necessary



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to protect the resource. The legislation lays out a process and a timeline for local authorities to achieve sustainable management of groundwater basins. It also provides tools, authorities and deadlines to take the necessary steps to achieve the goal. For local agencies involved in implementation, the requirements are significant and can be expected to take years to accomplish. The State Water Resources Control Board may intervene if local agencies do not form a Groundwater Sustainability Agency (GSA) and/or fail to adopt and implement a Groundwater Sustainability Plan (GSP).

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

**Table 6-1. Sustainable Groundwater Management Act Implementation Steps and Deadlines**

Implementation Step	Implementation Measure	Deadlines
Step One	Local agencies must form local GSAs within two years	<ul style="list-style-type: none"> <li>June 30, 2017</li> </ul>
Step Two	Agencies in basins deemed high- or medium-priority must adopt GSPs within five to seven years, depending on whether a basin is in critical overdraft	<ul style="list-style-type: none"> <li>January 31, 2020 for critically overdrafted basins</li> <li>January 31, 2022 for high- and medium-priority basins not currently in overdraft</li> </ul>
Step Three	Once plans are in place, local agencies have 20 years to fully implement them and achieve the sustainability goal	<ul style="list-style-type: none"> <li>January 31, 2040 for critically overdrafted basins</li> <li>January 31, 2042 for high- and medium-priority basins not currently in overdraft</li> </ul>

SGMA applies to basins or subbasins designated by the DWR as high or medium priority basins, based on a statewide ranking that uses criteria including population and extent of irrigated agriculture dependent on groundwater. The final Basin Prioritization findings indicate that 127 of California's 515 groundwater basins and subbasins are high and medium priority basins. These high and medium priority basins account for 96 percent of California's annual groundwater pumping and supply 88 percent of the population which resides over the groundwater basins. The ranking for the South Yuba Subbasin is shown in Table 6-2. As shown, the South Yuba Subbasin has been ranked as a medium priority basin.

**Table 6-2. Groundwater Basin Prioritization for Sustainable Groundwater Management Act<sup>(a)</sup>**

Rank <sup>(b)</sup>	Basin Number	Basin Name	Subbasin Name	Overall Basin Ranking Score	Overall Basin Priority
119	5-21.61	Sacramento Valley	South Yuba	14.5	Medium
<sup>(a)</sup> CASGEM Groundwater Basin Prioritization Results, run version May 26, 2014. <sup>(b)</sup> Out of a total of 515 basins, of which 127 were high or medium priority basins.					



## Chapter 6

### System Supplies

Under CASGEM, YCWA is the monitoring agency in the South Yuba Subbasin, along with DWR. As of 2010, 48 of the wells in the monitoring network are monitored by DWR and 39 of the wells are monitored by YCWA.

#### 6.2.3 Groundwater Well Capacity

The District operates a total of eleven (11) groundwater wells in its service area. In the District's Olivehurst system there are three treatment plants and six active wells, and one standby well. In the District's Plumas Lake system, there are two treatment plants, three active wells, and one standby well. A summary of the District's groundwater well capacities is shown in Table 6-3.

As shown in Table 6-3, the total groundwater pumping capacity for the District's service area is 21,791 gpm (11,453 MG/year), of which 12,091 gpm (6,355 MG/year) is in the Olivehurst system and 9,700 gpm (5,098 MG/year) is in the Plumas Lake system. However, currently, the District's groundwater wells are constrained by the filter capacity of the water treatment plants. As shown in Table 6-3, the total groundwater filter capacity for the District's service area is 16,600 gpm (8,725 MG/year), of which 10,000 gpm (5,256 MG/year) is in the Olivehurst system and 6,600 gpm (3,469 MG/year) is in the Plumas Lake system.

<b>Table 6-3. Summary of Groundwater Well Capacity<sup>(a)</sup></b>			
<b>Well No.</b>	<b>Status</b>	<b>Pump Capacity, gpm</b>	<b>Filter Capacity, gpm</b>
<b>Olivehurst Distribution System</b>			
1	Active	750	3,000
4	Active	2,421	
10	Active	1,500	3,500
28	Active	2,400	
29	Active	2,500	3,500
30	Active	2,520	
14	Standby <sup>(b)</sup>	1,000	-
<b>Total (Active)<sup>(c)</sup></b>		<b>12,091</b>	<b>10,000</b>
<b>Plumas Lake Distribution System</b>			
31	Active	3,100	3,100
32	Active	3,100	
34	Active	3,500	3,500
33	Standby <sup>(b)</sup>	1,000	-
<b>Total (Active)<sup>(c)</sup></b>		<b>9,700</b>	<b>6,600</b>
<b>Total (Active) Service Area Capacity<sup>(c)</sup></b>		<b>21,791</b>	<b>16,600</b>
<sup>(a)</sup> Based on data received by the District on March 14, 2017. <sup>(b)</sup> Standby wells are currently off-line and not treated. <sup>(c)</sup> Total capacities do not include standby wells.			



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### System Supplies

#### 6.2.4 Historical Groundwater Production

Prior to construction of the South Yuba Canal, groundwater was the primary source of supply for both agricultural and municipal use in the South Yuba Subbasin. Although municipal use has increased in recent years, the majority of the total pumpage in the subbasin is used for agriculture.

Groundwater pumpage declined after surface water deliveries via the South Yuba Canal began to Brophy Water District and South Yuba Water District in 1983 (YCWA, 2005). Surface water deliveries to the South Yuba Subbasin totaled about 55,000 MG/year (170,000 AFY) in 2004, which represents about 62 percent of the total estimated water supply (NCWA, 2006). Total groundwater pumpage in the South Yuba Subbasin in 2004 was estimated to be 36,000 MG/year (110,000 AFY), of which 79 percent (86,800 AFY) was for agricultural use and the remainder (23,200 AFY) was for used for municipal, domestic, industrial, commercial, and semi-agricultural uses.

The evaluation of groundwater level data in the South Yuba Subbasin conducted for water supply studies in the District's service area also show large groundwater level declines prior to 1983 and a similar amount of recovery since 1983. The magnitude of the declines and subsequent recovery ranged from 10 feet or less at the edges of the basin to 85 feet in the center of the cone of depression. By 2005, water levels in most wells had recovered to 1950s levels or higher, and the cone of depression was no longer present. The water level data show no indication of overdraft occurring in the subbasin at present.

The South Yuba Subbasin is also not expected to become overdrafted in the future based on projected levels of groundwater pumpage and surface water deliveries. However, some water level declines are likely to occur in urban areas, including the District's service area, due to increased pumping for municipal use. Increased groundwater monitoring through YCWA groundwater management would ensure that groundwater level declines are not progressive and do not cause negative impacts such as land subsidence. The South Yuba Subbasin is expected to be reliable in all years and over the 25-year planning horizon.

Historical groundwater pumpage by the District from 2011 through 2015 is shown in Table 6-4. Average groundwater pumpage by the District over the last five years has been about 1,300 MG/year.

**Table 6-4. Retail: Groundwater Volume Pumped (DWR Table 6-1)**

Groundwater Type	Location or Basin Name	2011	2012	2013	2014	2015
Alluvial Basin	South Yuba Subbasin (Olivehurst System)	860	976	990	811	652
Alluvial Basin	South Yuba Subbasin (Plumas Lake System)	451	487	515	455	360
<b>TOTAL</b>		<b>1,311</b>	<b>1,463</b>	<b>1,505</b>	<b>1,266</b>	<b>1,012</b>
NOTES: Volumes are in MG.						



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### System Supplies

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#### 6.3 SURFACE WATER

The District currently does not receive any surface water supplies, nor does it expect to receive any surface water supplies by the year 2040.

#### 6.4 STORMWATER

Stormwater can be beneficially reused as a water supply source to meet local water supply demands. Beneficial reuses include blending with other water supplies for groundwater recharge, redirecting it into constructed wetlands or landscaping, and diverting it to a treatment facility for subsequent reuse. Currently, the District does not implement any stormwater recovery systems.

#### 6.5 WASTEWATER AND RECYCLED WATER

The District is the wastewater and recycled authority in the unincorporated community of Olivehurst and Plumas Lake. The District operates an activated sludge, tertiary wastewater treatment facility currently permitted for 3 million gallons per day (MGD).

##### 6.5.1 Recycled Water Coordination

The District's wastewater service area coincides with the District's water service area, and the District does not receive any water supplies from a wholesale agency. Therefore, there are no other local water or wastewater planning agencies that operate in the District's service area. As described in Chapter 2, the District has coordinated the development of this 2015 UWMP with other neighboring water agencies as well as the public.

Currently, there is no infrastructure in place to deliver tertiary treated recycled water to the District's customers. Because land use planning and development approvals within the District's service area are the responsibility of Yuba County, the District does not have the authority to approve the delivery of recycled water supplies to its customers.

##### 6.5.2 Wastewater Collection, Treatment, and Disposal

The District provides wastewater services to its water service area. The District operates an activated sludge, tertiary wastewater treatment facility currently permitted for 3 MGD discharge. The wastewater treatment facility has an average dry weather flow of 1.2 MGD and average wet weather flow of 1.3 MGD. The wastewater collection system consists of approximately 32 miles of gravity sewer main collection lines, 8 miles of force main sewer collection lines, and 18 lift stations. The District's wastewater treatment facility discharges into the Clark Lateral which flows into the Western Interceptor Drainage Canal which flows into the Bear River.

Table 6-5 summarizes the information on the collection of wastewater generated within the District's service area in 2015.



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**Table 6-5. Retail: Wastewater Collected Within Service Area in 2015 (DWR Table 6-2)**

Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2015	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party? <i>(optional)</i>
Olivehurst Public Utility District	Metered	452	Olivehurst Public Utility District	OPUD Wastewater Treatment Facility	Yes	No
<b>Total Wastewater Collected from Service Area in 2015:</b>		452				

NOTES: Volumes are in MG.

The District's wastewater service area is the same as the District's water service area. Table 6-6 identifies the treated wastewater disposed of within the service area in 2015.

**Table 6-6. Retail: Wastewater Treatment and Discharge Within Service Area in 2015 (DWR Table 6-3)**

Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number <i>(optional)</i>	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2015 volumes			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
Olivehurst Public Utility District Wastewater Treatment Facility	Western Interceptor Drainage Canal	Bear River		River or creek outfall	Yes	Tertiary	452	452	0	0
<b>Total</b>							452	452	0	0

NOTES: Volumes are in MG.

### 6.5.3 Recycled Water System

The District's wastewater treatment plant produces tertiary treated effluent (1.2 MGD) that could be utilized as recycled water for parks, streetscape, and residential irrigation.

Currently, the District does not have infrastructure in place to deliver tertiary treated effluent to its customers. In addition, the ability to utilize recycled water in the District's service area is heavily dependent on cooperation of Yuba County because they are the land use authority for the District's service area. The District does not include recycled water in its supply projections in this UWMP.

### 6.5.4 Recycled Water Beneficial Uses

Recycled water can be used for parks irrigation, streetscape irrigation, residential landscape irrigation, agricultural irrigation, school irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable use and other appropriate uses. The most technically and economically feasible uses for recycled water in the District's service area are parks and streetscape irrigation. Future developments in the District's service area could utilize recycled water for other uses if the infrastructure is installed ahead of time. Because the District is not the local land use authority for the District's water service area, approval for the use of recycled water by future developments is not within the District's jurisdiction. The use of recycled water in the District's service area is dependent on approval from Yuba County.



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### System Supplies

As shown in Table 6-7, the District does not include recycled water in its supply projections in this UWMP.

As shown in Table 6-8, recycled water was not used in 2010 nor projected for use in 2015.

**Table 6-7. Current and Projected Recycled Water Uses Within Service Area (DWR Table 6-4)**

☑	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.
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**Table 6-8. Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual (DWR Table 6-5)**

☑	Recycled water was not used in 2010 nor projected for use in 2015. The supplier will not complete the table below.
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#### 6.5.5 Actions to Encourage and Optimize Future Recycled Water Use

Recently, three agencies (Yuba City, Marysville, and LCWD), recognizing their common issues and needs, came together to evaluate alternatives for using recycled water to meet regional non-potable water demands. To support the regional analysis, the agencies submitted grant applications to the State Water Resources Control Board Recycled Water Planning Grant Program. All agencies received grant funding and developed a Memorandum of Understanding (MOU) between the agencies to conduct the regional study and apportion the study costs. A formal Recycled Water Plan was developed as result of this effort. The Recycled Water Plan developed alternative regional recycled water projects that capitalize on this beneficial opportunity and present the best regional recycled water project that serves the needs of all the agencies.

The District plans to coordinate its efforts with these other agencies and Yuba County, to encourage new developments to install the needed infrastructure for recycled water use.

The District is committed to the use of recycled water. The District's strategic plan vision statement regarding the use of reclaimed water can be viewed at <http://www.opud.net/>. Additionally, as a stakeholder in the Yuba County Integrated Regional Water Management Plan, the District has identified a recycled water project for grant funding. The project number is OPUD – 01 and can be viewed at <http://yubairwmp.org/projects>.

The following water recycling objectives have been developed to meet the water recycling goals for the Yuba-Sutter region:

- Identify recycled water projects that reduce the regional potable water demand, thereby improving regional water supply reliability. This is specifically true for areas expecting future growth and increased water demand such as the District and Yuba City.
- Identify projects with a high-supply reliability that may help local agencies avoid the costs associated with the development of additional groundwater wells and the costs of additional treatment to reach potable water quality standards as they continue to become more stringent.



## Chapter 6 System Supplies

In the future, the District may choose to participate in this Recycled Water Plan as it may allow the District to expand its recycled water use sooner as participants work collaboratively to produce and distribute recycled water throughout the southern Yuba County area.

Currently, the District does not offer recycled water to its customers. The primary obstacle is that the District is not the local land use authority, and the use of recycled water by future developments would require approval from the local land use authority (Yuba County).

As shown in Table 6-9, the District does not include recycled water in its supply projections in this 2015 UWMP.

**Table 6-9. Retail: Methods to Expand Future Recycled Water Use (DWR Table 6-6)**

<input checked="" type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.
Section 6.5.5 (Page 6-12)	Provide page location of narrative in UWMP

### 6.6 DESALINATED WATER OPPORTUNITIES

Desalination is a process that removes dissolved minerals from seawater, brackish water or treated wastewater. The District does not have access to ocean water and thus cannot participate in seawater desalination as a source of supply. In addition, the District's groundwater supply source does not contain brackish groundwater, and therefore the District cannot participate in brackish groundwater desalination as a source of supply.

### 6.7 EXCHANGES OR TRANSFERS

The District has no current or future planned agreements for short-term or long-term transfer and exchange within the District's service area.

### 6.8 FUTURE WATER PROJECTS

There are no expected future water supply projects or programs within the District's service area, as indicated in Table 6-10. This is due to the fact that the District's current water supply sources more than adequately meet the projected water use identified in the water supply and demand assessment.

**Table 6-10. Retail: Expected Future Water Supply Projects or Programs (DWR Table 6-7)**

<input checked="" 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.
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## Chapter 6 System Supplies

### 6.9 SUMMARY OF EXISTING AND PLANNED SOURCES OF WATER

Table 6-11 summarizes the actual water supplies for the District.

The District's projected groundwater supply is assumed to provide 100 percent of the District's potable water demand during Normal Years. Table 6-12 summarizes the future projected water supplies for the District.

**Table 6-11. Retail: Water Supplies - Actual (DWR Table 6-8)**

Water Supply	Additional Detail on Water Supply	2015		
		Actual Volume	Water Quality	Total Right or Safe Yield (optional)
Groundwater	South Yuba Subbasin	1,012	Drinking Water	
<b>Total</b>		<b>1,012</b>		<b>0</b>

NOTES: Volumes are in MG.

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

Water Supply	Additional Detail on Water Supply	Projected Water Supply Report To the Extent Practicable									
		2020		2025		2030		2035		2040 (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)
Groundwater	South Yuba Subbasin	1,871		2,792		4,163		4,163		4,163	
<b>Total</b>		<b>1,871</b>	<b>0</b>	<b>2,792</b>	<b>0</b>	<b>4,163</b>	<b>0</b>	<b>4,163</b>	<b>0</b>	<b>4,163</b>	<b>0</b>

NOTES: Volumes are in MG.

### 6.10 CLIMATE CHANGE IMPACTS TO SUPPLY

There is evidence that a warming trend that occurred during the latter part of the twentieth century will likely continue through the twenty-first century. These changes will have a direct effect on water resources in California, and numerous studies have been conducted to determine the potential impacts to water resources. Based on these studies, climate change could result in the following types of water resource impacts to California:

- Reductions in the average annual snowpack due to a rise in the snowline and a shallower snowpack in the low and medium elevation zones, such as in the Tuolumne River basin, and a shift in snowmelt runoff to earlier in the year;
- Changes in the timing, intensity and variability of precipitation, and an increased amount of precipitation falling as rain instead of as snow;



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### System Supplies

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- Long-term changes in watershed vegetation and increased incidence of wildfires that could affect water quality;
- Sea level rise and an increase in saltwater intrusion;
- Increased water temperatures with accompanying potential adverse effects on some fisheries and water quality;
- Increases in evaporation and concomitant increased irrigation need; and
- Changes in urban and agricultural water demand.



## CHAPTER 7

### Water Supply Reliability Assessment

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This chapter describes the long-term reliability and vulnerability of the District's water supplies. The District's implemented, or planned to be implemented, water management tools for increasing the reliability of water supplies are also addressed.

#### 7.1 CONSTRAINTS ON WATER SOURCES

The amount of groundwater water available to the District is constrained by seasonal conditions or changes in climatic patterns for a region. As the District finds a need to expand its water supply and capability in the future, finding new water sources that have satisfactory water quality will be important criteria for selection. All of the District's water sources receive full treatment in accordance with applicable Federal and State standards.

Each year the District reports water quality test results to its customers through the Consumer Confidence Report, also known as the Annual Water Quality Report. The report includes results of treated water tests from groundwater wells located in the Olivehurst and Plumas Lake water systems. At this time, the District does not anticipate any changes in supply availability as a result of water quality.

Climate change could constrain the District's long-term sustainability of water supplies by increasing variability in floods and droughts. Over the past several decades, the California water community as a whole has focused their attention on determining the effects of climate change, but there is no clear scientific consensus on exactly how climate change will quantitatively affect the State's water supplies. Therefore, being prepared for a wet water year, a critical water year, or somewhere in between, will give the District a better sense of the degree to which they may need to conserve or expand existing water supplies.

##### 7.1.1 Reliability of Groundwater Supplies

According to DWR Bulletin 118, the upper aquifer in the South Yuba Groundwater Sub-basin (water-bearing formations to a depth of 200 feet) has a specific yield estimated at 5 percent. The total volume of water stored in the aquifer is given as 1,090,000 AF (355,000 MG). It is assumed that this supply will be used primarily for agriculture and irrigation purposes, which tend to have shallower wells.

In order to assess available groundwater supply within the District's service areas, it is necessary to evaluate the storage of the deeper areas of the groundwater basin. It has been noted that the aquifer at depths greater than 400 feet is likely either confined or semi-confined, and should be treated as a separate aquifer from the shallower water-bearing formations. According to the Yuba County Groundwater Management Plan (Appendix H), the water-bearing formation at this depth is generally the Lower Laguna Formation, which is the "thickest and most extensive water-bearing unit." Though the yield of deeper wells may be comparable to that of shallower wells, confined aquifers have different physical properties than unconfined aquifers. For the deeper aquifer, the storage volume may be better estimated using specific storage, generally a lower percentage than the specific yield.



## Chapter 7

### Water Supply Reliability Assessment

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Because the District's wells are drilled to a depth of approximately 700 feet, this estimate of supply will evaluate the water-bearing formation from 400 to 800 feet in depth. Using a conservative specific storage of 1 percent, the storage of the lower aquifer is estimated at 428,000 AF. Aquifer tests and evaluation of the lower aquifer independent from the upper aquifer by a geotechnical team should be performed to accurately determine specific storage. Because little is known about the recharge of the deeper groundwater, head in the deeper wells and ground subsidence should be monitored to provide more information about the properties of the confined aquifer.

Because the District operates two separate water distribution systems, each well system serves separate areas of the District's service area. This UWMP assumes that the District's underlying aquifer supplies are distributed uniformly across the groundwater basin and supplies are readily available. The District's pumping records clearly demonstrate the District's ability to deliver reliable supplies under all hydrologic conditions. Groundwater supply is assumed to be drought resistant; therefore, no reduction in supply during dry years is anticipated. Historically, in dry periods, groundwater has been used to supplement surface water supplies to meet demands in other water districts in the region. If groundwater monitoring shows a detrimental cumulative effect on the South Yuba Subbasin, the District will continue to coordinate with YCWA and other local agencies and stakeholders to evaluate groundwater withdrawals in support of continued groundwater management efforts.

#### 7.2 RELIABILITY BY TYPE OF YEAR

The quantity of supply available from different water supply sources can vary from one year to the next depending on hydrologic conditions. Historical data, where available, were therefore used to develop a projected yield for each water supply source under three conditions: (1) normal water year, (2) single dry year, and (3) multiple dry years. In accordance with the DWR Guidebook, each condition was defined as follows:

- **Normal Water Year:** The year in the historical sequence most closely representing average runoff or allocation levels and patterns;
- **Single-Dry Year:** The year with the lowest annual runoff or allocation in the historical sequence; and
- **Multiple-Dry Year:** The lowest average runoff or allocation for a consecutive 5-year period in the historical sequence.

Table 7-1 lists the years that the District identifies as their historical average, single driest year, and driest multi-year period. These years are also known as the "Base Years." The available supplies column specifies the percentage and volume of the water supply expected if there were to be a repeat of the hydrology from that type of year.

As discussed in Section 6.2.3 (Groundwater Well Capacity), the District's current groundwater supply is constrained by a filter capacity of 16,000 gpm (8,725 MG/year). However, new developments within the District's service area are required to install new wells and treatment facilities as necessary, with maintenance and ownership transferred to the District. Since water delivery and treatment infrastructure will be developed and funded by developers, it is assumed that adequate water service will be available for planned growth in the District's service area.



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### Water Supply Reliability Assessment

As shown in Table 7-1, the District's average year supply is assumed to be 75 percent of the District's current groundwater filter capacity (75 percent of 16,600 gpm). Because the District's groundwater supply is assumed to be drought resistant, no reduction in supply during dry years is anticipated. Therefore, the District's dry year supplies are assumed to equal the District's average year supplies.

Historically, in dry periods, groundwater has been used to supplement surface water supplies to meet water demands of other water agencies in the region. If groundwater monitoring shows a detrimental cumulative effect on the South Yuba Groundwater subbasin, the District will coordinate with YCWA, DWR, and other local agencies and stakeholders to evaluate groundwater withdrawals in support of continued groundwater management efforts.

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

Year Type	Base Year <i>If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 1999-2000, use 2000</i>	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 checked="" 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	2005	6,544	100%
Single-Dry Year	1977	6,544	100%
Multiple-Dry Years 1st Year	1987	6,544	100%
Multiple-Dry Years 2nd Year	1988	6,544	100%
Multiple-Dry Years 3rd Year	1989	6,544	100%
Multiple-Dry Years 4th Year <i>Optional</i>	1990	6,544	100%
Multiple-Dry Years 5th Year <i>Optional</i>	1991	6,544	100%
Multiple-Dry Years 6th Year <i>Optional</i>	1992	6,544	100%

Agency 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 an agency 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.

NOTES: The District's average year supply is assumed to be equal to 75% of the District's current groundwater filter capacity. Because the District's groundwater supply is assumed to be drought resistant, the District's dry year supply is not subject to reduction during dry years and is assumed to be 100% of the District's normal year supply. Volumes are in MG.



## Chapter 7

### Water Supply Reliability Assessment

#### 7.3 SUPPLY AND DEMAND ASSESSMENT

The District's projected supply and demand for Normal Years, Single Dry Years and Multiple Dry Years are quantified and discussed below.

##### 7.3.1 Normal Year

The District's potable water supply is expected to continue to be supplied by groundwater from the South Yuba subbasin. The District's projected groundwater supply is assumed to provide 100 percent of the District's potable water demand during Normal Years.

As described in Chapter 4, the District's Normal Year demands have been projected based on anticipated growth within the District's service area and are consistent with the District's SB X7-7 per capita water use target for 2020.

As shown in Table 7-2, the District's Normal Year supplies are adequate to meet projected Normal Year demands.

**Table 7-2. Retail: Normal Year Supply and Demand Comparison (DWR Table 7-2)**

	2020	2025	2030	2035	2040 (Opt)
Supply totals (autofill from Table 6-9)	1,871	2,792	4,163	4,163	4,163
Demand totals (autofill from Table 4-3)	1,871	2,792	4,163	4,163	4,163
Difference	0	0	0	0	0
NOTES: Volumes are in MG; table references refer to DWR table numbers.					

##### 7.3.2 Single Dry Year

The District's projected groundwater supply is assumed to provide 100 percent of the District's potable water demand during Single Dry Years.

Demand reductions are not assumed during dry years. Therefore, the District's Single Dry Year demands are assumed to be the same as Normal Year demands.

As shown in Table 7-3, the District's Single Dry Year supplies are adequate to meet projected Single Dry Year demands.



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### Water Supply Reliability Assessment

**Table 7-3. Retail: Single Dry Year Supply and Demand Comparison (DWR Table 7-3)**

	2020	2025	2030	2035	2040 (Opt)
Supply totals	1,871	2,792	4,163	4,163	4,163
Demand totals	1,871	2,792	4,163	4,163	4,163
Difference	0	0	0	0	0

NOTES: Volumes are in MG.

#### 7.3.3 Multiple Dry Year

The District's projected groundwater supply is assumed to provide 100 percent of the District's potable water demand during Multiple Dry Years.

Demand reductions are not assumed during dry years. Therefore, the District's Multiple Dry Year demands are assumed to be the same as Normal Year demands.

As shown in Table 7-4, the District's Multiple Dry Year supplies are adequate to meet projected Multiple Dry Year demands.

**Table 7-4. Retail: Multiple Dry Years Supply and Demand Comparison (DWR Table 7-4)**

		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	1,871	2,792	4,163	4,163	4,163
	Demand totals	1,871	2,792	4,163	4,163	4,163
	Difference	0	0	0	0	0
Second year	Supply totals	1,871	2,792	4,163	4,163	4,163
	Demand totals	1,871	2,792	4,163	4,163	4,163
	Difference	0	0	0	0	0
Third year	Supply totals	1,871	2,792	4,163	4,163	4,163
	Demand totals	1,871	2,792	4,163	4,163	4,163
	Difference	0	0	0	0	0

NOTES: Volumes are in MG.



## Chapter 7

### Water Supply Reliability Assessment

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#### 7.4 REGIONAL SUPPLY RELIABILITY

To minimize the District's vulnerability to groundwater quality issues, the District will continue to coordinate with YCWA and other local agencies and stakeholders to evaluate groundwater withdrawals in support of continued groundwater management efforts.

In addition, the District has and continues to participate with YCWA and other local agencies to implement water conservation measures. The District is responsible for water conservation marketing and outreach to the District's customers.

With these available management tools, the District does not currently foresee a need to import water from other regions.



## CHAPTER 8

### Water Shortage Contingency Planning

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This chapter describes the District's Water Shortage Contingency Plan (WSCP) which establishes actions and procedures for managing water supply and water demand during water shortages. The WSCP's purpose is to minimize non-essential uses of water and conserve remaining supplies for the greatest public benefit. The District's WSCP, along with the District's 2010 UWMP, was adopted by the District Board of Directors in November 2011.

#### 8.1 STAGES OF ACTION

The District's WSCP provides four stages of actions based on increasing severity, as progressively more serious conditions warrant. This type of response would be appropriate for a drought, emergency supply outage condition, or other water shortages. These stages would be declared by the Board of Directors, as recommended by staff. Each water shortage episode is unique and will require individual water use restrictions to fit those unique circumstances.

The District's Water Shortage Contingency Plan contains four stages of action as follows:

- Stage 1 – Water Supply Warning
  - Mandatory restrictions on water use
  - Expected reduction up to 10 percent
- Stage 2 – Water Shortage Alert
  - Mandatory restrictions on water use
  - Expected reduction up to 20 percent
- Stage 3 – Water Shortage Crisis
  - Mandatory restrictions and prohibitions
  - Expected reduction up to 35 percent
- Stage 4 – Water Shortage Emergency
  - Mandatory restrictions and water allocations
  - Expected reduction up to 50 percent

Table 8-1 summarizes the four stages with their corresponding water use reduction objectives and water supply conditions.



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### Water Shortage Contingency Planning

**Table 8-1. Retail: Stages of Water Shortage Contingency Plan (DWR Table 8-1)**

Stage	Complete Both	
	Percent Supply Reduction <sup>1</sup>	Water Supply Condition
1	10%	Water Supply Warning
2	20%	Water Shortage Alert
3	35%	Water Shortage Crisis
4	50%	Water Shortage Emergency

<sup>1</sup> One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.

A determination of a water shortage or drought emergency can be made by the Governor and action can be taken by the State Water Resources Control Board (SWRCB) to mandate water conservation. The District would then implement the stage of action that met the conservation requirements mandated by the State.

#### 8.2 PROHIBITIONS ON END USES

California Water Code Section 10632(a)(4) requires mandatory prohibitions against specific water use practices that may be considered excessive during water shortages.

In response to the ongoing drought conditions of the State, and to implement the mandatory potable water use restrictions imposed by the SWRCB, the District implemented its Water Shortage Contingency Plan in 2015. The mandatory prohibitions against specific water use practices required by the District's Water Shortage Contingency Plan, as of March 17, 2015, include the following:

- Water is to be used for beneficial and useful purposes only. All unnecessary and wasteful uses of water are prohibited.
- Washing down sidewalks, driveways, parking lots or other paved surfaces is prohibited except to alleviate immediate fire or sanitation hazards.
- Free-flowing hoses are prohibited for all uses, including vehicle and equipment washing, ponds, and evaporative coolers. Automatic shut-off devices shall be installed on any hose or other large-volume filling apparatus in use.
- Leaking consumer pipes or faulty sprinklers shall be repaired within five days or less if warranted by the severity of the problem.
- All pools, spas, and ornamental fountains/ponds shall be equipped with recirculating pumps and shall be constructed to be leak-proof. Pool draining and refilling shall be allowed only for health, maintenance or structural considerations.



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### Water Shortage Contingency Planning

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- Landscape irrigation shall be limited to a maximum of three days per week when necessary based on the following odd-even schedule:
  - Customers with street addresses that end with odd numbers may irrigate only on Tuesdays, Thursdays, and Saturdays.
  - Customers with street addresses that end with even numbers may irrigate only on Wednesdays, Fridays, or Sundays.
  - No irrigation is permitted on Mondays.
- Automatic sprinkler system timers shall be set to operate only during off-peak hours between 9:00 p.m. and 6:00 a.m.
- Washing of streets, parking lots, driveways, sidewalks, or buildings is prohibited except as necessary for health, sanitary or fire protection services.
- Restaurants shall serve water only upon request.

In addition to the mandatory water restrictions required by the District's Water Shortage Contingency Plan, the SWRCB adopted emergency regulations that were passed into law in March 2015. The SWRCB's prohibitions actions are listed below. The following actions are prohibited, except where necessary to address an immediate health and safety need or to comply with a term or condition in a permit issued by a state or federal agency:

- The application of potable water to any driveway or sidewalk.
- Using potable water to water outdoor landscapes in a manner that causes runoff to adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots or structures.
- Using a hose that dispenses potable water to wash a motor vehicle, unless the hose is fitted with a shut-off nozzle.
- The use of potable water in a fountain or other decorative water feature, except where the water is part of a recirculating system.
- The application of potable water to outdoor landscapes during and within 48-hours after measurable rainfall.
- The serving of drinking water other than upon request in eating or drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served and/or purchased.
- To promote water conservation, operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guestroom using clear and easily understood language.

In October 2015, the District adopted a water conservation target of 20 percent along with drought emergency water service surcharges and a tiered drought emergency water rate system. The resolution (Resolution 2300) that was adopted on October 15, 2015 is included in Appendix J. On September 15, 2016, the District's Board of Directors revised its water shortage contingency target



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### Water Shortage Contingency Planning

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to 10 percent and implemented emergency drought water rates (effective October 1, 2016) that corresponded with this 10 percent reduction target. It should be noted that the water stages defined in the District's drought emergency water rates (Resolution 2300, Appendix J) did not correlate with the stages defined in the District's Water Shortage Contingency Plan.

On April 7, 2017, following unprecedented water conservation and plentiful winter rain and snow, the Governor ended the drought state of emergency in most of California, but maintained the State's water reporting requirements and prohibition on wasteful practices. In response, the District Board of Directors will consider rescinding the drought emergency water service surcharges at their May 2017 meeting.

The District's water rate system is further discussed in Section 9.2.3 (Conservation Pricing).

Table 8-2 lists the restrictions and prohibitions on end uses for each stage of the District's WSCP.



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**Table 8-2. Retail Only: Restrictions and Prohibitions on End Uses (DWR Table 8-2)**

Stage	Restrictions and Prohibitions on End Users	Additional Explanation or Reference (optional)	Penalty, Charge, or Other Enforcement?
1	CII - Restaurants may only serve water upon request		No
1	Other water feature or swimming pool restriction	All pools, spas, and ornamental fountains/ponds shall be equipped with recirculating pumps and shall be constructed to be leak proof.	No
1	Other water feature or swimming pool restriction	Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations.	No
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		No
1	Other - Require automatic shut of hoses		No
1	Other - Prohibit use of potable water for washing hard surfaces	Washing down of sidewalks, driveways, parking lots or other paved surfaces is prohibited except to alleviate immediate fire or sanitation hazards.	No
1	Other	Free flowing hoses are prohibited for all uses, including vehicle and equipment washing, ponds, and evaporative coolers.	No
2	Landscape - Limit landscape irrigation to specific times	Automatic sprinkler systems shall only operate during off-peak hours between 12AM - 6AM.	Yes
2	Landscape - Limit landscape irrigation to specific days	Landscape irrigation shall be limited to a maximum of three days per week when necessary based on the following an odd-even schedule: -Odd numbered street addresses may irrigate only on Tuesdays, Thursdays, and Saturdays -Even numbered street addresses may irrigate only on Wednesdays, Fridays, and Sundays -No irrigation on Mondays	Yes
2	CII - Restaurants may only serve water upon request		Yes
2	Other - Prohibit use of potable water for washing hard surfaces	Washing of streets, parking lots, driveways, sidewalks, or buildings is prohibited except necessary for health, sanitary, or fire protection purposes.	Yes
3	Landscape - Limit landscape irrigation to specific days	Landscape irrigation shall be limited to a maximum of two days per week only when necessary based on the following odd-even schedule: -Odd numbered street addresses may irrigate only on Tuesdays and Saturdays -Even numbered street addresses may irrigate only on Wednesdays and Sundays -No irrigation on Mondays, Thursdays, and Fridays	Yes
3	Water Features - Restrict water use for decorative water features, such as fountains	Water use for ornamental ponds and fountains is prohibited.	Yes
3	Other water feature or swimming pool restriction	No potable water from the utility's system shall be used to fill or refill new swimming pools, artificial lakes, ponds, or streams until the water crisis is over.	Yes
3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Washing of automobiles or equipment shall be done on the lawn or at a commercial establishment that uses recycled or reclaimed water.	Yes
4	Landscape - Limit landscape irrigation to specific days	Landscape irrigation shall be limited to a maximum of one day per week when necessary based on the following odd-even schedule: -Odd numbered street addresses may irrigate only on Saturdays -Even numbered street addresses may irrigate only on Sundays -No irrigation on Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays	Yes
4	Other	Flushing of fire hydrants is prohibited except in case of emergency or only for essential operations.	Yes
4	Other	No potable water shall be sold outside the District's service area.	Yes
4	Other	New connections to the District system will not be allowed.	Yes



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#### 8.3 PENALTIES, CHARGES, OTHER ENFORCEMENT OF PROHIBITIONS

Section 10632(a)(6) of the California Water Code requires a water supplier to penalize or charge for excessive water use, where applicable.

If the District believes that water has been or is being used in violation of the above restrictions, the District will send a written notice to the customer specifying the nature of the violation and the date and time of occurrence and request that the customer cease the violation and take remedial action. The District will provide the customer with a copy of the ordinance and inform the customer that failure to comply may result in termination of water service.

The District considers any violations of the SWRCB's prohibited water uses as infractions and are punishable by fines of \$500 for each day in which the violation occurs. Any employee of a public agency charged with enforcing laws may write and issue a ticket to the violator.

#### 8.4 CONSUMPTION REDUCTION METHODS

California Water Code Section 10632(a)(5) requires the water supplier to provide consumption reduction methods in the most restrictive stages of a water shortage.

On October 15, 2015, the District adopted Resolution 2300, which established a tiered emergency drought water rate structure. For the District's metered customers, this rate structure encouraged conserving behavior by incorporating a tiered volume charge in addition to a fixed meter charge. The District found this drought rate structure to be extremely effective at reducing its customers water use. The District's drought rate structure is further discussed in Chapter 9 (Section 9.2.3 Conservation Pricing).

The District will continue to use the consumptive reduction methods proposed in Table 8-3.

**Table 8-3. Retail Only: Stages of Water Shortage Contingency Plan – Consumption Reduction Methods (DWR Table 8-3)**

Stage	Consumption Reduction Methods by Water Supplier	Additional Explanation or Reference <i>(optional)</i>
All	Reduce System Water Loss	
All	Implement or Modify Drought Rate Structure or Surcharge	
4	Moratorium or Net Zero Demand Increase on New Connections	No potable water shall be sold to customers outside the District's service area and no new connections to the District's system will be allowed.
4	Decrease Line Flushing	Flushing of fire hydrants is prohibited except in case of emergency or only for essential operations.
NOTES: Consumption reduction methods not associated with a stage can be implemented at any time.		



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### Water Shortage Contingency Planning

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#### 8.5 DETERMINING WATER SHORTAGE REDUCTIONS

California Water Code Section 10632(a)(9) requires the water supplier to develop a mechanism for determining actual reductions in water use in the course of carrying out the urban water supply shortage contingency analysis.

As described in Chapter 6, the District is supplied by municipal groundwater wells. The District's wells have flow monitoring devices that record the amount of water entering the District's distribution system. Further, the District is in the process of converting all customers to meters, and the meter retrofit program is anticipated to be completed by 2019. Once the conversion to metered water use is complete, the District will be able to determine reductions in demand based on metered usage.

#### 8.6 REVENUE AND EXPENDITURE IMPACTS

Section 10632(a)(7) of the California Water Code requires an analysis of the impacts of each of the actions taken for conservation and water restriction on the revenues and expenditures of the water supplier.

An extended water shortage would reduce the amount of water sold by the District to its customers. The most severe restrictions could reduce consumption up to 50 percent. In the event of a water shortage scenario, District revenues may decrease from the implementation of conservation measures and corresponding reduction in water sales. Conversely, expenses could increase as a result of the implementation and enforcement of water conservation measures.

As stated previously, the District produces groundwater only. Groundwater is assumed to be drought-resistant; consequently, supply shortages would not likely occur as result of single season low-precipitation events or dry years. Supply shortages would be the result of a catastrophic event or water quality issue that would impact large portions of the subbasin.

#### 8.7 RESOLUTION OR ORDINANCE

As a requirement of the UWMPs, the District is required to develop a water shortage contingency resolution or ordinance for submittal with the UWMP. Appendix I includes the District's Water Conservation Ordinance 185, which establishes rules and regulations for water service and provides procedures and penalties for enforcement.

#### 8.8 CATASTROPHIC SUPPLY INTERRUPTION

Catastrophic water system failures from a natural disaster or infrastructure failure may result in the inability of the water system to meet demand. Water system failures may also result in the inability of the water system to meet demand with water that meets regulatory water standards.

As a requirement of Water Code Section 10632, actions to be taken by the water supplier to prepare for and implement during a catastrophic interruption of water supplies are described below.



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### Water Shortage Contingency Planning

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#### 8.8.1 Regional Power Outage

A power outage would be a significant threat to the District's water system. The devastating effect of major natural disasters on power systems can cause widespread outages over a long period of time. Windstorms, flooding and earthquakes can take down power lines and interrupt service.

The District has standby generators at its each of its wells. New generators are planned for all new wells. Repair or replacement of the electrical equipment control panels and wiring could be accomplished within 24 hours.

In the event of a power outage, the following steps shall be initiated:

- Obtain the estimated down time from PG&E;
- Initiate backup power;
- Increase disinfectant residual;
- Issue "Boil Water", "Do Not Drink", or "Do Not Use" orders and press releases, as appropriate;
- Initiate appropriate stage of Water Shortage Contingency Plan; and/or finally
- In the event the District cannot meet customer demands the manager would need to authorize a temporary increase of the auxiliary supplies, if available.

#### 8.8.2 Earthquake

Earthquakes can and have been very destructive to water utility systems in California. Heavy damage results from loss of power to ruptured pumping stations and displacement of soil causing broken lines, cracks in concrete storage tanks and structural damage. Connection pipes can break due to movement; pump and motor housings can be damaged from ground shaking events. In the event of an earthquake, the following steps shall be initiated:

- Initiate backup power;
- Increase disinfectant residual;
- Issue "Boil Water", "Do Not Drink", or "Do Not Use" orders and press releases, as appropriate;
- Initiate appropriate stage of Water Shortage Contingency Plan; and/or
- In the event the District cannot meet customer demands the manager would need to authorize a temporary increase of the auxiliary supplies, if available.

#### 8.9 MINIMUM SUPPLY NEXT THREE YEARS

As an UWMP requirement, all water agencies are required to provide an estimate of the minimum water supply available during each of the next three water years, as shown in Table 8-4. This estimate reflects the combined availability of all water sources and assumes the same hydrology that was noted in the historical multiple-dry year period (Chapter 7, Section 7.2).



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### Water Shortage Contingency Planning

**Table 8-4. Retail: Minimum Supply Next Three Years (DWR Table 8-4)**

	2016	2017	2018
Available Water Supply	6,544	6,544	6,544
NOTES: Because the District's groundwater supply is assumed to be drought resistant, the District's minimum year supply is not subject to reduction and is assumed to be 100% of the District's normal year supply. The District's average year supply is assumed to be equal to 75% of the District's current groundwater filter capacity (75% of 16,600 gpm). Volumes shown are in MG.			

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## CHAPTER 9

### Demand Management Measures

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This chapter describes the District’s historical and existing water conservation program, status of implementation of Demand Management Measures (DMMs), and projected future conservation implementation. The CWC requires that UWMPs include a comprehensive description of historical, current, and projected water conservation programs.

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

*(1) (A) ... a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.*

*(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:*

*(i) Water waste prevention ordinances.*

*(ii) Metering.*

*(iii) Conservation pricing.*

*(iv) Public education and outreach.*

*(v) Programs to assess and manage distribution system real loss.*

*(vi) Water conservation program coordination and staffing support.*

*(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.*

In previous UWMPs, a substantial amount of data was required to document a water supplier’s progress in implementing fourteen specific DMMs. In 2014, Assembly Bill 2067 simplified, clarified, and updated reporting requirements for DMMs. Starting with this 2015 UWMP, focus has turned away from detailed descriptions of each of the fourteen DMMs and has turned to key water conservation measures that are being implemented to achieve compliance with SB X7-7. For retail agencies, the number of DMMs to be addressed has been reduced from fourteen to six (plus an “other” category).

Members of the California Urban Water Conservation Council (CUWCC) may include their reporting in the 2015 UWMP, but a narrative is also required.

#### 9.1 WATER CONSERVATION PROGRAM OVERVIEW

Water conservation plays a significant role in the District’s UWMP and its long-term strategy for meeting the water needs of the District’s current customers and future service area expansions. The goals of the District’s water conservation program are to:

- Promote water use efficiency and beneficial uses of potable water;
- Ensure a reliable water supply;
- Seek improvements to reduce system losses; and
- Demonstrate commitment to the DMMs.



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### Demand Management Measures

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#### 9.2 DEMAND MANAGEMENT MEASURES

The six DMMs required to be discussed in the 2015 UWMP include the following:

- Water waste prevention ordinances;
- Metering;
- Conservation pricing;
- Public education and outreach;
- Programs to assess and manage distribution system real loss; and
- Water conservation program coordination and staffing support.

For each DMM, the current program is described, followed by a description of how the DMM was implemented over the previous five years and the planned implementation to achieve the water use targets required by SB X7-7 (see Chapter 5 SB X7-7 Baselines and Targets).

##### 9.2.1 Water Waste Prevention Ordinances

The District has a water conservation ordinance which establishes rules and regulations for water service and provides procedures and penalties for enforcement. For dry year conditions, or during other water supply shortages, the District has a Water Shortage Contingency Plan which includes specific water use restrictions. The District's Water Shortage Contingency Plan is described in Chapter 8 and the District's water conservation ordinance is included in Appendix I of this 2015 UWMP.

Implementation of this DMM is expected to help the District achieve its water use targets by minimizing the non-essential uses of water so that water is available to be used for human consumption, sanitation, and fire protection.

##### 9.2.2 Metering

Although the District is currently installing water meters on all new connections, the District's water system is not yet fully metered. The District's Plumas Lake water system is totally metered; however, of the 4,108 connections in the Olivehurst water system, approximately 600 connections are not yet metered. The District's on-going meter installation program is on track to convert all of the District's unmetered accounts to metered accounts by 2019, and therefore satisfy the 2025 State deadline.<sup>1</sup>

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<sup>1</sup> In 2004, the California Legislature passed AB 2572, requiring all water suppliers to install water meters on all customer connections by January 1, 2025.



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### Demand Management Measures

Under the District's normal (non-drought) water rates, the District's metered water connections are billed a fixed monthly service charge based on meter size plus a water usage fee based on metered consumption. The District's unmetered water connections are billed based on a monthly flat rate based on service size, and are converted to the metered rate once a water meter has been installed.

Effectiveness of the metering program will be monitored by tracking the number of retrofits installed per year. By implementing the on-going meter installation and replacement program, the District is developing a more focused and direct monitoring tool allowing the District and their customers to better monitor and track water use and help identify high water usage and/or leaks.

#### 9.2.3 Conservation Pricing

As discussed above, the District's water system is not yet fully metered. Under the District's current normal (non-drought) water rates (included in Appendix J), metered customers are billed a fixed monthly service charge based on meter size plus a uniform water usage fee based on metered consumption. As soon as the current unmetered (flat rate) customers have a meter installed, they will also be converted to the uniform metered rate. Table 9-1 shows the District's current normal (non-drought) water rates.

**Table 9-1. District Current Normal (Non-Drought) Water Rates<sup>(a)</sup>**

Fixed Monthly Service Charge		
Meter (or Service) Size	Metered Account Base Charge, \$	Flat Rate Account Base Charge, \$
¾"	15.00	43.50
1"	25.00	66.70
1 ½"	25.00	101.20
2"	25.00	145.70
3"	25.00	303.50
4"	25.00	424.90
Unit Water Service Charge		
Meter (or Service) Size	Metered Account Unit Service Charge, \$	Flat Rate Account Unit Service Charge, \$
All	\$1.50 per CCF	None

<sup>(a)</sup> Domestic fixed water rates, effective January 1, 2017 (Resolution 2287).

The District is dedicated to providing reliable water services in a cost-effective manner while protecting water resources and the public's health. The District regularly reviews its current water rates to ensure that the rates are fair and equitable. Once all of the District's customers are metered, the District's current water rate structure and water rates will be reviewed, and any required adjustments to the water rate structure or water rates will be proposed. Any proposed change in the District's water rate structure or water rates will be subject to public review in accordance with the requirements of Proposition 218 and approval by the District Board of Directors.



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### Demand Management Measures

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As described in Chapter 8 Water Shortage Contingency Planning, in October 2015, the District adopted Resolution 2300, which provided for drought emergency water service surcharges and the adoption of a tiered drought emergency water rate system. For the District's metered customers, this rate structure encouraged further water conserving behavior by incorporating a tiered volumetric surcharge in addition to the normal (non-drought) unit service charge. Consequently, water usage reductions directly reduced the surcharge to the metered customer, while excessive water use resulted in increased surcharges to the metered customer.

The District's drought emergency surcharges adopted in Resolution 2300 are provided in Appendix J and summarized in Table 9-2. These surcharges were defined for different stages and percentage reduction targets. However, the stages defined in the District's drought emergency water rates did not correlate with the stages defined in the District's Water Shortage Contingency Plan.

On April 7, 2017, following unprecedented water conservation and plentiful winter rain and snow, the Governor ended the drought state of emergency in most of California, but maintained the State's water reporting requirements and prohibition on wasteful practices. In response, the District Board of Directors will consider rescinding the drought emergency water service surcharges at their May 2017 meeting. However, if drought conditions return and there is a need to enact drought emergency surcharges to encourage further water conservation and address the financial impact of a drought, a drought emergency rate system will again be evaluated and will be subject to public review in accordance with the requirements of Proposition 218 and approval by the District Board of Directors.

Implementation of this DMM is expected to help the District achieve its water use targets by ensuring water customers pay the true cost of water and to adequately fund water system operations and maintenance, including repair and replacement programs, and water conservation programs.



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### Demand Management Measures

**Table 9-2. District Drought Emergency Water Rates<sup>(a)</sup>**

Quantity Charge for Metered Accounts					
2015 Emergency Drought Water Rates, \$/ccf <sup>(b)</sup>					
Meter Size	Tier Water Use	Stage 1 (20%)	Stage 2 (30%)	Stage 3 (40%)	Stage 4 (50%)
¾"	0-12 ccf	0.00	0.20	0.50	0.90
¾"	13-30 ccf	0.30	0.50	0.90	0.40
¾"	Over 30 ccf	0.70	0.80	1.40	2.20
1" and larger	All Water Use	0.21	0.39	0.72	1.10
2016 Emergency Drought Water Rates, \$/ccf <sup>(c)</sup>					
Meter Size	Tier Water Use	Stage 1 (20%)	Stage 2 (30%)	Stage 3 (40%)	Stage 4 (50%)
¾"	0-9 ccf	0.00	0.25	0.50	0.95
¾"	10-30 ccf	0.30	0.50	1.00	0.45
¾"	Over 30 ccf	0.70	0.80	1.45	2.45
1" and larger	All Water Use	0.25	0.45	0.82	1.24
2017 Emergency Drought Water Rates, \$/ccf <sup>(d)</sup>					
Meter Size	Tier Water Use	Stage 1 (20%)	Stage 2 (30%)	Stage 3 (40%)	Stage 4 (50%)
¾"	0-6 ccf	0.00	0.30	0.60	1.00
¾"	7-30 ccf	0.30	0.55	0.95	1.50
¾"	Over 30 ccf	0.70	0.80	1.60	2.50
1" and larger	All Water Use	0.28	0.50	0.90	1.37
Revised Emergency Drought Water Rates, \$/ccf <sup>(e)</sup>					
Meter Size	Tier Water Use	Stage 1a (10%)			
¾"	0-20 ccf	0.00			
¾"	21-30 ccf	0.30			
¾"	Over 30 ccf	0.70			
1" and larger	All Water Use	0.16			
Fixed Monthly Surcharge for Flat Rate Accounts, \$					
Service Size		Stage 2 (30%)	Stage 3 (40%)	Stage 4 (50%)	
¾"		0.37	2.28	3.10	
1"		0.56	3.50	4.76	
1 ½"		0.85	5.31	7.22	
2"		1.22	7.65	10.40	
3"		2.55	15.92	21.66	
4" and larger		3.57	22.29	30.31	
<p><sup>(a)</sup> Proposed maximum emergency drought rates adopted by the District on October 1, 2015 (Resolution 2300).</p> <p><sup>(b)</sup> Effective on or after November 1, 2015.</p> <p><sup>(c)</sup> Effective on or after January 1, 2016.</p> <p><sup>(d)</sup> Effective on or after January 1, 2017.</p> <p><sup>(e)</sup> Revision 1 to Resolution 2300 approved by District Board of Directors on September 15, 2016; effective on or after October 1, 2016.</p> <p>ccf = one hundred cubic feet or approximately 748 gallons</p>					



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### Demand Management Measures

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#### 9.2.4 Public Education and Outreach

The District has an active public information and outreach program. The District has participated in public outreach activities through the YUBA FIRST 5 communication efforts, and anticipates developing a water conservation program that would include various components of a public and school outreach program as funding and staffing resources are available. The District anticipates distributing information to the public about water saving programs and conservation measures through monthly bill messages. In addition, monthly water bills are designed to show water used over the last billing period with a summary of water usage by each billing period for the previous year.

Implementation of this DMM is expected to help the District achieve its water use targets by educating water users about the importance of improving water use efficiency and avoiding water waste.

#### 9.2.5 Programs to Assess and Manage Distribution System Real Loss

A water audit is a process of accounting for water use throughout a water system in order to quantify the efficiency of the water distribution system. Unaccounted-for water is the difference between metered production and metered consumption on a system-wide basis. A leak detection program typically consists of both visual inspection as well as audible inspection. Visual inspection includes the inspection of distribution system appurtenances (e.g., fire hydrants, valves, meters, etc.) to identify obvious signs of leakage. To perform audible leak detection, specialized electronic listening equipment is used to detect the sounds associated with distribution system leakage. This process allows the agency to pinpoint the location of suspected leaks.

Repair and maintenance of the water distribution systems are priorities for the District. The District has a Capital Improvement Plan that outlines maintenance programs for maximizing the efficiency of water distribution system operations and minimizing water losses. These programs include using Supervisory Control and Data Acquisition (SCADA) systems to monitor groundwater production, quick responses to water main leak detection and repair, recalibration of each well meter every four years, annual pump efficiency testing, and water quality efforts including main flushing and water quality testing. In addition, the District has an ongoing pipe replacement program to replace the Olivehurst system's aging steel pipelines.

Ongoing analysis of unaccounted for water is one of the most effective means to achieve conservation by reducing leaks from the system. Actual losses in the District's Olivehurst system are unknown until the Olivehurst system becomes fully metered. As mentioned previously, the District's meter retrofit program is anticipated to be completed by 2019. Once the conversion to metered water use is complete, the District will be able to determine reductions in demand based on metered usage. In 2015, actual losses in the District's Plumas Lake system were approximately 6.5 percent. The District's Plumas Lake system is relatively new; therefore, water loss percentages are expected to be low. However, all customers in the District's service area are notified to conduct a repair whenever it appears possible that leaks exist on the customer's side of the meter. District staff continually monitor leak repairs to ensure losses are minimized.



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### Demand Management Measures

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Concurrent with completion of the District's metering plan, implementation of this DMM is expected to help the District achieve its water use targets by identifying sources of water loss quickly so repairs can be made and losses minimized.

#### 9.2.6 Water Conservation Program Coordination and Staffing Support

The District does not have a full-time Water Use Efficiency Practitioner, as the District's size does not warrant a full-time position. However, the District does have a full-time staff member who is responsible for implementing and monitoring the District's water conservation activities and is working towards obtaining the AWWA Water Use Efficiency Practitioner certification. The Water Use Efficiency Practitioner's role is to develop, implement and manage the District's water conservation program and to coordinate on-going conservation programs with other agencies. District staff also support conservation efforts through enforcement and monthly billing mailers.

Implementation of this DMM is expected to help the District achieve its water use targets by making water conservation and implementation of the District's water conservation program a priority.

### 9.3 OTHER DEMAND MANAGEMENT MEASURES

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

- Residential conservation programs; and
- Commercial, industrial, institutional customer conservation programs.

These programs are described below.

#### 9.3.1 Residential Conservation Programs

The District's service area is demographically diverse and located in an area (Yuba County) with a median household income of about \$46,800 per year which is much lower than the neighboring counties (Sutter County and Placer County)<sup>2</sup>. Furthermore, according to U.S. Census data, the median household income in Olivehurst is \$44,065, which is lower than the county-wide median. As such, District customers are very sensitive to water rates and the District's revenues are constrained. Consequently, the District has limited personnel and funding to exhaustively support residential assistance programs and current water rates cannot support the costs associated with performing water surveys; therefore, water surveys are not part of the approved operating budget. In addition, District management and its Board of Directors are also concerned about the personal safety of its staff performing on-site residential audits; therefore, at this time, residential audits are not conducted.

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<sup>2</sup> Median household income for Yuba County, Table H-18 Regional Income Distribution, Yuba County 2013-2021 Housing Element Update, adopted January 14, 2014.



## **Chapter 9**

### **Demand Management Measures**

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The District does encourage its customers to use water efficient hardware and plumbing fixtures. The District anticipates improving this program as funding becomes available; however, much of the success of this program is contingent upon grant funding to support water conservation programs. The District may choose to incorporate information about high-efficiency washing machines and ultra-low flush toilets into its public information programs.

Implementation of this DMM is expected to help the District achieve its water use targets by reducing the amount of water consumed by its residential customers.

#### **9.3.2 Commercial, Industrial, Institutional Customers Conservation Programs**

The District may choose to pass a resolution to require the future construction projects to use water conservation methods for plumbing fixtures, including Ultra-Low Flush Toilets (ULFT), low-flow showerheads, and waterless urinals.

Implementation of this DMM is expected to help the District achieve its water use targets by reducing the amount of water consumed by its Commercial Industrial Institutional (CII) customers.

#### **9.4 PLANNED IMPLEMENTATION TO ACHIEVE WATER USE TARGETS**

Water conservation measures are a vital part of the District's overall plan to achieve reliable, high quality, and cost-effective water supply for its customers. As described above, the District has implemented mandatory potable water use restrictions and conservation pricing. The District has found its current drought rate structure to be extremely effective at reducing customer water use.

#### **9.5 MEMBERS OF THE CALIFORNIA URBAN WATER CONSERVATION COUNCIL**

In 1991 (amended September 16, 1999), a MOU regarding urban water conservation in California was made that formalizes an agreement between DWR, water utilities, environmental organizations, and other interested groups to implement Best Management Practices (BMPs) and make a cooperative effort to reduce the consumption of California's water resources. This MOU is administered by the CUWCC. The District is not currently a signatory of the MOU and is therefore not a member of CUWCC.

However, the District realizes the importance of the BMPs to ensure a reliable future water supply. The District is committed to implementing water conservation programs to maximize sustainability in meeting future water needs for its customers.



# CHAPTER 10 Plan Adoption, Submittal, and Implementation

This chapter provides information regarding the notification, public hearing and adoption of the Plan.

## 10.1 INCLUSION OF ALL 2015 DATA

Because 2015 is the first compliance year for SB X7-7, the 2015 UWMPs must contain data through the end of 2015. If a water supplier bases its accounting on a fiscal year (July through June) the data must be through the end of the 2015 fiscal year (June 2015). If the water supplier bases its accounting on a calendar year, the data must be through the end of the 2015 calendar year (December 2015).

As indicated in Chapter 1, the District uses a calendar year for water supply and demand accounting, and therefore this 2015 UWMP includes data through December 2015.

## 10.2 NOTICE OF PUBLIC HEARING

The District provided 60-day notice of the preparation of its 2015 UWMP, and notice of the 2015 UWMP Public Hearing, to Yuba County as shown in Table 10-1.

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

County Name	60 Day Notice	Notice of Public Hearing
Yuba County	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Other agencies notified by the District included the following:

- Yuba County Water Agency (YCWA); and
- Linda County Water District (LCWD).

Public hearing notifications for adopting the Plan were published in a local newspaper (Territorial Dispatch). Copies of the 60-day notice and published Notice of Public Hearing are included in Appendix D.

## 10.3 PUBLIC HEARING AND ADOPTION

The District has encouraged community and public interest involvement in the Plan update through the use of mailings, public meetings, and web-based communication. Copies of the District’s outreach efforts are included in Appendix D.

A public hearing was held on May 18, 2017. The public hearing provided an opportunity for all District water users and the general public to become familiar with the Plan and ask questions about its water supply, in addition to the District’s continuing plans for providing a reliable, safe, high-quality water supply. The adoption, implementation and economic impact of revised per capita water use targets (described in Chapter 5) was also discussed. Copies of the Draft Plan were



## **Chapter 10**

### **Plan Adoption, Submittal, and Implementation**

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made available for public inspection at the District's office, as well as on the District's website ([www.opud.net](http://www.opud.net)).

This Plan was adopted by the District's Board of Directors on May 18, 2017. A copy of the adoption resolution is provided in Appendix K.

#### **10.4 PLAN SUBMITTAL**

A copy of this 2015 UWMP will be submitted to DWR within 30 days of adoption. The adopted 2015 UWMP will be submitted electronically to DWR using the Water Use Efficiency (WUE) data submittal tool. A CD or hardcopy of the adopted 2015 UWMP will also be submitted to the California State Library.

No later than 30 days after adoption, a copy of the adopted 2015 UWMP, including the Water Shortage Contingency Plan, will be provided to Yuba County.

#### **10.5 PUBLIC AVAILABILITY**

No later than 30 days after submittal to DWR, copies of this Plan will be available at the Olivehurst Public Utility District for public review during normal business hours. An electronic copy of this Plan will also be available for review and download on the District's website ([www.opud.net](http://www.opud.net)).

#### **10.6 PLAN IMPLEMENTATION**

This Plan will be the source document for any Senate Bill 610 Water Supply Assessments or Senate Bill 221 Water Supply Verifications required for any proposed projects between 2016 and 2020 that are subject to the CEQA and would demand an amount of water equivalent or greater than the amount of water required by a 500-dwelling unit project. Lastly, this Plan will provide guidance and direction on development of new local supplies and implementation of water conservation programs and recycled water expansion to meet the requirements of SB X7-7.

#### **10.7 AMENDING AN ADOPTED UWMP**

If the District amends its 2015 UWMP, copies of amendments or changes to the Plan will be submitted to DWR, the California State Library, and Yuba County within 30 days after adoption.

# **APPENDIX A**

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## Legislative Requirements

- California Water Code – Urban Water Management Planning
- California Water Code – Sustainable Water Use and Demand Reduction

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**California Water Code  
Urban Water Management Planning**

**California Water Code Division 6, Part 2.6.**

**Chapter 1. General Declaration and Policy §10610-10610.4**

**Chapter 2. Definitions §10611-10617**

**Chapter 3. Urban Water Management Plans**

Article 1. General Provisions §10620-10621

Article 2. Contents of Plans §10630-10634

Article 2.5. Water Service Reliability §10635

Article 3. Adoption And Implementation of Plans §10640-10645

**Chapter 4. Miscellaneous Provisions §10650-10656**

## **Chapter 1. General Declaration and Policy**

### SECTION 10610-10610.4

10610. This part shall be known and may be cited as the "Urban Water Management Planning Act."

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

- (1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.
- (2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.
- (3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.
- (4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years.
- (5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.
- (6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.
- (7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.

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

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

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

10610.4. The Legislature finds and declares that it is the policy of the state as follows:

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

(b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.

(c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

## **Chapter 2. Definitions**

### SECTION 10611-10617

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

10611.5. "Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

10612. "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses,

reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

10616. "Public agency" means any board, commission, county, city and county, city, regional agency, district, or other public entity.

10616.5. "Recycled water" means the reclamation and reuse of wastewater for beneficial use.

10617. "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

## **Chapter 3. Urban Water Management Plans**

### **Article 1. General Provisions**

#### **SECTION 10620-10621**

10620. (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).
- (b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.
- (c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.
- (d) (1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.
- (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that

share a common source, water management agencies, and relevant public agencies, to the extent practicable.

- (e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.
  - (f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.
10621. (a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero, except as provided in subdivision (d).
- (b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.
- (c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).
- (d) Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.

## **Article 2. Contents of Plan**

### **SECTION 10630-10634**

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.
10631. A plan shall be adopted in accordance with this chapter that shall do all of the following:
- (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.
  - (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of

water available to the supplier, all of the following information shall be included in the plan:

- (1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.
  - (2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.
  - (3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.
  - (4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.
- (c) (1) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:
- (A) An average water year.
  - (B) A single-dry water year.
  - (C) Multiple-dry water years.
- (2) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

- (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.
- (e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:
  - (A) Single-family residential.
  - (B) Multifamily.
  - (C) Commercial.
  - (D) Industrial.
  - (E) Institutional and governmental.
  - (F) Landscape.
  - (G) Sales to other agencies.
  - (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
  - (I) Agricultural.
  - (J) Distribution system water loss.
- (2) The water use projections shall be in the same five-year increments described in subdivision (a).
- (3) (A) For the 2015 urban water management plan update, the distribution system water loss shall be quantified for the most recent 12-month period available. For all subsequent updates, the distribution system water loss shall be quantified for each of the five years preceding the plan update.
  - (B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.
- (4) (A) If available and applicable to an urban water supplier, water use projections may display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

- (B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:
  - (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.
  - (ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.
- (f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:
  - (1) (A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.
  - (B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:
    - (i) Water waste prevention ordinances.
    - (ii) Metering.
    - (iii) Conservation pricing.
    - (iv) Public education and outreach.
    - (v) Programs to assess and manage distribution system real loss.
    - (vi) Water conservation program coordination and staffing support.
    - (vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.
  - (2) For an urban wholesale water supplier, as defined in Section 10608.12, a narrative description of the items in clauses (ii), (iv), (vi), and (vii) of subparagraph (B) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs.
- (g) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water

use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

- (h) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.
- (i) For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivision (f) by complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.
- (j) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).

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

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

10631.2. (a) In addition to the requirements of Section 10631, an urban water management plan may, but is not required to, include any of the following information:

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

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

10631.5. (a) (1) Beginning January 1, 2009, the terms of, and eligibility for, a water management grant or loan made to an urban water supplier and awarded or administered by the department, state board, or California Bay-Delta Authority or its successor agency shall be conditioned on the implementation of the water demand management measures described in Section 10631, as determined by the department pursuant to subdivision (b).

(2) For the purposes of this section, water management grants and loans include funding for programs and projects for surface water or groundwater storage, recycling, desalination, water conservation, water supply reliability, and water supply augmentation. This section does not apply to water management projects funded by the federal American Recovery and Reinvestment Act of 2009 (Public Law 111-5).

(3) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if the urban water supplier has

submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the water demand management measures. The supplier may request grant or loan funds to implement the water demand management measures to the extent the request is consistent with the eligibility requirements applicable to the water management funds.

(4) (A) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if an urban water supplier submits to the department for approval documentation demonstrating that a water demand management measure is not locally cost effective. If the department determines that the documentation submitted by the urban water supplier fails to demonstrate that a water demand management measure is not locally cost effective, the department shall notify the urban water supplier and the agency administering the grant or loan program within 120 days that the documentation does not satisfy the requirements for an exemption, and include in that notification a detailed statement to support the determination.

(B) For purposes of this paragraph, "not locally cost effective" means that the present value of the local benefits of implementing a water demand management measure is less than the present value of the local costs of implementing that measure.

(b) (1) The department, in consultation with the state board and the California Bay-Delta Authority or its successor agency, and after soliciting public comment regarding eligibility requirements, shall develop eligibility requirements to implement the requirement of paragraph (1) of subdivision (a). In establishing these eligibility requirements, the department shall do both of the following:

(A) Consider the conservation measures described in the Memorandum of Understanding Regarding Urban Water Conservation in California, and alternative conservation approaches that provide equal or greater water savings.

(B) Recognize the different legal, technical, fiscal, and practical roles and responsibilities of wholesale water suppliers and retail water suppliers.

(2) (A) For the purposes of this section, the department shall determine whether an urban water supplier is implementing all of the water demand management measures described in Section 10631 based on either, or a combination, of the following:

- (i) Compliance on an individual basis.
  - (ii) Compliance on a regional basis. Regional compliance shall require participation in a regional conservation program consisting of two or more urban water suppliers that achieves the level of conservation or water efficiency savings equivalent to the amount of conservation or savings achieved if each of the participating urban water suppliers implemented the water demand management measures. The urban water supplier administering the regional program shall provide participating urban water suppliers and the department with data to demonstrate that the regional program is consistent with this clause. The department shall review the data to determine whether the urban water suppliers in the regional program are meeting the eligibility requirements.
- (B) The department may require additional information for any determination pursuant to this section.
- (3) The department shall not deny eligibility to an urban water supplier in compliance with the requirements of this section that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the water demand management measures described in Section 10631.
- (c) In establishing guidelines pursuant to the specific funding authorization for any water management grant or loan program subject to this section, the agency administering the grant or loan program shall include in the guidelines the eligibility requirements developed by the department pursuant to subdivision (b).
  - (d) Upon receipt of a water management grant or loan application by an agency administering a grant and loan program subject to this section, the agency shall request an eligibility determination from the department with respect to the requirements of this section. The department shall respond to the request within 60 days of the request.
  - (e) The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities. In addition, for urban water suppliers that are signatories to the Memorandum of Understanding Regarding Urban Water Conservation in California and submit biennial reports to the California Urban Water Conservation Council in accordance with the memorandum, the department may use these reports to assist in tracking the implementation of water demand management measures.

- (f) This section shall remain in effect only until July 1, 2016, and as of that date is repealed, unless a later enacted statute, that is enacted before July 1, 2016, deletes or extends that date.

10631.7. The department, in consultation with the California Urban Water Conservation Council, shall convene an independent technical panel to provide information and recommendations to the department and the Legislature on new demand management measures, technologies, and approaches. The panel shall consist of no more than seven members, who shall be selected by the department to reflect a balanced representation of experts. The panel shall have at least one, but no more than two, representatives from each of the following: retail water suppliers, environmental organizations, the business community, wholesale water suppliers, and academia. The panel shall be convened by January 1, 2009, and shall report to the Legislature no later than January 1, 2010, and every five years thereafter. The department shall review the panel report and include in the final report to the Legislature the department's recommendations and comments regarding the panel process and the panel's recommendations.

10632. (a) The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier:
- (1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions that are applicable to each stage.
  - (2) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.
  - (3) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.
  - (4) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
  - (5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are

appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

- (6) Penalties or charges for excessive use, where applicable.
  - (7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.
  - (8) A draft water shortage contingency resolution or ordinance.
  - (9) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.
- (b) Commencing with the urban water management plan update due July 1, 2016, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

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

- (a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.
- (b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.
- (c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.
- (d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

- (e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.
- (f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.
- (g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

## **Article 2.5. Water Service Reliability**

### **SECTION 10635**

10635. (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.
- (b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.
- (c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

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

### **Article 3. Adoption and Implementation of Plans**

#### SECTION 10640-10645

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630). The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

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

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area.

After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

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

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

(2) The plan, or amendments to the plan, submitted to the department pursuant to paragraph (1) shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.

- (b) (1) Notwithstanding Section 10231.5 of the Government Code, the department shall prepare and submit to the Legislature, on or before December 31, in the years ending in six and one, a report summarizing the status of the plans adopted pursuant to this part.

The report prepared by the department shall identify the exemplary elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

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

- (c) (1) For the purpose of identifying the exemplary elements of the individual plans, the department shall identify in the report water demand management measures adopted and implemented by specific urban water suppliers, and identified pursuant to Section 10631, that achieve water savings significantly above the levels established by the department to meet the requirements of Section 10631.5.

- (2) The department shall distribute to the panel convened pursuant to Section 10631.7 the results achieved by the implementation of those water demand management measures described in paragraph (1).

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

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

## **Chapter 4. Miscellaneous Provisions**

### **SECTION 10650-10656**

10650. Any actions or proceedings to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

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

- (b) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 90 days after filing of the plan or amendment thereto pursuant to Section 10644 or the taking of that action.
10651. In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.
10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.
10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the State Water Resources Control Board and the Public Utilities Commission, for the preparation of water management plans or conservation plans; provided, that if the State Water Resources Control Board or the Public Utilities Commission requires additional information concerning water conservation to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan prepared to meet federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.
10654. An urban water supplier may recover in its rates the costs incurred in preparing its plan and implementing the reasonable water conservation measures included in the plan. Any best water management practice that is included in the plan that is identified in the "Memorandum of Understanding Regarding Urban Water Conservation in California" is deemed to be reasonable for the purposes of this section.
10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.
10656. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26

(commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

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# **California Water Code**

## **Sustainable Water Use and Demand Reduction**

**California Water Code Division 6, Part 2.55.**

- Chapter 1. General Declarations and Policy §10608-10608.8**
- Chapter 2. Definitions §10608.12**
- Chapter 3. Urban Retail Water Suppliers §10608.16-10608.44**
- Chapter 4. Agricultural Water Suppliers §10608.48**
- Chapter 5. Sustainable Water Management §10608.50**
- Chapter 6 Standardized Data Collection §10608.52**
- Chapter 7 Funding Provisions §10608.56-10608.60**
- Chapter 8 Quantifying Agricultural Water Use Efficiency §10608.64**

## **Chapter 1. General Declarations and Policy**

### **SECTION 10608-10608.8**

10608. The Legislature finds and declares all of the following:

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

- (i) Per capita water use is a valid measure of a water provider's efforts to reduce urban water use within its service area. However, per capita water use is less useful for measuring relative water use efficiency between different water providers. Differences in weather, historical patterns of urban and suburban development, and density of housing in a particular location need to be considered when assessing per capita water use as a measure of efficiency.

10608.4. It is the intent of the Legislature, by the enactment of this part, to do all of the following:

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

- 10608.8. (a) (1) Water use efficiency measures adopted and implemented pursuant to this part or Part 2.8 (commencing with Section 10800) are water conservation measures subject to the protections provided under Section 1011.
- (2) Because an urban agency is not required to meet its urban water use target until 2020 pursuant to subdivision (b) of Section 10608.24, an urban retail water supplier's failure to meet those targets shall not establish a violation of law for purposes of any state administrative or judicial proceeding prior to

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

- (3) To the extent feasible, the department and the board shall provide for the use of water conservation reports required under this part to meet the requirements of Section 1011 for water conservation reporting.
- (b) This part does not limit or otherwise affect the application of Chapter 3.5 (commencing with Section 11340), Chapter 4 (commencing with Section 11370), Chapter 4.5 (commencing with Section 11400), and Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.
- (c) This part does not require a reduction in the total water used in the agricultural or urban sectors, because other factors, including, but not limited to, changes in agricultural economics or population growth may have greater effects on water use. This part does not limit the economic productivity of California's agricultural, commercial, or industrial sectors.
- (d) The requirements of this part do not apply to an agricultural water supplier that is a party to the Quantification Settlement Agreement, as defined in subdivision (a) of Section 1 of Chapter 617 of the Statutes of 2002, during the period within which the Quantification Settlement Agreement remains in effect. After the expiration of the Quantification Settlement Agreement, to the extent conservation water projects implemented as part of the Quantification Settlement Agreement remain in effect, the conserved water created as part of those projects shall be credited against the obligations of the agricultural water supplier pursuant to this part.

## Chapter 2 Definitions

### SECTION 10608.12

10608.12. Unless the context otherwise requires, the following definitions govern the construction of this part:

- (a) "Agricultural water supplier" means a water supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water. "Agricultural water supplier" includes a supplier or contractor for water, regardless of the basis of right, that distributes or sells water for ultimate resale to customers. "Agricultural water supplier" does not include the department.
- (b) "Base daily per capita water use" means any of the following:
  - (1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

- (2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.
  - (3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.
- (c) "Baseline commercial, industrial, and institutional water use" means an urban retail water supplier's base daily per capita water use for commercial, industrial, and institutional users.
  - (d) "Commercial water user" means a water user that provides or distributes a product or service.
  - (e) "Compliance daily per capita water use" means the gross water use during the final year of the reporting period, reported in gallons per capita per day.
  - (f) "Disadvantaged community" means a community with an annual median household income that is less than 80 percent of the statewide annual median household income.
  - (g) "Gross water use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:
    - (1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier.
    - (2) The net volume of water that the urban retail water supplier places into long-term storage.
    - (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.
    - (4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.
  - (h) "Industrial water user" means a water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development.
  - (i) "Institutional water user" means a water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.

- (j) "Interim urban water use target" means the midpoint between the urban retail water supplier's base daily per capita water use and the urban retail water supplier's urban water use target for 2020.
- (k) "Locally cost effective" means that the present value of the local benefits of implementing an agricultural efficiency water management practice is greater than or equal to the present value of the local cost of implementing that measure.
- (l) "Process water" means water used for producing a product or product content or water used for research and development, including, but not limited to, continuous manufacturing processes, water used for testing and maintaining equipment used in producing a product or product content, and water used in combined heat and power facilities used in producing a product or product content. Process water does not mean incidental water uses not related to the production of a product or product content, including, but not limited to, water used for restrooms, landscaping, air conditioning, heating, kitchens, and laundry.
- (m) "Recycled water" means recycled water, as defined in subdivision (n) of Section 13050, that is used to offset potable demand, including recycled water supplied for direct use and indirect potable reuse, that meets the following requirements, where applicable:
  - (1) For groundwater recharge, including recharge through spreading basins, water supplies that are all of the following:
    - (A) Metered.
    - (B) Developed through planned investment by the urban water supplier or a wastewater treatment agency.
    - (C) Treated to a minimum tertiary level.
    - (D) Delivered within the service area of an urban retail water supplier or its urban wholesale water supplier that helps an urban retail water supplier meet its urban water use target.
  - (2) For reservoir augmentation, water supplies that meet the criteria of paragraph (1) and are conveyed through a distribution system constructed specifically for recycled water.
- (n) "Regional water resources management" means sources of supply resulting from watershed-based planning for sustainable local water reliability or any of the following alternative sources of water:
  - (1) The capture and reuse of stormwater or rainwater.
  - (2) The use of recycled water.
  - (3) The desalination of brackish groundwater.

- (4) The conjunctive use of surface water and groundwater in a manner that is consistent with the safe yield of the groundwater basin.
- (o) "Reporting period" means the years for which an urban retail water supplier reports compliance with the urban water use targets.
- (p) "Urban retail water supplier" means a water supplier, either publicly or privately owned, 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.
- (q) "Urban water use target" means the urban retail water supplier's targeted future daily per capita water use.
- (r) "Urban wholesale water supplier," means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

## **Chapter 3 Urban Retail Water Suppliers**

### SECTION 10608.16-10608.44

10608.16.(a) The state shall achieve a 20-percent reduction in urban per capita water use in California on or before December 31, 2020.

- (b) The state shall make incremental progress towards the state target specified in subdivision (a) by reducing urban per capita water use by at least 10 percent on or before December 31, 2015.

10608.20.(a) (1) Each urban retail water supplier shall develop urban water use targets and an interim urban water use target by July 1, 2011. Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis, as provided in subdivision (a) of Section 10608.28, and may determine the targets on a fiscal year or calendar year basis.

- (2) It is the intent of the Legislature that the urban water use targets described in paragraph (1) cumulatively result in a 20-percent reduction from the baseline daily per capita water use by December 31, 2020.

- (b) An urban retail water supplier shall adopt one of the following methods for determining its urban water use target pursuant to subdivision (a):

- (1) Eighty percent of the urban retail water supplier's baseline per capita daily water use.

- (2) The per capita daily water use that is estimated using the sum of the following performance standards:

- (A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.
  - (B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.
  - (C) For commercial, industrial, and institutional uses, a 10-percent reduction in water use from the baseline commercial, industrial, and institutional water use by 2020.
- (3) Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's draft 20x2020 Water Conservation Plan (dated April 30, 2009). If the service area of an urban water supplier includes more than one hydrologic region, the supplier shall apportion its service area to each region based on population or area.
- (4) A method that shall be identified and developed by the department, through a public process, and reported to the Legislature no later than December 31, 2010. The method developed by the department shall identify per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31, 2020. In developing urban daily per capita water use targets, the department shall do all of the following:
- (A) Consider climatic differences within the state.
  - (B) Consider population density differences within the state.
  - (C) Provide flexibility to communities and regions in meeting the targets.
  - (D) Consider different levels of per capita water use according to plant water needs in different regions.
  - (E) Consider different levels of commercial, industrial, and institutional water use in different regions of the state.
  - (F) Avoid placing an undue hardship on communities that have implemented conservation measures or taken actions to keep per capita water use low.
- (c) If the department adopts a regulation pursuant to paragraph (4) of subdivision (b) that results in a requirement that an urban retail water supplier achieve a reduction in daily per capita water use that is greater than 20 percent by December 31, 2020, an urban retail water supplier that adopted the method

described in paragraph (4) of subdivision (b) may limit its urban water use target to a reduction of not more than 20 percent by December 31, 2020, by adopting the method described in paragraph (1) of subdivision (b).

- (d) The department shall update the method described in paragraph (4) of subdivision (b) and report to the Legislature by December 31, 2014. An urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may adopt a new urban daily per capita water use target pursuant to this updated method.
- (e) An urban retail water supplier shall include in its urban water management plan due in 2010 pursuant to Part 2.6 (commencing with Section 10610) the 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.
- (f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.
- (g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).
- (h) (1) The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part, including, but not limited to, both of the following:
  - (A) Methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use.
  - (B) Criteria for adjustments pursuant to subdivisions (d) and (e) of Section 10608.24.
- (2) The department shall post the methodologies and criteria developed pursuant to this subdivision on its Internet Web site, and make written copies available, by October 1, 2010. An urban retail water supplier shall use the methods developed by the department in compliance with this part.
- (i) (1) The department shall adopt regulations for implementation of the provisions relating to process water in accordance with subdivision (l) of Section 10608.12, subdivision (e) of Section 10608.24, and subdivision (d) of Section 10608.26.
- (2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the

Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

- (j) (1) An urban retail water supplier is granted an extension to July 1, 2011, for adoption of an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) due in 2010 to allow the use of technical methodologies developed by the department pursuant to paragraph (4) of subdivision (b) and subdivision (h). An urban retail water supplier that adopts an urban water management plan due in 2010 that does not use the methodologies developed by the department pursuant to subdivision (h) shall amend the plan by July 1, 2011, to comply with this part.
- (2) An urban wholesale water supplier whose urban water management plan prepared pursuant to Part 2.6 (commencing with Section 10610) was due and not submitted in 2010 is granted an extension to July 1, 2011, to permit coordination between an urban wholesale water supplier and urban retail water suppliers.

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

10608.24.(a) Each urban retail water supplier shall meet its interim urban water use target by December 31, 2015.

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

(c) An urban retail water supplier's compliance daily per capita water use shall be the measure of progress toward achievement of its urban water use target.

(d) (1) When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:

(A) Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.

(B) Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.

(C) Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.

(2) If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in

paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.

- (e) When developing the urban water use target pursuant to Section 10608.20, an urban retail water supplier that has a substantial percentage of industrial water use in its service area may exclude process water from the calculation of gross water use to avoid a disproportionate burden on another customer sector.
- (f) (1) An urban retail water supplier that includes agricultural water use in an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) may include the agricultural water use in determining gross water use. An urban retail water supplier that includes agricultural water use in determining gross water use and develops its urban water use target pursuant to paragraph (2) of subdivision (b) of Section 10608.20 shall use a water efficient standard for agricultural irrigation of 100 percent of reference evapotranspiration multiplied by the crop coefficient for irrigated acres.  
  
(2) An urban retail water supplier, that is also an agricultural water supplier, is not subject to the requirements of Chapter 4 (commencing with Section 10608.48), if the agricultural water use is incorporated into its urban water use target pursuant to paragraph (1).

10608.26.(a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:

- (1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.
  - (2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.
  - (3) Adopt a method, pursuant to subdivision (b) of Section 10608.20, for determining its urban water use target.
- (b) In complying with this part, an urban retail water supplier may meet its urban water use target through efficiency improvements in any combination among its customer sectors. An urban retail water supplier shall avoid placing a disproportionate burden on any customer sector.
- (c) For an urban retail water supplier that supplies water to a United States Department of Defense military installation, the urban retail water supplier's implementation plan for complying with this part shall consider the conservation of that military installation under federal Executive Order 13514.
- (d) (1) Any ordinance or resolution adopted by an urban retail water supplier after the effective date of this section shall not require existing customers as of the effective date of this section, to undertake changes in product formulation, operations, or equipment that would reduce process water use, but may provide technical assistance and financial incentives to those customers to implement efficiency measures for process water. This section shall not limit

an ordinance or resolution adopted pursuant to a declaration of drought emergency by an urban retail water supplier.

- (2) This part shall not be construed or enforced so as to interfere with the requirements of Chapter 4 (commencing with Section 113980) to Chapter 13 (commencing with Section 114380), inclusive, of Part 7 of Division 104 of the Health and Safety Code, or any requirement or standard for the protection of public health, public safety, or worker safety established by federal, state, or local government or recommended by recognized standard setting organizations or trade associations.

10608.28.(a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement, by any of the following:

- (1) Through an urban wholesale water supplier.
- (2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).
- (3) Through a regional water management group as defined in Section 10537.
- (4) By an integrated regional water management funding area.
- (5) By hydrologic region.
- (6) Through other appropriate geographic scales for which computation methods have been developed by the department.

- (b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

10608.32. All costs incurred pursuant to this part by a water utility regulated by the Public Utilities Commission may be recoverable in rates subject to review and approval by the Public Utilities Commission, and may be recorded in a memorandum account and reviewed for reasonableness by the Public Utilities Commission.

10608.36. Urban wholesale water suppliers shall include in the urban water management plans required pursuant to Part 2.6 (commencing with Section 10610) an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part.

10608.40. Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans

submitted pursuant to Section 10631. The data shall be reported using a standardized form developed pursuant to Section 10608.52.

10608.42.(a) The department shall review the 2015 urban water management plans and report to the Legislature by July 1, 2017, on progress towards achieving a 20-percent reduction in urban water use by December 31, 2020. The report shall include recommendations on changes to water efficiency standards or urban water use targets to achieve the 20-percent reduction and to reflect updated efficiency information and technology changes.

(b) A report to be submitted pursuant to subdivision (a) shall be submitted in compliance with Section 9795 of the Government Code.

10608.43. The department, in conjunction with the California Urban Water Conservation Council, by April 1, 2010, shall convene a representative task force consisting of academic experts, urban retail water suppliers, environmental organizations, commercial water users, industrial water users, and institutional water users to develop alternative best management practices for commercial, industrial, and institutional users and an assessment of the potential statewide water use efficiency improvement in the commercial, industrial, and institutional sectors that would result from implementation of these best management practices. The taskforce, in conjunction with the department, shall submit a report to the Legislature by April 1, 2012, that shall include a review of multiple sectors within commercial, industrial, and institutional users and that shall recommend water use efficiency standards for commercial, industrial, and institutional users among various sectors of water use. The report shall include, but not be limited to, the following:

(a) Appropriate metrics for evaluating commercial, industrial, and institutional water use.

(b) Evaluation of water demands for manufacturing processes, goods, and cooling.

(c) Evaluation of public infrastructure necessary for delivery of recycled water to the commercial, industrial, and institutional sectors.

(d) Evaluation of institutional and economic barriers to increased recycled water use within the commercial, industrial, and institutional sectors.

(e) Identification of technical feasibility and cost of the best management practices to achieve more efficient water use statewide in the commercial, industrial, and institutional sectors that is consistent with the public interest and reflects past investments in water use efficiency.

10608.44. Each state agency shall reduce water use at facilities it operates to support urban retail water suppliers in meeting the target identified in Section 10608.16.

## Chapter 4 Agricultural Water Suppliers

### SECTION 10608.48

10608.48.(a) On or before July 31, 2012, an agricultural water supplier shall implement efficient water management practices pursuant to subdivisions (b) and (c).

(b) Agricultural water suppliers shall implement all of the following critical efficient management practices:

(1) Measure the volume of water delivered to customers with sufficient accuracy to comply with subdivision (a) of Section 531.10 and to implement paragraph (2).

(2) Adopt a pricing structure for water customers based at least in part on quantity delivered.

(c) Agricultural water suppliers shall implement additional efficient management practices, including, but not limited to, practices to accomplish all of the following, if the measures are locally cost effective and technically feasible:

(1) Facilitate alternative land use for lands with exceptionally high water duties or whose irrigation contributes to significant problems, including drainage.

(2) Facilitate use of available recycled water that otherwise would not be used beneficially, meets all health and safety criteria, and does not harm crops or soils.

(3) Facilitate the financing of capital improvements for on-farm irrigation systems.

(4) Implement an incentive pricing structure that promotes one or more of the following goals:

(A) More efficient water use at the farm level.

(B) Conjunctive use of groundwater.

(C) Appropriate increase of groundwater recharge.

(D) Reduction in problem drainage.

(E) Improved management of environmental resources.

(F) Effective management of all water sources throughout the year by adjusting seasonal pricing structures based on current conditions.

(5) Expand line or pipe distribution systems, and construct regulatory reservoirs to increase distribution system flexibility and capacity, decrease maintenance, and reduce seepage.

- (6) Increase flexibility in water ordering by, and delivery to, water customers within operational limits.
  - (7) Construct and operate supplier spill and tailwater recovery systems.
  - (8) Increase planned conjunctive use of surface water and groundwater within the supplier service area.
  - (9) Automate canal control structures.
  - (10) Facilitate or promote customer pump testing and evaluation.
  - (11) Designate a water conservation coordinator who will develop and implement the water management plan and prepare progress reports.
  - (12) Provide for the availability of water management services to water users. These services may include, but are not limited to, all of the following:
    - (A) On-farm irrigation and drainage system evaluations.
    - (B) Normal year and real-time irrigation scheduling and crop evapotranspiration information.
    - (C) Surface water, groundwater, and drainage water quantity and quality data.
    - (D) Agricultural water management educational programs and materials for farmers, staff, and the public.
  - (13) Evaluate the policies of agencies that provide the supplier with water to identify the potential for institutional changes to allow more flexible water deliveries and storage.
  - (14) Evaluate and improve the efficiencies of the supplier's pumps.
- (d) Agricultural water suppliers shall include in the agricultural water management plans required pursuant to Part 2.8 (commencing with Section 10800) a report on which efficient water management practices have been implemented and are planned to be implemented, an estimate of the water use efficiency improvements that have occurred since the last report, and an estimate of the water use efficiency improvements estimated to occur five and 10 years in the future. If an agricultural water supplier determines that an efficient water management practice is not locally cost effective or technically feasible, the supplier shall submit information documenting that determination.
  - (e) The data shall be reported using a standardized form developed pursuant to Section 10608.52.
  - (f) An agricultural water supplier may meet the requirements of subdivisions (d) and (e) by submitting to the department a water conservation plan submitted to the United States Bureau of Reclamation that meets the requirements described in Section 10828.

- (g) On or before December 31, 2013, December 31, 2016, and December 31, 2021, the department, in consultation with the board, shall submit to the Legislature a report on the agricultural efficient water management practices that have been implemented and are planned to be implemented and an assessment of the manner in which the implementation of those efficient water management practices has affected and will affect agricultural operations, including estimated water use efficiency improvements, if any.
- (h) The department may update the efficient water management practices required pursuant to subdivision (c), in consultation with the Agricultural Water Management Council, the United States Bureau of Reclamation, and the board. All efficient water management practices for agricultural water use pursuant to this chapter shall be adopted or revised by the department only after the department conducts public hearings to allow participation of the diverse geographical areas and interests of the state.
- (i)
  - (1) The department shall adopt regulations that provide for a range of options that agricultural water suppliers may use or implement to comply with the measurement requirement in paragraph (1) of subdivision (b).
  - (2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

## **Chapter 5 Sustainable Water Management**

### Section 10608.50

- 10608.50.(a) The department, in consultation with the board, shall promote implementation of regional water resources management practices through increased incentives and removal of barriers consistent with state and federal law. Potential changes may include, but are not limited to, all of the following:
- (1) Revisions to the requirements for urban and agricultural water management plans.
  - (2) Revisions to the requirements for integrated regional water management plans.
  - (3) Revisions to the eligibility for state water management grants and loans.

- (4) Revisions to state or local permitting requirements that increase water supply opportunities, but do not weaken water quality protection under state and federal law.
  - (5) Increased funding for research, feasibility studies, and project construction.
  - (6) Expanding technical and educational support for local land use and water management agencies.
- (b) No later than January 1, 2011, and updated as part of the California Water Plan, the department, in consultation with the board, and with public input, shall propose new statewide targets, or review and update existing statewide targets, for regional water resources management practices, including, but not limited to, recycled water, brackish groundwater desalination, and infiltration and direct use of urban stormwater runoff.

## **Chapter 6 Standardized Data Collection**

### SECTION 10608.52

- 10608.52.(a) The department, in consultation with the board, the California Bay-Delta Authority or its successor agency, the State Department of Public Health, and the Public Utilities Commission, shall develop a single standardized water use reporting form to meet the water use information needs of each agency, including the needs of urban water suppliers that elect to determine and report progress toward achieving targets on a regional basis as provided in subdivision (a) of Section 10608.28.
- (b) At a minimum, the form shall be developed to accommodate information sufficient to assess an urban water supplier's compliance with conservation targets pursuant to Section 10608.24 and an agricultural water supplier's compliance with implementation of efficient water management practices pursuant to subdivision (a) of Section 10608.48. The form shall accommodate reporting by urban water suppliers on an individual or regional basis as provided in subdivision (a) of Section 10608.28.

## **Chapter 7 Funding Provisions**

### Section 10608.56-10608.60

- 10608.56.(a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.
- (b) On and after July 1, 2013, an agricultural water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

- (c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for achieving the per capita reductions. The supplier may request grant or loan funds to achieve the per capita reductions to the extent the request is consistent with the eligibility requirements applicable to the water funds.
- (d) Notwithstanding subdivision (b), the department shall determine that an agricultural water supplier is eligible for a water grant or loan even though the supplier is not implementing all of the efficient water management practices described in Section 10608.48, if the agricultural water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the efficient water management practices. The supplier may request grant or loan funds to implement the efficient water management practices to the extent the request is consistent with the eligibility requirements applicable to the water funds.
- (e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval documentation demonstrating that its entire service area qualifies as a disadvantaged community.
- (f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier in compliance with the requirements of this part and Part 2.8 (commencing with Section 10800), that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).

10608.60.(a) It is the intent of the Legislature that funds made available by Section 75026 of the Public Resources Code should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for grants to implement this part. In the allocation of funding, it is the intent of the Legislature that the department give consideration to disadvantaged communities to assist in implementing the requirements of this part.

- (b) It is the intent of the Legislature that funds made available by Section 75041 of the Public Resources Code, should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for direct expenditures to implement this part.

## **Chapter 8 Quantifying Agricultural Water Use Efficiency**

### **SECTION 10608.64**

10608.64. The department, in consultation with the Agricultural Water Management Council, academic experts, and other stakeholders, shall develop a methodology for quantifying the efficiency of agricultural water use. Alternatives to be assessed shall include, but not be limited to, determination of efficiency levels based on crop type or irrigation system distribution uniformity. On or before December 31, 2011, the department shall report to the Legislature on a proposed methodology and a plan for implementation. The plan shall include the estimated implementation costs and the types of data needed to support the methodology. Nothing in this section authorizes the department to implement a methodology established pursuant to this section.

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## **APPENDIX B**

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DWR UWMP Tables

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**Table 2-1 Retail Only: Public Water Systems**

Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015
CA5810003	Olivehurst System	4,108	652
CA5805001	Plumas Lake System	2,477	360
<b>TOTAL</b>		<b>6,585</b>	<b>1,012</b>

NOTES: Volumes are in million gallons (MG).

**Table 2-2: Plan Identification**

Select Only One	Type of Plan		Name of RUWMP or Regional Alliance <i>if applicable</i>
<input checked="" type="checkbox"/>	<b>Individual UWMP</b>		
	<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"/>	<b>Regional Urban Water Management Plan (RUWMP)</b>		
NOTES:			

**Table 2-3: Agency Identification**

Type of Agency (select one or both)

<input type="checkbox"/>	Agency is a wholesaler
<input checked="" type="checkbox"/>	Agency 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

Units of Measure Used in UWMP

Unit	MG
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NOTES:

**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 CWC 10631.

Wholesale Water Supplier Name

N/A

NOTES:

Table 3-1 Retail: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040(opt)
	20,626	30,700	45,800	68,300	68,300	68,300
NOTES: 2015 population is estimated using a persons-per connection methodology. Population projections are according to the Yuba County 2030 General Plan.						

**Table 4-1 Retail: Demands for Potable and Raw Water - Actual**

Use Type	2015 Actual		
	Additional Description <i>(as needed)</i>	Level of Treatment When Delivered	Volume
Single Family		Drinking Water	615
Multi-Family		Drinking Water	101
Commercial		Drinking Water	20
Industrial		Drinking Water	8
Institutional/Governmental		Drinking Water	45
Landscape		Drinking Water	44
Losses	Potable System Losses	Drinking Water	50
Other	Unmetered Accounts (Olivehurst system)	Drinking Water	116
Other	Unbilled Unmetered	Drinking Water	13
<b>TOTAL</b>			<b>1,012</b>
NOTES: Volumes are in MG.			

**Table 4-2 Retail: Demands for Potable and Raw Water - Projected**

Use Type	Additional Description (as needed)	Projected Water Use <i>Report To the Extent that Records are Available</i>				
		2020	2025	2030	2035	2040-opt
Single Family		1,352	2,016	3,006	3,006	3,006
Multi-Family		186	278	415	415	415
Commercial		37	55	82	82	82
Industrial		15	23	34	34	34
Institutional/Governmental		83	124	185	185	185
Landscape		82	123	183	183	183
Losses	Includes potable system losses and unbilled-unmetered	116	173	258	258	258
<b>TOTAL</b>		1,871	2,792	4,163	4,163	4,163

NOTES: Volumes are in MG.

**Table 4-3 Retail: Total Water Demands**

	2015	2020	2025	2030	2035	2040 (opt)
Potable and Raw Water <i>From Tables 4-1 and 4-2</i>	1,012	1,871	2,792	4,163	4,163	4,163
Recycled Water Demand* <i>From Table 6-4</i>	0	0	0	0	0	0
<b>TOTAL WATER DEMAND</b>	1,012	1,871	2,792	4,163	4,163	4,163

*\*Recycled water demand fields will be blank until Table 6-4 is complete.*

NOTES: Volumes are in MG; table numbers refer to DWR table numbers.

Table 4-4 Retail: 12-Month Water Loss Audit Reporting	
Reporting Period Start Date	Volume of Water Loss*
01/2015	50
* Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.	
NOTES: The water loss shown represents the combined water loss from the District's Olivehurst and Plumas Lake systems; volumes in MG; a copy of the District's 2015 Water Audit for the Olivehurst system and Plumas Lake system is provided in Appendix F.	

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

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

<b>Table 5-1 Baselines and Targets Summary</b>					
<i>Retail Agency or Regional Alliance Only</i>					
Baseline Period	Start Year	End Year	Average Baseline GPCD*	2015 Interim Target *	Confirmed 2020 Target*
10-15 year	2001	2010	178	172	167
5 Year	2003	2007	190		
*All values are in Gallons per Capita per Day (GPCD)					
NOTES:					

Table 5-2: 2015 Compliance Retail Agency or Regional Alliance Only								
Actual 2015 GPCD*	2015 Interim Target GPCD*	Optional Adjustments to 2015 GPCD <i>From Methodology 8</i>					2015 GPCD* <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2015? Y/N
		Extraordinary Events*	Economic Adjustment*	Weather Normalization*	TOTAL Adjustments*	Adjusted 2015 GPCD*		
134	172				0	134	134	Yes
*All values are in Gallons per Capita per Day (GPCD)								
NOTES:								

**Table 6-1 Retail: Groundwater Volume Pumped**

<input type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type	Location or Basin Name	2011	2012	2013	2014	2015
Alluvial Basin	South Yuba Subbasin (Olivehurst System)	860	976	990	811	652
Alluvial Basin	South Yuba Subbasin (Plumas Lake System)	451	487	515	455	360
<b>TOTAL</b>		1,311	1,463	1,505	1,266	1,012
NOTES: Volumes are in MG.						

**Table 6-2 Retail: Wastewater Collected Within Service Area in 2015**

<input type="checkbox"/> There is no wastewater collection system. The supplier will not complete the table below.						
Percentage of 2015 service area covered by wastewater collection system (optional)						
Percentage of 2015 service area population covered by wastewater collection system (optional)						
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMWP Service Area 2015	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMWP Area?	Is WWTP Operation Contracted to a Third Party? (optional)
Olivehurst Public Utility District	Metered	452	Olivehurst Public Utility District	OPUD Wastewater Treatment Facility	Yes	No
<b>Total Wastewater Collected from Service Area in 2015:</b>		452				

NOTES: Volumes are in MG.

**Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2015**

<input type="checkbox"/> No wastewater is treated or disposed of within the UWMMP service area. The supplier will not complete the table below.										
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number (optional)	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2015 volumes			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
Olivehurst Public Utility District Wastewater Treatment Facility	Western Interceptor Drainage Canal	Bear River		River or creek outfall	Yes	Tertiary	452	452	0	0
<b>Total</b>							<b>452</b>	<b>452</b>	<b>0</b>	<b>0</b>

NOTES: Volumes are in MG.

**Table 6-4 Retail: Current and Projected 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 Agency Producing (Treating) the Recycled Water:											
Name of Agency Operating the Recycled Water Distribution											
Supplemental Water Added in 2015											
Source of 2015 Supplemental Water											
Beneficial Use Type	General Description of 2015 Uses	Level of Treatment	2015	2020	2025	2030	2035	2040 (opt)			
Agricultural irrigation											
Landscape irrigation (excludes 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)*											
Surface water augmentation (IPR)*											
Direct potable reuse											
Other (Provide General Description)											
<b>Total:</b>			0	0	0	0	0	0			

\*IPR - Indirect Potable Reuse

NOTES:

**Table 6-5 Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual**

<input checked="" type="checkbox"/>	Recycled water was not used in 2010 nor projected for use in 2015. The supplier will not complete the table below.	
Use Type	2010 Projection for 2015	2015 Actual Use
Agricultural irrigation		
Landscape irrigation (excludes 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)		
Surface water augmentation (IPR)		
Direct potable reuse		
Other	<i>Type of Use</i>	
<b>Total</b>	<b>0</b>	<b>0</b>
NOTES:		

**Table 6-6 Retail: Methods to Expand Future Recycled Water Use**

<input checked="" type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
Section 6.5.5 (Page 6-12)	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
<b>Total</b>			0
NOTES:			

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

<input checked="" 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 agencies?	Description (if needed)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Agency
NOTES:					

Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2015		
		Actual Volume	Water Quality	Total Right or Safe Yield (optional)
Groundwater	South Yuba Subbasin	1,012	Drinking Water	
<b>Total</b>		1,012		0

NOTES: Volumes are in MG.

Table 6-9 Retail: Water Supplies — Projected											
Water Supply		Projected Water Supply Report To the Extent Practicable									
Additional Detail on Water Supply		2020		2025		2030		2035		2040 (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)
Groundwater		1,871	0	2,792	0	4,163	0	4,163	0	4,163	0
<b>Total</b>		1,871	0	2,792	0	4,163	0	4,163	0	4,163	0

NOTES: Volumes are in MG.

**Table 7-1 Retail: Basis of Water Year Data**

Year Type	Base Year <i>If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 1999-2000, use 2000</i>	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 checked="" 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	2005	6,544	100%
Single-Dry Year	1977	6,544	100%
Multiple-Dry Years 1st Year	1987	6,544	100%
Multiple-Dry Years 2nd Year	1988	6,544	100%
Multiple-Dry Years 3rd Year	1989	6,544	100%
Multiple-Dry Years 4th Year <i>Optional</i>	1990	6,544	100%
Multiple-Dry Years 5th Year <i>Optional</i>	1991	6,544	100%
Multiple-Dry Years 6th Year <i>Optional</i>	1992	6,544	100%
Agency 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 an agency 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.			
NOTES: The District's average year supply is assumed to be equal to 75% of the District's current groundwater filter capacity. Because the District's groundwater supply is assumed to be drought resistant, the District's dry year supply is not subject to reduction during dry years and is assumed to be 100% of the District's normal year supply. Volumes are in MG.			

Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals <i>(autofill from Table 6-9)</i>	1,871	2,792	4,163	4,163	4,163
Demand totals <i>(autofill from Table 4-3)</i>	1,871	2,792	4,163	4,163	4,163
Difference	0	0	0	0	0
NOTES: Volumes are in MG; table references refer to DWR table numbers.					

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals	1,871	2,792	4,163	4,163	4,163
Demand totals	1,871	2,792	4,163	4,163	4,163
Difference	0	0	0	0	0
NOTES: Volumes are in MG.					

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	1,871	2,792	4,163	4,163	4,163
	Demand totals	1,871	2,792	4,163	4,163	4,163
	Difference	0	0	0	0	0
Second year	Supply totals	1,871	2,792	4,163	4,163	4,163
	Demand totals	1,871	2,792	4,163	4,163	4,163
	Difference	0	0	0	0	0
Third year	Supply totals	1,871	2,792	4,163	4,163	4,163
	Demand totals	1,871	2,792	4,163	4,163	4,163
	Difference	0	0	0	0	0
NOTES: Volumes are in MG.						

Table 8-1 Retail Stages of Water Shortage Contingency Plan		
Stage	Complete Both	
	Percent Supply Reduction <sup>1</sup>	Water Supply Condition
1	10%	Water Supply Warning
2	20%	Water Shortage Alert
3	35%	Water Shortage Crisis
4	50%	Water Shortage Emergency
<sup>1</sup> One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.		
NOTES:		

**Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses**

Stage	Restrictions and Prohibitions on End Users	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement?
1	CII - Restaurants may only serve water upon request		No
1	Other water feature or swimming pool restriction	All pools, spas, and ornamental fountains/ponds shall be equipped with recirculating pumps and shall be constructed to be leak proof.	No
1	Other water feature or swimming pool restriction	Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations.	No
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		No
1	Other - Require automatic shut of hoses		No
1	Other - Prohibit use of potable water for washing hard surfaces	Washing down of sidewalks, driveways, parking lots or other paved surfaces is prohibited except to alleviate immediate fire or sanitation hazards.	No
1	Other	Free flowing hoses are prohibited for all uses, including vehicle and equipment washing, ponds, and evaporative coolers.	No
2	Landscape - Limit landscape irrigation to specific times	Automatic sprinkler systems shall only operate during off-peak hours between 12AM - 6AM.	Yes
2	Landscape - Limit landscape irrigation to specific days	Landscape irrigation shall be limited to a maximum of three days per week when necessary based on the following an odd-even schedule: -Odd numbered street addresses may irrigate only on Tuesdays, Thursdays, and Saturdays -Even numbered street addresses may irrigate only on Wednesdays, Fridays, and Sundays -No irrigation on Mondays	Yes
2	CII - Restaurants may only serve water upon request		Yes
2	Other - Prohibit use of potable water for washing hard surfaces	Washing of streets, parking lots, driveways, sidewalks, or buildings is prohibited except necessary for health, sanitary, or fire protection purposes.	Yes
3	Landscape - Limit landscape irrigation to specific days	Landscape irrigation shall be limited to a maximum of two days per week only when necessary based on the following odd-even schedule: -Odd numbered street addresses may irrigate only on Tuesdays and Saturdays -Even numbered street addresses may irrigate only on Wednesdays and Sundays -No irrigation on Mondays, Thursdays, and Fridays	Yes
3	Water Features - Restrict water use for decorative water features, such as fountains	Water use for ornamental ponds and fountains is prohibited.	Yes
3	Other water feature or swimming pool restriction	No potable water from the utility's system shall be used to fill or refill new swimming pools, artificial lakes, ponds, or streams until the water crisis is over.	Yes
3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Washing of automobiles or equipment shall be done on the lawn or at a commercial establishment that uses recycled or reclaimed water.	Yes
4	Landscape - Limit landscape irrigation to specific days	Landscape irrigation shall be limited to a maximum of one day per week when necessary based on the following odd-even schedule: -Odd numbered street addresses may irrigate only on Saturdays -Even numbered street addresses may irrigate only on Sundays -No irrigation on Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays	Yes
4	Other	Flushing of fire hydrants is prohibited except in case of emergency or only for essential operations.	Yes
4	Other	No potable water shall be sold outside the District's service area.	Yes
4	Other	New connections to the District system will not be allowed.	Yes

NOTES:

**Table 8-3 Retail Only:  
Stages of Water Shortage Contingency Plan - Consumption Reduction Methods**

Stage	Consumption Reduction Methods by Water Supplier	Additional Explanation or Reference <i>(optional)</i>
All	Reduce System Water Loss	
All	Implement or Modify Drought Rate Structure or Surcharge	
4	Moratorium or Net Zero Demand Increase on New Connections	No potable water shall be sold to customers outside the District's service area and no new connections to the District's system will be allowed.
4	Decrease Line Flushing	Flushing of fire hydrants is prohibited except in case of emergency or only for essential operations.
<p>NOTES: Consumption reduction methods not associated with a stage can be implemented at any time.</p>		

Table 8-4 Retail: Minimum Supply Next Three Years			
	2016	2017	2018
Available Water Supply	6,544	6,544	6,544
<p>NOTES: Because the District's groundwater supply is assumed to be drought resistant, the District's minimum year supply is not subject to reduction and is assumed to be 100% of the District's normal year supply. The District's average year supply is assumed to be equal to 75% of the District's current groundwater filter capacity (75% of 16,600 gpm). Volumes shown are in MG.</p>			

Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
	<input type="checkbox"/>	<input type="checkbox"/>
County Name	60 Day Notice	Notice of Public Hearing
Yuba County	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

# **APPENDIX C**

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DWR UWMP Checklist

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**Appendix C. Urban Water Management Plan Checklist  
Checklist Arranged by Subject**

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location
<b>10620(b)</b>	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.1	Section 2.1 (page 2-1)
<b>10620(d)(2)</b>	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.5.2	Section 2.5 (page 2-2)
<b>10642</b>	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.	Plan Preparation	Section 2.5.2	Section 2.5.2.2 (page 2-4); Appendix D
<b>10631(a)</b>	Describe the water supplier service area.	System Description	Section 3.1	Section 3.2 (page 3-1)
<b>10631(a)</b>	Describe the climate of the service area of the supplier.	System Description	Section 3.3	Section 3.3 (page 3-1)
<b>10631(a)</b>	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	Section 3.4.1; Table 3-2 (page 3-4)
<b>10631(a)</b>	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	Section 3.4.2 (page 3-5)
<b>10631(a)</b>	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	Section 3.4.; Table 3-2 (page 3-4)
<b>10631(e)(1)</b>	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	Section 4.2 (page 4-2); Table 4-1, Table 4-3, Table 4-4
<b>10631(e)(3)(A)</b>	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	Section 4.3 (page 4-5); Table 4-6
<b>10631.1(a)</b>	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5	Section 4.5 (page 4-6)
<b>10608.20(b)</b>	Retail suppliers shall adopt a 2020 water use target using one of four methods.	Baselines and Targets	Section 5.7 and Appendix E	Section 5.5 (page 5-4); Appendix G
<b>10608.20(e)</b>	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	Chapter 5 and Appendix E	Sections 5.4, 5.5, 5.6 (page 5-3); Appendix G
<b>10608.22</b>	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 to the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.7.2	Section 5.5 (page 5-4); Appendix G
<b>10608.24(a)</b>	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and Appendix E	Section 5.6 (page 5-5); Appendix G
<b>1608.24(d)(2)</b>	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	Section 5.8.2	N/A
<b>10608.36</b>	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	Section 5.1	N/A
<b>10608.40</b>	Retail suppliers shall report on their progress in meeting their water use targets. The data shall be reported using a standardized form.	Baselines and Targets	Section 5.8 and Appendix E	Section 5.7 (page 5-5); Appendix G
<b>10631(b)</b>	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	Section 6.9 (page 6-13); Table 6-11, Table 6-12
<b>10631(b)</b>	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	Section 6.2 (page 6-1)
<b>10631(b)(1)</b>	Indicate whether a groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.2.2	Section 6.2.2 (page 6-5); Appendix H
<b>10631(b)(2)</b>	Describe the groundwater basin.	System Supplies	Section 6.2.1	Section 6.2.1 (page 6-1)
<b>10631(b)(2)</b>	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.2	Section 6.2.1 (page 6-1)

**Appendix C. Urban Water Management Plan Checklist  
Checklist Arranged by Subject**

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location
<b>10631(b)(2)</b>	For unadjudicated basins, indicate whether or not the department has identified the basin as overdrafted, or projected to become overdrafted. Describe efforts by the supplier to eliminate the long-term overdraft condition.	System Supplies	Section 6.2.3	<b>Section 6.2.1</b> (page 6-1)
<b>10631(b)(3)</b>	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years.	System Supplies	Section 6.2.4	<b>Section 6.2.4;</b> <b>Table 6-4</b> (page 6-8)
<b>10631(b)(4)</b>	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Sections 6.2 and 6.9	<b>Section 6.9;</b> <b>Table 6-12</b> (page 6-13)
<b>10631(d)</b>	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	<b>Section 6.7</b> (page 6-12)
<b>10631(g)</b>	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 multiple-dry years.	System Supplies	Section 6.8	<b>Section 6.8</b> (page 6-12)
<b>10631(i)</b>	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	<b>Section 6.6</b> (page 6-12)
<b>10631(j)</b>	Retail suppliers will include documentation that they have provided their wholesale supplier(s) – if any - with water use projections from that source.	System Supplies	Section 2.5.1	<b>Section 2.5.1</b> (page 2-3)
<b>10631(j)</b>	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	Section 2.5.1	N/A
<b>10633</b>	For wastewater and recycled water, coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.1	<b>Section 6.5.1</b> (page 6-9)
<b>10633(a)</b>	Describe the wastewater collection and treatment systems in the supplier's service area. Include quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	System Supplies (Recycled Water)	Section 6.5.2	<b>Section 6.5.2</b> (page 6-9); <b>Table 6-5;</b> <b>Table 6-6</b>
<b>10633(b)</b>	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.5.2.2	<b>Section 6.5.2</b> (page 6-9); <b>Table 6-5</b>
<b>10633(c)</b>	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.3 and 6.5.4	<b>Section 6.5.3</b> (page 6-10)
<b>10633(d)</b>	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.4	<b>Section 6.5.4</b> (page 6-10)
<b>10633(e)</b>	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.5.4	<b>Section 6.5.4</b> (page 6-10); <b>Table 6-7</b>
<b>10633(f)</b>	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.5.5	<b>Section 6.5.5</b> (page 6-11)
<b>10633(g)</b>	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5	<b>Sections 6.5.5</b> (page 6-11)
<b>10620(f)</b>	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.4	<b>Section 7.4</b> (page 7-6)
<b>10631(c)(1)</b>	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	<b>Section 7.1,</b> <b>Section 7.1.1</b> (page 7-1)
<b>10631(c)(1)</b>	Provide data for an average water year, a single dry water year, and multiple dry water years	Water Supply Reliability Assessment	Section 7.2	<b>Section 7.2</b> (page 7-2); <b>Table 7-1</b>
<b>10631(c)(2)</b>	For any water source that may not be available at a consistent level of use, describe plans to supplement or replace that source.	Water Supply Reliability Assessment	Section 7.1	<b>Section 7.1,</b> <b>Section 7.1.1</b> (page 7-1)
<b>10634</b>	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.1	<b>Section 7.1</b> (page 7-1)
<b>10635(a)</b>	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.3	<b>Section 7.3</b> (page 7-4)
<b>10632(a) and 10632(a)(1)</b>	Provide an urban water shortage contingency analysis that specifies stages of action and an outline of specific water supply conditions at each stage.	Water Shortage Contingency Planning	Section 8.1	<b>Section 8.1</b> (page 8-1)
<b>10632(a)(2)</b>	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency.	Water Shortage Contingency Planning	Section 8.9	<b>Section 8.9</b> (page 8-8)

**Appendix C. Urban Water Management Plan Checklist  
Checklist Arranged by Subject**

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location
<b>10632(a)(3)</b>	Identify actions to be undertaken by the urban water supplier in case of a catastrophic interruption of water supplies.	Water Shortage Contingency Planning	Section 8.8	Section 8.8 (page 8-7)
<b>10632(a)(4)</b>	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	Section 8.2 (page 8-2)
<b>10632(a)(5)</b>	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	Section 8.4 (page 8-6); Table 8-3
<b>10632(a)(6)</b>	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency Planning	Section 8.3	Section 8.3 (page 8-6)
<b>10632(a)(7)</b>	Provide an analysis of the impacts of each of the actions and conditions in the water shortage contingency analysis on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts.	Water Shortage Contingency Planning	Section 8.6	Section 8.6 (page 8-7)
<b>10632(a)(8)</b>	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	Section 8.7 (page 8-7); Appendix I
<b>10632(a)(9)</b>	Indicate a mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis.	Water Shortage Contingency Planning	Section 8.5	Section 8.5 (page 8-7)
<b>10631(f)(1)</b>	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	Sections 9.2 and 9.3	Section 9.2 (page 9-2)
<b>10631(f)(2)</b>	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Sections 9.1 and 9.3	N/A
<b>10631(j)</b>	CUWCC members may submit their 2013-2014 CUWCC BMP annual reports in lieu of, or in addition to, describing the DMM implementation in their UWMPs. This option is only allowable if the supplier has been found to be in full compliance with the CUWCC MOU.	Demand Management Measures	Section 9.5	Section 9.4 (page 9-8)
<b>10608.26(a)</b>	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets.	Plan Adoption, Submittal, and Implementation	Section 10.3	Section 10.3 (page 10-1)
<b>10621(b)</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.	Plan Adoption, Submittal, and Implementation	Section 10.2.1	Section 10.2 (page 10-1); Appendix D
<b>10621(d)</b>	Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.	Plan Adoption, Submittal, and Implementation	Sections 10.3.1 and 10.4	Section 10.4 (page 10-2)
<b>10635(b)</b>	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 60 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	Section 10.4 (page 10-2)
<b>10642</b>	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan.	Plan Adoption, Submittal, and Implementation	Sections 10.2.2, 10.3, and 10.5	Section 10.3 (page 10-2); Appendix D
<b>10642</b>	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	Sections 10.2.1	Section 10.2 (page 10-1); Appendix D
<b>10642</b>	Provide supporting documentation that the plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	Section 10.3 (page 10-2); Appendix K
<b>10644(a)</b>	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4.3	Section 10.4 (page 10-2)
<b>10644(a)(1)</b>	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	Section 10.4 (page 10-2)
<b>10644(a)(2)</b>	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2	Sections 10.4 and 10.7 (page 10-2)
<b>10645</b>	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5	Section 10.5 (page 10-2)

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## **APPENDIX D**

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Agency and Public Notices

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**OLIVEHURST PUBLIC UTILITY DISTRICT**

*Our mission is to provide high quality services to enhance our community's quality of life.*



**BOARD OF DIRECTORS**

Dennise Burbank James Carpenter John Floe Mary Jane Griego Christopher White

**GENERAL MANAGER**

Timothy R. Shaw

February 27, 2017

Project No.: 749-12-16-01

SENT VIA: USPS

Brian Davis  
General Manager  
Linda County Water District  
1280 Scales Avenue  
Marysville, CA 95961

SUBJECT: OPUD Updating Urban Water Management Plan

Dear Mr. Davis:

The Olivehurst Public Utility District (OPUD) is currently in the process of updating its Urban Water Management Plan ("UWMP"). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to prepare and adopt an UWMP and periodically update that plan at least every five years. The UWMP is a planning document and a source document which reports, describes and evaluates water deliveries and uses, water supply sources and conservation efforts.

As an urban water supplier, OPUD coordinates with water management agencies, relevant public agencies and other water suppliers on the preparation of the UWMP update. OPUD will be reviewing the UWMP and will make amendments and updates, as appropriate.

If you wish to contact OPUD about its review process, you may do so by writing to the undersigned or by email to [opudmgr@opud.org](mailto:opudmgr@opud.org). Thank you.

Sincerely,

Olivehurst Public Utility District

Handwritten signature of Tim Shaw in black ink.

Tim Shaw  
General Manager

530-743-0317

cc:

Robert Bendorf  
County Administrator  
Yuba County  
915 8<sup>th</sup>. St., Suite 115  
Marysville, CA 95901

Curt Aikens  
General Manager  
Yuba County Water Agency  
1220 F Street  
Marysville, CA 95901

Brian Davis  
General Manager  
Linda County Water District  
1280 Scales Avenue  
Marysville, CA 95901

Gay Todd  
Superintendent of Schools  
Marysville Joint Unified School District  
1919 B Street  
Marysville, CA 95901

Jeff Roberts  
Superintendent  
Plumas Lake School District  
2743 Plumas School Road  
Olivehurst, CA 95961

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**GENERAL MANAGER**

Timothy R. Shaw

February 27, 2017

Project No.: 749-12-16-01

SENT VIA: USPS

Gay Todd  
Superintendent of Schools  
Marysville Joint Unified School District  
1919 B Street  
Marysville, CA 95961

**SUBJECT: OPUD Updating Urban Water Management Plan**

Dear Ms. Todd:

The Olivehurst Public Utility District (OPUD) is currently in the process of updating its Urban Water Management Plan ("UWMP"). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to prepare and adopt an UWMP and periodically update that plan at least every five years. The UWMP is a planning document and a source document which reports, describes and evaluates water deliveries and uses, water supply sources and conservation efforts.

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Sincerely,

Olivehurst Public Utility District

Handwritten signature of Tim Shaw in cursive.

Tim Shaw  
General Manager

530-743-0317

cc:

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## **BOARD OF DIRECTORS**

Dennise Burbank James Carpenter John Floe Mary Jane Griego Christopher White

## **GENERAL MANAGER**

Timothy R. Shaw

February 27, 2017

Project No.: 749-12-16-01  
SENT VIA: USPS

Jeff Roberts  
Superintendent  
Plumas Lake Unified School District  
2743 Plumas Lake School Road  
Olivehurst, Ca 95961

**SUBJECT:** OPUD Updating Urban Water Management Plan

Dear Mr. Roberts:

The Olivehurst Public Utility District (OPUD) is currently in the process of updating its Urban Water Management Plan ("UWMP"). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to prepare and adopt an UWMP and periodically update that plan at least every five years. The UWMP is a planning document and a source document which reports, describes and evaluates water deliveries and uses, water supply sources and conservation efforts.

As an urban water supplier, OPUD coordinates with water management agencies, relevant public agencies and other water suppliers on the preparation of the UWMP update. OPUD will be reviewing the UWMP and will make amendments and updates, as appropriate.

If you wish to contact OPUD about its review process, you may do so by writing to the undersigned or by email to [opudmgr@opud.org](mailto:opudmgr@opud.org). Thank you.

Sincerely,

Olivehurst Public Utility District

A handwritten signature in black ink that reads "Tim Shaw".

Tim Shaw  
General Manager

530-743-0317

cc:

Robert Bendorf  
County Administrator  
Yuba County  
915 8<sup>th</sup>. St., Suite 115  
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**GENERAL MANAGER**

Timothy R. Shaw

February 27, 2017

Project No.: 749-12-16-01  
SENT VIA: USPS

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General Manager  
Yuba County Water Agency  
1220 F Street  
Marysville, CA 95961

SUBJECT: OPUD Updating Urban Water Management Plan

Dear Mr. Aikens:

The Olivehurst Public Utility District (OPUD) is currently in the process of updating its Urban Water Management Plan ("UWMP"). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to prepare and adopt an UWMP and periodically update that plan at least every five years. The UWMP is a planning document and a source document which reports, describes and evaluates water deliveries and uses, water supply sources and conservation efforts.

As an urban water supplier, OPUD coordinates with water management agencies, relevant public agencies and other water suppliers on the preparation of the UWMP update. OPUD will be reviewing the UWMP and will make amendments and updates, as appropriate.

If you wish to contact OPUD about its review process, you may do so by writing to the undersigned or by email to [opudmgr@opud.org](mailto:opudmgr@opud.org). Thank you.

Sincerely,

Olivehurst Public Utility District

A handwritten signature in black ink that reads "Tim R. Shaw".

Tim Shaw  
General Manager

530-743-0317

cc:

Robert Bendorf  
County Administrator  
Yuba County  
915 8<sup>th</sup>. St., Suite 115  
Marysville, CA 95901

Curt Aikens  
General Manager  
Yuba County Water Agency  
1220 F Street  
Marysville, CA 95901

Brian Davis  
General Manager  
Linda County Water District  
1280 Scales Avenue  
Marysville, CA 95901

Gay Todd  
Superintendent of Schools  
Marysville Joint Unified School District  
1919 B Street  
Marysville, CA 95901

Jeff Roberts  
Superintendent  
Plumas Lake School District  
2743 Plumas School Road  
Olivehurst, CA 95961

**OLIVEHURST PUBLIC UTILITY DISTRICT**

*Our mission is to provide high quality services to enhance our community's quality of life.*



**BOARD OF DIRECTORS**

Dennise Burbank James Carpenter John Floe Mary Jane Griego Christopher White

**GENERAL MANAGER**

Timothy R. Shaw

February 27, 2017

Project No.: 749-12-16-01  
SENT VIA: USPS

Robert Bendorf  
County Administrator  
Yuba County  
915 8<sup>th</sup> Street, Suite 115  
Marysville, CA 95961

**SUBJECT: OPUD Updating Urban Water Management Plan**

Dear Mr. Bendorf:

The Olivehurst Public Utility District (OPUD) is currently in the process of updating its Urban Water Management Plan ("UWMP"). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to prepare and adopt an UWMP and periodically update that plan at least every five years. The UWMP is a planning document and a source document which reports, describes and evaluates water deliveries and uses, water supply sources and conservation efforts.

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Olivehurst Public Utility District

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Tim Shaw  
General Manager

530-743-0317

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## BOARD OF DIRECTORS

Dennise Burbank James Carpenter John Floe Mary Jane Griego Christopher White

## GENERAL MANAGER

Timothy R. Shaw

May 2, 2017

Robert Bendorf  
County Administrator  
Yuba County  
915 8<sup>th</sup> Street, Suite 115  
Marysville, CA 95961

SUBJECT: Availability of Draft 2015 Urban Water Management Plan Update

Dear Mr. Bendorf:

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the Olivehurst Public Utility District (OPUD) is required to update its Urban Water Management Plan (UWMP) to meet the California Department of Water Resources (DWR) requirements for a 2015 UWMP.

OPUD has completed its Draft 2015 UWMP update and has scheduled a public hearing for the review of the updated UWMP on May 18, 2017 at 7:00 pm at the OPUD Business Office located at 1970 9<sup>th</sup> Avenue in Olivehurst. The OPUD Board of Directors may also consider adoption of the 2015 UWMP that day as well.

At this time, we invite your agency to review the Draft 2015 UWMP located at [www.opud.net](http://www.opud.net) and available at the OPUD Business Office located at 1970 9<sup>th</sup> Avenue in Olivehurst. Please forward your comments to me no later than end of day May 17, 2017 at:

Olivehurst Public Utility District  
1970 9<sup>th</sup> Avenue  
Olivehurst, CA 95961

Phone: (530) 743-0317  
Email: [opudmgr@opud.org](mailto:opudmgr@opud.org)

Sincerely,

Olivehurst Public Utility District

A handwritten signature in black ink that reads "Timothy R. Shaw".

Tim Shaw  
General Manager  
Cc:

Robert Bendorf  
County Administrator  
Yuba County  
915 8<sup>th</sup>. St., Suite 115  
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## **GENERAL MANAGER**

Timothy R. Shaw

May 2, 2017

Curt Aikens  
General Manager  
Yuba County Water Agency  
1220 F Street  
Marysville, CA 95961

**SUBJECT:** Availability of Draft 2015 Urban Water Management Plan Update

Dear Mr. Aikens:

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Email: [opudmgr@opud.org](mailto:opudmgr@opud.org)

Sincerely,

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Tim Shaw  
General Manager

cc:

Robert Bendorf  
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## **BOARD OF DIRECTORS**

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## **GENERAL MANAGER**

Timothy R. Shaw

May 2, 2017

Brian Davis  
General Manager  
Linda County Water District  
1280 Scales Avenue  
Marysville, CA 95961

**SUBJECT:** Availability of Draft 2015 Urban Water Management Plan Update

Dear Mr. Davis:

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the Olivehurst Public Utility District (OPUD) is required to update its Urban Water Management Plan (UWMP) to meet the California Department of Water Resources (DWR) requirements for a 2015 UWMP.

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Phone: (530) 743-0317  
Email: [opudmgr@opud.org](mailto:opudmgr@opud.org)

Sincerely,

Olivehurst Public Utility District

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Tim Shaw  
General Manager

cc:

Robert Bendorf  
County Administrator  
Yuba County  
915 8<sup>th</sup>. St., Suite 115  
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## **GENERAL MANAGER**

Timothy R. Shaw

May 2, 2017

Gay Todd  
Superintendent of Schools  
Marysville Joint Unified School District  
1919 B Street  
Marysville, CA 95961

**SUBJECT:** Availability of Draft 2015 Urban Water Management Plan Update

Dear Ms. Todd:

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Olivehurst, CA 95961

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Email: [opudmgr@opud.org](mailto:opudmgr@opud.org)

Sincerely,

Olivehurst Public Utility District

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Tim Shaw  
General Manager

cc:

Robert Bendorf  
County Administrator  
Yuba County  
915 8<sup>th</sup>. St., Suite 115  
Marysville, CA 95901

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General Manager  
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# **OLIVEHURST PUBLIC UTILITY DISTRICT**

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## **BOARD OF DIRECTORS**

Dennise Burbank James Carpenter John Floe Mary Jane Griego Christopher White

## **GENERAL MANAGER**

Timothy R. Shaw

May 2, 2017

Jeff Roberts  
Superintendent  
Plumas Lake Unified School District  
2743 Plumas Lake School Road  
Olivehurst, Ca 95961

**SUBJECT:** Availability of Draft 2015 Urban Water Management Plan Update

Dear Mr. Roberts:

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the Olivehurst Public Utility District (OPUD) is required to update its Urban Water Management Plan (UWMP) to meet the California Department of Water Resources (DWR) requirements for a 2015 UWMP.

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Phone: (530) 743-0317  
Email: [opudmgr@opud.org](mailto:opudmgr@opud.org)

Sincerely,

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Tim Shaw  
General Manager  
cc

Robert Bendorf  
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Yuba County  
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2743 Plumas School Road  
Olivehurst, CA 95961



# OPUD

Olivehurst Public Utility District  
"Our mission is to provide high quality services to enhance our community's quality of life"

search...



**OPUD Address:**  
1970 9th Avenue | P.O. Box 670  
Olivehurst, Ca 95961  
**Office:** 530-743-4657  
**Fire Dept.:** 530-743-7117

[ABOUT US](#) | [I WANT TO...](#) | [CALENDAR OF EVENTS](#) | [OPUD BLOG](#) | [EMPLOYMENT INFO](#) | [CONTACT US](#)

[HOME](#) | [SERVICE INFO](#) | [PUBLIC WORKS DEPARTMENT](#) | [FIRE DEPARTMENT](#) | [ADMINISTRATION](#) | [BOARD OF DIRECTORS](#)

WEDNESDAY, 03 MAY 2017

## OPUD URBAN WATER MANAGEMENT PLAN - PUBLIC NOTICE OF HEARING FOR PLAN REVIEW \*\* MAY 2017

Public notice is hereby given that a public hearing will be held before the Board of Directors of the Olivehurst Public Utility District (OPUD) for the purpose of considering the following:

Receive public comment on the OPUD Draft 2015 Urban Water Management Plan (UWMP), as required by the Urban Water Management Planning Act (California Water Code Section 10610 et seq.). Complete copies of the UWMP are available for public review at the OPUD Business Office located at 1970 9th Avenue in Olivehurst and on the OPUD website BELOW.

The hearing will be held on THURSDAY, MAY 18, 2017 at 7:00 P.M. at the OPUD Business Office located at 1970 9th Avenue in Olivehurst. It is anticipated that the Draft 2015 UWMP may be formally adopted that day as well. All interested persons are invited to appear and be heard.

Olivehurst Public Utility District  
1970 9th Avenue  
Olivehurst, CA 95961

- [Olivehurst Public Utility District 2015 UWMP Draft Report \(CLICK HERE for DRAFT REPORT\)](#)

Tweet

### MORE PUBLIC NOTICES

- [OPUD URBAN WATER MANAGEMENT PLAN - PUBLIC NOTICE OF HEARING FOR PLAN REVIEW \\*\\* MAY 2017](#)
- [PROP 218 NOTICE \(8-2015\) - PROPOSED RATE ADJUSTMENT](#)
- [REQUEST FOR BIDS OR PROPOSALS](#)

[ABOUT US](#) | [I WANT TO...](#) | [CALENDAR OF EVENTS](#) | [OPUD BLOG](#) | [EMPLOYMENT INFO](#) | [CONTACT US](#)

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Site by [WISR](#)

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# TERRITORIAL DISPATCH

412 4<sup>TH</sup> Street, Marysville, CA 95901  
(530) 743-6643

## Affidavit of Publication (C.C.P. 2015.5)

### STATE OF CALIFORNIA

County of Yuba

#### OPUD Public Notice

I am not a party to, nor interested in the above entitled matter. I am the principal clerk of the printer and publisher of The Territorial Dispatch, a newspaper of general circulation, printed and published in the City of Marysville, County of Yuba, to which Newspaper has been adjudged a newspaper of general circulation by The Superior Court of Yuba, State of California under the date of February 5, 2014, Case No. YCSCCVPT 13-0001066

The printed advertisement was published in The Territorial Dispatch, in the issues of the following named dates:  
May 3, 2017

I declare under penalty of perjury that the foregoing is true and correct.  
Executed at Marysville, California.

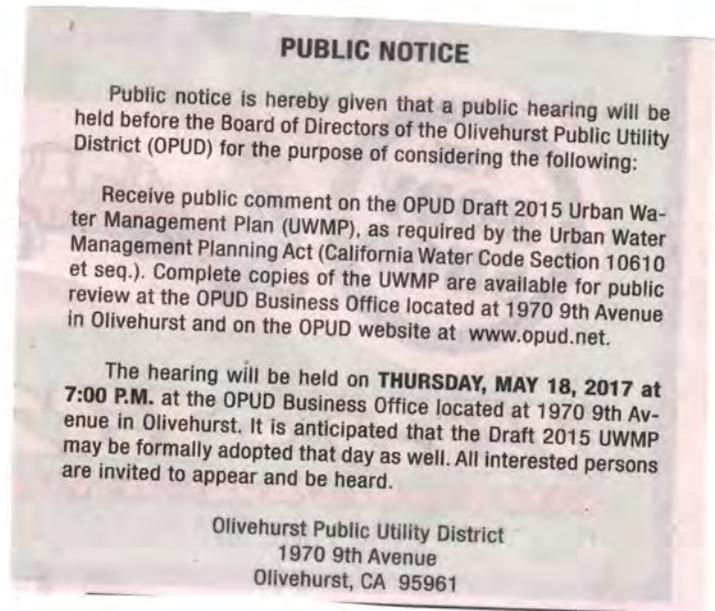
Date: May 3, 2017

Tina Abernathy  
(Signature)

This space for the County Clerk's filing stamp.

RECEIVED  
MAY - 8 2017  
BY: \_\_\_\_\_

#### PROOF OF PUBLICATION



*(THIS PAGE LEFT BLANK INTENTIONALLY)*

# TERRITORIAL DISPATCH

412 4<sup>TH</sup> Street, Marysville, CA 95901  
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The printed advertisement was published in The Territorial Dispatch, in the issues of the following named dates:  
May 10, 2017

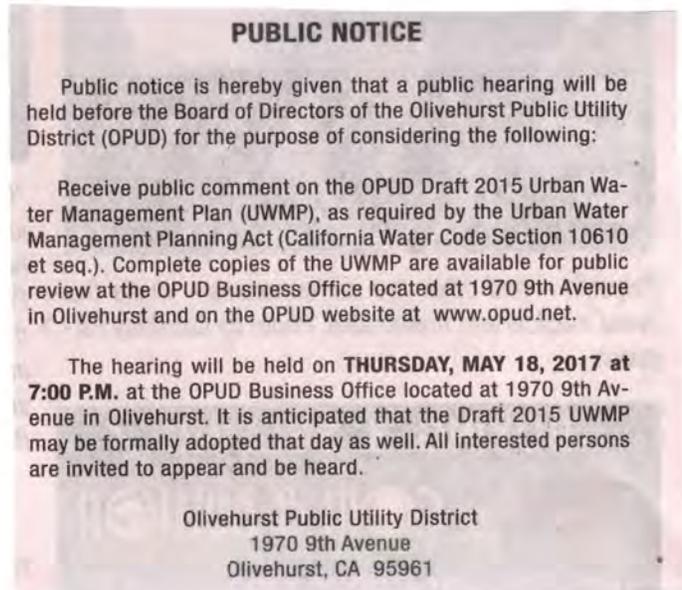
I declare under penalty of perjury that the foregoing is true and correct.  
Executed at Marysville, California.

Date: May 10, 2017

Tina Abernathy  
(Signature)

This space for the County Clerk's filing stamp.

#### PROOF OF PUBLICATION



*(THIS PAGE LEFT BLANK INTENTIONALLY)*

# CLASSIFIEDS / LEGALS

## ANTIQUES WANTED

**BUYING COLLECTIONS OR SINGLE PIECES ....** Relic Firearms, Toys, Old Signs, Pottery, Military, Native American Items, Silver and More. 530-736-0969. 5/17/17

## BOUNDERS CONCRETE

**DRIVEWAYS, PATIOS, WALKS ....** walls, columns, fire pits, brick, block and stone. Steve Wieszorek. 530-300-2766. Cal. Lic. #797744. 5/21/17

## YUBA CITY DOWNSIZING ESTATE SALE: May 5-6 • Fri. Sat. 8 am-2 pm

**2314 IDAHO WAY** Renaissance, Roman/Greek, angels. Christian art and the southwest. Statuary, urns, art prints, pillars, and lots more! For pictures and list visit <http://galishididencreations.com/estate-sale-services;estate-sales>. NO EARLY BIRDS. 5-3-17

## AREA YARD SALES

May 4, 5 & 6 • 8 am to 3 pm  
1147 Laurel Street  
Gridley, CA

May 5 & 6 • 8 am to 3 pm  
251 B Street  
Yuba City, CA

Every Fri, Sat, Sun • 9 am to 1 pm  
1829 Blevin Road  
Yuba City, CA

## Yard Sales Run Free

The Territorial Dispatch will start a new feature April 5, 2017. We will run a weekly list of Yard Sales for free. The Yard Sale information should be sent to [tina.territorial@yahoo.com](mailto:tina.territorial@yahoo.com).



The information should only include Date, Address and Time. Yard Sale information needs to be received 10 days prior to the sale.

## DEATH NOTICES

**CHERNOBIEFF JR.** - Christopher Chernobieff Jr., 29 of Eldridge passed away April 17, 2017. Arrangements are under the direction of Lakeside Colonial Chapel Funeral & Crematory, 530-749-9277.

**MACBRIDE** - Malcolm C. MacBride, 73 of Petaluma passed away April 18, 2017. Arrangements are under the direction of Lakeside Colonial Chapel Funeral & Crematory, 530-749-9277.

**MILLIKEN** - Robert "Barry" Milliken, 66 of Marysville passed away April 20, 2017. Arrangements are under the direction of Lakeside Colonial Chapel Funeral & Crematory, 530-749-9277.

**CONVERSA** - Timothy "Tim" M. Conversa, 73 of San Jose passed away April 23, 2017. Arrangements are under the direction of Lakeside Colonial Chapel Funeral & Crematory, 530-749-9277.

**GILLESPIE** - Donald J. Gillespie, 68 of Yuba City passed away April 23, 2017. Arrangements are under the direction of Lakeside Colonial Chapel Funeral & Crematory, 530-749-9277.

**WALLS** - Rose Walls, 71 of Olivehurst passed away April 24, 2017. Arrangements are under the direction of Holycross Memorial Services, Inc. 530-751-7000.

**STANALAND SR.** - Richard Stanaland Sr., 62 of Olivehurst passed away April 25, 2017. Arrangements are under the direction of Holycross Memorial Services, Inc. 530-751-7000.

**MENTZ** - Jeremy J. Mentz, 33 of Marysville passed away April 25, 2017. Arrangements are under the direction of Lakeside Colonial Chapel Funeral & Crematory, 530-749-9277.

**FIX JR.** - Jack Fix, Jr., 86 of Yuba City passed away April 25, 2017. Arrangements are under the direction of Holycross Memorial Services, Inc. 530-751-7000.

**MCNABB** - Lois McNabb, 85 of Grass Valley passed away April 27, 2017. Arrangements are under the direction of Holycross Memorial Services, Inc. 530-751-7000.

HOLYCROSS Memorial Services, Inc.  
Affordable Funeral Services  
FDR 567 FD1653

Honoring Memories. Celebrating Lives.

[www.holycrossmemorial.com](http://www.holycrossmemorial.com)  
486 Bridge St., Yuba City | (530) 751-7000

## TRAVEL POSITIONS AVAILABLE NOW

**NO EXPERIENCE NECESSARY - WILL TRAIN.** Travel positions available \$500 sign on bonus. Licensed drivers needed. Daily pay and bonuses. Call today for interview.. Angel 602-552-1070 or Ryan 888-553-8648 TFN

## FOR SALE AGED AND COMPOSTED COW MANURE AND FILL DIRT.

Great for gardens and spring crops and landscaping. Call Chris 530-673-2323. 7-19-17

## FOR CLASSIFIED ADS, LEGAL NOTICES OR OBITUARIES

Call Tina  
743-6643

or email:  
[tina.territorial@yahoo.com](mailto:tina.territorial@yahoo.com)

Cash, Checks, Credit Cards Accepted.

## LANDSCAPING & MAINTENANCE

**RESIDENTIAL, COMMERCIAL, HANDYMAN, FOREST CLEANING - 16 YEARS EXP.** Lic. #67549. Free Estimates. MANY FIELDS: Irrigation (manual or automatic) installation or repair; cement, mow strips, masonry (walls & columns), retaining walls; fence installation (wood, vinyl, chain-link, metal); plumbing; mowing, edging, clean-up, hauling; pruning (all kinds of fruit or shade trees); tree removal, rock, bark or sod. Call Andy 530-701-8098. 8-31-16

## EXPORT/DISTRIBUTION MANAGER:

**APPLICANT WILL BE RESPONSIBLE FOR ENSURING** international order fulfillment to meet business needs & develop a supply plan to support global expansion. Liaise between suppliers & key clients to assure uninterrupted & even flow of products through supply & demand. Assess the financial & operational impact of transportation initiatives & support product sales process. Bachelor's Degree in Business, Finance or its Equivalent is a Min. Req + 5 yrs exp. Mail Resume w/ Ad to Cornerstone Properties Family, Ltd PS, 1500 Reed Road, Yuba City, CA 95993. 5-3-17

## FOR SALE

**2006 F250 POWER STROKE DIESEL 94K** Toolbox plus 5th wheel hitch. One time owner. Home: 674-8764 or Cell 2156-7275. \$18,000 OBO 4-26-17

## HAULING & CLEAN-UP

**SCRAP METAL HAULING, YARD CLEAN UP** References available. Licensed. Call Chris 530-682-0330 or Scott 530-315-2840. TFN

## LANDSCAPING

**4 SEASONS GARDENS** does pruning, planting, flowers, vegetable beds and decorative design. Weekly, Monthly or just one time. Senior/disabled discounts. Free estimates. [monteroh09@gmail.com](mailto:monteroh09@gmail.com) 530-488-0311 5-10-17

## DOG TRAINING Rain or Shine

**STARTS: May 10 from 7-9pm.** Complete novice. On & off leash. **10 week course \$200.** Pitbulls must be altered. (Equip available at class). Lin Daugherty, 742-8695, 2620 N. Beale Rd, Marysville. 5-10-17.

## HAY FOR SALE

**NEW CROP ALFALFA** - \$14/bale, 3-Way \$12/bale coming soon. Ryegrass \$12/bale. Contact Matt 530-682-1945 TFN

## CARS FOR SALE

**MANZANITA CAR SALES.** 241 Magnolia St, Gridley, CA. Good selection of Cars, SUVs, Trucks. RV consignments welcome. 530-846-6007, 800-596-6007. [manzanitacars@sbcglobal.net](mailto:manzanitacars@sbcglobal.net) manzinitacars.com. TFN

## FIREWOOD FOR SALE

**DRY SPLIT TAN OAK \$270.** Call 530-990-5705 or 530-990-6489. 5/10/17

## NOTARY PUBLIC

JAN MOORE, Brownsville, 530-675-1000. TFN

## NEED TYPING?

**NO JOB TOO BIG OR TOO SMALL.** Business Cards, Posters, Resumes, letters, newsletters. Anything needing typing. 530-743-0729. c

## NOTICE OF PUBLIC HEARING BEFORE THE YUBA COUNTY BOARD OF SUPERVISORS

**NOTICE IS HEREBY GIVEN** that the Yuba County Board of Supervisors will hold a public hearing in the Board of Supervisors' Chambers at 915 Eighth Street, Suite 109A, Marysville, California, commencing at 9:00 a.m. or as soon thereafter as the matter may be heard, on Tuesday, May 23, 2017, to consider adoption of a resolution confirming the assessments within the Gledhill Landscaping and Lighting District and a resolution of Intent to levy and collect assessments within the Linda Lighting Maintenance District, for fiscal year 2017/2018.

A copy of the written report supporting the proposed assessment will be available for review at the Office of the Clerk of the Yuba County Board of Supervisors at 915 Eighth Street, Suite 109, Marysville, California, fourteen days prior to the public hearing.

Any interested person may submit comments in writing prior to the hearing, or may attend the meeting and will be given an opportunity to be heard.

Dated:  
DONNA STOTTMLEYER  
CLERK OF THE BOARD OF SUPERVISORS  
Rachel Ferris, Deputy Clerk

PUBLICATION DATES: May 3, 10, 2017

## SUPERIOR COURT OF CALIFORNIA COUNTY OF YUBA IN THE MATTER OF THE APPLICATION OF: Morgan Ashley Andrews. PETITIONER CASE NUMBER: YCSCCVPT 17-00436. ORDER TO SHOW CAUSE FOR CHANGE OF NAME

HEARING DATE: May 15, 2017  
DEPT: 4  
TIME: 9:30 A.M.

Petitioner(s) Morgan Ashley Andrews filed a petition with this court for a decree changing name as follows:  
from: Morgan Ashley Andrews  
to: Morgan Ashley Raymond.

**IT IS HEREBY ORDERED** that all persons interested in this matter appear before this court in Department 4 of the Yuba County Superior Court located at 215 Fifth Street, Suite 200, Marysville, CA on May 15, 2017 at 9:30 A.M. and then there show cause, if any they have, why the petition for change of name should not be granted.

**IT IS FURTHER ORDERED** that a copy of this order to show cause be published in the Territorial Dispatch, a newspaper of general circulation published in this county, at least once a week for four consecutive weeks prior to the date of the hearing.

DATE April 3, 2017  
STEPHEN W. BERRIER  
JUDGE OF THE SUPERIOR COURT.  
April 12, 19, 26, May 3, 2017

## PUBLIC NOTICE

Public notice is hereby given that a public hearing will be held before the Board of Directors of the Olivehurst Public Utility District (OPUD) for the purpose of considering the following:

Receive public comment on the OPUD Draft 2015 Urban Water Management Plan (UWMP), as required by the Urban Water Management Planning Act (California Water Code Section 10610 et seq.). Complete copies of the UWMP are available for public review at the OPUD Business Office located at 1970 9th Avenue in Olivehurst and on the OPUD website at [www.opud.net](http://www.opud.net).

The hearing will be held on **THURSDAY, MAY 18, 2017 at 7:00 P.M.** at the OPUD Business Office located at 1970 9th Avenue in Olivehurst. It is anticipated that the Draft 2015 UWMP may be formally adopted that day as well. All interested persons are invited to appear and be heard.

Olivehurst Public Utility District  
1970 9th Avenue  
Olivehurst, CA 95961

## HALL RENTALS

**SUTTER COUNTY VETERANS HALL**  
822-7410

**THE LAUGHING LOTUS EVENT CENTER**  
103 C St,  
Marysville 300-6357  
[www.1happychi.com](http://www.1happychi.com)

**DOBBS-OREGON HOUSE ALCOUFFE COMMUNITY CENTER**  
Sue 692-2709,  
632-6323,  
[www.alcouffecenter.org](http://www.alcouffecenter.org)

**YUBA FEATHER LIONS HALL, OREGON HOUSE**  
692-9197 or 329-5933

**BANGOR HALL**  
530-679-0807  
or 679-2010

**PONDEROSA COMMUNITY CENTER**  
530-589-0582  
or 822-6316

**FOOTHILL LIONS, LOMA RICA**  
[www.foothill-lions.net](http://www.foothill-lions.net)  
530-742-5466

**HALLWOOD WOMAN'S CLUB** 530-632-6809

**MARYSVILLE ART CLUB**  
671-0190 / 218-7065

**NATIVE DAUGHTERS OF THE GOLDEN WEST SOUTH BUTTE PARLOR #226 IN SUTTER**  
530-755-1535

**AMERICAN LEGION LINDA POST 807**  
742-6989

**MARYSVILLE VETS MEMORIAL BUILDING**  
530-743-0948

**[32] SQUARED IN YUBA CITY**  
769 Plumas St,  
Yuba City  
530-923-2622

**MARYSVILLE ELKS LODGE**  
Contact Ed  
530-743-5134

**PLUMAS LAKE GOLF & COUNTRY CLUB**  
Mandy 530-742-3202

**ALLYN SCOTT YOUTH AND COMMUNITY CENTER**  
530-749-1776

**HISTORIC SUTTER COUNTY MASONIC CENTER**  
530-701-7336.

**MOUNTAIN MIKE'S PIZZA AND FUN ZONE**  
743-9991

**HISTORIC ROUGH AND READY GRANGE**  
530-272-4142

**COLUSA GOLF & COUNTRY CLUB**  
530-458-7057 (Susan)

**WHEATLAND SENIOR CENTER**  
530-713-2928  
or 633-2835

**SUTTER YOUTH ORGANIZATION BUILDING**  
George 755-1030

**HARVEST ROOM AT NEW EARTH MARKET**  
673-9355

**ETTL HALL**  
530-822-7473.

**ST. ISIDORE CHURCH**  
530-673-1573

**NEVADA COUNTY HORSEMEN CLUBHOUSE**  
530-273-1507.

**THE BRICK COFFEE HOUSE CAFE**  
530-743-5283

**VFW 4095, 4956 POWERLINE RD., OLIVEHURST**  
530-329-3035

**LEE BURROWS THEATRE**  
530-742-2787

**SUTTER-YUBA ASSOCIATION OF REALTORS**  
530-674-4222

**RIVER VALLEY LODGE IN COLUSA**  
530-458-8844

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# **APPENDIX E**

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Population Estimate

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**Table E-1. Population Estimate for Olivehurst Water System**

Year	Olivehurst CDP Population <sup>(c)</sup>	Wheeler Ranch <sup>(a)</sup>		Area Not Served Within Olivehurst CDP <sup>(b)</sup>			Olivehurst System			
		Number of Houses <sup>(d)</sup>	Persons per House <sup>(e)</sup>	Population	Number of Houses <sup>(d)</sup>	Persons per House <sup>(e)</sup>	Population	Number of Connections <sup>(f)</sup>	Persons Per Connection	Population <sup>(g)</sup>
2000	11,061	0	-	0	20	3.0	60	2,764	3.98	11,001
2001	11,321	0	-	0	20	3.0	60	2,897	3.89	11,261
2002	11,580	0	-	0	20	3.0	60	3,029	3.80	11,520
2003	11,840	0	-	0	20	3.0	60	3,162	3.73	11,780
2004	12,099	0	-	0	20	3.0	60	3,295	3.65	12,039
2005	12,359	73	3.0	218	20	3.0	60	3,428	3.65	12,517
2006	12,618	146	3.0	437	20	3.0	60	3,560	3.65	12,995
2007	12,878	218	3.0	655	20	3.0	60	3,693	3.65	13,473
2008	13,137	291	3.0	873	20	3.0	60	3,826	3.65	13,950
2009	13,397	291	3.0	873	20	3.0	60	3,958	3.59	14,210
2010	13,656	291	3.0	873	20	3.0	60	4,091	3.54	14,469
2015	-	291	3.0	873	20	3.0	60	4,108	3.54	14,542

<sup>(a)</sup> Includes houses within Wheeler Ranch area that are inside the Olivehurst water service area and outside of the Olivehurst CDP boundary.

<sup>(b)</sup> Includes houses inside the northwestern area of the Olivehurst CDP boundary and outside of the Olivehurst water service area. These houses are located between Feather River Road and an abandoned railroad.

<sup>(c)</sup> Populations for 2000 and 2010 are based on U.S. Census for Olivehurst CDP. Populations between 2000 and 2010 assume constant growth.

<sup>(d)</sup> Estimated number of houses/connections was provided by the District (dated March 2017).

<sup>(e)</sup> Assumes an average of 3.0 persons per housing unit (U.S. Census 2010 data for Olivehurst CDP).

<sup>(f)</sup> Number of total water service connections in Olivehurst distribution system for 2000, 2010, and 2015 were provided by the District (dated March 2017). Number of connections between 2000 and 2010 assume constant growth.

<sup>(g)</sup> For 2000-2010 population: Olivehurst Service Area Population = Olivehurst CDP + Wheeler Ranch - Areas Not Served Olivehurst service area population in 2015 is based on the calculated number connections in 2010 and the total number of service connections.

**Table E-2. Population Estimate for Olivehurst Public Utility District's Water Service Area**

Year	Olivehurst System Population <sup>(a)</sup>	Plumas Lake System (Plumas Lake CDP)		Total Service Area Population <sup>(e)</sup>
		Number of Connections <sup>(b)</sup>	Persons per Connection <sup>(c)</sup>	
2000	11,001	0	-	11,001
2001	11,261	0	-	11,261
2002	11,520	0	-	11,520
2003	11,780	0	-	11,780
2004	12,039	582	2.46	13,468
2005	12,517	1,163	2.46	15,374
2006	12,995	1,745	2.46	17,281
2007	13,473	2,327	2.46	19,187
2008	13,950	2,345	2.46	19,711
2009	14,210	2,364	2.46	20,017
2010	14,469	2,383	2.46	20,322
2015	14,542	2,477	2.46	20,626

<sup>(a)</sup> From Table E-1.

<sup>(b)</sup> Number of total water service connections in Plumas Lake distribution system (Plumas Lake CDP) for 2010 and 2015 were provided by the District (dated March 2017). To account for the effects of the economic downturn, the number of connections in Plumas Lake CDP assume constant (rapid) growth from 2004 to 2007 and constant (less rapid) growth from 2007 to 2015.

<sup>(c)</sup> Based on 2010 Census data and total number of connections.

<sup>(d)</sup> Populations for 2000 and 2010 based on U.S. Census for Plumas Lake CDP. Populations between 2000 and 2010, and in 2015 were calculated based on the number of connections and persons per connection.

<sup>(e)</sup> Total Service Area Population = Olivehurst System + Plumas Lake System.

# **APPENDIX F**

---

Water Audit

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# AWWA Free Water Audit Software v5.0

American Water Works Association Copyright © 2014, All Rights Reserved.

This spreadsheet-based water audit tool is designed to help quantify and track water losses associated with water distribution systems and identify areas for improved efficiency and cost recovery. It provides a "top-down" summary water audit format, and is not meant to take the place of a full-scale, comprehensive water audit format.

Auditors are strongly encouraged to refer to the most current edition of AWWA M36 Manual for Water Audits for detailed guidance on the water auditing process and targeting loss reduction levels

The spreadsheet contains several separate worksheets. Sheets can be accessed using the tabs towards the bottom of the screen, or by clicking the buttons below.

## Please begin by providing the following information

Name of Contact Person: John Tilotson  
 Email Address: jtilotson@opud.org  
 Telephone | Ext.: 530 743 8573  
 Name of City / Utility: Olivehurst Public Utility District  
 City/Town/Municipality: Olivehurst  
 State / Province: California (CA)  
 Country: USA  
 Year: 2015 Financial Year  
 Start Date: 01/2015 Enter MM/YYYY numeric format  
 End Date: 12/2015 Enter MM/YYYY numeric format  
 Audit Preparation Date: 3/9/2017  
 Volume Reporting Units: Million gallons (US)  
 PWSID / Other ID: 5810003

## The following guidance will help you complete the Audit

All audit data are entered on the [Reporting Worksheet](#)  
 Value can be entered by user  
 Value calculated based on input data  
 These cells contain recommended default values

Use of Option (Radio) Buttons: Pcnt: 0.25% Value:

Select the default percentage by choosing the option button on the left

To enter a value, choose this button and enter a value in the cell to the right

## The following worksheets are available by clicking the buttons below or selecting the tabs along the bottom of the page

<p><b>Instructions</b> The current sheet. Enter contact information and basic audit details (year, units etc)</p>	<p><b>Reporting Worksheet</b> Enter the required data on this worksheet to calculate the water balance and data grading</p>	<p><b>Comments</b> Enter comments to explain how values were calculated or to document data sources</p>	<p><b>Performance Indicators</b> Review the performance indicators to evaluate the results of the audit</p>	<p><b>Water Balance</b> The values entered in the Reporting Worksheet are used to populate the Water Balance</p>	<p><b>Dashboard</b> A graphical summary of the water balance and Non-Revenue Water components</p>
<p><b>Grading Matrix</b> Presents the possible grading options for each input component of the audit</p>	<p><b>Service Connection Diagram</b> Diagrams depicting possible customer service connection line configurations</p>	<p><b>Definitions</b> Use this sheet to understand the terms used in the audit process</p>	<p><b>Loss Control Planning</b> Use this sheet to interpret the results of the audit validity score and performance indicators</p>	<p><b>Example Audits</b> Reporting Worksheet and Performance Indicators examples are shown for two validated audits</p>	<p><b>Acknowledgements</b> Acknowledgements for the AWWA Free Water Audit Software v5.0</p>

If you have questions or comments regarding the software please contact us via email at: [wlc@awwa.org](mailto:wlc@awwa.org)



# 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: **Olivehurst Public Utility District (5810003)**  
 Reporting Year: **2015**      1/2015 - 12/2015

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

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

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

### WATER SUPPLIED

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

Volume from own sources:	+	?	5	652.100	MG/Yr
Water imported:	+	?	n/a		MG/Yr
Water exported:	+	?	n/a		MG/Yr

### Master Meter and Supply Error Adjustments

Pcnt:	+	?	1	[ ]	MG/Yr
Value:	+	?	[ ]	[ ]	MG/Yr
	+	?	[ ]	[ ]	MG/Yr

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

**WATER SUPPLIED:** 652.100 MG/Yr

### AUTHORIZED CONSUMPTION

Billed metered:	+	?	5	496.710	MG/Yr
Billed unmetered:	+	?	7	116.000	MG/Yr
Unbilled metered:	+	?	n/a		MG/Yr
Unbilled unmetered:	+	?	[ ]	8.151	MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

**AUTHORIZED CONSUMPTION:** 620.861 MG/Yr

Click here: ?  
for help using option buttons below

Pcnt:	+	?	[ ]	1.25%	MG/Yr
Value:	+	?	[ ]	[ ]	MG/Yr

Use buttons to select percentage of water supplied  
OR value

### WATER LOSSES (Water Supplied - Authorized Consumption)

31.239 MG/Yr

### Apparent Losses

Unauthorized consumption:	+	?	[ ]	1.630	MG/Yr
---------------------------	---	---	-----	-------	-------

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

Customer metering inaccuracies:	+	?	5	10.137	MG/Yr
Systematic data handling errors:	+	?	[ ]	1.242	MG/Yr

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

**Apparent Losses:** 13.009 MG/Yr

Pcnt:	+	?	[ ]	0.25%	MG/Yr
Value:	+	?	[ ]	[ ]	MG/Yr

Pcnt:	+	?	[ ]	2.00%	MG/Yr
Value:	+	?	[ ]	0.25%	MG/Yr

### Real Losses (Current Annual Real Losses or CARL)

**Real Losses = Water Losses - Apparent Losses:** 18.230 MG/Yr

**WATER LOSSES:** 31.239 MG/Yr

### NON-REVENUE WATER

**NON-REVENUE WATER:** 39.390 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

### SYSTEM DATA

Length of mains:	+	?	8	115.0	miles
Number of <u>active AND inactive</u> service connections:	+	?	8	3,201	
Service connection density:	?	[ ]	[ ]	28	conn./mile main

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

Average length of customer service line: + ? [ ]

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

Average operating pressure: + ? 8 59.3 psi

### COST DATA

Total annual cost of operating water system:	+	?	8	\$2,120,431	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+	?	8	\$3.74	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+	?	8	\$775.95	\$/Million gallons <input type="checkbox"/> Use Customer Retail Unit Cost to value real losses

### WATER AUDIT DATA VALIDITY SCORE:

\*\*\* YOUR SCORE IS: 60 out of 100 \*\*\*

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

### PRIORITY AREAS FOR ATTENTION:

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

1: Volume from own sources

2: Billed metered

3: Customer metering inaccuracies

# AWWA Free Water Audit Software v5.0

American Water Works Association Copyright © 2014, All Rights Reserved.

This spreadsheet-based water audit tool is designed to help quantify and track water losses associated with water distribution systems and identify areas for improved efficiency and cost recovery. It provides a "top-down" summary water audit format, and is not meant to take the place of a full-scale, comprehensive water audit format.

Auditors are strongly encouraged to refer to the most current edition of AWWA M36 Manual for Water Audits for detailed guidance on the water auditing process and targeting loss reduction levels

The spreadsheet contains several separate worksheets. Sheets can be accessed using the tabs towards the bottom of the screen, or by clicking the buttons below.

## Please begin by providing the following information

Name of Contact Person:

Email Address:

Telephone | Ext.:

Name of City / Utility:

City/Town/Municipality:

State / Province:

Country:

Year:  Financial Year

Start Date:  Enter MM/YYYY numeric format

End Date:  Enter MM/YYYY numeric format

Audit Preparation Date:

Volume Reporting Units:

PWSID / Other ID:

## The following guidance will help you complete the Audit

All audit data are entered on the [Reporting Worksheet](#)  
 Value can be entered by user  
 Value calculated based on input data  
 These cells contain recommended default values

Use of Option (Radio) Buttons:

Pcnt:  Value:

Select the default percentage by choosing the option button on the left

To enter a value, choose this button and enter a value in the cell to the right

## The following worksheets are available by clicking the buttons below or selecting the tabs along the bottom of the page

<p><b><u>Instructions</u></b> The current sheet. Enter contact information and basic audit details (year, units etc)</p>	<p><b><u>Reporting Worksheet</u></b> Enter the required data on this worksheet to calculate the water balance and data grading</p>	<p><b><u>Comments</u></b> Enter comments to explain how values were calculated or to document data sources</p>	<p><b><u>Performance Indicators</u></b> Review the performance indicators to evaluate the results of the audit</p>	<p><b><u>Water Balance</u></b> The values entered in the Reporting Worksheet are used to populate the Water Balance</p>	<p><b><u>Dashboard</u></b> A graphical summary of the water balance and Non-Revenue Water components</p>
<p><b><u>Grading Matrix</u></b> Presents the possible grading options for each input component of the audit</p>	<p><b><u>Service Connection Diagram</u></b> Diagrams depicting possible customer service connection line configurations</p>	<p><b><u>Definitions</u></b> Use this sheet to understand the terms used in the audit process</p>	<p><b><u>Loss Control Planning</u></b> Use this sheet to interpret the results of the audit validity score and performance indicators</p>	<p><b><u>Example Audits</u></b> Reporting Worksheet and Performance Indicators examples are shown for two validated audits</p>	<p><b><u>Acknowledgements</u></b> Acknowledgements for the AWWA Free Water Audit Software v5.0</p>

If you have questions or comments regarding the software please contact us via email at: [wlc@awwa.org](mailto:wlc@awwa.org)



# 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: **Olivehurst Public Utility District (5805001)**  
 Reporting Year: **2015**      1/2015 - 12/2015

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

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

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

### WATER SUPPLIED

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

Volume from own sources:	+	?	5	359.900	MG/Yr
Water imported:	+	?	n/a		MG/Yr
Water exported:	+	?	n/a		MG/Yr

### Master Meter and Supply Error Adjustments

Pcnt:	+	?	1	[ ]	MG/Yr
Value:				[ ]	MG/Yr
Pcnt:	+	?	[ ]	[ ]	MG/Yr
Value:				[ ]	MG/Yr

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

**WATER SUPPLIED: 359.900** MG/Yr

### AUTHORIZED CONSUMPTION

Billed metered:	+	?	5	336.440	MG/Yr
Billed unmetered:	+	?	7	0.000	MG/Yr
Unbilled metered:	+	?	n/a	0.000	MG/Yr
Unbilled unmetered:	+	?	[ ]	4.499	MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

**AUTHORIZED CONSUMPTION: 340.939** MG/Yr

Click here: ?  
for help using option buttons below

Pcnt:	+	?	1.25%	[ ]	MG/Yr
Value:				[ ]	MG/Yr

Use buttons to select percentage of water supplied  
OR value

### WATER LOSSES (Water Supplied - Authorized Consumption)

**18.961** MG/Yr

#### Apparent Losses

Unauthorized consumption:	+	?	[ ]	0.900	MG/Yr
---------------------------	---	---	-----	-------	-------

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

Customer metering inaccuracies:	+	?	5	6.866	MG/Yr
Systematic data handling errors:	+	?	[ ]	0.841	MG/Yr

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

**Apparent Losses: 8.607** MG/Yr

Pcnt:	+	?	0.25%	[ ]	MG/Yr
Value:				[ ]	MG/Yr

Pcnt:	+	?	2.00%	[ ]	MG/Yr
Value:				[ ]	MG/Yr

### Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: **10.354** MG/Yr

**WATER LOSSES: 18.961** MG/Yr

### NON-REVENUE WATER

**NON-REVENUE WATER: 23.460** MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

### SYSTEM DATA

Length of mains:	+	?	8	76.7	miles
Number of active AND inactive service connections:	+	?	8	2,477	
Service connection density:	?			32	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:  61.2 psi

### COST DATA

Total annual cost of operating water system:	+	?	8	\$2,120,431	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+	?	8	\$3.74	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+	?	8	\$775.95	\$/Million gallons <input type="checkbox"/> Use Customer Retail Unit Cost to value real losses

### WATER AUDIT DATA VALIDITY SCORE:

\*\*\* YOUR SCORE IS: 60 out of 100 \*\*\*

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

### PRIORITY AREAS FOR ATTENTION:

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

1: Volume from own sources

2: Billed metered

3: Customer metering inaccuracies

# **APPENDIX G**

---

SB X7-7 Verification Form

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

Million Gallons

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

NOTES:

**SB X7-7 Table-1: Baseline Period Ranges**

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	1,039	Million Gallons
	2008 total volume of delivered recycled water	-	Million Gallons
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period <sup>1, 2</sup>	10	Years
	Year beginning baseline period range	2001	
5-year baseline period	Year ending baseline period range <sup>3</sup>	2010	
	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range <sup>4</sup>	2007	

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

<sup>3</sup> The ending year must be between December 31, 2004 and December 31, 2010.

<sup>4</sup> The ending year must be between December 31, 2007 and December 31, 2010.

NOTES:

**SB X7-7 Table 2: Method for Population Estimates**

**Method Used to Determine Population**  
(may check more than one)

**1. Department of Finance (DOF)**

DOF Table E-8 (1990 - 2000) and (2000-2010) and  
DOF Table E-5 (2011 - 2015) when available

**2. Persons-per-Connection Method****3. DWR Population Tool****4. Other**

DWR recommends pre-review

NOTES:

<b>SB X7-7 Table 3: Service Area Population</b>		
<b>Year</b>		<b>Population</b>
<b>10 to 15 Year Baseline Population</b>		
Year 1	2001	11,261
Year 2	2000	11,520
Year 3	2001	11,780
Year 4	2002	13,468
Year 5	2003	15,374
Year 6	2004	17,281
Year 7	2005	19,187
Year 8	2006	19,711
Year 9	2007	20,017
Year 10	2008	20,322
<i>Year 11</i>		
<i>Year 12</i>		
<i>Year 13</i>		
<i>Year 14</i>		
<i>Year 15</i>		
<b>5 Year Baseline Population</b>		
Year 1	2003	11,780
Year 2	2004	13,468
Year 3	2005	15,374
Year 4	2006	17,281
Year 5	2007	19,187
<b>2015 Compliance Year Population</b>		
	<b>2015</b>	<b>20,626</b>
NOTES:		

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

Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	Deductions					Annual 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>	
<b>10 to 15 Year Baseline - Gross Water Use</b>							
Year 1	2001	886			-		886
Year 2	2000	896			-		896
Year 3	2001	878			-		878
Year 4	2002	1,316			-		1,316
Year 5	2003	983			-		983
Year 6	2004	983			-		983
Year 7	2005	1,028			-		1,028
Year 8	2006	1,039			-		1,039
Year 9	2007	940			-		940
Year 10	2008	941			-		941
Year 11	0	-			-		-
Year 12	0	-			-		-
Year 13	0	-			-		-
Year 14	0	-			-		-
Year 15	0	-			-		-
<b>10 - 15 year baseline average gross water use</b>							<b>989</b>
<b>5 Year Baseline - Gross Water Use</b>							
Year 1	2003	878			-		878
Year 2	2004	1,316			-		1,316
Year 3	2005	983			-		983
Year 4	2006	983			-		983
Year 5	2007	1,028			-		1,028
<b>5 year baseline average gross water use</b>							<b>1,038</b>
<b>2015 Compliance Year - Gross Water Use</b>							
<b>2015</b>		1,012			-		<b>1,012</b>
* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3							
NOTES:							

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

Complete one table for each source.

<b>Name of Source</b>		Groundwater		
<b>This water source is:</b>				
<input checked="" type="checkbox"/>	The supplier's own water source			
<input type="checkbox"/>	A purchased or imported source			
<b>Baseline Year</b> <i>Fm SB X7-7 Table 3</i>	<b>Volume Entering Distribution System</b>	<b>Meter Error Adjustment*</b> <i>Optional (+/-)</i>	<b>Corrected Volume Entering Distribution System</b>	
<b>10 to 15 Year Baseline - Water into Distribution System</b>				
Year 1	2001	886		886
Year 2	2000	896		896
Year 3	2001	878		878
Year 4	2002	1,316		1,316
Year 5	2003	983		983
Year 6	2004	983		983
Year 7	2005	1,028		1,028
Year 8	2006	1,039		1,039
Year 9	2007	940		940
Year 10	2008	941		941
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
<b>5 Year Baseline - Water into Distribution System</b>				
Year 1	2003	878		878
Year 2	2004	1,316		1,316
Year 3	2005	983		983
Year 4	2006	983		983
Year 5	2007	1,028		1,028
<b>2015 Compliance Year - Water into Distribution System</b>				
	<b>2015</b>	1,012		1,012
<i>* Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document</i>				
<b>NOTES:</b>				

**SB X7-7 Table 4-B: Indirect Recycled Water Use Deduction (For use only by agencies that are deducting indirect recycled water)**

Baseline Year <i>Fm SB X7-7 Table 3</i>	Surface Reservoir Augmentation					Groundwater Recharge			Total Deductible Volume of Indirect Recycled Water Entering the Distribution System
	Volume Discharged from Reservoir for Distribution System Delivery	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/ Treatment Loss	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility*	Transmission/ Treatment Losses	Recycled Volume Entering Distribution System from Groundwater Recharge	
<b>10-15 Year Baseline - Indirect Recycled Water Use</b>									
Year 1	2001		-		-			-	-
Year 2	2000		-		-			-	-
Year 3	2001		-		-			-	-
Year 4	2002		-		-			-	-
Year 5	2003		-		-			-	-
Year 6	2004		-		-			-	-
Year 7	2005		-		-			-	-
Year 8	2006		-		-			-	-
Year 9	2007		-		-			-	-
Year 10	2008		-		-			-	-
Year 11	0		-		-			-	-
Year 12	0		-		-			-	-
Year 13	0		-		-			-	-
Year 14	0		-		-			-	-
Year 15	0		-		-			-	-
<b>5 Year Baseline - Indirect Recycled Water Use</b>									
Year 1	2003		-		-			-	-
Year 2	2004		-		-			-	-
Year 3	2005		-		-			-	-
Year 4	2006		-		-			-	-
Year 5	2007		-		-			-	-
<b>2015 Compliance - Indirect Recycled Water Use</b>									
	<b>2015</b>		-		-			-	-
*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.									
NOTES:									

**SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)**

<b>Baseline Year</b> <i>Fm SB X7-7 Table 3</i>		<b>Service Area Population</b> <i>Fm SB X7-7 Table 3</i>	<b>Annual Gross Water Use</b> <i>Fm SB X7-7 Table 4</i>	<b>Daily Per Capita Water Use (GPCD)</b>
<b>10 to 15 Year Baseline GPCD</b>				
Year 1	2001	11,261	886	215
Year 2	2000	11,520	896	213
Year 3	2001	11,780	878	204
Year 4	2002	13,468	1,316	268
Year 5	2003	15,374	983	175
Year 6	2004	17,281	983	156
Year 7	2005	19,187	1,028	147
Year 8	2006	19,711	1,039	144
Year 9	2007	20,017	940	129
Year 10	2008	20,322	941	127
<i>Year 11</i>	0	-	-	
<i>Year 12</i>	0	-	-	
<i>Year 13</i>	0	-	-	
<i>Year 14</i>	0	-	-	
<i>Year 15</i>	0	-	-	
<b>10-15 Year Average Baseline GPCD</b>				<b>178</b>
<b>5 Year Baseline GPCD</b>				
<b>Baseline Year</b> <i>Fm SB X7-7 Table 3</i>		<b>Service Area Population</b> <i>Fm SB X7-7 Table 3</i>	<b>Gross Water Use</b> <i>Fm SB X7-7 Table 4</i>	<b>Daily Per Capita Water Use</b>
Year 1	2003	11,780	878	204
Year 2	2004	13,468	1,316	268
Year 3	2005	15,374	983	175
Year 4	2006	17,281	983	156
Year 5	2007	19,187	1,028	147
<b>5 Year Average Baseline GPCD</b>				<b>190</b>
<b>2015 Compliance Year GPCD</b>				
<b>2015</b>		20,626	1,012	<b>134</b>
NOTES:				

**SB X7-7 Table 6: Gallons per Capita per Day**  
*Summary From Table SB X7-7 Table 5*

10-15 Year Baseline GPCD	178
5 Year Baseline GPCD	190
2015 Compliance Year GPCD	134
NOTES:	

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

Target Method		Supporting Documentation
<input type="checkbox"/>	Method 1	SB X7-7 Table 7A
<input type="checkbox"/>	Method 2	SB X7-7 Tables 7B, 7C, and 7D <i>Contact DWR for these tables</i>
<input checked="" type="checkbox"/>	Method 3	SB X7-7 Table 7-E
<input type="checkbox"/>	Method 4	Method 4 Calculator

NOTES:

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

20% Reduction

10-15 Year Baseline GPCD	2020 Target GPCD
178	142

NOTES:

**SB X7-7 Table 7-E: Target Method 3**

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

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

5 Year Baseline GPCD <i>From SB X7-7 Table 5</i>	Maximum 2020 Target <sup>1</sup>	Calculated 2020 Target <sup>2</sup>	<b>Confirmed 2020 Target</b>
190	180	167	<b>167</b>

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

NOTES:

**SB X7-7 Table 8: 2015 Interim Target GPCD**

Confirmed 2020 Target <i>Fm SB X7-7 Table 7-F</i>	10-15 year Baseline GPCD <i>Fm SB X7-7 Table 5</i>	<b>2015 Interim Target GPCD</b>
167	178	<b>172</b>

NOTES:

**SB X7-7 Table 9: 2015 Compliance**

Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments (in GPCD)					2015 GPCD (Adjusted if applicable)	Did Supplier Achieve Targeted Reduction for 2015?
		Enter "0" if Adjustment Not Used			TOTAL Adjustments	Adjusted 2015 GPCD		
		Extraordinary Events	Weather Normalization	Economic Adjustment				
134	172	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	-	134	134	YES

NOTES:

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## **APPENDIX H**

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### Groundwater Information

- A complete copy of the Yuba County Water Agency Groundwater Management Plan, December 2010, can be found here: <http://ycwa.us/documents/943>

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**YUBA COUNTY WATER AGENCY**

# Groundwater Management Plan



DECEMBER 2010

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## Sacramento Valley Groundwater Basin, South Yuba Subbasin

- Groundwater Basin Number: 5-21.61
- County: Yuba
- Surface Area: 89,000 acres (138 square miles)

### Boundaries and Hydrology

The South Yuba subbasin lies in the southern portion of the Sacramento Basin Hydrologic Study Area. It is bounded on the north by the Yuba River, on the west by the Feather River, on the south by the Bear River, and on the east by the Sierra Nevada and encompasses nearly 107,000 acres. Elevations range from about 150 feet in the northwest region of the basin to about 30 feet in the southwest corner near the confluence of the Feather and Bear Rivers.

Average precipitation is less than 20 inches in the southwest and 20 to 24 inches in the rest of the basin.

### Hydrogeologic Information

#### *Water Bearing Formations*

The South Yuba Subbasin aquifer system is comprised of continental deposits of Quaternary (Recent) to Late Tertiary (Miocene) age. The cumulative thickness of these deposits increases from a few hundred feet near the Sierra Nevada foothills on the east to over 1400 feet along the western margin of the basin (DWR 1978). The base of the aquifer system overlies the Pre-Tertiary metamorphosed igneous and sedimentary rocks of the Sierra Nevada block.

**Holocene Dredger Tailings.** These deposits occur along the Yuba and Bear Rivers within the eastern region of the South Yuba Groundwater subbasin. The coarse gravels and cobbles can be up to 125 feet thick and are highly permeable.

**Holocene Stream Channel and Floodplain Deposits.** These alluvial materials occur as coarse sand and gravels along present stream channels of the Yuba, Feather, and Bear Rivers. Coarser grained materials occur near streams with thicknesses up to 110 feet. Both grain size and thickness decrease with increased distance from streams. These deposits are highly permeable and provide for large amounts of groundwater recharge within the subbasin. Well yields are reported in the range of 2,000 to 4,000 gpm.

**Pleistocene Victor Formation.** The Victor Formation lies unconformably above the Laguna Formation. The majority of the formation occurs as alluvium throughout the North Yuba Groundwater subbasin, but floodplain deposits are present along stream channels above the alluvium.

**Pleistocene Floodplain Deposits.** These deposits occur as gravelly sand, silt, and clay from flood events along the Feather River and its tributaries. This unit overlies the Older Alluvium, underlies Quaternary Deposits, and ranges in thickness from 5 to 15 feet. These deposits provide a good medium

for groundwater recharge, provided the groundwater can pass the lower contact with the Older Alluvium.

**Pleistocene Alluvium.** This unit occurs at over 50 percent of the basin surface and at least 60 percent of its irrigated agricultural lands. Its thickness is highly variable due to its lower contact with the Laguna Formation. The Older Alluvium is comprised of Sierran alluvial fan deposits of loosely compacted silt, sand, and gravel with lesser amounts of clay deposits. The deposits occur as lenticular beds with decreasing thickness and grain size with increasing distance from the Yuba River and the foothills. Hardpan and claypan soils have developed to form an impermeable surface, but below this the Older Alluvium is moderately permeable and provides for most of the groundwater from domestic and shallow irrigation wells. Wells in the older alluvium have yields up to 1,000 gpm.

**Pliocene Laguna Formation.** The Laguna Formation is the most extensive water-bearing unit within the South Yuba Groundwater subbasin (Bookman-Edmonston 1992). The formation is comprised of reddish to yellowish or brown silt to sandy silt with abundant clay (Bookman-Edmonston 1992) and minor lenticular gravel beds. It overlies the Mehrten Formation and occurs at the surface intermittently at the east end of the basin (Olmsted and Davis 1961). The continental deposits of the Laguna dip to the west beneath the Victor Formation and range in thickness from 400 feet near the Yuba River up to 1,000 feet in the southwest portion of the county. Although the occurrence of thin sand and gravel zones is common, many of them have reduced permeability due to cementation. This coupled with its fine-grained character, leads to an overall low permeability for the Laguna Formation. Most of the groundwater produced from wells in the Laguna comes from overlying units.

**Miocene-Pliocene Mehrten Formation.** The Mehrten Formation is a sequence of volcanic rocks of late Miocene through middle Pliocene age. Surficial exposures are limited to a few square miles in the northeast corner of the basin (Olmsted and Davis 1961) and thickness varies from 200 feet near the eastern margin of the basin to 500 feet near the Feather River. The Mehrten Formation is composed of two distinct units. One unit occurs as intervals of gray to black, well-sorted fluvial andesitic sand (up to 20 feet thick), with andesitic stream gravel lenses and brown to blue clay and silt beds. These sand intervals are highly permeable and wells completed in them can produce high yields. The second unit is an andesitic tuff-breccia that acts as a confining layer between sand intervals. A more detailed description of the Mehrten Formation can be found in Bulletin 118-6 (DWR 1978).

### ***Recharge Areas***

Stream channel and floodplain deposits present along the Yuba River, Feather River, and Honcut Creek are highly permeable and provide for large amounts of groundwater recharge within the subbasin. The potential for artificial recharge of groundwater in the basin is limited since areas which have available storage space typically have overlying soils with very low infiltration rates that would restrict recharge potential (Bookman-Edmonston Engineering, Inc. 1992).

### ***Groundwater Level Trends***

As early as 1960 groundwater levels showed a well-developed cone of depression beneath the South Yuba basin. Water levels in the center of the cone of depression were just below sea level. Nearly all water levels were well below adjacent river levels on the Bear, Feather, and Yuba Rivers. Groundwater conditions in 1984 reflect a continued reliance on ground water pumping in the South Yuba Basin. Water levels in the center of the South Yuba cone of depression had fallen to 30 feet below sea level. The water level contours adjacent to the Bear and Yuba Rivers indicated a large gradient and seepage from the rivers. By 1990, water levels in the South Yuba Basin cone of depression rose to 10 feet above sea level. The rise in water levels was due to increasing surface water irrigation supplies and reduced groundwater pumping. Current DWR records indicate groundwater levels continue to increase. Bookman-Edmonston Engineering, Inc. (1992)

### ***Groundwater Storage***

**Groundwater Storage Capacity.** An unpublished study by Bookman-Edmonston Engineering, Inc. (1992) estimated groundwater storage in the South Yuba basin. The estimated storage capacity for the South Yuba basin is 1,090,000 acre-feet. This estimate was based on an area of 88,700 acres, which closely corresponds to boundaries used by DWR. The Bookman-Edmonston Engineering, Inc. calculated an average specific yield of 6.9 percent and an assumed thickness of 200 feet.

**Groundwater in Storage.** There are no published reports, which discuss groundwater in storage.

### ***Groundwater Budget (Type A)***

Previous DWR unpublished studies have estimated natural and applied recharge. DWR has also estimated urban and agriculture extractions and subsurface outflow. Basin inflows include natural recharge of 53,700 af, and applied water recharge of 26,000 af. Outflows include urban extraction of 6,000 af, agricultural extraction of 93,400 af, and subsurface outflow of 24,900 af.

### ***Groundwater Quality***

**Characterization.** The generally good water quality characteristics are apparent in the overall salinity of ground water in the study area. In general, total dissolved solids (TDS) concentrations in the study area are below 500 milligrams per liter (mg/l) throughout the entire basin. Bookman-Edmonston Engineering, Inc. (1992). DWR maintains data for 27 water quality wells in the South Yuba Subbasin. Data collected from these wells indicate a TDS range of 141 to 686 mg/l and a median of 224mg/l. The primary water chemistry in the area, mapped by Bertoldi (1991) indicates calcium magnesium bicarbonate or magnesium calcium bicarbonate groundwater. Some magnesium bicarbonate can be found in the northwest portion of the basin.

**Impairments.** There are no documented impairments to groundwater quality in the subbasin.

## Water Quality in Public Supply Wells

Constituent Group <sup>1</sup>	Number of wells sampled <sup>2</sup>	Number of wells with a concentration above an MCL <sup>3</sup>
Inorganics – Primary	38	2
Radiological	31	0
Nitrates	43	0
Pesticides	33	0
VOCs and SVOCs	33	1
Inorganics – Secondary	38	32

<sup>1</sup> A description of each member in the constituent groups and a generalized discussion of the relevance of these groups are included in *California's Groundwater – Bulletin 118* by DWR (2003).

<sup>2</sup> Represents distinct number of wells sampled as required under DHS Title 22 program from 1994 through 2000.

<sup>3</sup> Each well reported with a concentration above an MCL was confirmed with a second detection above an MCL. This information is intended as an indicator of the types of activities that cause contamination in a given basin. It represents the water quality at the sample location. It does not indicate the water quality delivered to the consumer. More detailed drinking water quality information can be obtained from the local water purveyor and its annual Consumer Confidence Report.

## Well Characteristics

Well yields (gal/min)		
Municipal/Irrigation		Average: 1,650 (44 Well Completion Reports)
Total depths (ft)		
Domestic	Range: 40-650	Average: 186 (253 Well Completion Reports)
Municipal/Irrigation	Range: 88-642	Average: 343 (90 Well Completion Reports)

## Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
DWR YCWA Wheatland WD	Groundwater levels	20 wells semi-annually 6 monthly 28 wells semi-annually 1 well semi-annually
DWR YCWA Department of Health Services	Mineral, nutrient, & minor element. Coliform, nitrates, mineral, organic chemicals, and radiological.	11 wells biennially 32 wells as required in Title 22, Calif. Code of Regulations

## Basin Management

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Groundwater management: South Yuba WD completed an AB3030 plan in 1998. [Yuba County Water Agency-AB3030 plan](#).

### Water agencies

Public [Yuba County Water Agency](#), Brophy Water District, Linda County Water District, Wheatland Water District, South Yuba Water District, Plumas Water District, Reclamation District 794

Private

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## References Cited

- Bertoldi, G.L. 1974. *Estimated Permeabilities for Soils in the Sacramento Valley, California*. U.S. Geological Survey Water-Resources Investigations Report 51-73.
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## Additional References

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## **Errata**

Updated groundwater management information and added hotlinks to applicable websites.  
(1/20/06)

# **APPENDIX I**

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## Water Conservation Ordinance

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AN ORDINANCE RESCINDING ORDINANCE NO. 151, ADOPTED MARCH 1, 1974, AS AMENDED, AND ESTABLISHING RULES AND REGULATIONS FOR WATER SERVICE, AND PROVIDING PROCEDURES AND PENALTIES FOR ITS ENFORCEMENT; AND RESCINDING ORDINANCE NO. 161, ADOPTED AUGUST 15, 1974, AND ESTABLISHING DEPOSIT REQUIREMENTS UPON APPLICATION FOR WATER SERVICE

BE IT ENACTED, by the Board of Directors of the Olivehurst Public Utility District as follows:

1. Ordinance No. 151, "An Ordinance Rescinding Ordinance No. 102, adopted October 3, 1968, as amended, and Establishing Rates, Rules, and Regulations for Water Service by Olivehurst Public Utility District", adopted March 1, 1973, as subsequently amended, is hereby rescinded.

2. Ordinance No. 161, "An Ordinance Rescinding Ordinance No. 141, as amended, and Establishing Deposit Requirements upon Application for Water and/or Sewer Service", adopted August 15, 1974, is hereby rescinded.

3. The rules, regulations, and deposit requirements for water service by Olivehurst Public Utility District shall be as follows:

ARTICLE I. GENERAL PROVISIONS

1. Short Title. This ordinance shall be known and may be cited as "Olivehurst Water Ordinance".

2. Words and Phrases. For the purpose of this ordinance, all words used herein in the present tense shall include the future; all words in the plural number shall include the singular number; and all words in the singular number shall include the plural numbers.

3. Water System. The District will furnish a system plant, works and undertaking used for and useful in obtaining, conserving, and distributing water for public and private uses, including all parts of said system, all appurtenances to it, and lands, easements, rights in land, water rights, contract rights, franchises, and other water supply, storage and distribution facilities and equipment.

4. Policy. The District will furnish water service in accordance with this and any other applicable ordinance or regulation

to any property within the boundaries of the District and to such other areas as the Board may designate.

5. Separability. If any section, subsection, sentence, clause or phrase of this ordinance is for any reason held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance.

6. Pressure Conditions. All applicants for service connections of water service shall be required to accept such conditions of pressure and service as are provided by the distribution system at the location of the proposed service connection, and to hold the District harmless for any damages arising out of low pressure or high pressure conditions or interruptions in service.

7. Tampering with District Property. No one except an employee or representative of the Board shall at any time in any manner operate the curb cocks or valves, main cocks, gates or valves of the District's system; or interfere with street mains or other parts of the water system.

8. Penalty for Violation. For the failure of the customer to comply with all or any part of this ordinance, and any ordinance, resolution or order fixing rates and charges of this District, a penalty for which has not hereafter been specifically fixed, the customer's service shall be discontinued and the water shall not be supplied such customer until he shall comply with the rule or regulation, rate or charge which he has violated, or, in the event that he cannot comply with said rule or regulation, until he shall have satisfied the District that in the future he will comply with all the rules and regulations established by ordinance of the District and with all rates and charges of this District. In addition thereto, he shall pay the District the sum of Five Dollars (\$5.00) plus all costs of repairs and enforcement, for renewal of his service.

9. Ruling Final. All rulings of the Board shall be final.

10. Relief on Application. When any person, by reason of special circumstances, is of the opinion that any provision of this ordinance is unjust or inequitable as applied to his premises, he

may make written application to the Board stating the special circumstances, citing the provision complained of, and requesting suspension or modification of that provision as applied to his premises. If such application be approved, the Board may, by resolution, suspend or modify the provision complained of, as applied to such premises, to be effective as of the date of the application and continuing during the period of the special circumstances.

11. Relief on Own Motion. The Board may, on its own motion, find that by reason of special circumstances any provision of this regulation and ordinance should be suspended or modified as applied to a particular premise and may, by resolution, order such suspension or modification for such premises during the period of such special circumstances, or any part thereof.

12. Effective Date and Posting. This ordinance shall take effect thirty (30) days from its passage, and at least one week before the expiration of said thirty (30) days, copies shall be posted in three public places in the District.

#### ARTICLE II. DEFINITIONS

1. Board means the Board of Directors of the District.
2. Cost means the cost of labor, material, transportation, supervision, engineering and all other necessary overhead expenses.
3. Cross Connection means any physical connection between the piping system from the District service and that of any other water supply that is not, or cannot be, approved as safe and potable for human consumption, whereby water from the unapproved source may be forced or drawn into the District distribution mains.
4. Distribution Mains means water lines in streets, highways, alleys, and easements used for public and private fire protection and for general distribution of water.
5. District means Olivehurst Public Utility District.
6. Owner means the person owning the fee, or the person in whose name the legal title to the property appears, by deed duly recorded in the County Recorder's office, or the person in possession of the property or buildings under claim of, or exercising acts of ownership

over same for himself, or as executor, administrator, guardian or trustee of the owner.

7. Person means any human being, individual, firm, company, partnership, association and private or public or municipal corporations, the United States of America, the State of California, districts and all political subdivisions, governmental agencies and mandatories thereof.

8. Premises means a lot or parcel of real property under one ownership except that any separate structure under one roof and where there are well defined boundaries or partitions such as fences, hedges or other restrictions preventing the common use of the property by the several tenants, shall be deemed separate premises, apartment houses, motels, office buildings and structures of like nature may be classified as single premises.

9. Private Fire Protection Service means water service and facilities for building sprinkler systems, hydrants, hose reels and other facilities installed on private property for fire protection and the water available therefor.

10. Public Fire Protection Service means the service and facilities of the entire water supply, storage and distribution system of the District, including the fire hydrants affixed thereto, and the water available for fire protection, excepting house service connections and appurtenances thereto.

11. Regular Water Service means water service and facilities rendered for normal domestic, commercial and industrial and fire protection purposes on a permanent basis, and the water available therefor, for which the general rates and regulations are applicable.

12. Limited Term Service means water service and facilities rendered for normal domestic purposes on a limited term basis not to exceed one month, and the water available therefor, for which the general rates and regulations are applicable, excluding deposit requirements, provided:

- (a) application for limited term service is made;
- (b) Payment in full is made for the full period of the

limited term at time of application;

- (c) disconnection order is signed for specified date at time of application.

13. Service or Service Connection means the pipeline and appurtenant facilities such as the curb stop, meter and meter box, if any, all as used to extend water service from a distribution main to premises. Where services are divided at the curb or property line to serve several customers, each such branch service shall be deemed a separate service.

14. Temporary Water Service means water service and facilities rendered for construction work and other uses of limited duration, and the water available therefor.

15. Water Department means the Board of Directors of the District performing functions related to the District water service, together with authorized representatives.

16. Holiday means any day observed by the District whereby the business office is closed, and any day that banks observe as a holiday.

17. Week-end means all Saturdays and Sundays, to include the normal 24-hour day.

#### ARTICLE III. NOTICES

1. Notices from Customers. Notice from the customer to the District shall be given by him or his authorized representative in writing at the District's business office.

#### ARTICLE IV. APPLICATION FOR REGULAR WATER SERVICE WHERE NO MAIN EXTENSION REQUIRED

1. Application for Water Service. Applications for regular water service, where no main extension is required, shall be made upon a form provided by the District.

2. Undertaking of Applicant. Such application will signify the customer's willingness and intention to comply with this and other ordinances or regulations relating to the regular water service and to make payment for water service required.

3. Payment for Previous Service. An application will not be honored unless payment in full has been made for water service

previously rendered to the applicant by the District.

4. Installation of Services. Regular water services will be installed at the location desired by the applicant where requests are reasonable. Service installations will be made only to property abutting on public streets or abutting on such distribution mains as may be constructed in alleys or easements, at the convenience of the Water Department. Services installed in new subdivisions prior to the construction of streets or in advance of street improvements must be accepted by the applicant in the installed location.

5. Changes in Customer's Equipment. Customers making any material change in size, character or extent of the equipment or operation utilizing water service, or whose change in operation results in a large increase in the use of water, shall immediately give the District written notice of the nature of the change and, if necessary, amend their application.

6. Meters Required and Charges for Meters. Applications for all future services must be metered and applicants for such services shall deposit, in addition to any other required charges, a sum equivalent to the cost of the meter and installation charges. The District will own all meters installed. In addition to the above connection charges and any other charges of the District for the installation of the service, the District shall collect for each and every water service applied for hereafter, fees and charges for the purchases, and acquisition of meter boxes, couplings, fittings and water meters or other devices for measuring quantities of water, as required for the installation of a water meter and/or other devices sufficient to record the consumption of water. Such charges including a 15% handling expense, shall be the actual cost to District of purchase of such materials at the time of acceptance of the application for water service by District, also such charges shall include cost of labor and administration at the time of acceptance of the application. As soon as practicable after receipt of such fees, District shall install the meter box and fittings preparatory to installation of such meter. District shall

purchase the water meter or other water measuring devices, fittings and couplings necessary for the service for which application is made. District shall possess the right to elect to install the meter, device, fittings and couplings at the time of payment of the schedule of charges of District, but shall not be required to install such meter, fittings or couplings and may delay such installation for any period of time set by the District.

ARTICLE V. APPLICATIONS FOR REGULAR WATER SERVICE  
WHEN MAIN EXTENSION REQUIRED

1. Main Extensions. The following rules are established for making main extensions:

- (a) Determination. Upon receipt of any application for water service or request for an application form, the Water Department shall determine whether a main extension is necessary to provide service. A main extension shall be installed in the manner provided in this Article whenever, in the judgement of the Water Department and the Board, such main extension is necessary to provide regular water service to property described in such application or request.
- (b) Application. Any owner of one or more lots or parcels or subdivider of a tract of land where, in the opinion of the Water Department, one or more main extensions is required, desiring regular water service to service such property, shall make a written application therefore to the District, said application to contain the legal description of the property to be served and tract number thereof, and any additional information which may be required by the District, and be accompanied by a map showing the location of the proposed connections.
- (c) Investigations. Upon receipt of the applications, the Water Department shall make an investigation and survey of the proposed extension and submit his opinion and the estimated cost thereof to the Board.

- (d) Ruling. The Board shall thereupon consider such application and report and, after such consideration, reject, amend, or approve the application.
- (e) District Lines. All extensions thus provided for, in accordance with these regulations, shall be and remain the property of the District.
- (f) Dead-end Lines. No dead-end lines shall be permitted, except as recommended by the Water Department and approved by the Board. In cases where, subsequent to the approval of a dead-end line by the Board, another dead-end line is planned in sufficient proximity to make connection feasible and such connection is recommended by the Engineer, and approved by the Board, the dead-end lines shall be connected. In cases where circulation lines are necessary they shall be designed and installed by the Water Department as a part of the cost of the extension.
- (g) Extent and Design. All main extensions shall extend to the fair property line of developed property. If additional property is developed on the same lot after installation of a main extension, the main extension shall be extended to the fair property line of the additionally developed property. All main extensions shall be subject to design approval by the Engineer and Board.

2. General. The District will provide all main extensions upon application for service and approval thereof by the Board.

3. Determination. If, in the opinion of the Board, the cost thereof is in excess of what it is prepared to advance, or it questions the economic advantage to the District of making such advance, it shall determine the cost of such extension including all engineering, inspection and other expenses attributable to the line.

4. Advance Cost. When the Board so determines, the applicant shall advance the amount of such estimate, and the line shall be installed by the District. If the amount of the advance deposit exceeds the actual cost of construction, engineering, legal,

inspection and other charges attributable to the extension, the balance shall be refunded to the property owner. If the amount of the deposit is insufficient to pay all the costs of construction, engineering, legal, inspection and other charges attributable to the extension, the property owner shall advance a sum sufficient to pay all such costs to the District prior to the acceptance of the extension by the District.

5. Refund Agreement. Refunds will be made to the property owner or owners who have paid for an extension as follows: where one cost of the extension has been deposited or paid for as per set forth in Section 4, the District shall thereafter, but not for longer than ten (10) years after the date such extension is originally connected to the District's water system, collect from any applicable water user connecting to such main extension, that fraction of the cost contributed for such extension, as approved by the District, as one-half the number of lineal feet of property owned by such water user along said extension bears to the total number of lineal feet of property held by potential water users along such extension as determined by the District at the time such extension is connected to the District's water system. Those exempted from making payment toward the fraction of the cost contributed for such extension would be those who already have service from the District's water system. Such sums as are thus actually received by the District shall be paid by the District only to the property owner or owners who originally advanced funds toward the cost of such extension. Where different property owners contributed toward the making of the extension, such sums shall be refunded to such property owners or their successors in interest pro rata according to the amounts which they severally contributed toward the cost of the extension. The District shall in no way be obligated to assure that the property owner or owners making such extension are paid the total or any costs thereof nor to initiate any action nor incur any expense to collect any sum to be paid such property owner or owners; nor shall refund be made from any revenues derived from water service.

6. Other Charges. In addition to the above connection charges and any other charges of the District for the installation of the service, the District shall collect for each and every water service applied for hereafter, fees and charges for the purchase, and acquisition of meter boxes, couplings, fittings and water meters or other devices for measuring quantities of water, as required for the installation of a water meter, and/or other devices sufficient to record the consumption of water. Such charges including a 15% handling charge shall be the actual cost to the District of purchase of such materials at the time of acceptance of the application for water service by District. As soon as practicable after receipt of such fees, District shall install the meter box and fittings preparatory to installation of such meter. District shall purchase the water meter or other water measuring devices, fittings and couplings necessary for the service for which application is made. District shall possess the right to elect to install the meter, device, fittings and couplings at the time of payment of the schedule of charges to District, but shall not be required to install such meter, fittings or couplings and may delay such installation for any period of time set by the District.

#### ARTICLE VI. SUBDIVISIONS

1. Application. A person desiring to provide a water system within a tract of land which he proposes to subdivide, shall make written application therefor.

2. Id. - Contents. The application shall state the number of the tract, the name of the subdivision and its location. It shall be accompanied by a copy of the tentative map, and the plans, profiles and specifications for the street work and sanitary and storm sewer work therein.

3. Investigation. Upon receiving the application, the water Department shall make an investigation and survey of the proposed subdivision and shall make its findings to the Board, including a recommendation as to the facilities required and the estimated cost of the proposed water system therefor. To assist the Water Department in making said investigation and report, the Board may

engage the services of a consulting engineer. The size, type and quality of materials shall be in accordance with the District's Water Distribution System Standards and Specifications in effect at the time of application.

4. Specifications and Construction. Location of the lines shall be specified by the Water Department and the actual construction will be done, at the expense of the subdivider in accordance with an approved subdivision agreement. Fire hydrants shall be located at intervals of 500 feet along the distribution man.

5. Subdivision, Tracts or Housing Projects - Deposit. A deposit sufficient to cover engineering costs, legal costs, District staff costs and other appropriate charges attributable to the project, which are incurred in developing and reviewing plans, specifications, subdivision agreements, administration and project inspections in accordance with the subdivision agreement shall be advanced to the District by the subdivider.

6. Adjustment. If the amount of the deposit exceeds the actual costs of engineering, legal, inspections, and District staff costs, and other appropriate charges attributable to the project, the balance shall be refunded to the subdivider. If the amount of the deposit is insufficient to pay all such costs, the subdivider shall advance a sum sufficient to pay all such costs to the District prior to the acceptance of the subdivision by the District.

7. Property of District. All facilities shall be the property of the District and shall be conveyed to the District by a proper instrument in writing prior to acceptance by the District.

8. Connections. The subdivider shall, at his cost, provide all connections to houses constructed by him, as provided herein and in the District's Water Distribution System Standards and Specifications in effect at the time of the application.

9. Costs and Expenses. All costs and expenses incurred by the District under this Article, including the cost of investigation, inspection and consulting engineers services, shall be paid to the District by the subdivider prior to approval of the application.

10. Further Requirements. In granting an application, the Board may make whatever further requirements which may appear to it to be necessary.

ARTICLE VII. GENERAL USE REGULATIONS

1. Water Use Limitations. District water shall be limited in use to domestic use including normal yard upkeep only. The use of District water for extensive irrigation is prohibited.

2. Number of Services per Premises. The applicant may apply for as many services as may be reasonably required for his premises, provided that the pipe line system from each service be independent of the others and that they not be interconnected. The cost of all services shall be borne by the applicant.

3. Supply to Separate Structures. Each house or structure for which application for water service is hereafter made which fronts on a public street or private road shall have a separate service connection.

4. Supply to Separate Lots or Parcels. Each lot or parcel shall have a separate connection to the main. In the case of a lot split, the buyer and/or seller shall install a separate service to the dominant tenement before service is granted.

5. Water Waste. No customer shall knowingly permit leaks or waste of water. Where water is wastefully or negligently used on a customer's premises, seriously affecting the general service, the District may discontinue the service if such conditions are not corrected within five (5) days after giving the customer written notice.

6. Responsibility for Equipment on Customer Premises. All facilities installed by the District on private property for the purpose of rendering water service shall remain the property of the District and may be maintained, repaired or replaced by the Water Department without consent or interference of the owner or occupant of the property. The property owner shall use reasonable care in the protection of the facilities. No payment shall be made for placing or maintaining said facilities on private property. No

persons shall place or permit the placement of any object in a manner which will interfere with the free access to a meter box or will interfere with the reading of a meter where installed.

7. Damage to Water System Facilities. The customer shall be liable for any damage to the District-owned customer water service facilities when such damage is from causes originating on the premises by an act of the customer or his tenants, agents, employees, contractors, licensees or permittees, including the breaking or destruction of locks by the customer or others on or near a meter, and any damage to a meter that may result from hot water or steam from a boiler or heater on the customer's premises. The District shall be reimbursed by the customer for any such damage promptly upon presentation of a bill.

8. Ground Wire Attachments. All persons are forbidden to attach any ground wire or wires to any plumbing which is or may be connected to a service connection or main belonging to the District; the District will hold the customer liable for any damage to its property occasioned by such ground wire attachments.

9. Control Valve on the Customer's Property. The customer shall provide a valve on his side of the service installation as close as is practicable to the street, highway, alley or easement in which the water main serving the customer's property is located, to control the flow of water to the piping on his premises. The customer shall not use the service curb stop to turn water on and off for his convenience.

10. Cross-Connections. The customer must comply with the State and Federal laws governing the separation of dual water systems or installations of back flow protective devices to protect the public water supply from the danger of cross-connections. Back flow protective devices must be installed as near the service as possible and shall be open to test and inspection by the Water Department. Plans for installation of back flow protective devices must be approved by the Water Department prior to installation.

In special circumstances, when the customer is engaged in the handling of especially dangerous or corrosive liquids or industrial

or process waters, the District may require the customer to eliminate certain plumbing or piping connections as an additional precaution and as a protection of the back flow preventive devices.

As a protection to the customer's plumbing system a suitable pressure relief valve must be installed and maintained by him, at his expense, when check valves or other protective devices are used. The relief valve shall be installed between the check valve and the water heater.

Whenever back flow protection has been found necessary on a water supply line entering a customer's premises, then any and all water supply lines from the District's mains entering such premises, buildings or structures shall be protected by an approved back flow device, regardless of the use of the additional water supply lines.

The double check valve or other approved back flow protection devices may be inspected and tested periodically for water tightness by the District. The devices shall be serviced, overhauled, or replaced whenever they are found defective and all costs of repair and maintenance shall be borne by the customer.

The service of water to any premises may be immediately discontinued by the District if any defect is found in the check valve installation or other protective devices, or if it is found that dangerous unprotected cross-connections exist. Service will not be restored until such defects are corrected.

11. Interruptions in Service. The District shall not be liable for damage which may result from an interruption in service from a cause beyond control of the Water Department. Temporary shutdowns may be made by the Water Department to make improvements and repairs. Whenever possible and as time permits, all customers affected will be notified prior to making such shutdowns. The District will not be liable for interruption, shortage or insufficiency of supply, or for any loss or damage occasioned thereby, if caused by accident, act of God, fire, strikes, riots, war or any other cause not within its control.

12. Ingress and Egress. Representatives from the Water Department shall have the right of ingress and egress to the customer's

premises at reasonable hours for any purpose reasonably connected with the furnishing of water service.

ARTICLE VIII. METERS

1. Installation - Where Required. All industrial services shall have meters installed, and applicants for such services shall deposit, in addition to any other required charges, a sum equivalent to the cost of the meter. In addition, the Water Department reserves the right to install meters on any other service where and when it deems such installation necessary.

2. Installation of Request of Customer - Deposit. A customer may request the installation of a meter at any time provided that he deposit a sum equivalent to the cost of the meter. The District will own all meters installed. After requesting and obtaining a meter, the customer may revert to a flat rate after one year of continuous meter usage. No refund will be made for meters removed.

3. Meter Installations. Meters will be installed at the curb, property line or in sidewalk basements by the District.

4. Change in Location of Meters. Meters moved for the convenience of the customer will be relocated at the customer's expense. Meters moved to protect the District's property will be moved at its expense. If the lateral distance which the customer desires to have the meter moved exceeds eight (8) feet he will be required to pay for new service at the desired location.

5. Meter Reading. Meters will be read as nearly as possible on the same day of the month.

6. Meter Tests - Deposit. All meters will be tested prior to installation and no meter will be installed which registers more than two per cent (2%) fast. If a customer desires to have the meter service to his premises tested, he shall first deposit twenty-five dollars (\$25.00) for meters up to one (1) inch in size and ten dollars (\$10.00) per inch or any portion thereof for each larger size meter and shall be present when the meter is tested in the meter shop of the Water Department. Should the meter register more than two per cent (2%) fast, the deposit will be refunded but should the

meter register less than two percent (2%) fast, the deposit will be retained by the Water Department.

7. Adjustment for Meter Errors. If a meter tested at the request of a customer pursuant to Section 6 is found to be more than two per cent (2%) fast, the excess charges for the time service was rendered the customer requesting the test, or for a period of six (6) months, whichever shall be the lesser, shall be refunded to the customer.

8. Non-registering Meters. If a meter is found to be non-registering the charges for service shall be based on consumption as estimated by the Water Superintendent. Such estimates shall be made from previous consumption for a comparable period.

9. Other Charges. In addition to the above connection charges and any other charges of the District for the installation of the service, the District shall collect for each and every water service applied for hereafter, fees and charges for the purchase, and acquisition of meter boxes, couplings, fittings and water meters or other devices for measuring quantities of water, as required for the installation of a water meter, and/or other devices sufficient to record the consumption of water. Such charges including a 15% handling charge shall be the actual cost to the District of purchase of such materials at the time of acceptance of the application for water service by the District. As soon as practicable after receipt of such fees, District shall install the meter box and fittings preparatory to installation of such meter. District shall purchase the water meter or other water measuring devices, fittings and couplings necessary for the service for which application is made. District shall possess the right to elect to install the meter, device, fittings and couplings at the time of payment of the schedule of charges to District, but shall not be required to install such meter, fittings or couplings and may delay such installation for any period of time set by the District.

#### ARTICLE IX. CREDIT

1. Establishment and Maintenance. Each applicant for service

shall establish and maintain credit to the satisfaction of the Water Department before any service will be rendered.

ARTICLE X. DEPOSIT REQUIREMENTS

1. Except as hereinafter otherwise provided, upon application for water service, the applicant shall deposit, as a condition of obtaining service, a sum equal to the amount of the charges of the District, as estimated by the District staff, for providing such service, for a two-month period. In addition to the charges as estimated by the District's staff for a two month period for the services applied for, the applicant shall further pay a deposit in the amount of the discontinuance charge for the service applied for and an amount equal to the charges for a delinquent account and the amount of penalty and interest for one month from and after the date of delinquency, all at the rate set from time to time by ordinance of the District.

2. The deposit shall be used only as a credit to the account of applicant against any unpaid charges upon termination of service. Upon termination of service, or after twelve (12) consecutive months of non-delinquency service charge payments, the deposit, or the portion thereof not applied as a credit to unpaid charges, shall be refunded, without interest, to the applicant.

3. Except as hereinafter otherwise provided, this ordinance shall apply to all applications for water service made on or after the effective date hereof, including applications for reestablishing services following discontinuance or termination by the District for nonpayment of fees and charges.

4. The deposit requirement herein established shall not apply to:

- (a) Applicants who pay in advance, at the time of application the estimated amount of the charges for providing the services applied for for a minimum period of six months; and
- (b) applicants who have previously taken service at another address within the District and who have paid all billings, by their due dates, during the immediately preceding

twelve month period; and

- (c) applicants who, at the time of application, pay in advance in full, for limited term service not to exceed one month, and executes a discontinuance of service order for a specific date.

5. Any deposit required pursuant to this ordinance shall be in addition to, and not in lieu of, any other fees and charges, and penalties thereon, established by other ordinances, rules and regulations of the District.

#### ARTICLE XI. BILLING

1. Service Period. The regular service period for which a charge will be made will be one (1) calendar month.

2. Opening and Closing Charges. Opening and closing charges for less than the monthly service period shall be prorated as follows:

For services connected on any day of the month other than the first day, the charge shall be prorated on a daily basis starting with the day service is rendered and extending through the remainder of the month. For services disconnected on any day of the month other than the last day of the month, the charge shall be prorated on a daily basis backwards through the first day of the month or to the day service was rendered, whichever is the shortest period of time. All months shall be considered as having 30 days.

3. Payment of Charges. Charges for water service shall be due and payable on the first day of each service period. Charges not paid by 5:00 P.M. of the last day of the service period, excluding holidays and week-ends, whereby the time will be extended until 5:00 P.M. the following work day, will be subject to a service charge of ten percent (10%) of the amount thereof. An additional penalty of one and one-half percent (1½%) per month may accrue on the first day of each month thereafter until the charges are paid. No payment of less than the previous balance as shown on the current statement will be accepted.

4. Notification of Charges. Monthly notification of charges

for a service period will be rendered by mail. Monthly notification is for the convenience of the customer and does not obligate the District in any way. The failure of a customer to receive the monthly notification does not alleviate the customer from the responsibility for payment of the charges. At the time a connection is made, the customer will be notified of the rate applicable to the connection being made and that the same is due and payable according to Section 3 hereof.

5. Bad Check Charge. A service charge, as approved by the Board of Directors, will be levied for each check returned to the District, for any reason, except a bank error.

ARTICLE XII. DISCONTINUANCE OF SERVICE

1. Disconnection for Non-Payment. Service may be discontinued for non-payment of charges on or before the twentieth day of the second unpaid month of service. At least five (5) days prior to such discontinuance, the customer will be sent a final notice informing him that discontinuance will be enforced if payment is not made within the time specified in said notice. The failure of the District to send or any such person to receive said notice shall not affect the District's power hereunder. A customer's water service may be discontinued if water service furnished at a previous location is not paid within the time herein fixed for the payment of bills. If a customer receives water service at more than one location and the bill for services at any one location is not paid within the time provided for payment, water service at all locations may be turned off. Domestic services, however, will not be turned off for non-payment of charges for other classes of service.

2. Discontinuance Charge. A discontinuance charge of ten dollars (\$10.00) will be made if payment for services is not made within the time specified in the final notice sent to the customer pursuant to the provisions of Section 1 hereof, whether or not service is actually discontinued. If service is discontinued, such discontinuance charge, plus all accrued charges and panalties to date, will be made and collected prior to renewing service following discontinuance.

3. Unsafe Apparatus. Water service may be refused or discontinued to any premises where apparatus or appliances are in use which might endanger or disturb the service to other customers.

4. Cross-Connections. Water service may be refused or discontinued to any premises where there exists a cross-connection in violation of State or Federal laws.

5. Fraud or Abuse. Service may be discontinued if necessary to protect the District against fraud or abuse.

6. Non-Compliance with Regulations. Service may be discontinued for non-compliance with this or any other ordinance or regulation related to the water service.

7. Upon Vacating Premises. Customers desiring to discontinue service shall so notify the Water Department. Unless discontinuance of service is ordered the customer shall be liable for charges whether or not any water is used.

8. Service Calls for Customer's Convenience. Service calls for a customer's convenience will be performed without charge during normal working hours. Service calls for a customer's convenience which requires District personnel to work overtime will be performed for a Twelve Dollar (\$12.00) service charge per service call.

9. Service Turn-ons and Turn-offs. Turn-on or turn-off of service will be made at no charge for applications for water service which are received before 4:30 P.M. Applications received after 4:30 P.M. will be turned on the following day. When District staff is required to work overtime to perform a turn-on or turn-off of service, a service charge of Twelve Dollars (\$12.00) will be made for such service.

#### ARTICLE XIII. COLLECTION BY SUIT

1. Penalty. Charges not paid by the last day of the service period, excluding holidays and week-ends, whereby the time will be extended until 5:00 P.M. the following work day, will be subject to a service charge of ten percent (10%) of the amount thereof. An additional penalty of one and one-half percent (1½%) per month may accrue on the first day of each month thereafter until the charges are paid.

2. Suit. All unpaid rates and charges and penalties herein provided may be collected by suit.

3. Costs. Defendant shall pay all costs of suit and reasonable attorney's fees in any judgment rendered in favor of the District.

#### ARTICLE XIV. PUBLIC FIRE PROTECTION

1. Use of Fire Hydrants. Fire hydrants are for use by the District or by organized fire protection agencies pursuant to contract with the District. Other parties desiring to use fire hydrants for any purpose must first obtain written permission from the Water Department prior to use and shall operate the hydrant in accordance with instructions issued by the Water Department. Unauthorized use of hydrants will be prosecuted according to law.

2. Hydrant Rental. A charge to be determined by contract between the District and organized fire protection agencies will be imposed for hydrant maintenance and water used for public fire protection.

3. Moving of Fire Hydrants. When a fire hydrant has been installed in the location specified by the proper authority, the District has fulfilled its obligation. If a property owner or other party desires a change in size, type or location of the hydrant, he shall bear all costs of such changes, without refund. Any change in the location of a fire hydrant must be approved by the proper authority.

#### ARTICLE XV. PRIVATE FIRE PROTECTION

1. Payment of Cost. The applicant for private fire protection service not now installed shall pay the total actual cost of installation of the service from the distribution main to the customer's premises including the cost of a detector check meter or other suitable and equivalent device, valve and meter box, said installation to become the property of the District.

2. No Connection to Other System. There shall be no connections between this fire protection system and any other water distribution system on the premises.

3. Use. There shall be no water used through the fire protection service except to extinguish accidental fires and for testing the

fire fighting equipment.

4. Water for Fire Storage Tanks. The District assumes no responsibility for loss or damage due to lack of water or pressure and merely agrees to furnish such quantities and pressures as are available in its general distribution system. The service is subject to shutdowns and variations required by the operation of the system.

ARTICLE XVI. LIMITED TERM AND TEMPORARY SERVICE

1. Limited Term Service. Limited term service may be rendered for normal domestic purposes not to exceed one month when the applicant at the time of application, pays in advance in full for such service, and executes a disconnection of service order for a specific date. No deposit is required for such service.

2. Temporary Service. Temporary service connections shall be disconnected and terminated within six (6) months after installation unless an extension of time is granted in writing by the District.

3. Temporary Service Deposit. The applicant shall deposit, in advance, an amount equal to One Hundred Thirty Seven Dollars and Thirty Cents (\$137.30) for each inch or portion thereof of service desired. Upon discontinuance of service the actual cost of installing and removing the facilities required to furnish said service, exclusive of the cost of salvageable material, shall be determined and an adjustment made as an additional charge, refund or credit. If service is supplied through a fire hydrant, the applicant will be charged in accordance with the following rate schedule:

Flat charge per connection, for both installation and removal of service facilities, including the meter	\$48.45
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Each additional move of facilities to another location	\$13.85
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4. Installation and Operation. All facilities for temporary service to the customer connection shall be made by the Water Department and shall be operated in accordance with its instructions.

5. Responsibility for Installation. The customer shall use all possible care to prevent damage to any loaned facilities of the

District which are involved in furnishing the temporary service from the time they are installed until they are removed, or until forty-eight (48) hours notice in writing has been given to the District that the contractor or other person is through with the installation. If the facilities are damaged, the cost of making repairs shall be paid by the customer.

6. Temporary Service from a Fire Hydrant. If temporary service is supplied through a fire hydrant, a permit for the use of the hydrant shall be obtained from the proper authority and the District. It is specifically prohibited to operate the valve of any fire hydrant other than by the use of a spanner wrench designed for this purpose.

7. Unauthorized use of Hydrants. Tampering with any fire hydrant for the unauthorized use of water therefrom, or for any other purpose, is a misdemeanor, punishable by law.

8. Rates. The rates for temporary service shall be established by the District at the time application for such service is made. Where a meter is used, the rates for regular service shall be increased by fifty percent (50%) for temporary service.

#### ARTICLE XVI. GENERAL PROVISIONS

1. Pools and Tanks. When an abnormally large quantity of water is desired for filling a swimming pool or for other purposes, arrangements must be made with the District prior to taking such water. The rate to be charged for such water shall be determined by the District in relation to the quantity of water desired.

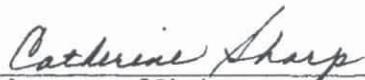
Permission to take water in unusual quantities will be given only if it can be safely delivered through the District's facilities and if other consumers are not inconvenienced thereby.

2. Responsibility for Equipment. The customer shall, at his own risk and expense, furnish, install and keep in good safe condition all equipment that may be required for receiving, controlling, applying and utilizing water, and the District shall not be responsible for any loss or damage caused by the improper installation of such equipment, or the negligence or wrongful act of the customer

or of any of his tenants, agents, employees, contractors, licensees or permittees in installing, maintaining, operating or interfering with such equipment. The District shall not be responsible for damage to property caused by faucets, valves and other equipment that are open when water is turned on either originally or when turned on after a temporary shutdown.

  
\_\_\_\_\_  
President of  
OLIVEHURST PUBLIC UTILITY DISTRICT

ATTEST:

  
\_\_\_\_\_  
Clerk & ex-officio Secretary

# **APPENDIX J**

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## Water Rate Schedule

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**OLIVEHURST PUBLIC UTILITY DISTRICT**

**RESOLUTION NO. 2300**

**RESOLUTION OF THE BOARD OF DIRECTORS OF THE  
OLIVEHURST PUBLIC UTILITY DISTRICT, FOLLOWING PUBLIC HEARING,  
PROVIDING FOR DROUGHT EMERGENCY WATER SERVICE SURCHARGES AND  
THE ADOPTION OF A TIERED DROUGHT EMERGENCY WATER RATE SYSTEM**

**WHEREAS**, the Olivehurst Public Utility District ("District") owns and operates a Domestic Water System which operates under permits issued by the California State Water Resources Control Board; and

**WHEREAS**, the Board of Directors, pursuant to Water Code sections 375, et seq. and OPUD's 2010 Urban Water Management Plan and Public Utilities Code section 16461, on May 21, 2015, adopted Resolution 2292, declaring the existence of a Drought Emergency within the boundaries of the District and, resolved that the Board may therefore adopt mandatory restrictions and prohibitions on the delivery and consumption of water within the service area so that the water supply can be conserved for the greater public benefit; and,

**WHEREAS**, in connection with the fiscal impact of the ongoing drought emergency on the operating budget of the water system, the Board has commissioned a study by Bartle Wells and Associates related to the costs of services provided by said system, and the drought surcharges sufficient to offset the loss of revenue due to decreased water sales and provide for the proper operation and maintenance thereof (hereafter "the Rate Study"); and,

**WHEREAS**, at a regular public meeting duly called and agendized on August 20, 2015, the Board did review and take public comment on the Rate Study and at the regular public meeting duly called and agendized on August 20, 2015, did adopt said study as representing the independent opinion of the Board of Directors and authorized the drought surcharges recommended therein subject to the notice and hearing requirements of California Constitution, Article XIII D; and

**WHEREAS**, the Board of Directors, in accordance with Article XIII D, Section 6, of the California Constitution, on August 31, 2015, caused notice to the landowners affected by said surcharges to be given by regular mail to the record owner of each identified parcel upon which the surcharges are proposed for imposition, notifying them of the proposed charges, the basis for calculation thereof, the reason for the implementation, and the date, time, and place of a public hearing, at least 45 days thereafter, where such surcharge would be considered; and

**WHEREAS**, at a public hearing duly called and agendized, on October 15, 2015, the Board did conduct a public hearing, and considered written and oral protests submitted in connection with said implementation of surcharges; and

**WHEREAS**, the Board finds that written protests submitted and not withdrawn by the close of the public hearing do not represent a majority of the owners of the identified parcels;

and,

**WHEREAS**, the Board finds that the surcharges described in Exhibit A, attached hereto, are required to meet the ongoing and reasonably anticipated operational expenses of the District, including meeting its reasonable financial reserve requirements of the District and are further needed to secure funds as reasonably necessary to operate, maintain, repair and replace the facilities installed to provide water services within the District and are therefore exempt from the requirements of the California Environmental Quality Act in accordance with Public Resources Code Section 21080(b)(8)(C) and (D); and,

**WHEREAS**, the Board finds that revenues from the proposed surcharges shall not exceed the funds required to provide water services; that revenues from the proposed surcharges shall be used in accordance with the Rate Study and shall not be used for any other purpose other than those purposes for which they were imposed; and the amount of the proposed surcharges for water services shall not exceed the proportional cost of the services attributable to the parcels on which the increases will be imposed.

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Directors of Olivehurst Public Utility District that the Drought Emergency Water Sewer Service Surcharges, described in Exhibit A, attached hereto and incorporated herein, are hereby approved and authorized as the fees and charges of the District, effective with the first charge for service commencing on and after November 1, 2015.

**BE IT FURTHER RESOLVED** that the Board does find that establishment of the water service surcharges described in Exhibit A is exempt from the provisions of the California Environmental Quality Act under Section 21080(b) of the California Public Resource Code.

**FURTHERMORE, BE IT FURTHER RESOLVED** that the Board of Directors of OPUD hereby directs staff to perform the following:  
If the State Water Resources Control Board takes any formal action to reduce the mandatory conservation requirements currently adopted through emergency regulations, an item will be placed on the first subsequent OPUD Board meeting agenda to allow the OPUD Board to consider reducing the surcharge.

**PASSED AND ADOPTED this 15<sup>th</sup> Day of October, 2015.**

OLIVEHURST PUBLIC UTILITY DISTRICT

Dennis Burbank

President, Board of Directors

ATTEST:

Elizabeth Mallen

District Clerk & ex-officio Secretary

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

Devide [Signature]

Legal Counsel

\* \* \* \* \*

I hereby certify that the foregoing is a full, true and correct copy of a Resolution duly adopted and passed by the Board of Directors of the Olivehurst Public Utility District, Yuba County, California, at a meeting thereof held on the 15<sup>th</sup> day of October, 2015, by the following vote:

AYES, AND IN FAVOR THEREOF:	Director Carpenter, Burbank, Floe, and Bradford.
NOES :	None.
ABSTAIN :	None.
ABSENT :	None.

Elizabeth Mallen

District Clerk & ex-officio Secretary

## EXHIBIT A

### OLIVEHURST PUBLIC UTILITY DISTRICT TARIFF OF WATER SURCHARGES (Rev. 1 Effective 10/01/2016)

On September 15, 2016, subsequent to the State Water Resources Control Board formal action, the OPUD Board of Directors revised the Water Demand Reduction Target to 10%. Accordingly, the Board reduced the stipulated surcharge by increasing the number of units allowed by residential customers (3/4" meters) to 20 ccf before the surcharge is applied. The Board also reduced the commercial (1" and larger meters) surcharge to \$0.16/ccf. The reduction in commercial account surcharge is proportional to the reduction in residential account surcharge. The change in Water Demand Reduction Target does not affect flat rate accounts. This change is effective for water consumed on and after October 01, 2016.

Proposed Maximum Emergency Drought Water Rates					
Usage Charges Billed on Metered Water Consumption for Metered Accounts					
<b>Water Demand Reduction Target</b>		STAGE 1A			
(From Baseline: June 2013 - May 2014 Metered Use)		10%			
2016 EMERGENCY DROUGHT WATER RATES: Effective for consumption on and after 10/01/2016 (\$/ccf)*					
Emergency Drought Water Rate Surcharges per ccf					
3/4" Meters	Water Use in Tier				
Tier 1	0 -20 ccf	\$0.00			
Tier 2	21-30 ccf	\$0.30			
Tier 3	Over 30 ccf	\$0.70			
1" and Larger Meters					
All Water Use		\$0.16			
* 1 ccf = one hundred cubic feet or approximately 748 gallons					

On 10/15/2015, the Olivehurst Public Utility District Board of Directors adopted a Water Demand Reduction Target of Stage 1: 20% (which was modified on 09/15/2016, see Rev 1 above).

<b>Proposed Maximum Emergency Drought Water Rates</b>					
<i>Usage Charges Billed Based on Metered Water Consumption for Metered Accounts</i>					
<b>Water Demand Reduction Target</b> (From Baseline: June 2013 - May 2014 Metered Use)	<b>STAGE 1</b> <b>20%</b>	<b>STAGE 2</b> <b>30%</b>	<b>STAGE 3</b> <b>40%</b>	<b>STAGE 4</b> <b>50%</b>	
<b>2015 EMERGENCY DROUGHT WATER RATES: Effective on or after 11/01/2015 (\$/ccf)*</b>					
<b>Emergency Drought Water Rate Surcharges per ccf</b>					
<u>3/4" Meters</u>	<u>Water Use in Tier</u>				
Tier 1	0 - 12 ccf	\$0.00	\$0.20	\$0.50	\$0.90
Tier 2	13 - 30 ccf	0.30	0.50	0.90	1.40
Tier 3	Over 30 ccf	0.70	0.80	1.40	2.20
<u>1" and Larger Meters</u>					
All Water Use		0.21	0.39	0.72	1.10
<b>2016 EMERGENCY DROUGHT WATER RATES: Effective on or after 01/01/2016 (\$/ccf)*</b>					
<b>Emergency Drought Water Rate Surcharges per ccf</b>					
<u>3/4" Meters</u>	<u>Water Use in Tier</u>				
Tier 1	0 - 9 ccf	\$0.00	\$0.25	\$0.50	\$0.95
Tier 2	10 - 30 ccf	0.30	0.50	1.00	1.45
Tier 3	Over 30 ccf	0.70	0.80	1.45	2.45
<u>1" and Larger Meters</u>					
All Water Use		0.25	0.45	0.82	1.24
<b>2017 EMERGENCY DROUGHT WATER RATES: Effective on or after 01/01/2017 (\$/ccf)*</b>					
<b>Emergency Drought Water Rate Surcharges per ccf</b>					
<u>3/4" Meters</u>	<u>Water Use in Tier</u>				
Tier 1	0 - 6 ccf	\$0.00	\$0.30	\$0.60	\$1.00
Tier 2	7 - 30 ccf	0.30	0.55	0.95	1.50
Tier 3	Over 30 ccf	0.70	0.80	1.60	2.50
<u>1" and Larger Meters</u>					
All Water Use		0.28	0.50	0.90	1.37

\* 1 ccf = one hundred cubic feet or approximately 748 gallons.

<b>Proposed Maximum Emergency Drought Water Rates</b>			
<i>Fixed Monthly Surcharge for Flat Rate Accounts (Without Meters)</i>			
<b>Water Demand Reduction Target</b> (From Baseline: June 2013 - May 2014 Metered Use)	<b>STAGE 2</b> <b>30%</b>	<b>STAGE 3</b> <b>40%</b>	<b>STAGE 4</b> <b>50%</b>
<b>Flat Monthly Drought Water Rate Surcharge</b>			
3/4" Service	\$0.37	\$2.28	\$3.10
1" Service	0.56	3.50	4.76
1-1/2" Service	0.85	5.31	7.22
2" Service	1.22	7.65	10.40
3" Service	2.55	15.92	21.66
4" and Larger Service	3.57	22.29	30.31

Flat Rate Accounts without meters would be billed fixed monthly drought surcharges based on the size of water service. It is important to note that the surcharges for Flat Rate Accounts do not need to make-up for lost revenues due to conservation since these accounts pay the a fixed monthly charge regardless of the level of conservation.

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## EXHIBIT A

### OLIVEHURST PUBLIC UTILITY DISTRICT TARIFF OF WATER AND SEWER SERVICE CHARGES

#### Domestic Water Rates

Un-metered (flat rate) service. Rates for water service from the District shall be, from and after January 1, 2017, as follows:

- Three quarter inch service .....\$ 43.50 per month
- One inch service .....\$ 66.70 per month
- One and one half inch service .....\$ 101.20 per month
- Two inch service .....\$ 145.70 per month
- Three inch service .....\$ 303.50 per month
- Four inch service .....\$424.90 per month

Metered Service. Charges for water delivered via meter shall be as follows:

- A unit water service charge of \$ 1.50 per CCF (CCF equals 100 cubic feet) consumed.

Monthly Service charge to reimburse District for fixed cost of operation and administration based on meter size, as follows:

- Three quarter inch meter .....\$ 15.00 per month
- Monthly service charge for fixed cost of operation includes up to 6 CCF of consumption. Consumption beyond 6 CCF per month is billed at \$1.50 per CCF consumed.
- One inch and larger meters (up to four inch). \$ 25.00 per month
- Monthly service charge for fixed cost of operation includes up to 15 CCF of consumption. Consumption beyond 10 CCF per month is billed at \$1.50 per CCF consumed.
- When meters are out of service, or otherwise not suitable for obtaining readings, the monthly service charges will be billed on the same basis as un-metered (flat rate)

service for the appropriate service line size. (For example; a three quarter inch service would be billed \$43.50/month)

- Four inch and larger shall be determined on a case-by-case basis, depending on costs and service characteristics.

### **Sewer Rates**

Rates for sewer service from the District shall be, from and after January 1, 2017, as follows:

Residential four-inch service: per dwelling unit or equivalent..... \$ 40.00 per month

- Mobile unit dwellings shall be charged the equivalent per EDU rate based on the number of occupied dwellings.

### **Commercial/Industrial (Schools) Sewer Service Charges:**

- Commercial/Industrial sewer service charges shall be based on estimated or measured flows determined in accordance with District approved standards. A fixture count, or other method of establishing flows, will be conducted by District to determine the usage in Equivalent Dwelling Units (EDUs). Rates will be established on a per EDU basis at a rate of \$40.00 per EDU. Industrial service shall also be subject to special changes depending on treatment required, and industrial pretreatment may also be required on a case-by-case basis.

# **APPENDIX K**

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UWMP Adoption Resolution

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**OLIVEHURST PUBLIC UTILITY DISTRICT**

**RESOLUTION NO. 2311**

**RESOLUTION OF THE BOARD OF DIRECTORS OF  
OLIVEHURST PUBLIC UTILITY DISTRICT (the District) TO ACCEPT AND  
ADOPT:**

- **AN URBAN WATER USE TARGET METHOD AND ASSOCIATED WATER USE TARGETS, AS REQUIRED BY THE WATER CONSERVATION ACT OF 2009 (SB X7-7); AND**
- **THE 2015 URBAN WATER MANAGEMENT PLAN, AS REQUIRED BY THE URBAN WATER MANAGEMENT PLANNING ACT.**

**RECITALS**

**WHEREAS**, California Water Code (CWC) Section 10620 Urban Water Management Planning requires all urban water suppliers to prepare and adopt an Urban Water Management Plan (UWMP) and update said plan at least once every five years; and

**WHEREAS**, an urban water supplier is defined by CWC Section 10617 as "...a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually"; and,

**WHEREAS**, the District is currently providing water for municipal purposes to approximately 6,600 customer connections and therefore meets the definition of urban water supplier; and,

**WHEREAS**, CWC Section 10632 (a) requires the UWMP to include a Water Shortage Contingency Analysis and CWC Section 10632 (a) (1) requires that one of the stages of action consider up to a 50 percent reduction in water supply; and,

**WHEREAS**, CWC Section 10608 Sustainable Water Use and Demand Reduction, also known as the Water Conservation Act of 2009 and Senate Bill SB X7-7, requires all urban water suppliers to develop a water use target and adopt a method for determining its water use target; and,

**WHEREAS**, the District's staff has identified the California Department of Water Resources (DWR) Method 3 as the preferred target method for calculating 2015 (Interim) and 2020 (Final) Water Use Targets of 172 Gallons Per Capita Per Day (GPCD) and 167 GPCD, respectively; and,

**WHEREAS**, the customers of the District used approximately 134 GPCD in 2015 and has achieved its target reduction for the 2015 (Interim) Water Use Target under Method 3; and,

**WHEREAS**, an UWMP is to generally describe (1) the existing and projected water supply and demand, (2) water conservation measures, including a schedule for implementation and means for evaluating effectiveness; and (3) water supply reliability and water shortage contingency measures over a 20-year planning horizon; and

**WHEREAS**, as an urban water supplier, the District has prepared an UWMP that complies with the requirements of the Urban Water Management Planning Act; and

**WHEREAS**, the District provided the draft UWMP to Yuba County and placed copies for public review at the District's office and on the District's website as required by Water Code, Section 10642; and

**WHEREAS**, the District provided 60-day notices to Yuba County, neighboring water suppliers and other agencies, and published notices in the Territorial Dispatch that a public hearing regarding the draft UWMP would be held at which public comment on the plan would be received, as required by Water Code, Section 10642; and

**WHEREAS**, a public hearing was conducted that allowed community input regarding the District's plan for achieving its water use targets, considered the economic impacts of achieving the urban water use target, adopted a method for developing the urban water use target, and allowed community input on the UWMP.

**NOW THEREFORE, BE IT RESOLVED** by the Board of Directors does hereby accept and approve the OPUD 2015 Urban Water Management Plan.

**BE IT FURTHER RESOLVED** that The Olivehurst Public Utility District hereby adopts the California Department of Water Resources Water Use Target Method 3 for calculating its 2015 and 2020 water use targets.

**PASSED AND ADOPTED** this 18th day of May 2017

**OLIVEHURST PUBLIC UTILITY DISTRICT**



\_\_\_\_\_  
President, Board of Directors  
Olivehurst Public Utility District

ATTEST:



\_\_\_\_\_  
District Clerk & ex-officio Secretary  
LEGAL

APPROVE AS TO FORM AND  
SUFFICIENCY



\_\_\_\_\_  
Legal Counsel

\* \* \* \* \*

I hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly adopted and passed by the Board of Directors of the Olivehurst Public Utility District, Yuba County, California, at a meeting thereof held on the 18th day of May 2017, by the following vote:

AYES, AND IN FAVOR THEREOF: Directors Carpenter, Griego, Burbank, Floe, and White

NOES : None

ABSTAIN : None

ABSENT : None

District Clerk and ex-officio Secretary: 

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